

ROD AND WIRE MILL INTERIM MEASURES PROGRESS REPORT

TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

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ARM Project No. 170646M

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1.0 INTRODUCTION

This Progress Report for the Rod and Wire Mill Interim Measures for Groundwater Remediation at the Tradepoint Atlantic property has been prepared by ARM Group (ARM) on behalf of EnviroAnalytics Group (EAG). This report presents a brief history of the Rod and Wire Mill (RWM), a description of historical interim measures that operated at the RWM, a description of additional new remedial work that was completed to provide soil and groundwater treatment in the RWM area, the resulting changes observed in groundwater flow patterns and contaminant distribution, and an initial evaluation of the effectiveness of the new interim measures.

1.1. TRADEPOINT ATLANTIC SITE BACKGROUND

The Tradepoint Atlantic property is located in Baltimore County, Maryland at the southeastern corner of the Baltimore metropolitan area, approximately nine miles from the downtown area. The property encompasses approximately 3,100 acres located on a peninsula situated on the Patapsco River near its confluence with the Chesapeake Bay, physically positioned in the mouth of the heavily industrialized and urbanized Baltimore Harbor / Patapsco River region. A land connection to the northeast links the peninsula with the adjacent community of Edgemere.

From the late 1800s until 2012, the property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the Site included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steelmaking operations at the facility ceased in fall 2012, and current plans for the Site include demolition and redevelopment over the next several years. Some portions of the site have already undergone remediation and/or redevelopment.

The original topography of the peninsula was flat with elevations not exceeding 15 feet based on the North American Vertical Datum 1988 (NAVD88). The peninsula has been drastically altered since the inception of the steel manufacturing activities. Creeks have been filled in and new land has been added to various areas of the Site by building up near-shore areas of the river.

1.2. SITE OWNERSHIP HISTORY

Bethlehem Steel Corporation operated an integrated steelmaking facility at the site from approximately 1916 through 2003. As a result of multiple market factors, Bethlehem Steel declared bankruptcy in 2001 and the facility was subsequently operated by a succession of owners, the last of which (i.e., RG Steel Sparrows Point, LLC) filed for bankruptcy in 2012. The site was subsequently purchased by Sparrows Point, LLC (SPLLC) at a bankruptcy sale on August 7, 2012. Sparrows Point Terminal, LLC (SPT) purchased the real property on September

18, 2014 subject to the provisions of a Purchase and Sale Agreement wherein SPLLC and SPT have allocated various environmental responsibilities, liabilities, and obligations among themselves. SPT has subsequently undergone a name change and is now doing business as Tradepoint Atlantic.

1.3. REGULATORY PROCESS

Environmental responses for the RWM and for the site in general are being implemented pursuant to the following:

- Multi-Media Consent Decree (Decree) between Bethlehem Steel Corporation, the United States Environmental Protection Agency, and the Maryland Department of the Environment (effective October 8, 1997); this Decree has been modified in accordance with a stipulated order entered into by Sparrows Point LLC and the respective agencies effective July 28, 2014;
- Administrative Consent Order (ACO) between Sparrows Point Terminal, LLC and the Maryland Department of the Environment (effective September 12, 2014); and,
- Settlement Agreement and Covenant Not to Sue (SA) between Sparrows Point Terminal, LLC and the United States Environmental Protection Agency (effective November 25, 2014).

The original Consent Decree for the Sparrows Point facility dealt with many issues associated with ongoing iron-making, steel-making, coking, byproduct, plating, and finishing operations. To the extent that these operations are no longer conducted, and the associated facilities no longer exist, many specific requirements of the Decree are no longer applicable and have been removed in accordance with the stipulated order implementing modifications to the Decree. The RWM is part of the acreage that remains subject to the requirements of the Decree as documented in correspondence received from EPA on September 12, 2014.

2.0 ROD AND WIRE MILL

2.1. SITE DESCRIPTION

2.1.1. Historical RWM Industrial Activities

The RWM (the Site) is located in the northwestern portion of the Site. This area has also been given the designation of Parcel A3, as the Tradepoint Atlantic property as a whole has been divided into several separate parcels. These parcels, including Parcel A3 (the RWM), are shown on **Figure 1**.

The RWM is the location of the former mills that produced rods and wire products from the 1940s to the early 1980s. All manufacturing activities at the RWM ceased operation in the early 1980s with subsequent demolition of all structures between 1994 and 2000, based on historical aerial photos.

Manufacturing activities at the RWM included leaching of zinc ore and a subsequent treatment process to remove cadmium impurities. The leaching process was implemented in large tanks located inside the north end of the former RWM building. In the 1950s through the early 1970s, the acidic leach residue was stored in the Northwest Pond until about 1959 when filters were installed to dewater the residues. Dewatered sludge generated from this process was temporarily stored on the ground outside the north end of the mill in the Former Sludge Bin Storage Area. Filtrate from the dewatering process was recycled to the wire plating process. Excess filtrate was discharged to the East Pond until 1971, after which it was sent to the Humphrey Creek Wastewater Treatment Plant (HCWWTP) for treatment. These operations ended in the early 1980s when the Rod and Wire Mill was shut down. The former locations of the Northwest Pond, the Sludge Bin Storage Area, and the East Pond are shown on **Figure 2**.

2.1.2. Site Geology/Hydrogeology

In general, the subsurface geology at the RWM includes slag fill materials overlying natural soils, which include fine-grained sediments (clays and silts) and coarse grained sediments (sands). Groundwater occurrence at the Site has been segregated into three horizons identified as shallow, intermediate and deep hydrogeologic zones.

The shallow water table below the Site occurs within recent sedimentary deposits or slag fill material, and includes the unconfined water table at the Site. Monitoring wells and piezometers designated as shallow are screened within this shallow, unconfined unit. The “shallow” bottom-of-screen elevations generally range from +5 to -20 feet above mean sea level (amsl). In some areas of the Site, the slag fill is directly underlain by, and connected to, the coarser grained beds or lenses within the Talbot Formation that comprise the Upper Talbot Channel Unit. In these areas, the slag fill and Upper Talbot Channel Units form a single groundwater flow system. In

much of the investigation area, the slag fill material is underlain by finer-grained silts and clays that comprise the Talbot Clay Aquitard. In these areas, shallow groundwater flow may be separated from groundwater in any underlying coarse-grained beds or lenses.

The intermediate hydrogeologic zone is the focus of the interim pump and treat measure formerly used at the Site and is therefore also referred to as the intermediate pumping zone. The intermediate zone includes the unconfined to partially confined groundwater in the Pleistocene Upper Talbot unit. The “intermediate” bottom-of-screen elevations generally range from -20 to -50 feet amsl. The presence of clay and silt layers within the intermediate hydrogeologic zone likely retard the vertical recharge of groundwater from the upper fill material.

The lower hydrogeologic zone includes the confined groundwater in the Lower Talbot or Upper Patapsco Sand unit. The “lower” bottom-of-screen elevations generally range from -50 to -141 feet amsl. The lower hydrogeologic zone was not a primary focus in this groundwater investigation. Hydrogeologic zones at greater depth are known to exist based on a review of the regional geology; however, these deeper units are isolated from the upper three units and impacts have not been identified from former iron and steel operations.

2.2. HISTORICAL INTERIM MEASURES FOR GROUNDWATER CONDITIONS

The aforementioned historical operations in the RWM resulted in releases of cadmium and zinc to soil and groundwater. In 1986, a soil and groundwater remediation program was initiated to address groundwater exhibiting elevated levels of cadmium and zinc, and residual soil contamination in the Sludge Bin Storage Area. Remediation initially consisted of a soil flushing program and associated pumping and treatment of groundwater from shallow and intermediate wells. The groundwater pumping was discontinued and the treatment plant dismantled in 1999 to support a demolition project at the Rod and Wire Mill, allowing for reassessment of the interim measures. A Work Plan to re-establish interim measures was submitted to the reviewing agencies (MDE and EPA) in July 2000, and the Work Plan was approved in November 2000. Re-establishment of the interim measures included the following:

- Institutional controls for soils were established to provide a “Restricted Work Area” to control the exposure of onsite workers to soils in the Former Sludge Bin Storage Area.
- A groundwater monitoring network was installed consisting of 31 wells for monitoring the performance of the groundwater pump and treat system. This monitoring network was used to collect water level and groundwater quality data.
- A groundwater pump and treat system was operated and maintained consisting of two intermediate zone recovery wells (RW10-PZM020 and RW15-PZM020) that operated at a rate of between 5 and 12 gallons per minute (gpm). The expected normal operating rate

for the treatment plant was set at a combined rate of 8 to 12 gpm, with a maximum design flow of 25 gpm.

- Recovered groundwater was transported via a pipeline to the HCWWTP for subsequent treatment and discharge in accordance with the NPDES permit requirements for the facility.

The pumping and treatment of groundwater resumed in September 2001. This IM was discontinued in 2017 so that additional remedial work could be performed at the RWM.

2.3. GROUNDWATER CONDITIONS PRIOR TO REMEDIATION TRENCH INSTALLATION

2.3.1. Shallow Groundwater Zone

The RWM Phase II Investigation Report (ARM, 2016) characterized the shallow groundwater zone at the Site based on samples collected in late 2015. Key findings from data collected during the Phase II Investigation are as follows:

- Groundwater in the shallow zone appears to flow radially in all directions from a mounded location in the vicinity of RW10-PZM004. The groundwater elevation contours for the shallow zone during pumping conditions are shown on **Figure 3**.
- Measurements of pH varied significantly, from a maximum of 11.25 at RW09-PZM004 in the central portion of the Site to less than 4 in RW11-PZM004 to the southeast. Generally, wells in the central and southwestern areas exhibited near-neutral or basic pH, while wells to the east and northeast exhibited neutral or acidic pH. The pH of the shallow zone in December 2015 is shown on **Figure 4**.
- Based on samples collected in October and November of 2015, the maximum cadmium concentration, 102 µg/L, was measured in the northern portion of the RWM at RW-002-PZ. The next two highest concentrations were 31.3 µg/L and 20.1 µg/L at RW18-MW(S) and RW-006-PZ, respectively, moving to the southeast away from RW-002-PZ. Sampling locations in the central, western and southern areas had very low or no detectable concentrations of cadmium. Shallow zone cadmium concentrations for the previous interim measures are shown on **Figure 5**.
- Zinc concentrations in the shallow zone vary significantly, with a maximum value of 245,000 µg/L far to the east in RW-006-PZ. Another (albeit lesser) zinc hotspot of 5,520 µg/L is located at RW-002-PZ in the north. Concentrations generally decrease towards the west and south away from the two hotspots. Shallow zone zinc concentrations for the previous interim measures are shown on **Figure 6**.

Groundwater data for samples collected from shallow zone wells and piezometers in late 2015 (prior to installation of the remediation trenches) are summarized in **Table 1**.

2.3.2. Intermediate Groundwater Zone

The Pre-Design Investigation (PDI) Report (ARM, 2016) characterized the intermediate groundwater zone at the Site based on samples collected in late 2015. Key findings from data collected during the PDI are as follows:

- In the intermediate zone, groundwater appears to flow from the north and east toward the recovery system pumping wells. The western half of the Site is affected by the recovery system as well, as elevations below mean sea level were reported in several wells. The intermediate groundwater elevation contour map is included as **Figure 7**.
- Measurements of pH show the relatively acidic nature of the groundwater. Out of measurements collected from 12 locations, the highest pH value was 7.48, with the majority of the values being less than 6. The pH of the intermediate zone in December 2015 is shown on **Figure 8**.
- The former sludge bin location appears to be the primary source of cadmium in the intermediate groundwater zone. This can be seen on **Figure 9** near sample location RW-057-PZ.
- The primary source of zinc in the intermediate groundwater zone is the western portion of the northwest pond (just west of the existing transformer pad). This can be seen on **Figure 10** at sample location RW-067-PZ. A secondary zinc source is located further west near the former sludge bin location. This can also be seen on Figure 10 at sample location RW-057-PZ.

Groundwater data for samples collected from intermediate zone wells and piezometers in late 2015 (prior to installation of the remediation trenches) are summarized in **Table 2**.

3.0 NEW INTERIM MEASURES AND GROUNDWATER CONDITIONS

3.1. INTERIM MEASURES REMEDIAL APPROACH

EAG contracted Advanced GeoServices (AGS) to design and install remediation trenches to serve as the new interim measures for remediating groundwater at the RWM. The full details of the remediation design are presented in the AGS Work Plan, *Interim Measure Work Plan In-Situ Groundwater Treatment* (AGS, 2016). The primary purpose of this new interim remedial measure is to reduce dissolved concentrations of metals in the groundwater and eliminate the potential for future unacceptable groundwater discharges to surface water.

Groundwater extraction from the pumping wells was stopped in September 2016 to support the construction of the remediation trenches. The approach for addressing the elevated dissolved cadmium and zinc in the intermediate groundwater zone was to precipitate the dissolved metals in-situ by raising the groundwater pH from approximately 4 to approximately 9.5 to 10. Alkaline reagents were added into the intermediate groundwater zone at select high concentration areas. Excavated soils were replaced with alkaline charges that react with acidic groundwater to create slightly alkaline conditions within the aquifer and remove the dissolved cadmium and zinc from solution. The alkaline charges utilized a combination of fast acting TerrabondMG (40% by weight) in conjunction with limestone aggregate (60% by weight). The reagents were placed in trenches in a staggered/offset alignment that is perpendicular to the anticipated groundwater flow. A typical cross-section of a remediation trench is provided as **Figure 11**, and the approximate locations of the trenches are shown on **Figures 12-19**.

Approximately 2,392 cubic yards of contaminated soil were removed from the RWM during construction of the trenches. Construction of the trenches was completed in January 2017.

The interim groundwater treatment goals were to increase the pH above 7 to affect a > 90% reduction in dissolved concentrations of cadmium and zinc within the source areas as compared to existing conditions.

After the completion of remediation trenches, several new groundwater wells were installed in the RWM to facilitate monitoring of the groundwater conditions in the shallow and intermediate zones. .

3.2. GROUNDWATER CONDITIONS AFTER TRENCH INSTALLATION

Following installation of the remediation trenches, the groundwater wells in the RWM were sampled to help assess groundwater flow directions and groundwater quality in the shallow and intermediate zones. The observed conditions are discussed in the following subsections, with supporting information presented in Appendix A (shallow groundwater time-trend plots),

Appendix B (intermediate groundwater time-trend plots), Appendix C (statistical data analysis), and Appendix D (laboratory data sheets).

3.2.1. Shallow Groundwater Zone

A synoptic round of groundwater level measurements was collected from the existing monitoring wells on November 13th, 2017, and a groundwater contour map (**Figure 12**) has been developed to show the interpreted groundwater elevations for the shallow zone on that date. As shown on Figure 12, groundwater elevations were highest at wells RW18-MW(S) (5.2 ft above mean sea level, or amsl) and RW19-MW(S) (5.15 ft amsl). These two locations are the farthest to the east and farthest inland. The lowest groundwater elevation was -0.56 ft amsl, observed in well RW14-MW(S) in the north central portion of the site. Based on these November 2017 groundwater measurements, shallow groundwater is expected to flow generally to the west and to the south.

Measurements of pH collected from shallow zone wells in July 2017 show a small area of very basic groundwater centered around a measurement of 10.74 in well RW06. However, most other values in the shallow zone are below 7. The two lowest measurements are consistently in wells RW01 and RW02, farthest to the southwest. A figure depicting the pH of the shallow zone groundwater based on measurements collected in July 2017 (six months after the installation remediation trenches) is included as **Figure 13**.

Cadmium results for wells screened in the shallow zone collected in July 2017 show that the cadmium concentration is below 8.8 µg/L at all wells along the western Site boundary. These wells include RW01-MW(S), RW02-MW(S), RW03-MW(S), RW04-MW(S), RW06-MW(S), RW07-MW(S) and RW08-MW(S). The highest cadmium concentration in the shallow zone during the July 2017 sampling event was RW18-MW(S) at a concentration of 240 µg/L. Cadmium concentrations for samples collected in July 2017 from the shallow zone are shown on **Figure 14**.

Zinc results for wells screened in the shallow zone show that concentrations have exhibited increases for some wells in the southwest and along the western Site boundary. During the July 2017 sampling event, the highest concentration of zinc in the shallow zone was at well RW02 (97,100 µg/L). However, this concentration measured in July was anomalously high, as the concentration in this well in all previous months of 2017 has been below 50,000 µg/L. For the majority of shallow wells, the zinc concentration has remained below 14,000 µg/L over the first six months after installation of the remediation trenches. The concentration in most wells exhibits fluctuation but no distinct trend (except those noted for RW07 and RW19 below). Zinc concentrations for samples collected in July 2017 from shallow zone wells are shown on **Figure 15**.

Groundwater data for samples collected from shallow zone wells following installation of the remediation trenches are summarized in **Table 3**.

Based on a detailed statistical analysis, statistically significant **upward** trends were identified for the following constituents at the following wells:

- zinc in RW07-MW(S); and
- pH in RW01-MW(SA), RW03-MW(S), and RW19-MW(S).

Statistically significant **downward** trends were identified for the following constituents at the following wells:

- cadmium in RW08-MW(S) and RW09-MW(S); and
- zinc in RW19-MW(S).

3.2.2. Intermediate Groundwater Zone

A synoptic round of groundwater level measurements was collected from the existing monitoring wells on November 13th, 2017, and a groundwater contour map (**Figure 16**) has been developed to show the interpreted groundwater elevations for the intermediate zone on that date. As shown on Figure 16, groundwater elevations were highest at RW12-MW(I) (3.71 ft amsl) and RW13-MS(I) (3.44 ft amsl), both located in the central portion of the Site. The lowest groundwater elevation was observed at RW01-MW(I) (0.6 ft amsl). Groundwater is expected to flow radially from the mounded area near wells RW12-MW(I) and RW13-MW(I).

Measurements of pH collected from intermediate zone wells in July 2017 show a small area of very basic groundwater centered around a measurement of 12.75 in well RW22 near the northern Site boundary. Most other values from intermediate zone wells are below 7. A figure depicting the pH of the intermediate zone groundwater based on measurements collected in July 2017 (six months after the installation remediation trenches) is included as **Figure 17**.

Cadmium results for wells screened in the intermediate zone collected in July 2017 show that cadmium concentrations vary significantly, but have generally decreased from levels observed in February 2017. Of wells along the western Site boundary, intermediate wells RW22 and RW07 were below 8.8 µg/L. Cadmium concentrations were highest at RW12 (2,730 µg/L), and also relatively high farther to the southwest. Cadmium concentrations for samples collected in July 2017 from the intermediate zone are shown on **Figure 18**.

Zinc results for wells screened in the intermediate zone show that concentrations are highest at RW19 and generally decrease towards the western Site boundary. . Zinc concentrations for samples collected in July 2017 from intermediate zone wells are shown on **Figure 19**.

Groundwater data for samples collected from intermediate zone wells following installation of the remediation trenches are summarized in **Table 4**.

Statistically significant **upward** trends were identified for the following constituents at the following wells:

- cadmium in RW09-MW(I); and
- zinc in RW05-MW(IA).

Statistically significant **downward** trends were identified for the following constituents at the following wells:

- cadmium in RW19-MW(I); and
- zinc in RW11-MW(I).

4.0 SUMMARY AND CONCLUSIONS

The current approach for addressing the elevated dissolved cadmium and zinc in the groundwater is to precipitate the dissolved metals in-situ by raising the groundwater pH from approximately 4 to approximately 9.5 to 10.

In general, the pH of groundwater in the shallow zone exhibited overall increases in most wells during the first six months following installation of the remediation trenches. In both February and July 2017, the lowest two measurements of pH were observed in wells RW01 and RW02. Over this six-month period, the pH in these wells increased from 5.04 to 5.66 and 5.22 to 5.68, respectively.

Concentrations of cadmium in the shallow zone along the western Site boundary have generally been below 8.8 µg/L over the entire six months following installation of the remediation trenches. A few of the other shallow wells (not along the western Site boundary) have cadmium concentrations above this level, with the highest concentration in RW18-MW(S). However, the cadmium level notably decreased in this well between its first two measurements collected in June and July.

Following the first six months after installation of the remediation trenches, concentrations of zinc in all shallow zone wells ranged from 30.2 µg/L (RW06-MW(S) in June) to 97,100 µg/L (RW02-MW(SA) in July). . Although a few shallow wells exhibited decreases, zinc generally increased in concentration in the majority of these wells over this time frame. The wells with the two highest zinc concentrations correspond to the wells with the two lowest pH measurements (RW01 and RW02).

In the intermediate zone, pH generally remained relatively stable in most wells over the first six months following installation of the remediation trenches. However, a few wells (RW08, RW10, RW12) exhibited overall decreases over this time frame.

For cadmium in the intermediate zone, concentrations in the three northernmost wells along the western Site boundary (RW07, RW08, RW22) have been below 8.8 µg/L over the entire six month period following the installation of the remediation trenches. Concentrations of cadmium in all other intermediate zone wells are above 8.8 µg/L; however, the majority of wells have been relatively stable or exhibited overall decreases in cadmium concentrations over this time frame.

For zinc in the intermediate zone, one well along the western Site boundary (RW07) had a concentration below 81 µg/L following the first six months after installation of the remediation trenches. The remaining intermediate zones wells exhibited varying trends in zinc concentrations, with some wells exhibiting increases, and some wells exhibiting decreases.

The number of wells in which concentrations of cadmium and/or zinc have exhibited overall decreases over the first six months following installation of the remediation trenches, particularly in the intermediate zone, indicates measurable progress towards the goals of the new interim measures for the RWM. However, only a limited view of the trends in groundwater quality is available thus far because of the relatively few data points that have been collected, and the relatively short period of operation. Therefore, it is recommended that monthly monitoring should continue at the Site in order to acquire a more robust data set for assessing the overall performance and effectiveness of the remediation trenches.

5.0 REFERENCES

Advanced GeoServices Corp. (2016). *Interim Measure Work Plan In-Situ Groundwater Treatment*. Revised August 22, 2016.

ARM Group, Inc. (2016). *Phase II Investigation Work Plan Area A: Parcel A3*. Revision 0 - June 10, 2016.

ARM Group, Inc. (2016). *Pre-Design Investigation Rod and Wire Mill Area Characterization Report Area A: Parcel A3*. Revision 0 – June 10, 2016.

FIGURES



Site Boundary
 Parcel Boundaries
 Private Property

Tradeport Atlantic
Area A and Area B Parcels
 July 25, 2017

Figure
1

 ARM Group Inc. Earth Resource Engineers and Consultants	Tradeport Atlantic
	Baltimore County, MD
	EnviroAnalytics Group
	Area A: Project 150298M Area B: Project 150300M Development: Project 160443M

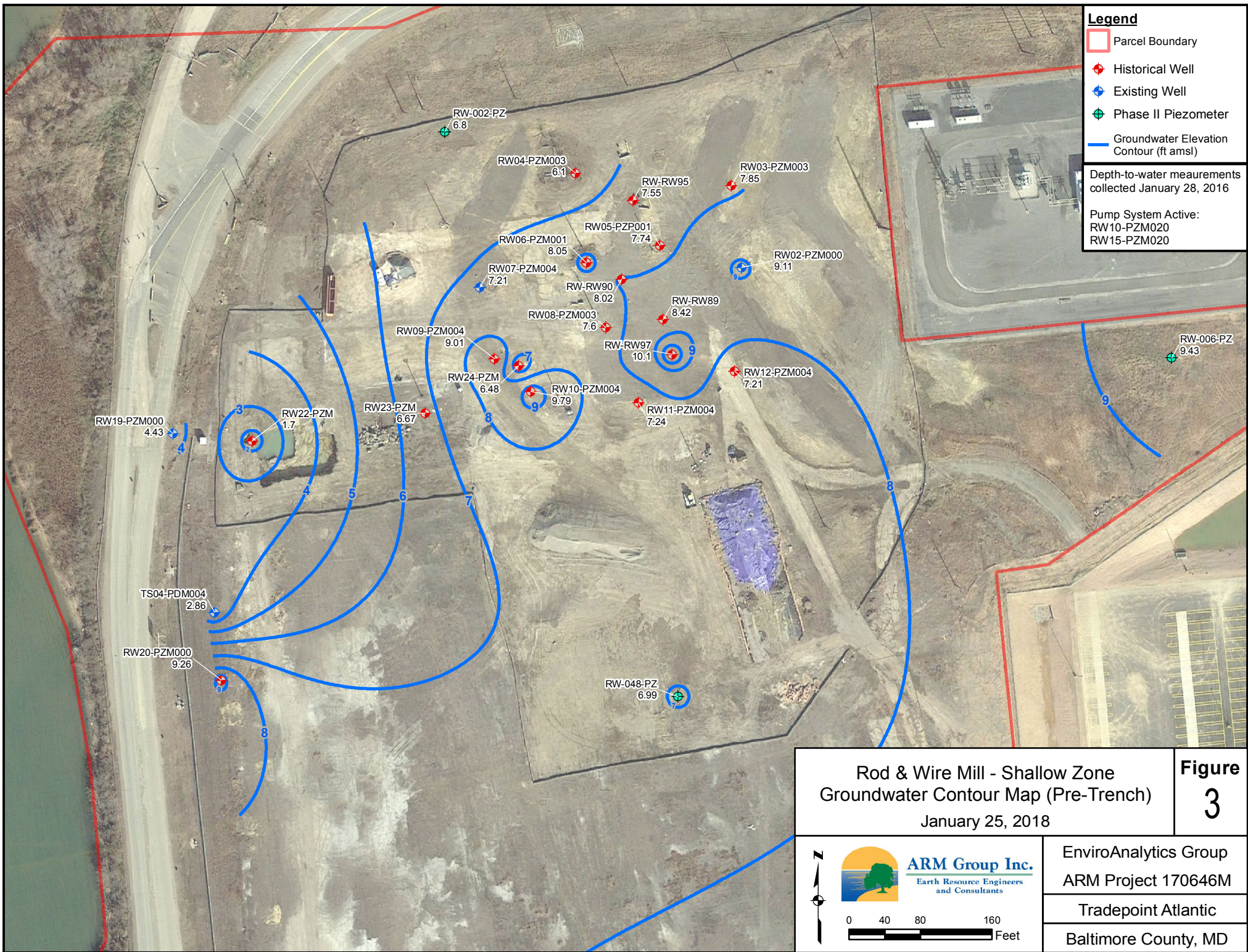


Parcel A3 (Rod & Wire Mill)
Location of Historical Activities
 June 10, 2016

Figure
2



EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 150298M	Baltimore County, MD

	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 10px; background-color: purple; border: 1px solid black;"></td> <td>Former Northwest Pond</td> </tr> <tr> <td style="width: 20px; height: 10px; background-color: blue; border: 1px solid black;"></td> <td>Former East Pond</td> </tr> <tr> <td style="width: 20px; height: 10px; background-color: yellow; border: 1px solid black;"></td> <td>Former Sludge Bin Storage Area</td> </tr> <tr> <td style="width: 20px; height: 10px; border: 2px solid orange;"></td> <td>Approximate Boundary of Remedial Design Area</td> </tr> <tr> <td style="width: 20px; height: 10px; border: 2px solid red;"></td> <td>Parcel A3 (RWM) boundary</td> </tr> </table>		Former Northwest Pond		Former East Pond		Former Sludge Bin Storage Area		Approximate Boundary of Remedial Design Area		Parcel A3 (RWM) boundary
	Former Northwest Pond										
	Former East Pond										
	Former Sludge Bin Storage Area										
	Approximate Boundary of Remedial Design Area										
	Parcel A3 (RWM) boundary										



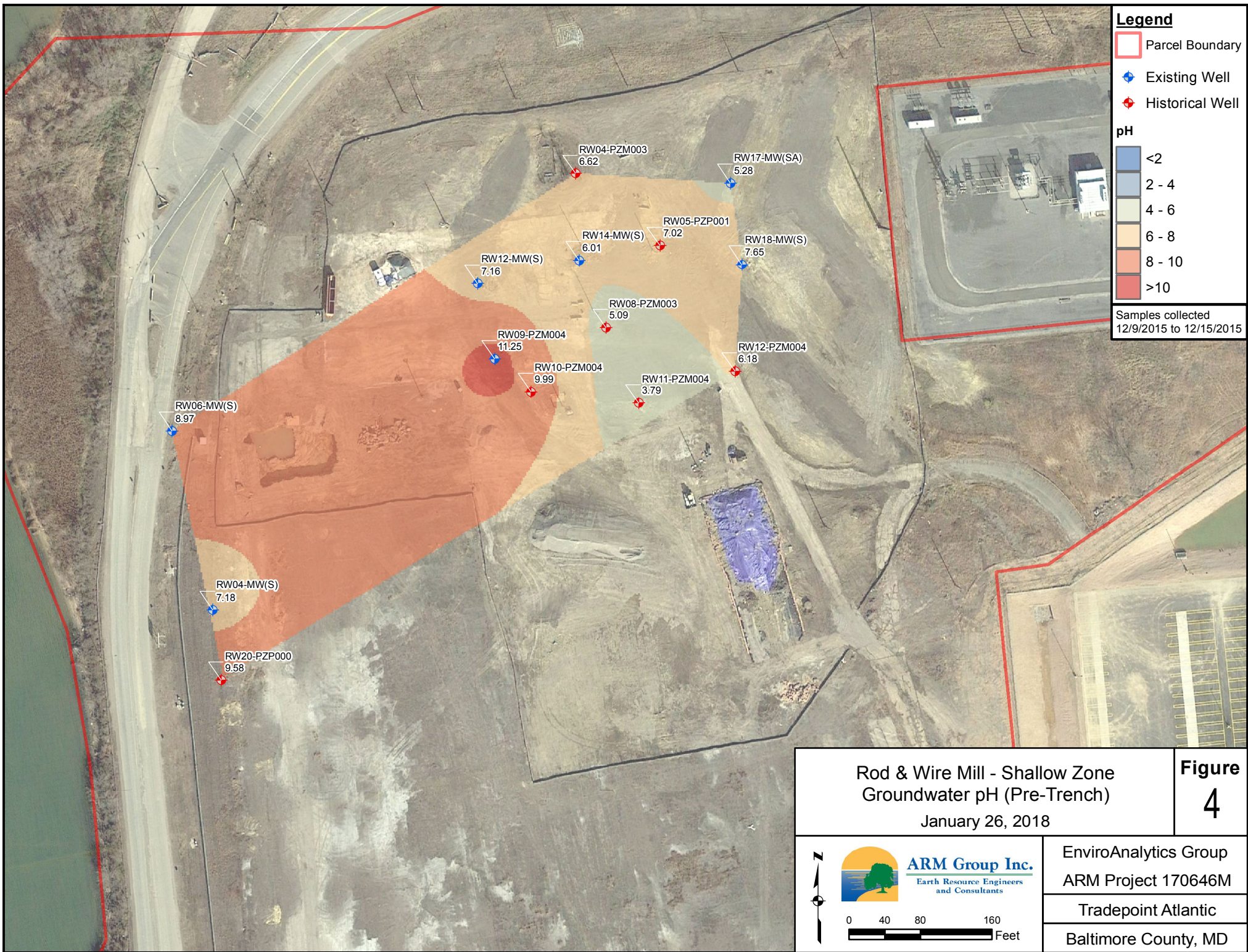
Rod & Wire Mill - Shallow Zone
 Groundwater Contour Map (Pre-Trench)
 January 25, 2018

Figure
3



ARM Group Inc.
 Earth Resource Engineers
 and Consultants

0 40 80 160 Feet

EnviroAnalytics Group
 ARM Project 170646M
 Tradepoint Atlantic
 Baltimore County, MD

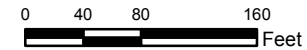


Rod & Wire Mill - Shallow Zone
Groundwater pH (Pre-Trench)
January 26, 2018

Figure
4



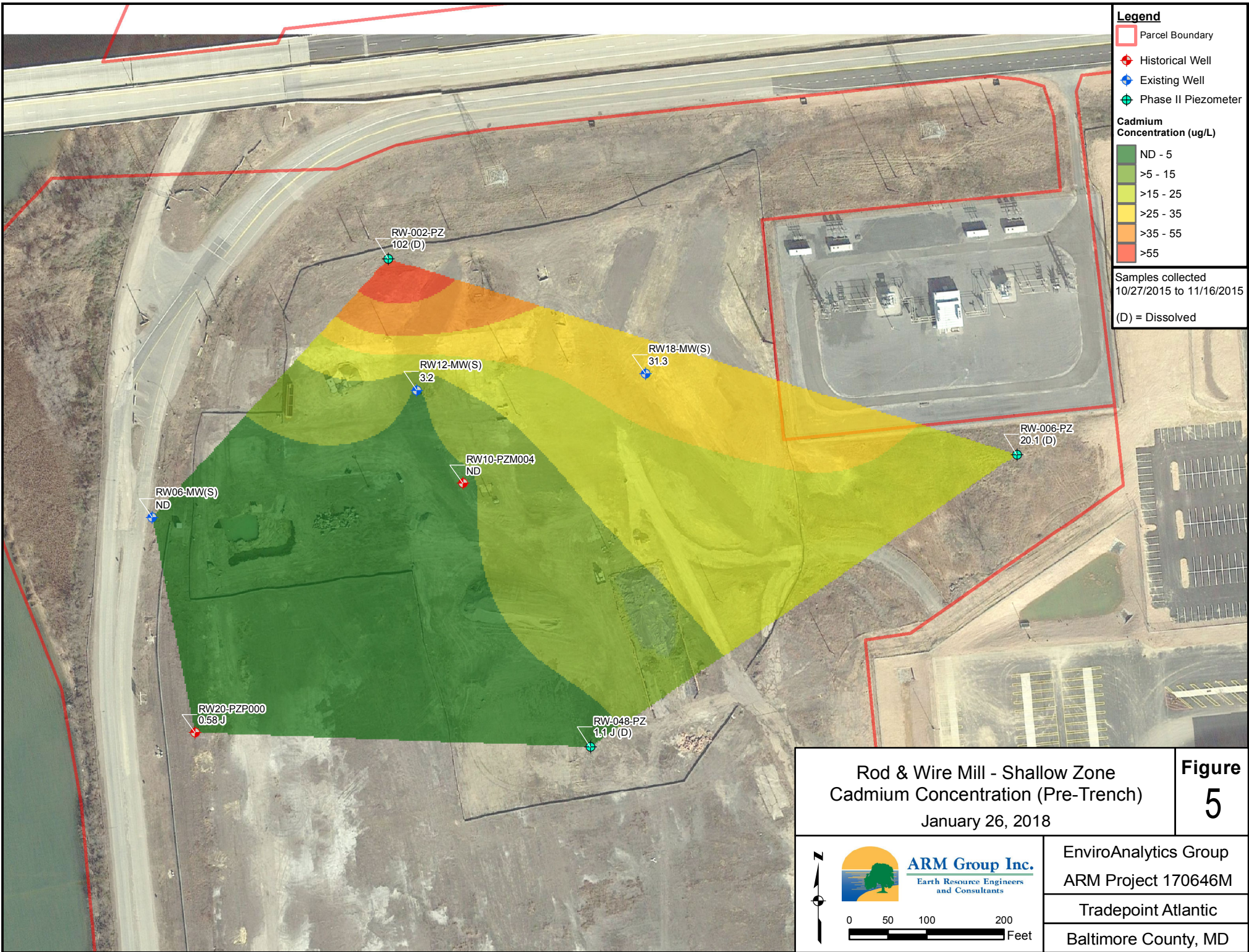
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Tradepoint Atlantic

Baltimore County, MD



Legend

- Parcel Boundary
- ◆ Historical Well
- ◆ Existing Well
- ◆ Phase II Piezometer

Cadmium Concentration (ug/L)

- ND - 5
- >5 - 15
- >15 - 25
- >25 - 35
- >35 - 55
- >55

Samples collected
10/27/2015 to 11/16/2015

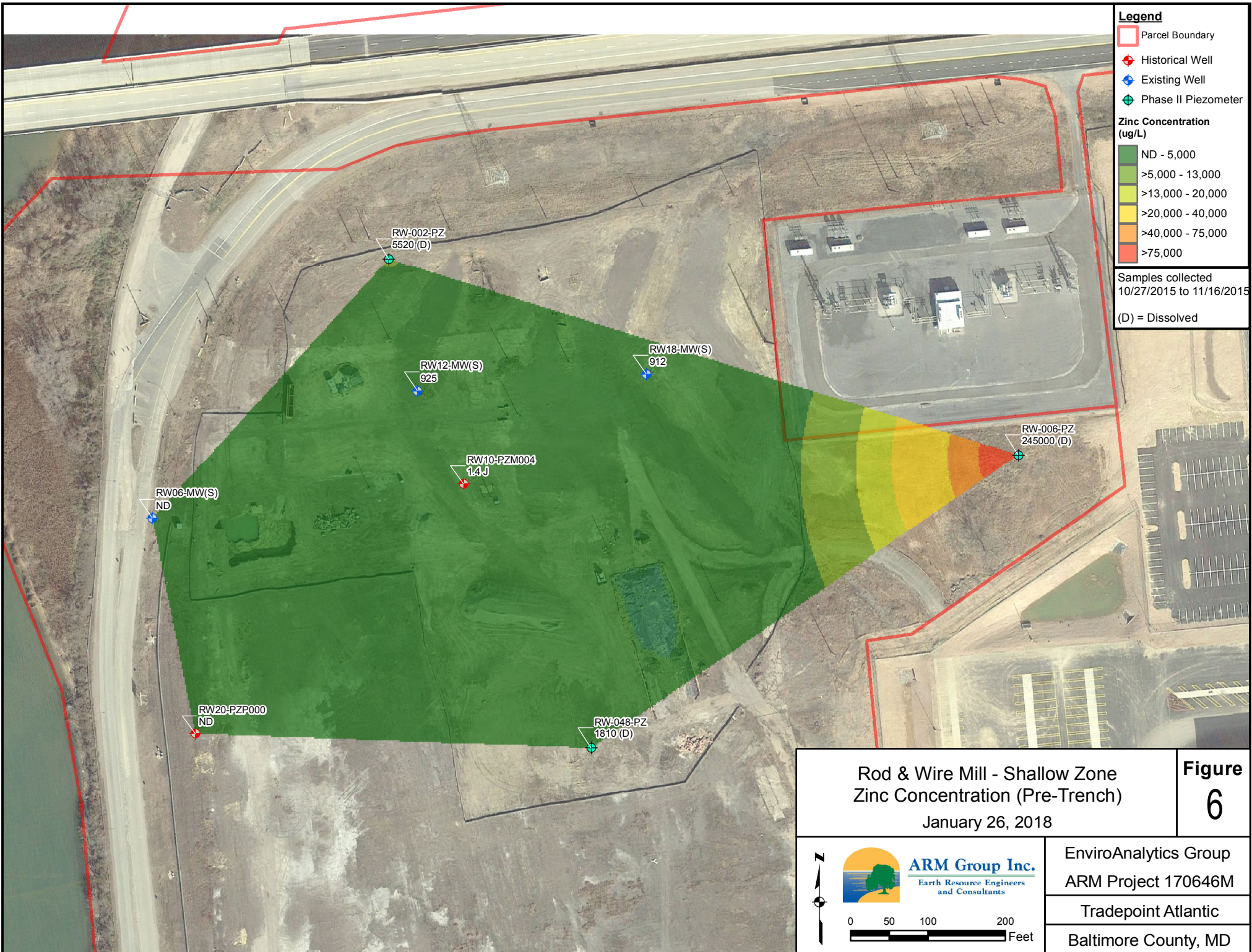
(D) = Dissolved

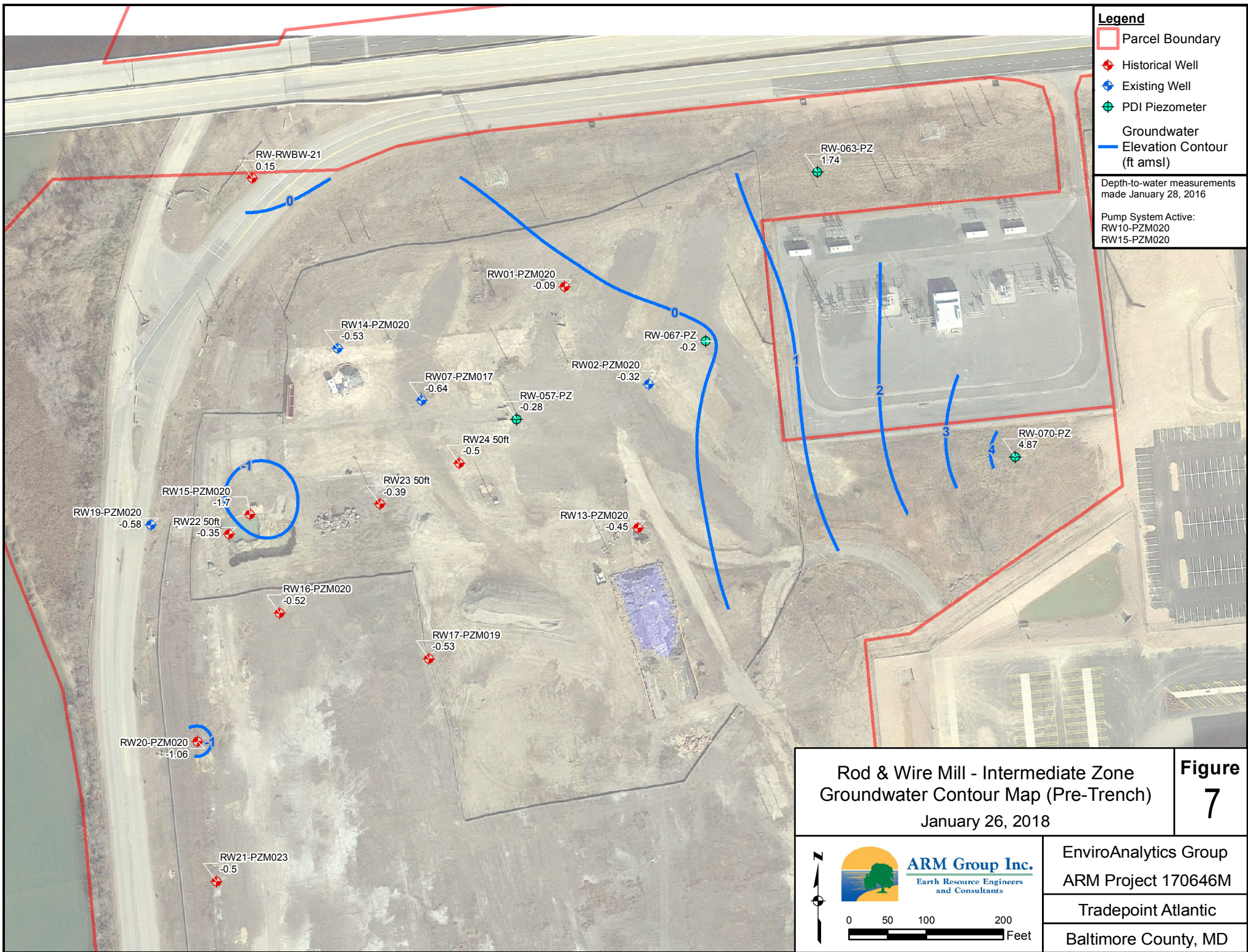
**Rod & Wire Mill - Shallow Zone
Cadmium Concentration (Pre-Trench)
January 26, 2018**

**Figure
5**

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Baltimore County, MD





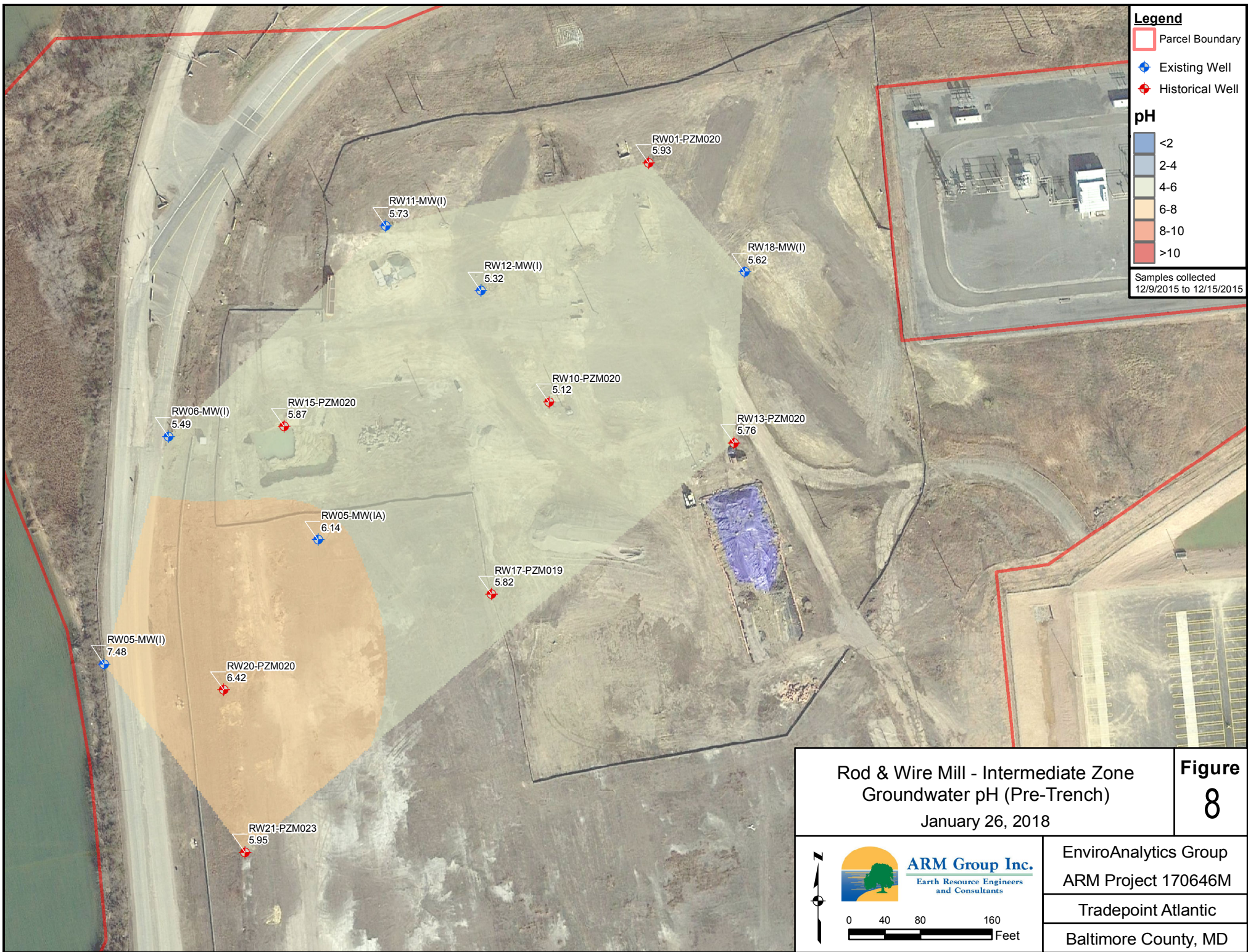
Rod & Wire Mill - Intermediate Zone
Groundwater Contour Map (Pre-Trench)
January 26, 2018

Figure
7



ARM Group Inc.
 Earth Resource Engineers
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0 50 100 200 Feet

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 Baltimore County, MD

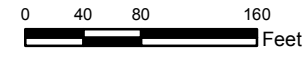


Rod & Wire Mill - Intermediate Zone
 Groundwater pH (Pre-Trench)
 January 26, 2018

Figure
 8



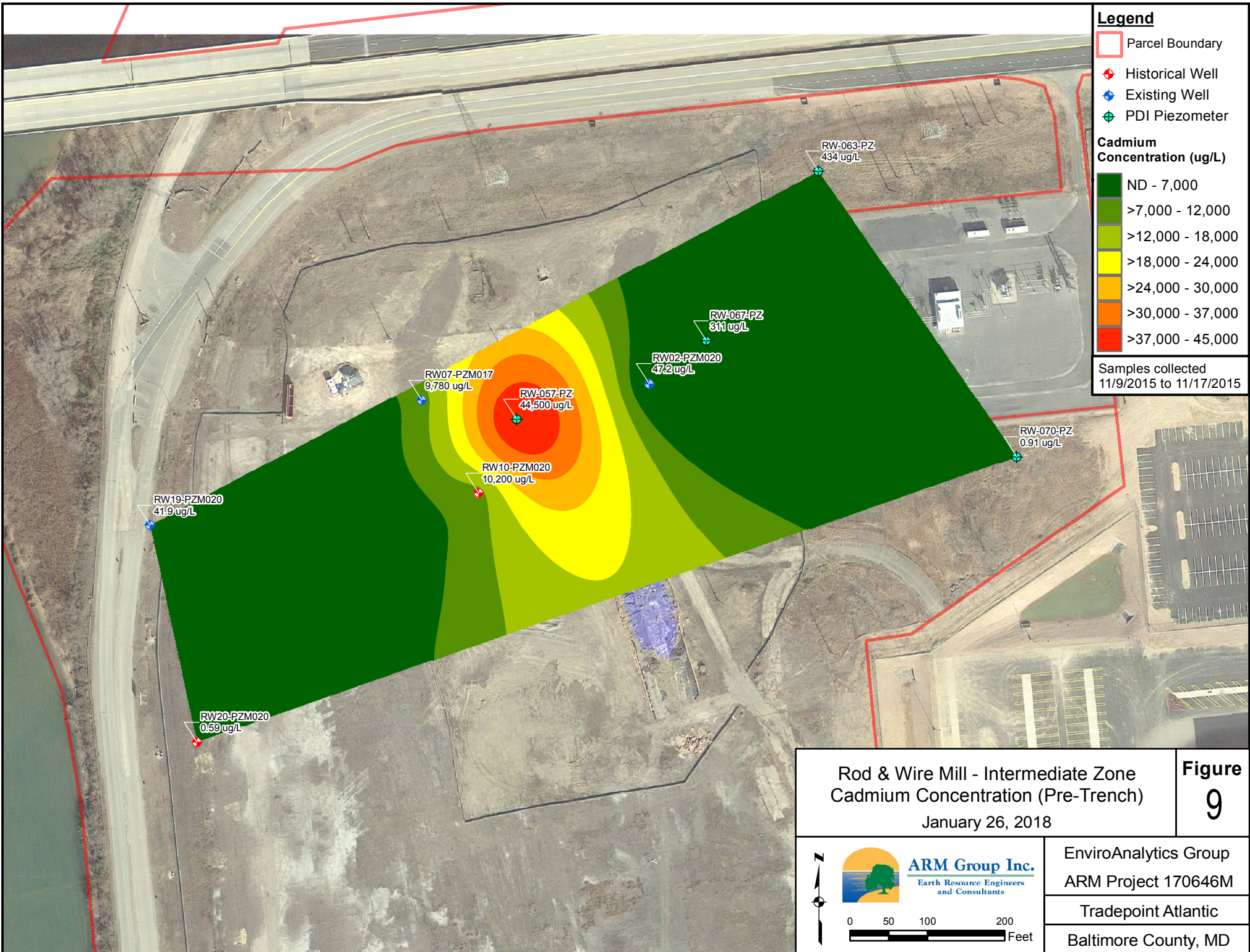
ARM Group Inc.
 Earth Resource Engineers
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Legend

- Parcel Boundary
- + Historical Well
- + Existing Well
- + PDI Piezometer

Cadmium Concentration (ug/L)

- ND - 7,000
- >7,000 - 12,000
- >12,000 - 18,000
- >18,000 - 24,000
- >24,000 - 30,000
- >30,000 - 37,000
- >37,000 - 45,000

Samples collected
11/9/2015 to 11/17/2015

Rod & Wire Mill - Intermediate Zone
Cadmium Concentration (Pre-Trench)

January 26, 2018

**Figure
9**



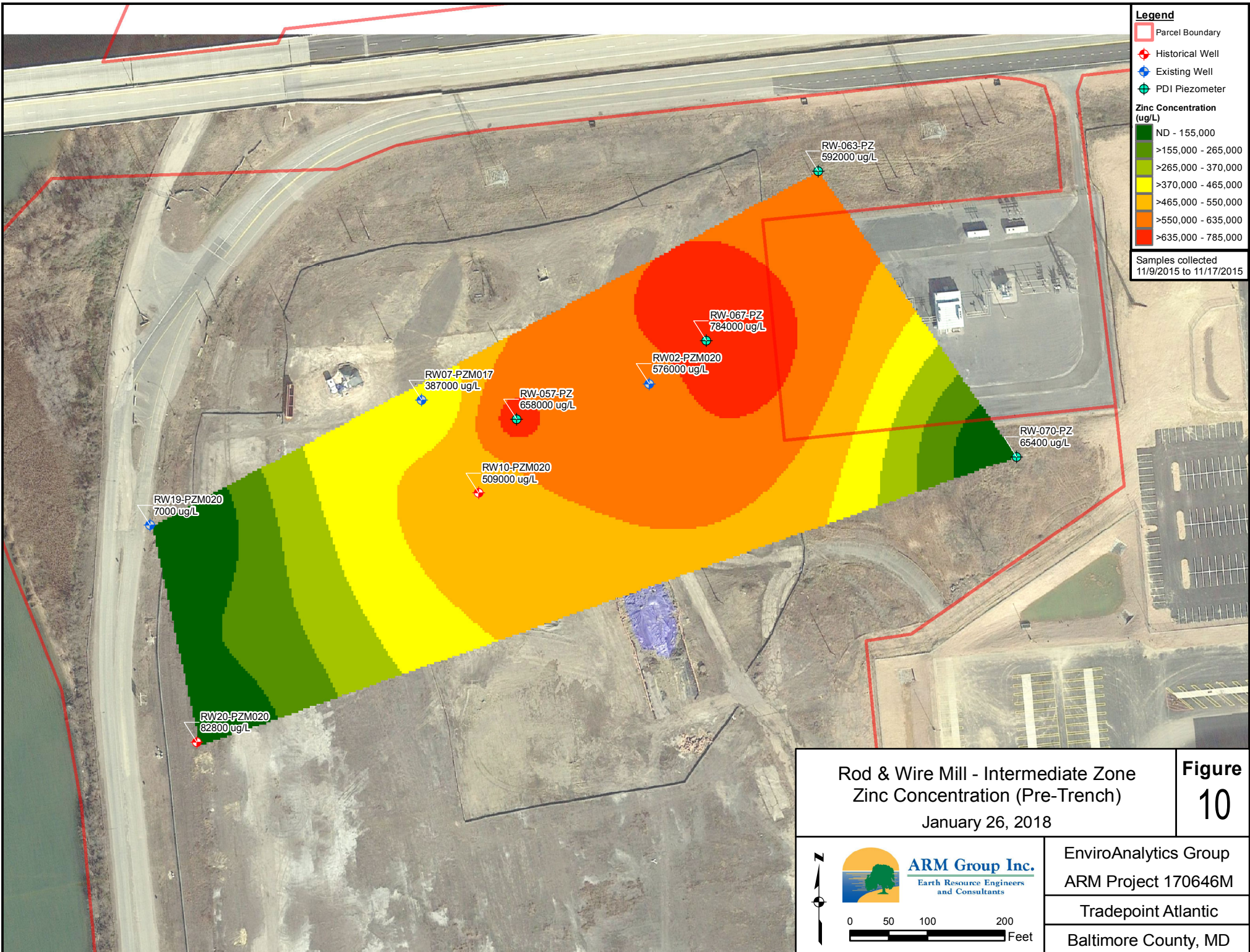
ARM Group Inc.
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0 50 100 200
Feet

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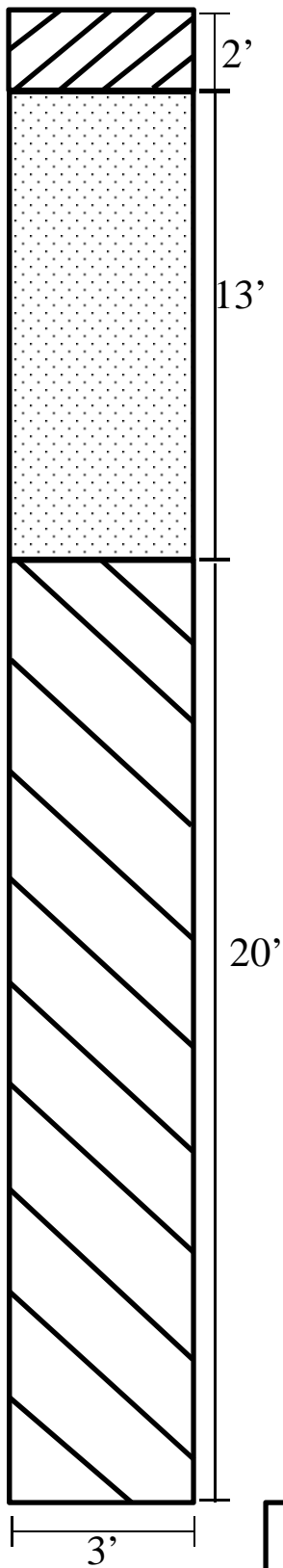
Rod & Wire Mill - Intermediate Zone
Zinc Concentration (Pre-Trench)
January 26, 2018

Figure
10


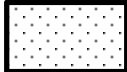



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0 50 100 200 Feet

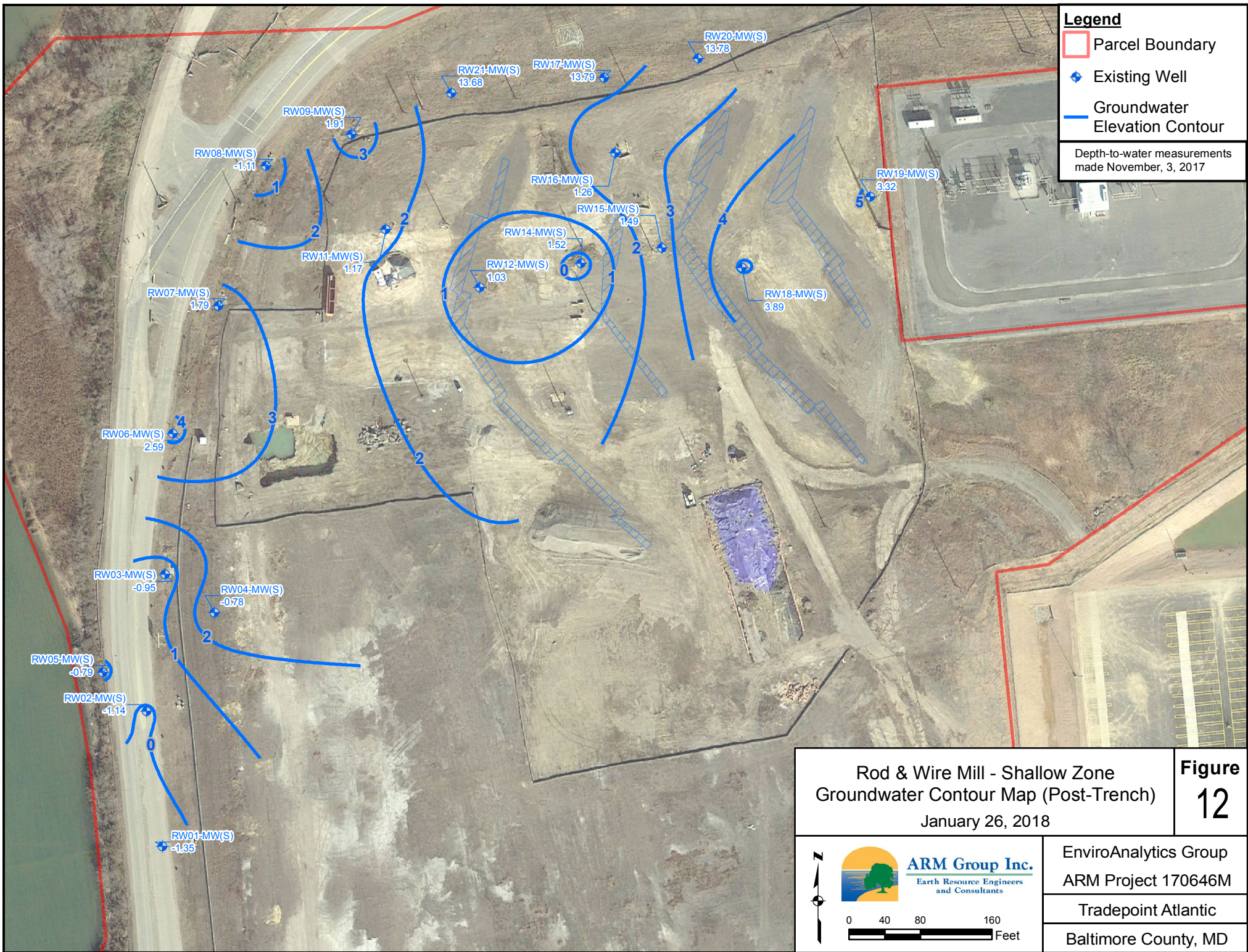
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 Tradepoint Atlantic
 Baltimore County, MD



Legend



-  On-Site Clean Fill
-  Backfill Spoils
-  Alkaline Charge

Former Rod and Wire Mill Area Sparrows Point Terminal Sparrows Point, Maryland		
Treatment Trench Cross-Section		
 <small>Engineering for the Environment. Planning for People.™</small> 1055 Andrew Drive, Suite A West Chester, PA 19380-4293 tel 610.840.9100 fax 610.840.9190 www.advancedgeoservices.com	Project No.: 2016-3421	FIGURE 11



Rod & Wire Mill - Shallow Zone
 Groundwater Contour Map (Post-Trench)
 January 26, 2018

Figure
 12



ARM Group Inc.
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0 40 80 160 Feet

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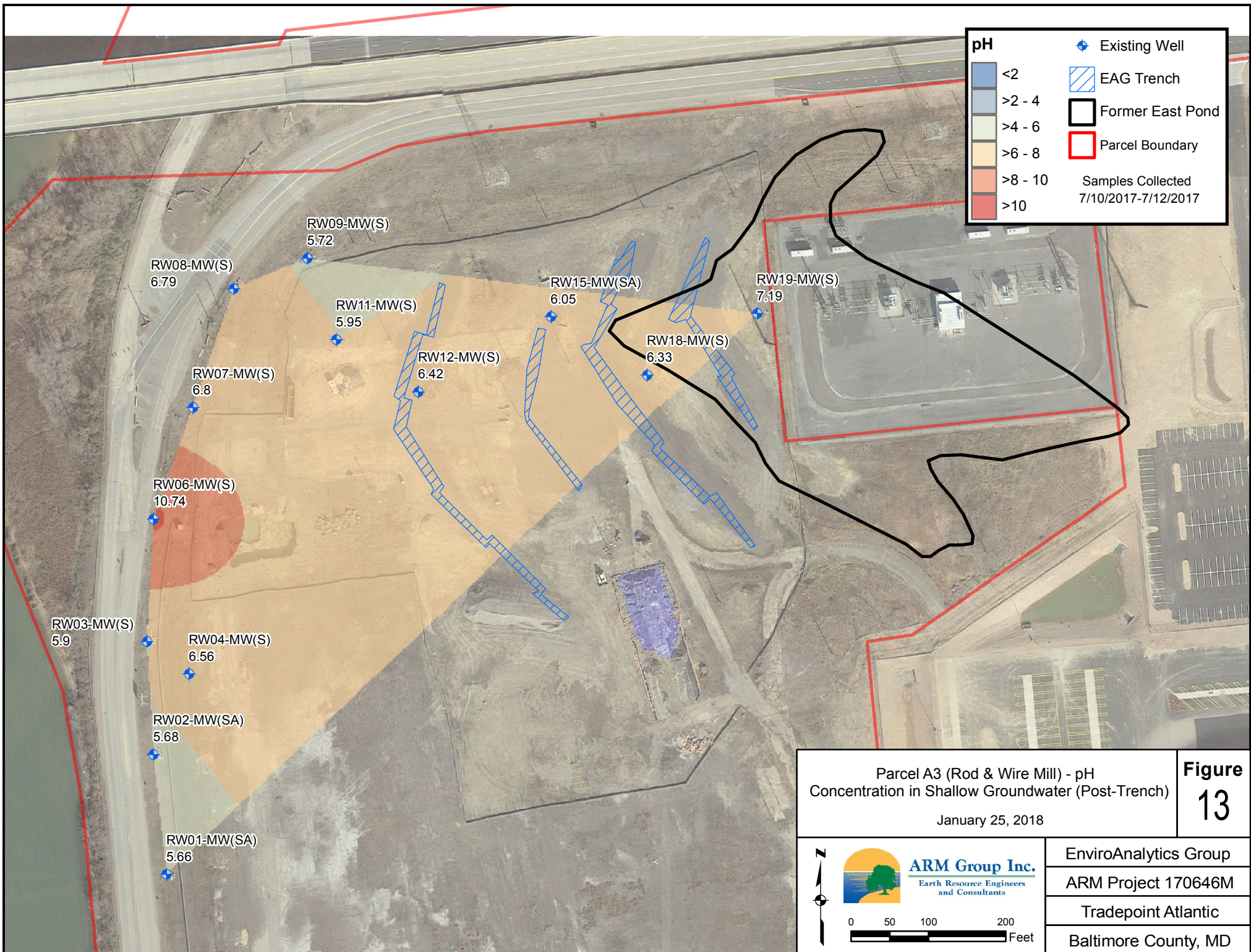
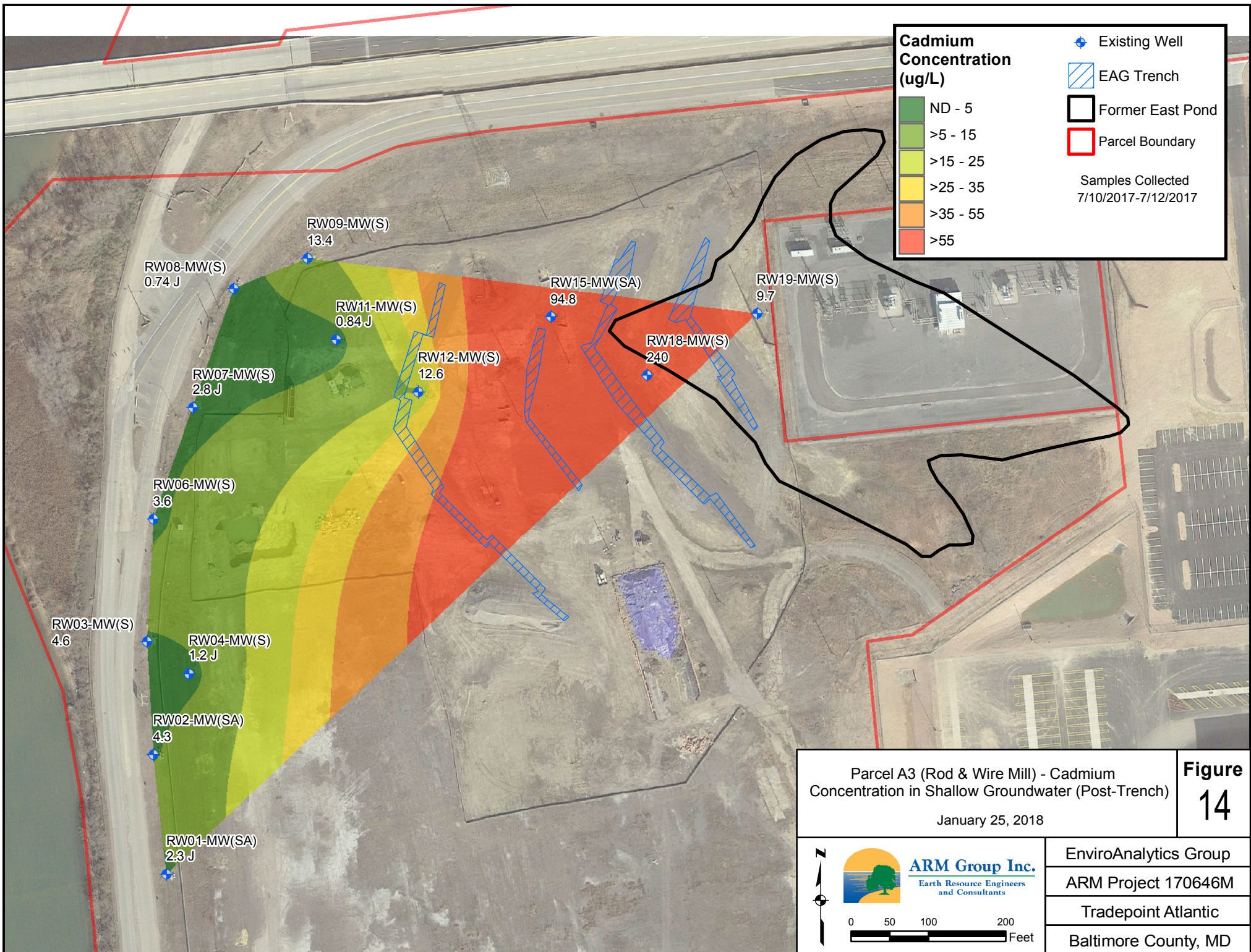
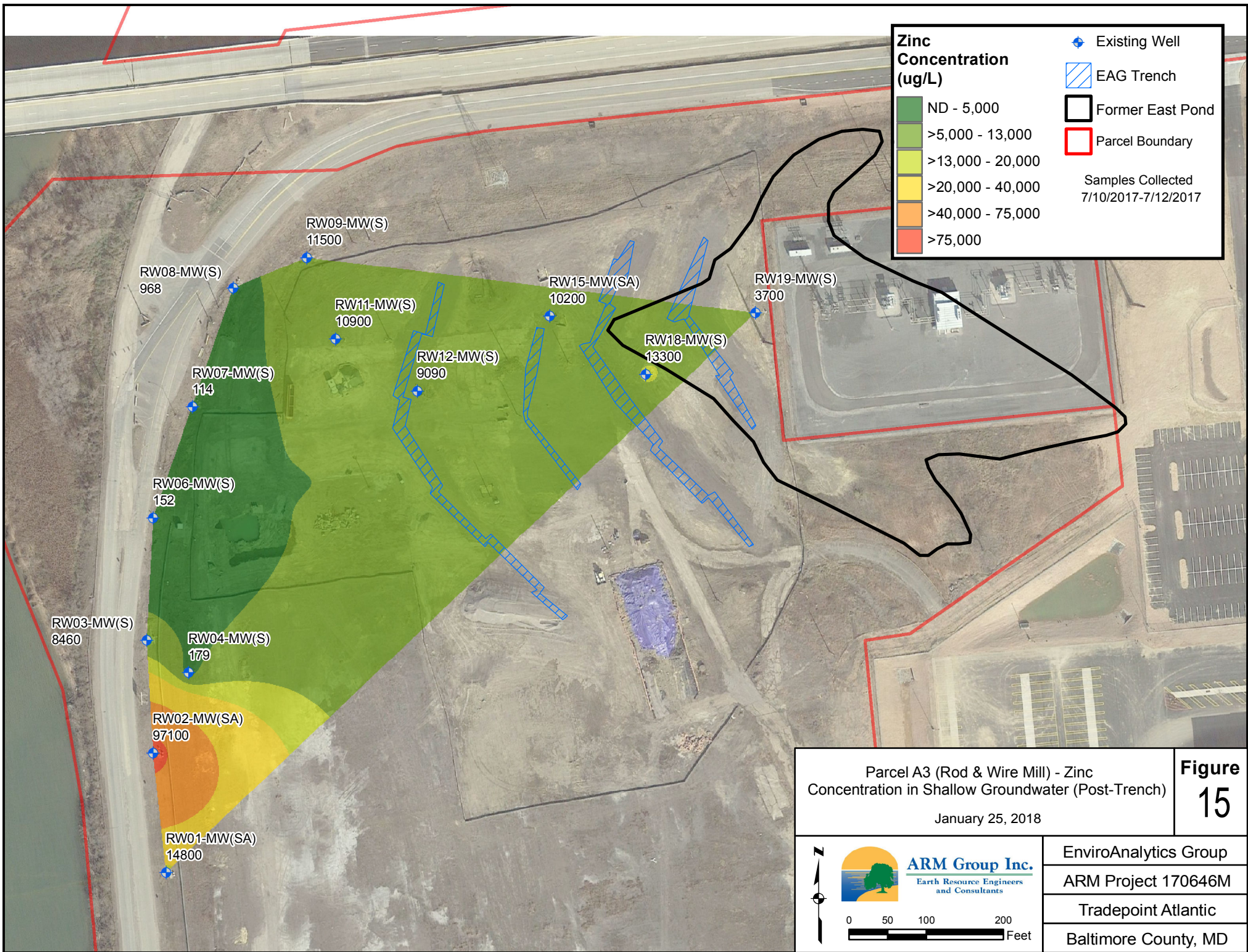




Figure 13





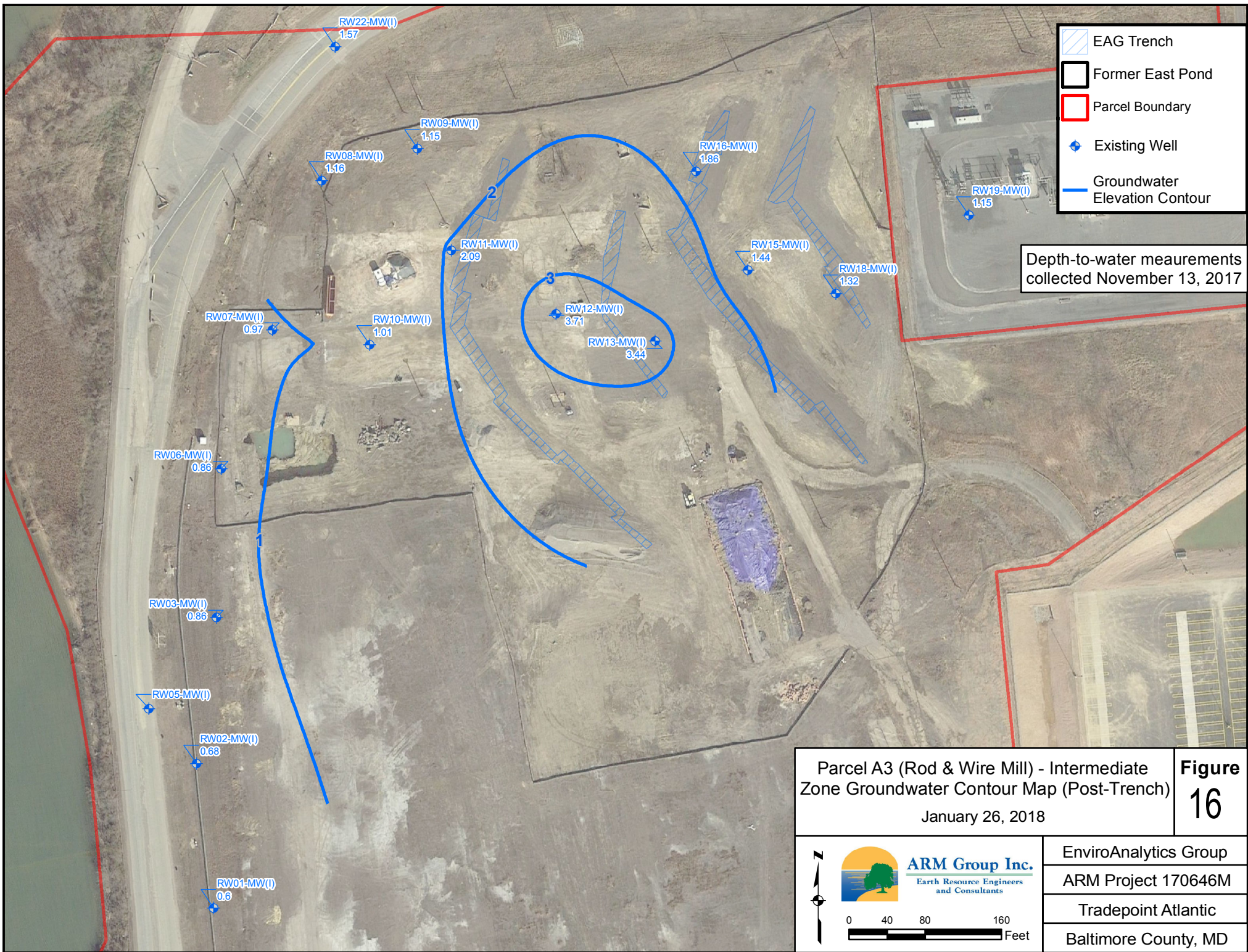
Parcel A3 (Rod & Wire Mill) - Zinc Concentration in Shallow Groundwater (Post-Trench)
 January 25, 2018

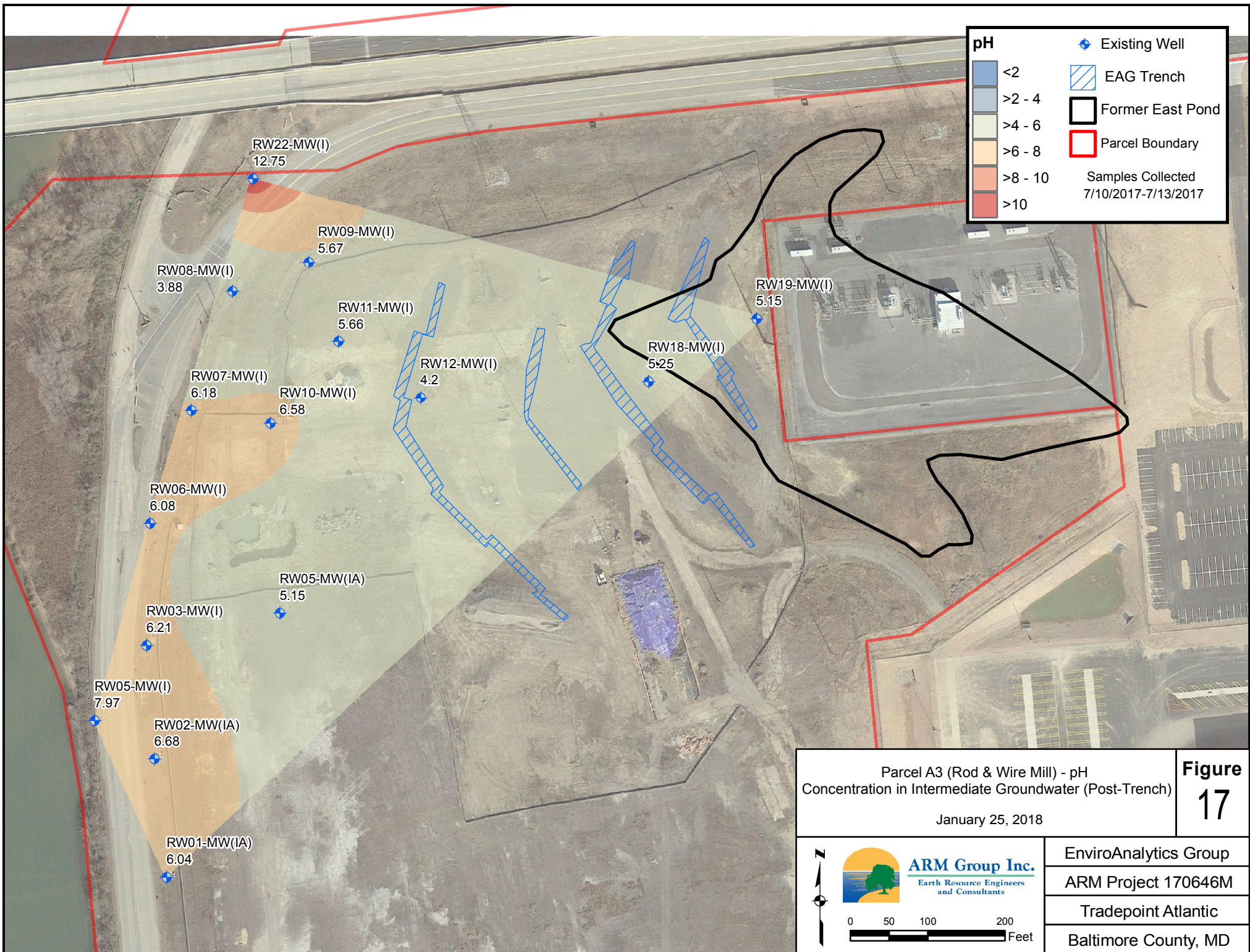
Figure 15

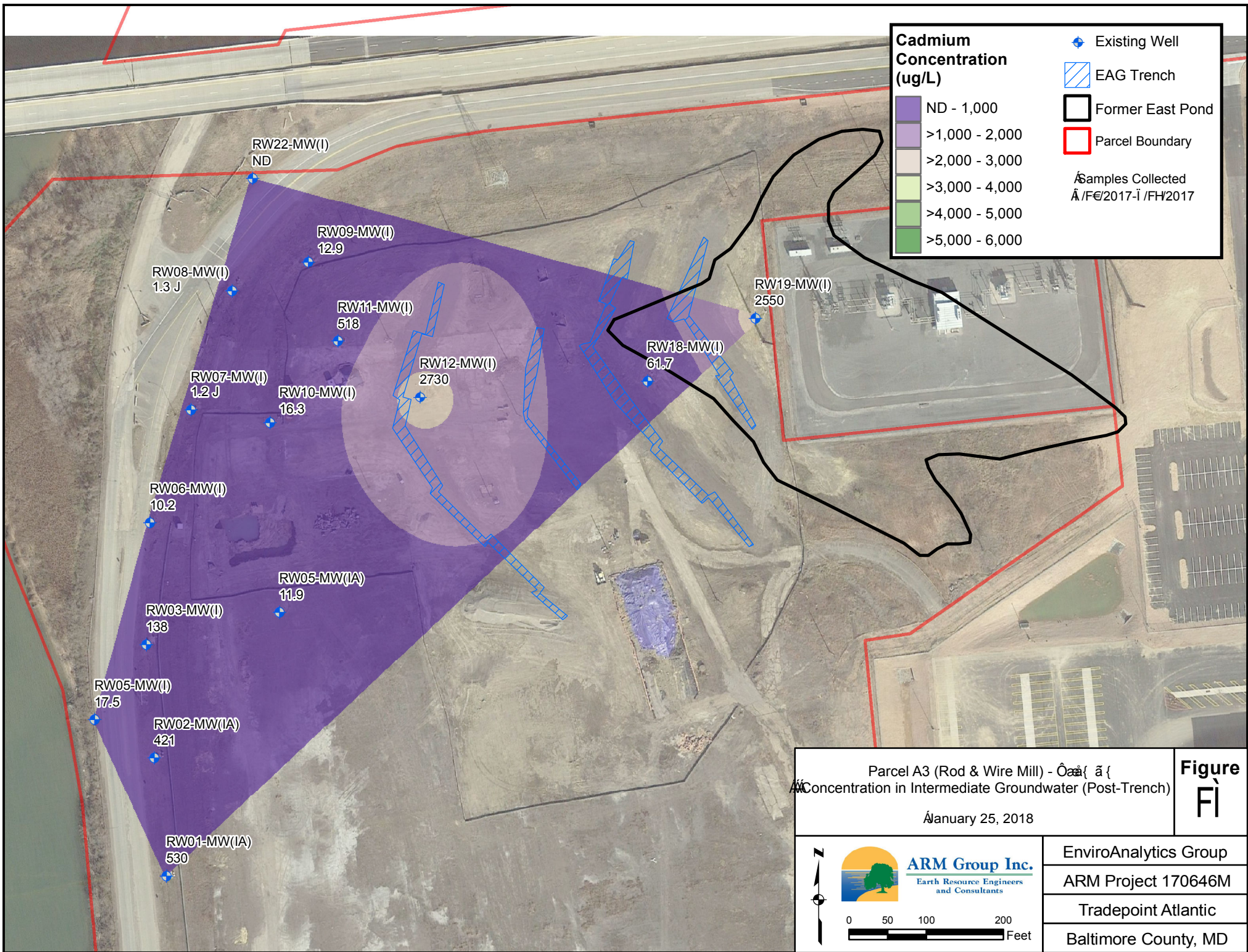


ARM Group Inc.
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0 50 100 200 Feet

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 Baltimore County, MD







Cadmium Concentration (ug/L)

- ND - 1,000
- >1,000 - 2,000
- >2,000 - 3,000
- >3,000 - 4,000
- >4,000 - 5,000
- >5,000 - 6,000

- Existing Well
- EAG Trench
- Former East Pond
- Parcel Boundary



Samples Collected
 1/25/2018 - 1/25/2018

Well ID	Concentration (ug/L)
RW22-MW(I)	ND
RW09-MW(I)	12.9
RW11-MW(I)	518
RW12-MW(I)	2730
RW18-MW(I)	61.7
RW19-MW(I)	2550
RW08-MW(I)	1.3 J
RW07-MW(I)	1.2 J
RW10-MW(I)	16.3
RW06-MW(I)	10.2
RW05-MW(IA)	11.9
RW03-MW(I)	133
RW05-MW(I)	17.5
RW02-MW(IA)	421
RW01-MW(IA)	530

Parcel A3 (Rod & Wire Mill) - Cadmium Concentration in Intermediate Groundwater (Post-Trench)

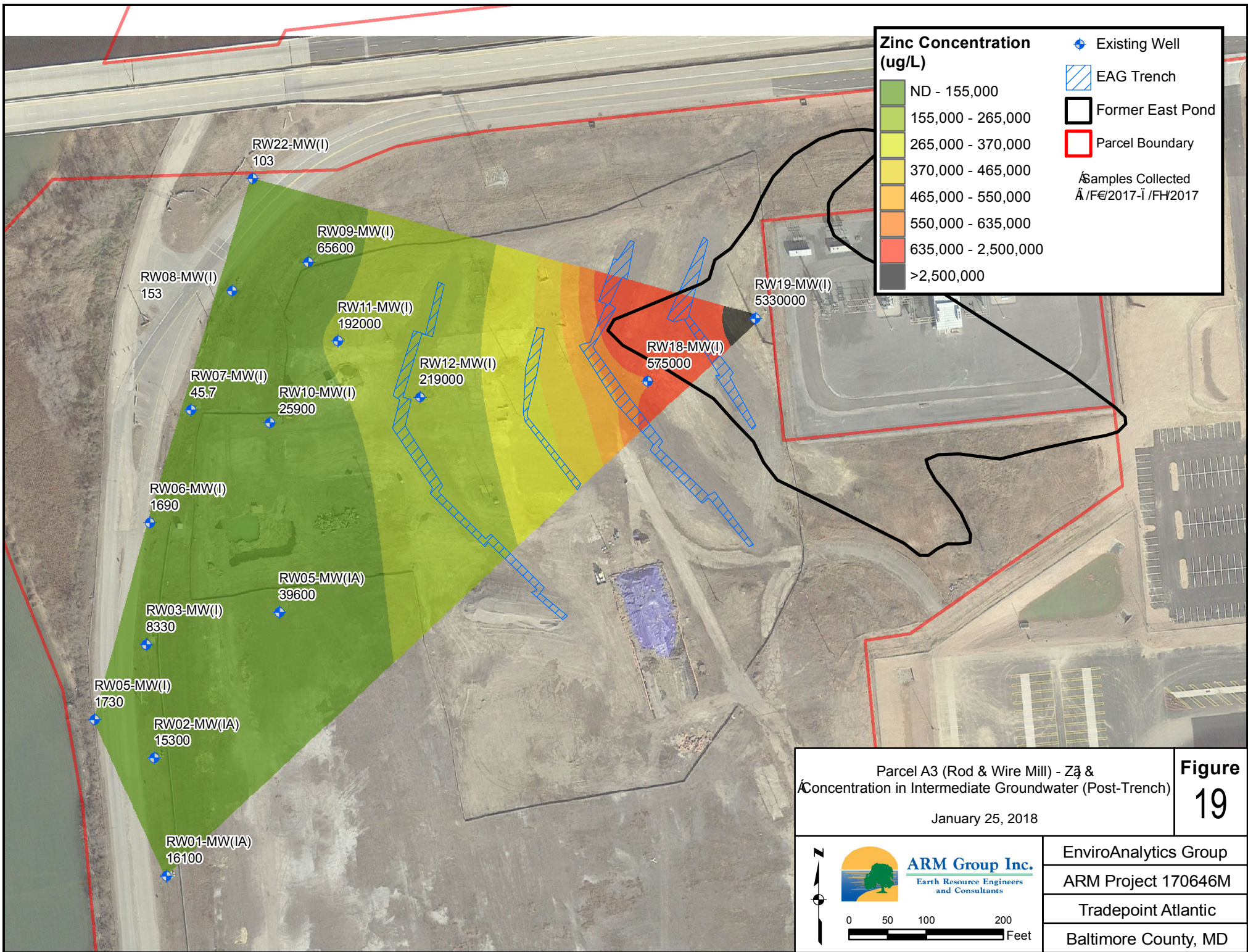
January 25, 2018

Figure F1



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 Tradepoint Atlantic
 Baltimore County, MD



Zinc Concentration (ug/L)

- ND - 155,000
- 155,000 - 265,000
- 265,000 - 370,000
- 370,000 - 465,000
- 465,000 - 550,000
- 550,000 - 635,000
- 635,000 - 2,500,000
- >2,500,000

- Existing Well
- EAG Trench
- Former East Pond
- Parcel Boundary

▲ Samples Collected
▲ /F/E/2017-İ /FH2017

RW22-MW(I) 103

RW09-MW(I) 65600

RW08-MW(I) 153

RW11-MW(I) 192000

RW12-MW(I) 219000

RW18-MW(I) 575000

RW19-MW(I) 5330000

RW07-MW(I) 45.7

RW10-MW(I) 25900

RW06-MW(I) 1690

RW05-MW(IA) 39600

RW03-MW(I) 8330

RW05-MW(I) 1730

RW02-MW(IA) 15300

RW01-MW(IA) 16100

Parcel A3 (Rod & Wire Mill) - Z_g & Concentration in Intermediate Groundwater (Post-Trench)

January 25, 2018

Figure 19

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

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ARM Project 170646M

Tradepoint Atlantic

Baltimore County, MD

TABLES

TABLE 1
Shallow Groundwater Data - Pre-Trench
Rod Wire Mill Interim Measurement Progress Report

Client Sample ID	Date Collected	Result	Flag
Cadmium (µg/L)			
RW-002-PZ	10/27/2015	102	
RW-006-PZ	10/27/2015	20.1	
RW-048-PZ	10/27/2015	1.1	J
RW06-MW(S)	11/12/2015	3	U
RW10-PZM004	11/12/2015	3	U
RW12-MW(S)	11/13/2015	3.2	
RW18-MW(S)	11/13/2015	31.3	
RW20-PZP000	11/16/2015	0.58	J
Zinc (µg/L)			
RW-002-PZ	10/27/2015	5520	
RW-006-PZ	10/27/2015	245000	
RW-048-PZ	10/27/2015	1810	
RW06-MW(S)	11/12/2015	10	U
RW10-PZM004	11/12/2015	1.4	J
RW12-MW(S)	11/13/2015	925	
RW18-MW(S)	11/13/2015	912	
RW20-PZP000	11/16/2015	10	U
pH			
RW04-MW(S)	12/9/2015	7.18	
RW20-PZM000	12/9/2015	9.58	
RW06-MW(S)	12/10/2015	8.97	
RW09-PZM004	12/10/2015	11.25	
RW10-PZM004	12/10/2015	9.99	
RW12-MW(S)	12/11/2015	7.16	
RW04-PZM003	12/14/2015	6.62	
RW12-PZM004	12/14/2015	6.18	
RW17-MW(SA)	12/14/2015	5.28	
RW18-MW(S)	12/14/2015	7.65	
RW05-PZP001	12/15/2015	7.02	
RW08-PZM003	12/15/2015	5.09	
RW11-PZM004	12/15/2015	3.79	
RW14-MW(S)	12/15/2015	6.01	

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

TABLE 2
Intermediate Groundwater Data - Pre-Trench
Rod Wire Mill Interim Measurement Progress Report

Client Sample ID	Date Collected	Result	Flag
Cadmium (µg/L)			
RW-057-PZ	11/9/2015	44,500	
RW-063-PZ	11/9/2015	434	
RW-067-PZ	11/9/2015	311	
RW-070-PZ	11/9/2015	0.91	J
RW10-PZM020	11/12/2015	10,200	
RW19-PZM020	11/12/2015	41.9	
RW02-PZM020	11/13/2015	47.2	
RW07-PZM017	11/13/2015	9,780	
RW20-PZM020	11/17/2015	0.59	J
Zinc (µg/L)			
RW-057-PZ	11/9/2015	658,000	J
RW-063-PZ	11/9/2015	592,000	J
RW-067-PZ	11/9/2015	784,000	J
RW-070-PZ	11/9/2015	65,400	J
RW10-PZM020	11/12/2015	509,000	
RW19-PZM020	11/12/2015	7,000	
RW02-PZM020	11/13/2015	576,000	
RW07-PZM017	11/13/2015	387,000	
RW20-PZM020	11/17/2015	82,800	
pH			
RW05-MW(IA)	12/9/2015	6.14	
RW20-PZM020	12/9/2015	6.42	
RW20-PZM050	12/9/2015	11.23	
RW21-PZM023	12/9/2015	5.95	
RW06-MW(I)	12/10/2015	5.49	
RW10-PZM020	12/10/2015	5.12	
RW10-PZM065	12/10/2015	7.34	
RW15-PZM020	12/10/2015	5.87	
RW17-PZM019	12/10/2015	5.82	
RW11-MW(I)	12/11/2015	5.73	
RW12-MW(I)	12/11/2015	5.32	
RW01-PZM020	12/14/2015	5.93	
RW18-MW(I)	12/14/2015	5.62	
RW05-MW(I)	12/15/2015	7.48	
RW13-PZM020	12/15/2015	5.76	
RW18-PZM047	12/15/2015	6.42	

J: The positive result reported for this analyte is a quantitative estimate

TABLE 3
Shallow Groundwater Data - Post-Trench
Rod Wire Mill Interim Measurement Progress Report

Event Date	Units	RW01-MW(SA)	RW02-MW(SA)	RW03-MW(S)	RW04-MW(S)	RW06-MW(S)	RW07-MW(S)	RW08-MW(S)	RW09-MW(S)
Cadmium									
2/1/2017	µg/L	2.4 J	9.8	7.9	NS	NS	1.8 J	3.8	22.3
3/1/2017	µg/L	2.9 J	9.1	4.7	NS	NS	1.7 J	11	17.5
4/1/2017	µg/L	1.7 J	9.8	3.2	NS	NS	1.4 J	7.8	16.6
5/1/2017	µg/L	3.2	11.2	3.9	NS	NS	1.9 J	3.2	14.9
6/1/2017	µg/L	2.7 J	11.9	4	0.7 J	3 U	2.3 J	1.7 J	13.9
7/1/2017	µg/L	2.3 J	4.3	4.6	1.2 J	3.6	2.8 J	0.74 J	13.4
Zinc									
2/1/2017	µg/L	13,200	45,200	6,200	NS	NS	81.6	1,080	14,500
3/1/2017	µg/L	10,800	34,600	6,510	NS	NS	74.8	8,710	12,400
4/1/2017	µg/L	11,500	47,700	4,860	NS	NS	86.4	9,520	12,900
5/1/2017	µg/L	6,120	47,800	5,380	NS	NS	102	2,680	11,900
6/1/2017	µg/L	10,600	46,900	5,500	58.2	30.2	107	1,870	13,000
7/1/2017	µg/L	14,800	97,100	8,460	179	152	114	968	11,500
pH									
2/1/2017	SU	5.04	5.22	5.57	NS	NS	7.05	8.21	5.87
3/1/2017	SU	4.97	4.76	3.85	NS	NS	5.68	4.66	4.12
4/1/2017	SU	4.42	4.75	5.65	NS	NS	6.77	6.46	5.51
5/1/2017	SU	5.36	4.74	5.88	NS	NS	7.16	7.97	6.01
6/1/2017	SU	5.52	4.71	5.89	6.72	10.65	6.95	8.83	5.77
7/1/2017	SU	5.66	5.68	5.9	6.56	10.74	6.8	6.79	5.72

Bold indicates detection above the reporting limit

NS indicates not sampled

TABLE 3
Shallow Groundwater Data - Post-Trench
Rod Wire Mill Interim Measurement Progress Report

Event Date	Units	RW11-MW(S)	RW12-MW(S)	RW14-MW(S)	RW15-MW(SA)	RW16-MW(S)	RW18-MW(S)	RW19-MW(S)
Cadmium								
2/1/2017	µg/L	0.78 J	NS	NS	44.7	22.9	NS	14.8
3/1/2017	µg/L	1.8 J	NS	NS	NS	13.5	NS	6.9
4/1/2017	µg/L	5.3	NS	NS	NS	11.9	NS	8.5
5/1/2017	µg/L	1.8 J	NS	NS	NS	64.1	NS	3.6
6/1/2017	µg/L	0.94 J	29.7	1,520	69.4	NS	356	2.4 J
7/1/2017	µg/L	0.84 J	12.6	NS	94.8	NS	240	9.7
Zinc								
2/1/2017	µg/L	8,790	NS	NS	3,470	3,370	NS	10,100
3/1/2017	µg/L	10,500	NS	NS	NS	4,320	NS	7,100
4/1/2017	µg/L	13,100	NS	NS	NS	3,350	NS	6,260
5/1/2017	µg/L	12,500	NS	NS	NS	15,800	NS	4,860
6/1/2017	µg/L	13,500	11,400	12,200	6,560	NS	25,500	3,720
7/1/2017	µg/L	10,900	9,090	NS	10,200	NS	13,300	3,700
pH								
2/1/2017	SU	6.16	NS	NS	6.41	6.48	5.99	6.98
3/1/2017	SU	5.55	NS	NS	NS	5.65	NS	6.45
4/1/2017	SU	5.58	NS	NS	NS	6.6	NS	6.92
5/1/2017	SU	6.3	NS	NS	NS	6.35	NS	7.04
6/1/2017	SU	NS	6.9	6.37	6.45	NS	6	7.35
7/1/2017	SU	5.95	6.42	NS	6.05	NS	6.33	7.19

Bold indicates detection above the reporting limit

NS indicates not sampled

TABLE 4
Intermediate Groundwater Data - Post-Trench
Rod Wire Mill Interim Measurement Progress Report

Event Date	Units	RW01-MW(IA)	RW02-MW(IA)	RW03-MW(I)	RW05-MW(I)	RW05-MW(IA)	RW06-MW(I)
Cadmium							
2/1/2017	µg/L	401	41.3	189	<i>NS</i>	1,070	12.5
3/1/2017	µg/L	1,060	284	196	<i>NS</i>	791	9.2
4/1/2017	µg/L	859	296	192	<i>NS</i>	1,600	14
5/1/2017	µg/L	526	24.4	84	<i>NS</i>	397	20.4
6/1/2017	µg/L	666	451	37.4	1.9 J	577	14.3
7/1/2017	µg/L	530	421	138	17.5	11.9	10.2
Zinc							
2/1/2017	µg/L	12,900	2,740	9,740	<i>NS</i>	22,900	1,900
3/1/2017	µg/L	17,800	9,110	9,240	<i>NS</i>	34,200	1,680
4/1/2017	µg/L	17,400	10,700	7,830	<i>NS</i>	25,000	1,420
5/1/2017	µg/L	14,900	2,520	2,960	<i>NS</i>	38,800	999
6/1/2017	µg/L	16,800	15,200	2,440	374	40,400	876
7/1/2017	µg/L	16,100	15,300	8,330	1,730	39,600	1,690
pH							
2/1/2017	SU	6.21	6.53	6.41	<i>NS</i>	6.24	5.85
3/1/2017	SU	6.15	6.44	6.04	<i>NS</i>	5.33	5.71
4/1/2017	SU	5.86	6.7	6.28	<i>NS</i>	6.04	5.94
5/1/2017	SU	3.52	3.46	5.97	<i>NS</i>	5.54	6.06
6/1/2017	SU	6.08	6.73	5.96	8.05	5.35	5.81
7/1/2017	SU	6.04	6.68	6.21	7.97	5.15	6.08

Bold indicates detection above the reporting limit
NS indicates not sampled

TABLE 4
Intermediate Groundwater Data - Post-Trench
Rod Wire Mill Interim Measurement Progress Report

Event Date	Units	RW07-MW(I)	RW08-MW(I)	RW09-MW(I)	RW10-MW(I)	RW11-MW(I)	RW12-MW(I)
Cadmium							
2/1/2017	µg/L	1.2 J	0.49 J	3.1	446	1,690	4,740
3/1/2017	µg/L	4.6	0.39 J	4	3	1,490	3,530
4/1/2017	µg/L	<i>3 U</i>	<i>3 U</i>	5	198	1,800	2,730
5/1/2017	µg/L	1.1 J	1.5 J	11.1	2.5	2,600	3,820
6/1/2017	µg/L	0.91 J	0.48 J	8.1	27.2	218	2,260
7/1/2017	µg/L	1.2 J	1.3 J	12.9	16.3	518	2,730
Zinc							
2/1/2017	µg/L	944	178	51,000	104,000	368,000	249,000
3/1/2017	µg/L	1,210	44.6	51,900	20.4	301,000	216,000
4/1/2017	µg/L	364	85	57,500	75,800	288,000	188,000
5/1/2017	µg/L	298	188	57,200	1,150	336,000	232,000
6/1/2017	µg/L	432	71.9	51,900	34,600	201,000	226,000
7/1/2017	µg/L	45.7	153	65,600	25,900	192,000	219,000
pH							
2/1/2017	SU	6.25	6.06	6.23	6.86	6.05	5.27
3/1/2017	SU	6	5.57	5.96	9.93	5.93	5.26
4/1/2017	SU	6.05	6.21	5.84	7.03	5.35	5.34
5/1/2017	SU	6.61	3.14	6	8.7	6.11	4.18
6/1/2017	SU	6.09	<i>NS</i>	5.8	7.15	5.5	5.39
7/1/2017	SU	6.18	3.88	5.67	6.58	5.66	4.2

Bold indicates detection above the reporting limit
NS indicates not sampled

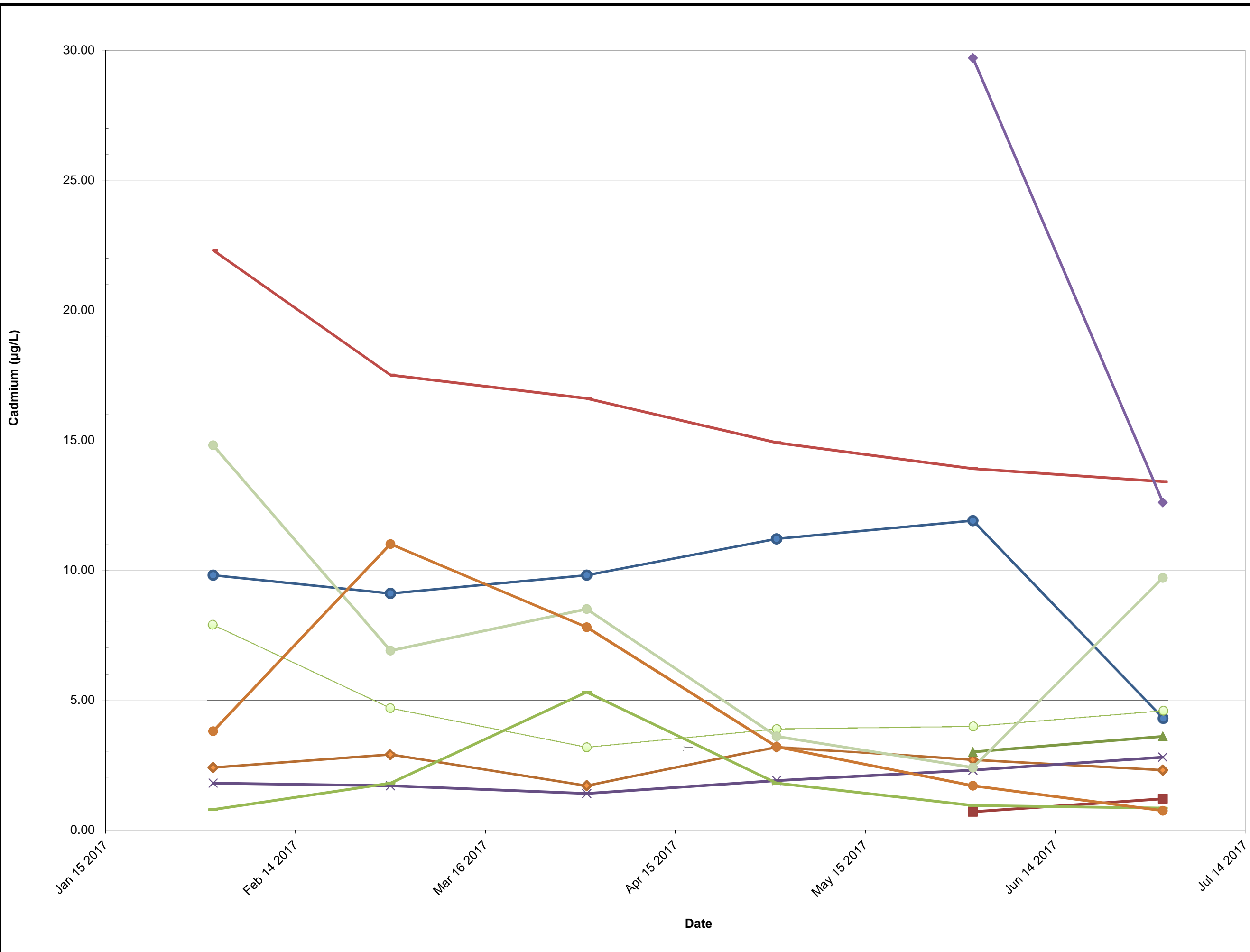
TABLE 4
Intermediate Groundwater Data - Post-Trench
Rod Wire Mill Interim Measurement Progress Report

Event Date	Units	RW13-MW(I)	RW15-MW(IA)	RW16-MW(I)	RW18-MW(I)	RW19-MW(I)	RW22-MW(I)
Cadmium							
2/1/2017	µg/L	54,900	103	12.1	70.3	3,760	<i>NS</i>
3/1/2017	µg/L	633	74.1	28.6	63.8	3,450	<i>NS</i>
4/1/2017	µg/L	1,370	109	194	119	3,380	<i>NS</i>
5/1/2017	µg/L	5,370	91.1	73.9	92	2,770	<i>NS</i>
6/1/2017	µg/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	65.1	2,280	0.35 J
7/1/2017	µg/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	61.7	2,550	3 U
Zinc							
2/1/2017	µg/L	600,000	92,600	86,300	728,000	5,900,000	<i>NS</i>
3/1/2017	µg/L	58,200	95,600	90,300	592,000	4,650,000	<i>NS</i>
4/1/2017	µg/L	70,500	122,000	314,000	633,000	7,010,000	<i>NS</i>
5/1/2017	µg/L	163,000	100,000	207,000	246,000	5,370,000	<i>NS</i>
6/1/2017	µg/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	694,000	6,720,000	303
7/1/2017	µg/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	575,000	5,330,000	103
pH							
2/1/2017	SU	5.79	6.02	6.05	5.64	5.5	<i>NS</i>
3/1/2017	SU	5.56	2.77	2.9	5.33	5.35	<i>NS</i>
4/1/2017	SU	5.47	5.77	5.58	5.39	5.28	<i>NS</i>
5/1/2017	SU	5.69	3.64	5.69	3.43	5.41	<i>NS</i>
6/1/2017	SU	<i>NS</i>	<i>NS</i>	<i>NS</i>	5.38	5.32	12.97
7/1/2017	SU	<i>NS</i>	<i>NS</i>	<i>NS</i>	5.25	5.15	12.75

Bold indicates detection above the reporting limit
NS indicates not sampled

APPENDIX A

Shallow Groundwater Time-Series Graphs



LEGEND

- ◆ RW01-MW(SA)
- RW02-MW(SA)
- RW03-MW(S)
- RW04-MW(S)
- ▲ RW06-MW(S)
- × RW07-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- ◆ RW12-MW(S)
- RW19-MW(S)
- RW08-MW(S)



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MEASURED SHALLOW GROUNDWATER
CADMIUM CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date

December 22, 2017

Figure

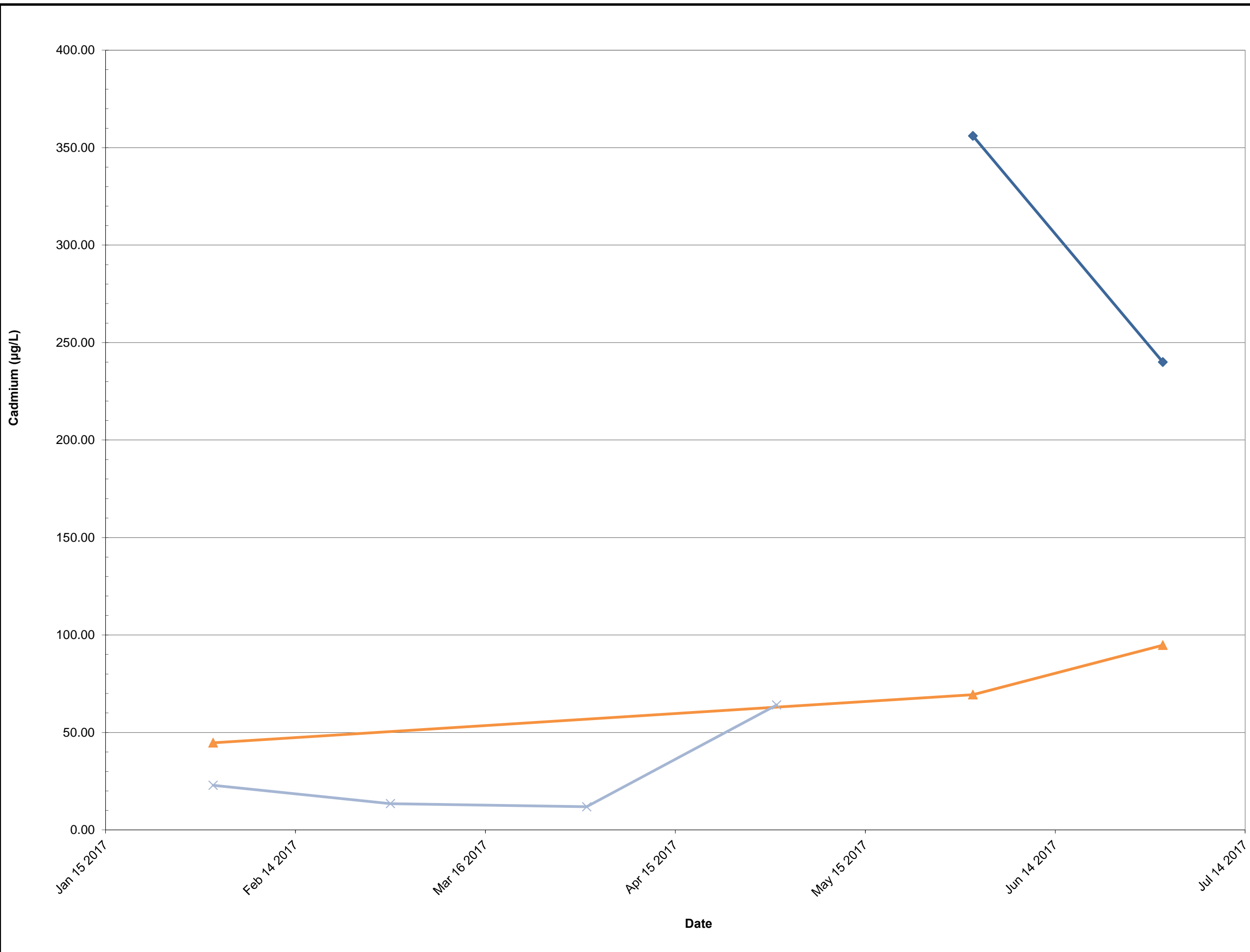
A-1

PE/RG

PM

DR

Date



LEGEND

- ▲ RW15-MW(SA)
- × RW16-MW(S)
- ◆ RW18-MW(S)

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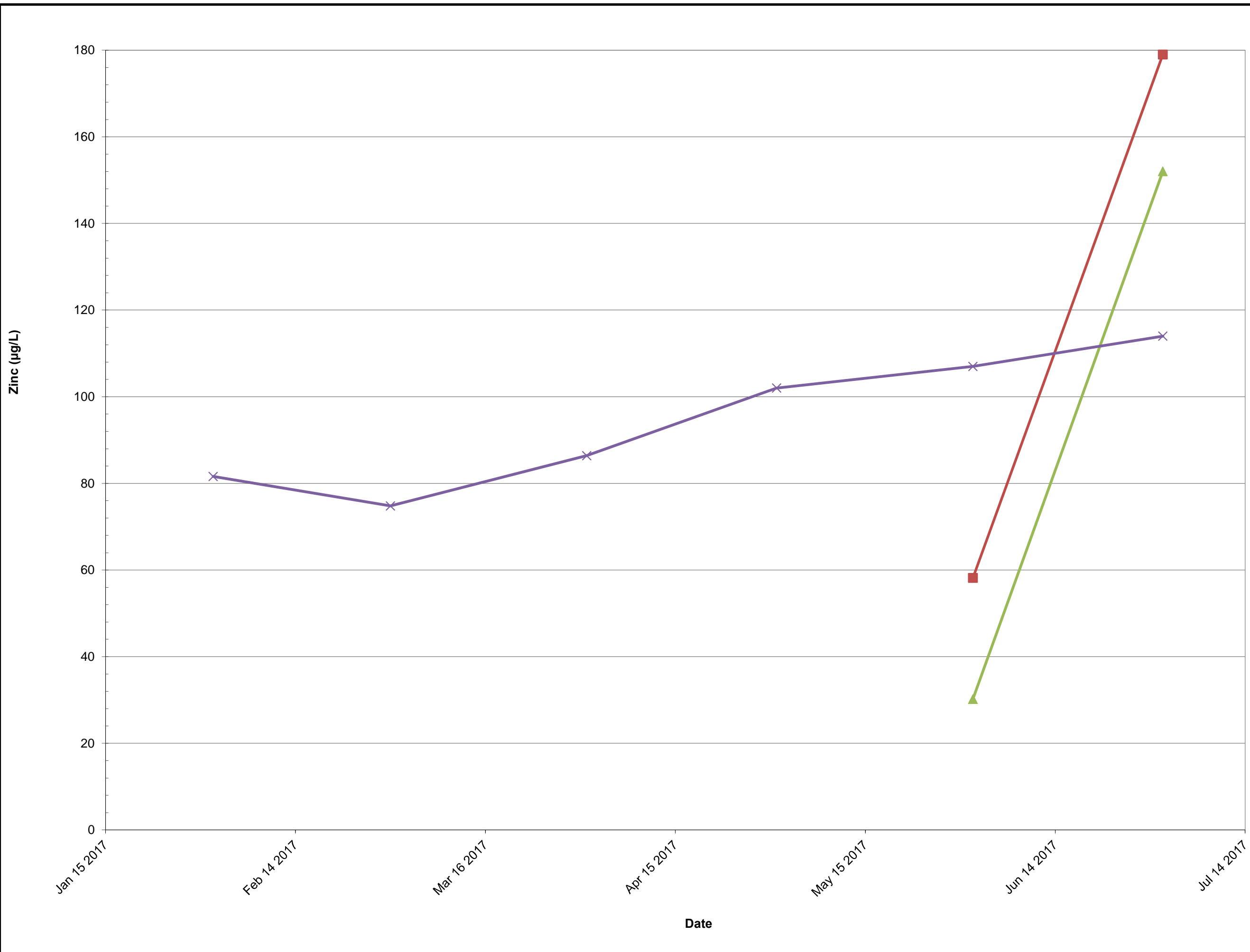
MEASURED SHALLOW GROUNDWATER
CADMIUM CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
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Figure

PE/RG PM DR

A-2



LEGEND

■ RW04-MW(S)

▲ RW06-MW(S)

× RW07-MW(S)



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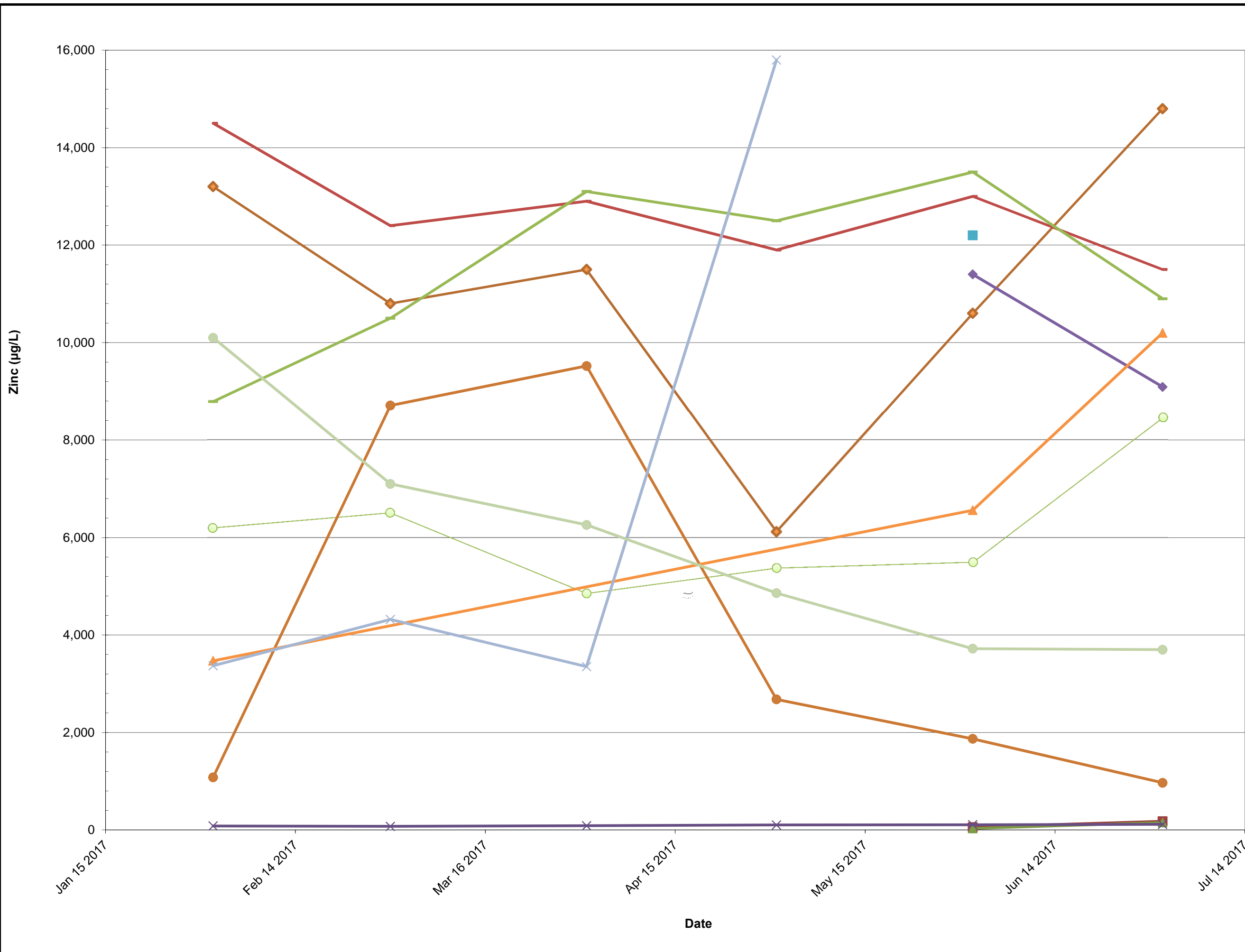
MEASURED SHALLOW GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
December 15, 2017

Figure

PE/RG PM DR

A-3



LEGEND

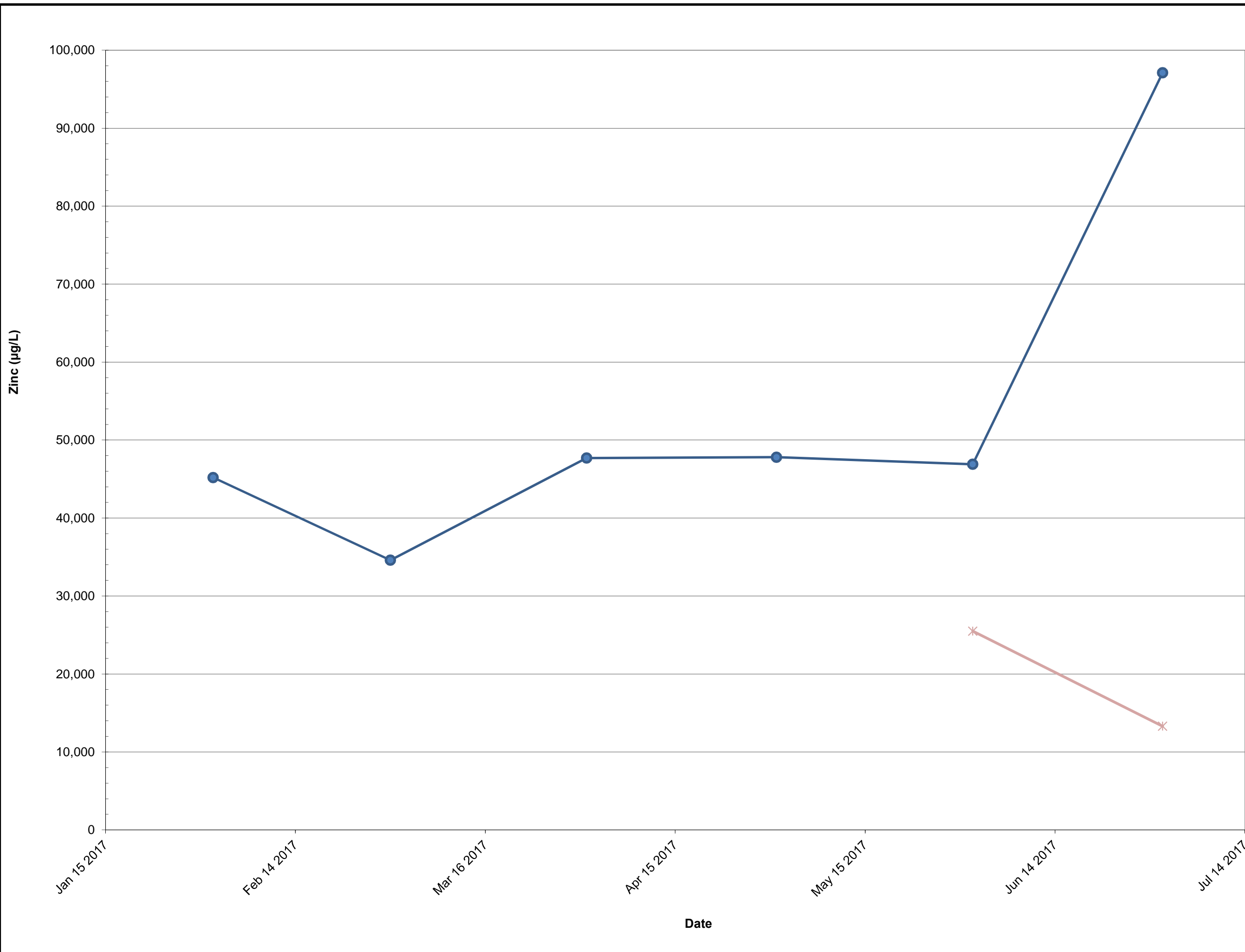
- ◆ RW01-MW(SA)
- RW03-MW(S)
- RW04-MW(S)
- ▲ RW06-MW(S)
- × RW07-MW(S)
- RW08-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- ◆ RW12-MW(S)
- RW14-MW(S)
- ▲ RW15-MW(SA)
- × RW16-MW(S)
- RW19-MW(S)



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MEASURED SHALLOW GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date December 15, 2017			Figure A-4
PE/RG	PM	DR	



LEGEND

● RW02-MW(SA)

* RW18-MW(S)



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MEASURED SHALLOW GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date

December 15, 2017

Figure

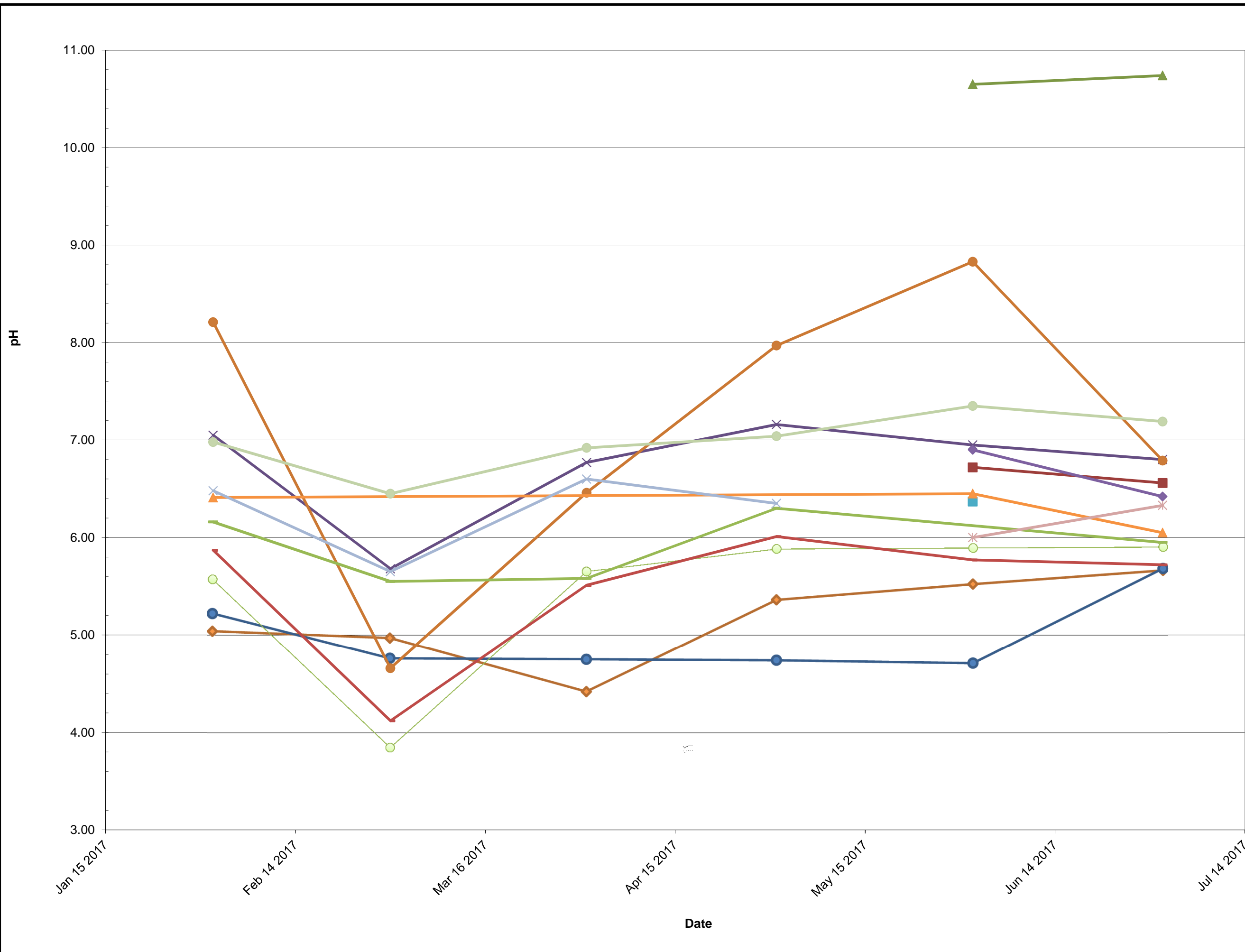
A-5

PE/RG

PM

DR

Date



LEGEND

- ◆ RW01-MW(S)
- RW02-MW(S)
- RW03-MW(S)
- RW04-MW(S)
- ▲ RW06-MW(S)
- × RW07-MW(S)
- RW08-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- ◆ RW12-MW(S)
- RW14-MW(S)
- ▲ RW15-MW(SA)
- × RW16-MW(S)
- * RW18-MW(S)
- RW19-MW(S)



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MEASURED SHALLOW GROUNDWATER
PH CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

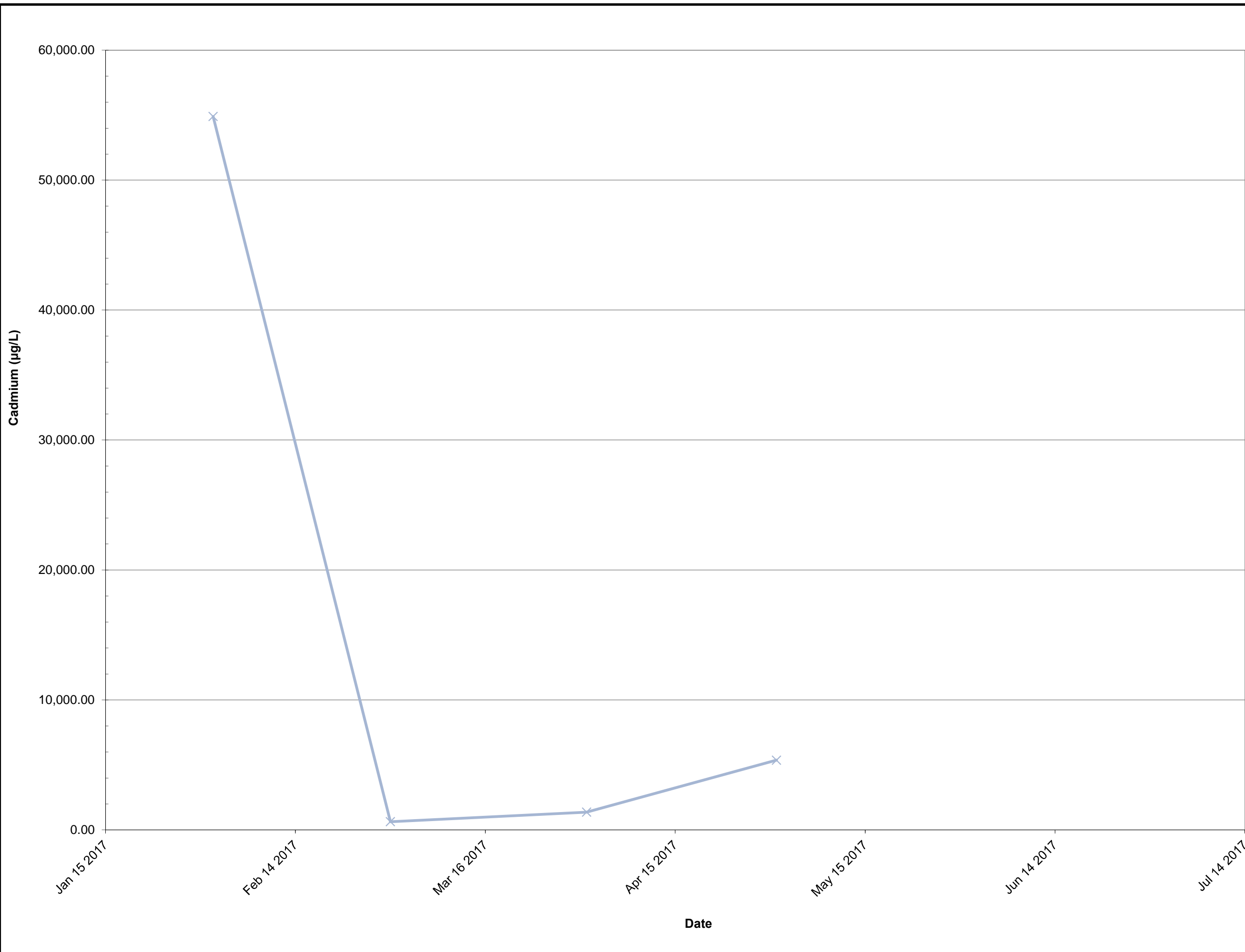
Date
December 15, 2017

Figure
A-6

PE/RG	PM	DR
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APPENDIX B

Intermediate Groundwater Time-Series Graphs



LEGEND

—x— RW13-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
CADMIUM CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date

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Figure

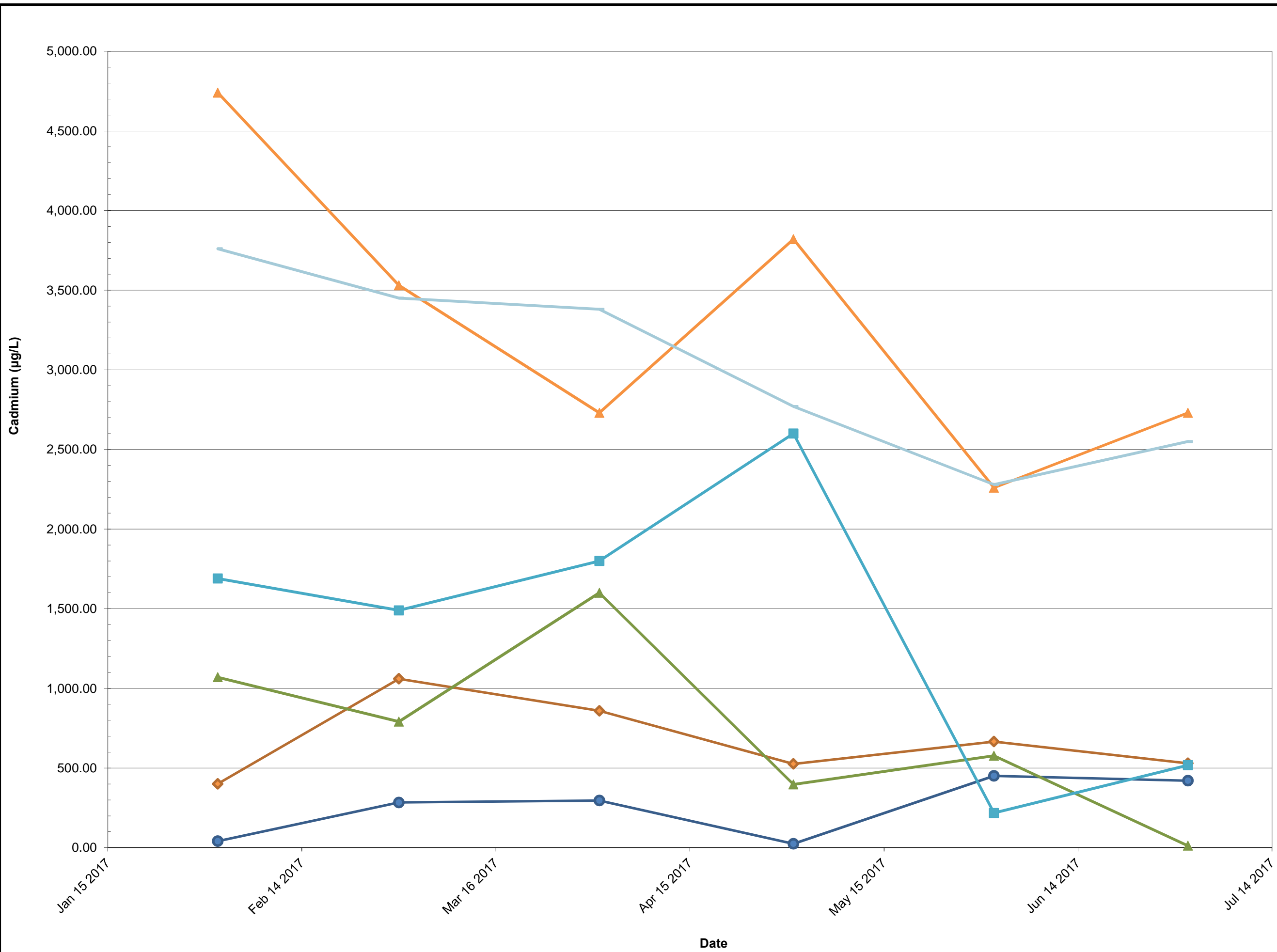
B-1

PE/RG

PM

DR

Date



LEGEND

- ◆ RW01-MW(IA)
- RW02-MW(IA)
- ▲ RW05-MW(IA)
- RW11-MW(I)
- ▲ RW12-MW(I)
- RW19-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
CADMIUM CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date

December 15, 2017

Figure

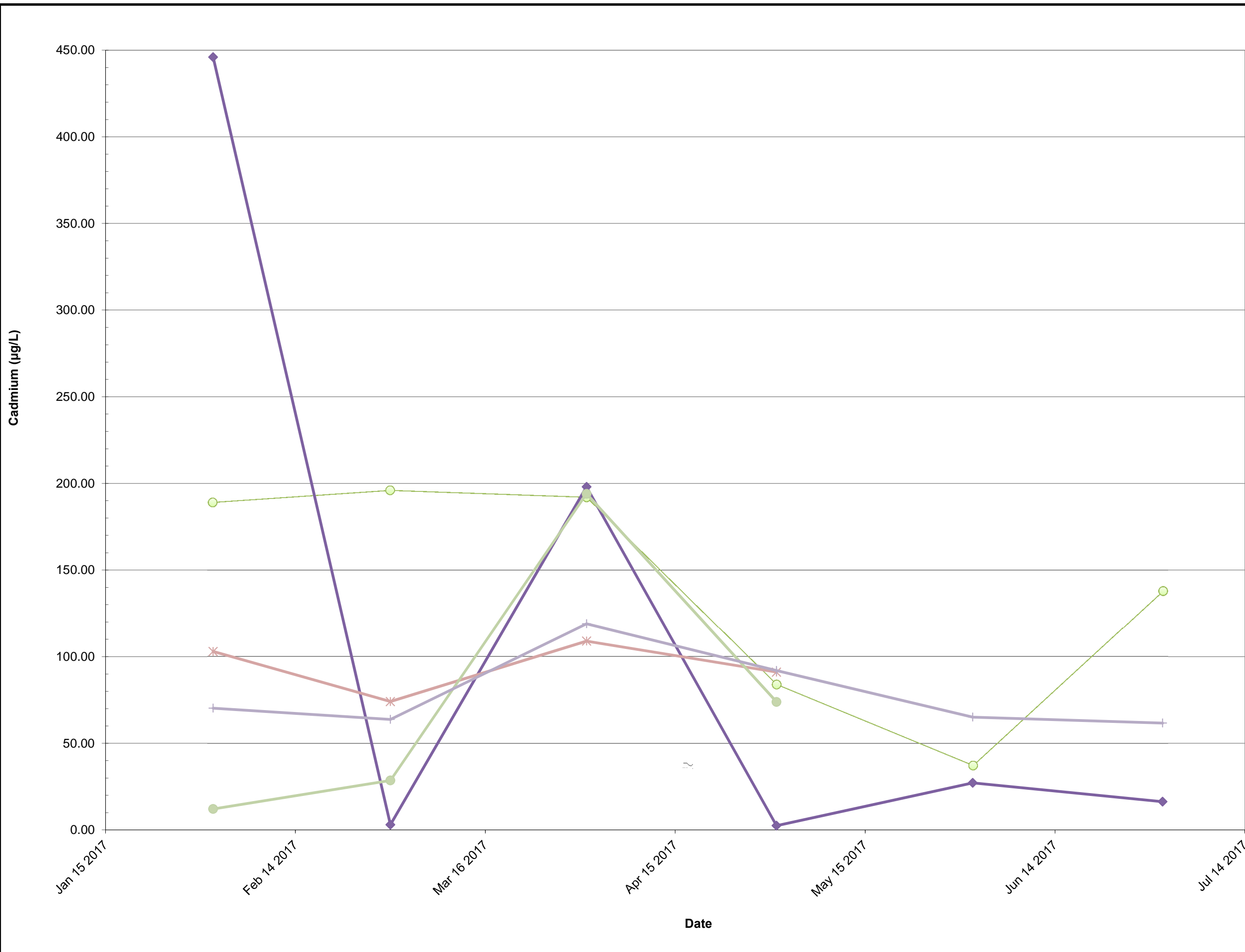
B-2

PE/RG

PM

DR

Date



LEGEND

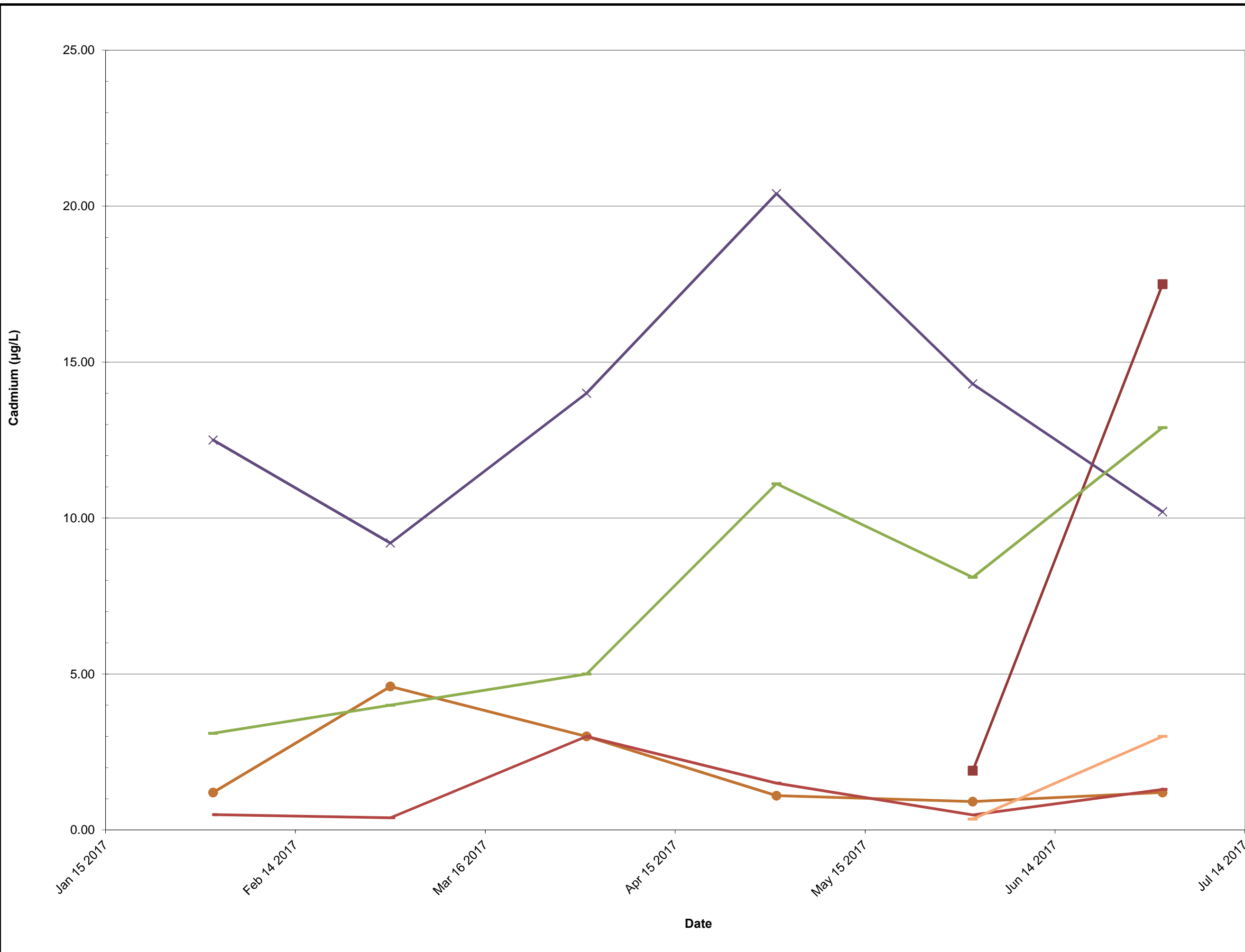
- RW03-MW(I)
- ◆ RW10-MW(I)
- ✱ RW15-MW(IA)
- RW16-MW(I)
- + RW18-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
 CADMIUM CONCENTRATION BY MONTH
 PARCEL A3: INTERIM MEASUREMENT
 PROGRESS REPORT

Date December 15, 2017			Figure B-3
PE/RG	PM	DR	



LEGEND

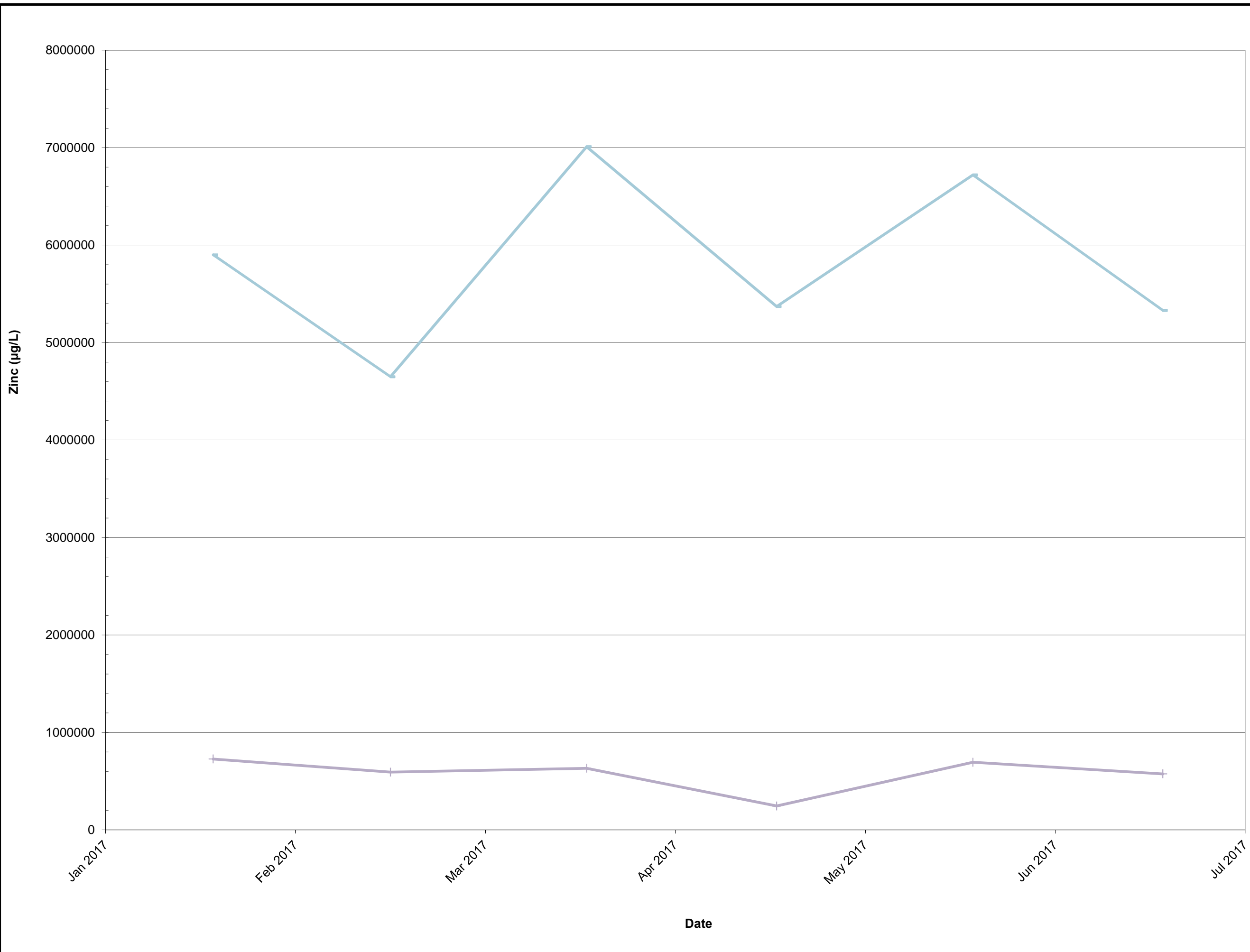
- RW05-MW(I)
- × RW06-MW(I)
- RW07-MW(I)
- RW08-MW(I)
- RW09-MW(I)
- RW22-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
CADMIUM CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date December 15, 2017			Figure B-4
PE/RG	PM	DR	



LEGEND

RW18-MW(I)

RW19-MW(I)



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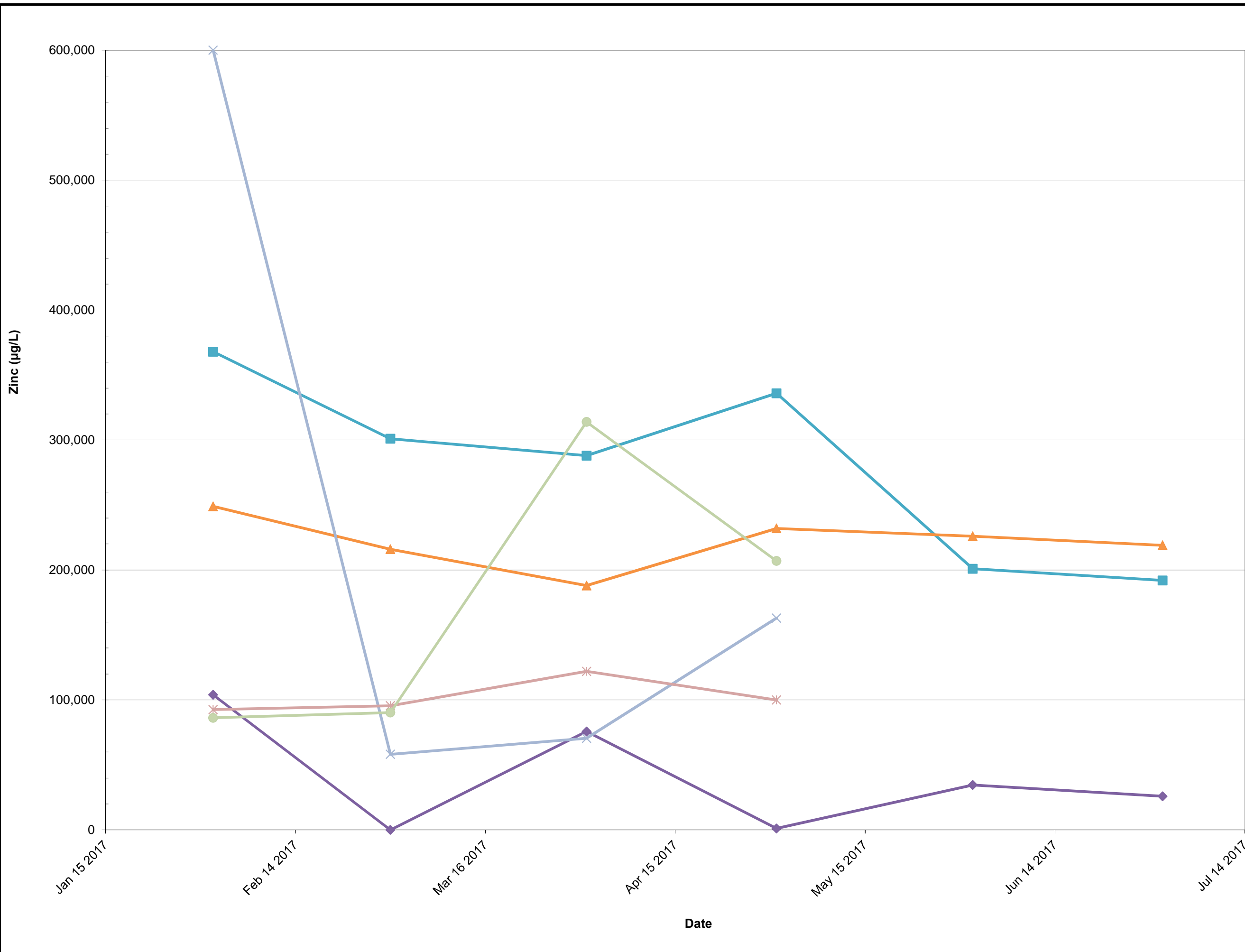
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MEASURED INTERMEDIATE GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
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Figure
B-5

PE/RG	PM	DR
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LEGEND

- ◆ RW10-MW(I)
- RW11-MW(I)
- ▲ RW12-MW(I)
- × RW13-MW(I)
- ✱ RW15-MW(IA)
- RW16-MW(I)



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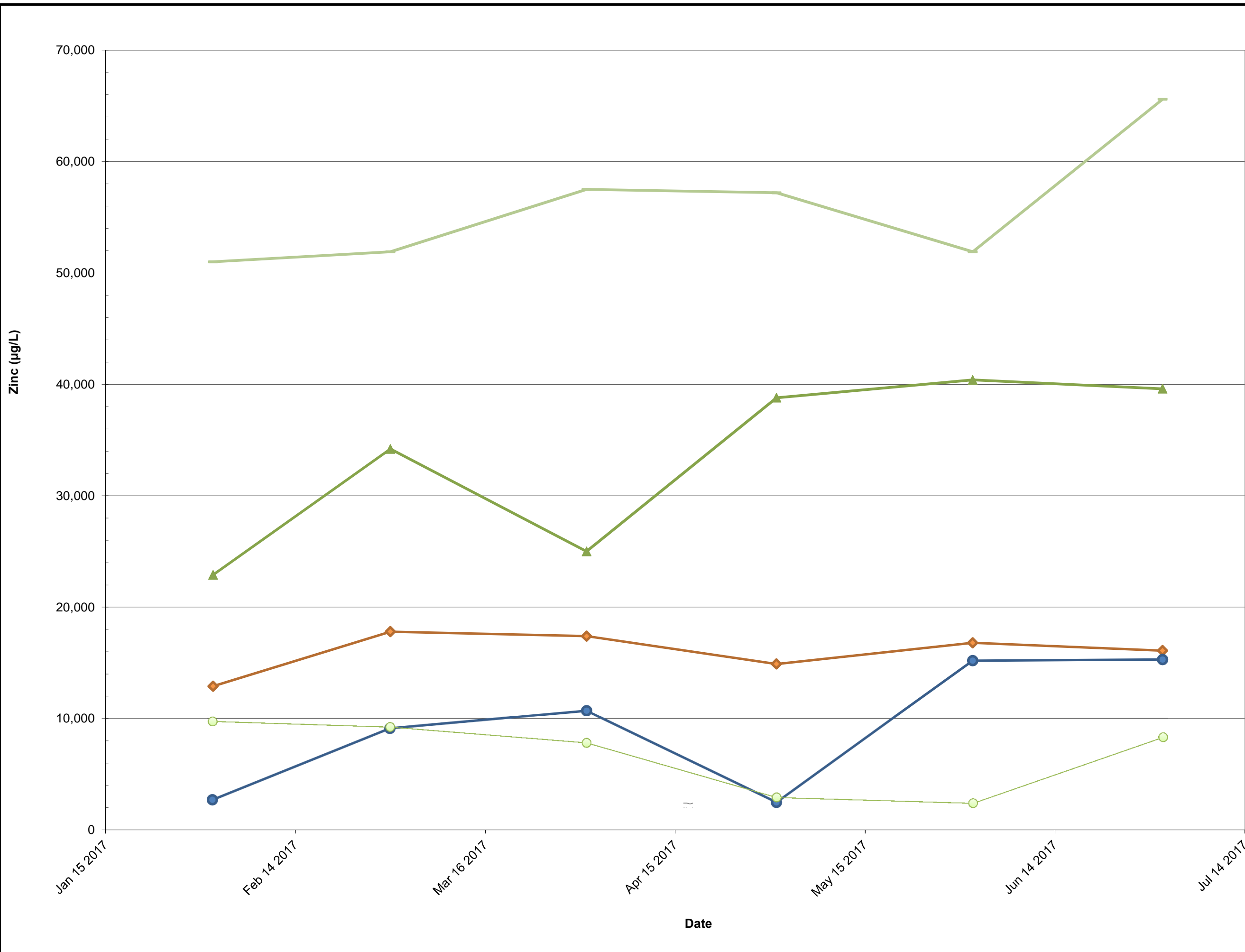
MEASURED INTERMEDIATE GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
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Figure

PE/RG PM DR

B-6



LEGEND

- ◆ RW01-MW(IA)
- RW02-MW(IA)
- RW03-MW(I)
- ▲ RW05-MW(IA)
- RW09-MW(I)



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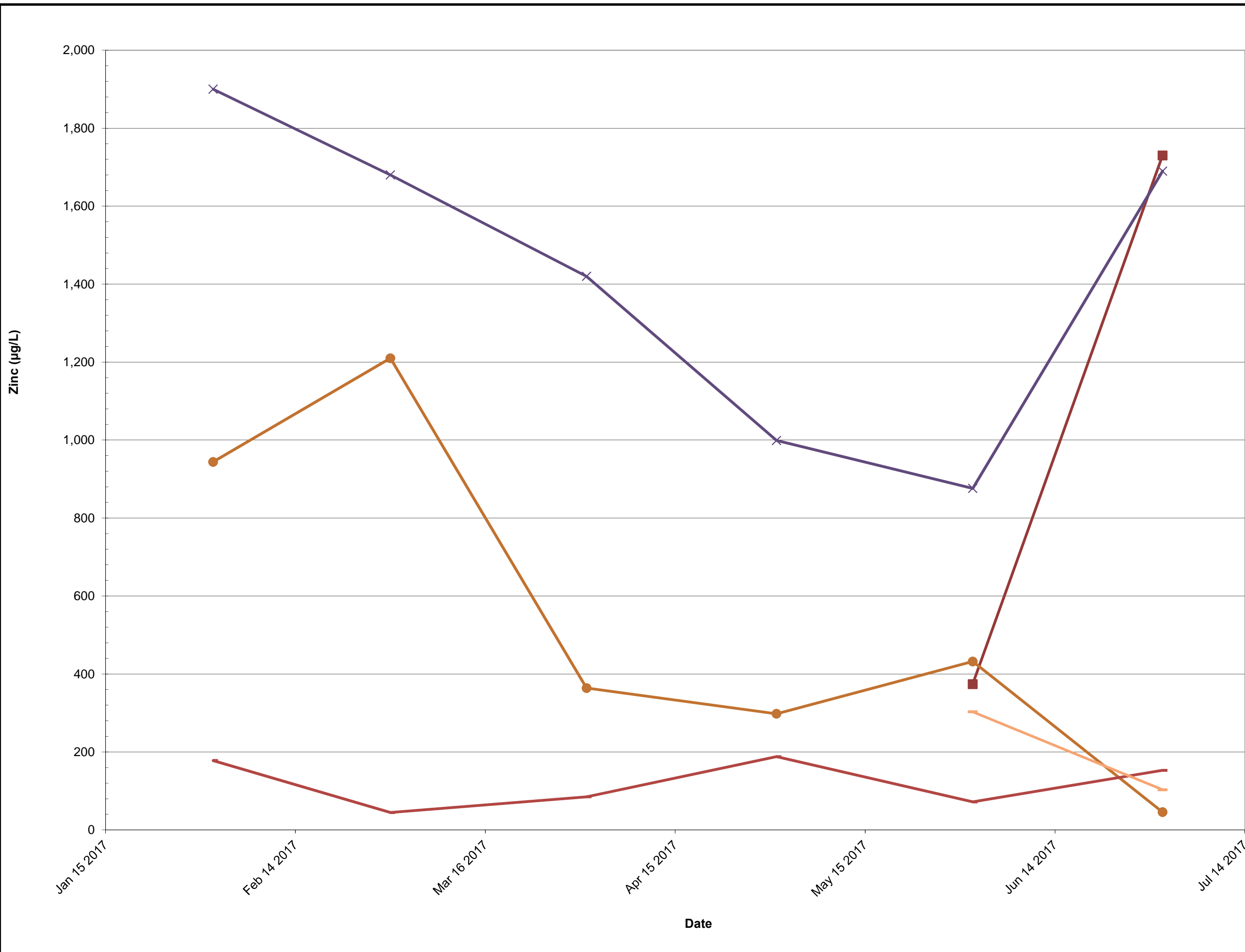
MEASURED INTERMEDIATE GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
December 15, 2017

Figure

PE/RG PM DR

B-7



LEGEND

- RW05-MW(I)
- × RW06-MW(I)
- RW07-MW(I)
- RW08-MW(I)
- RW22-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
ZINC CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date

December 15, 2017

Figure

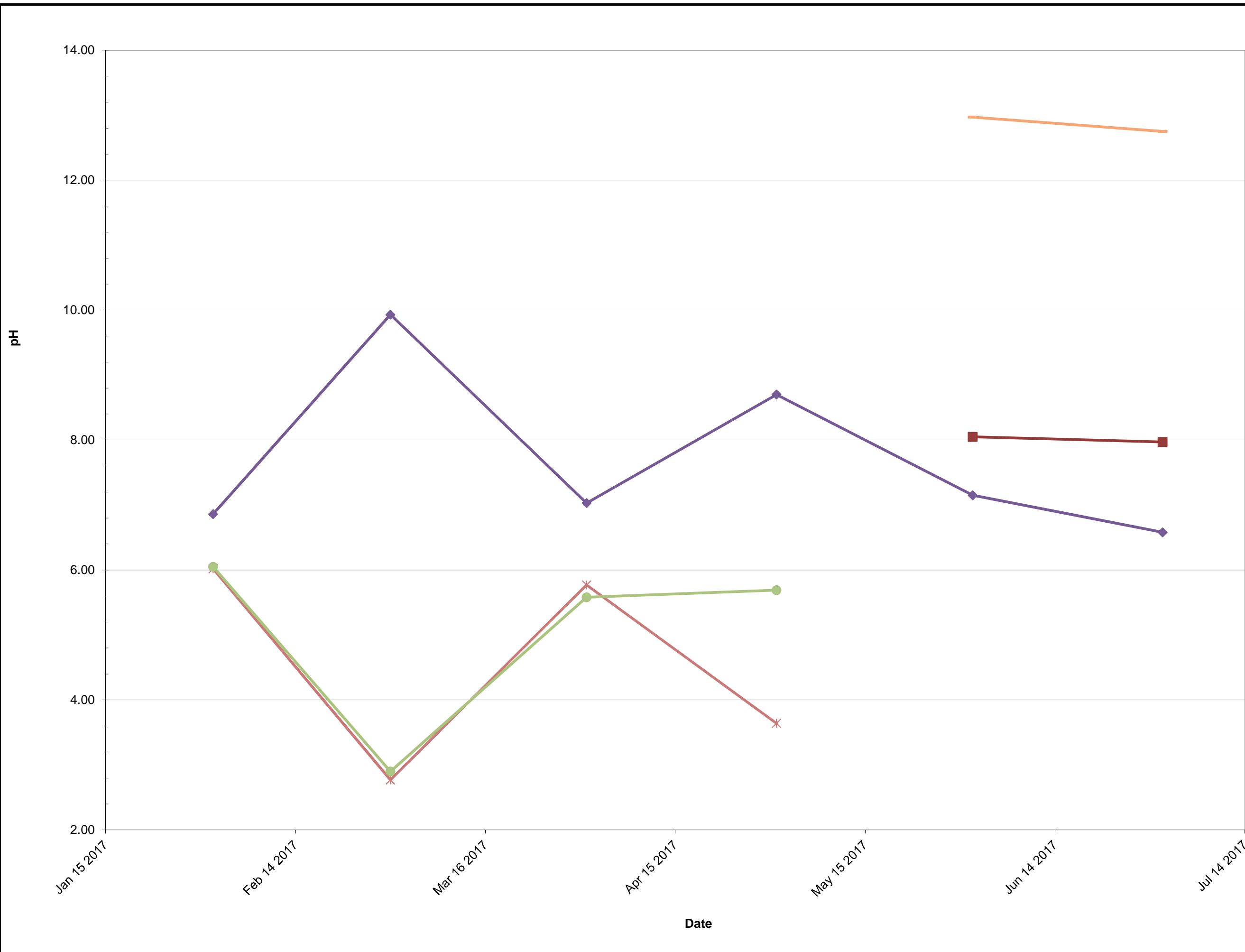
B-8

PE/RG

PM

DR

Date



LEGEND

- RW05-MW(I)
- ◆ RW10-MW(I)
- ✱ RW15-MW(IA)
- RW16-MW(I)
- RW22-MW(I)



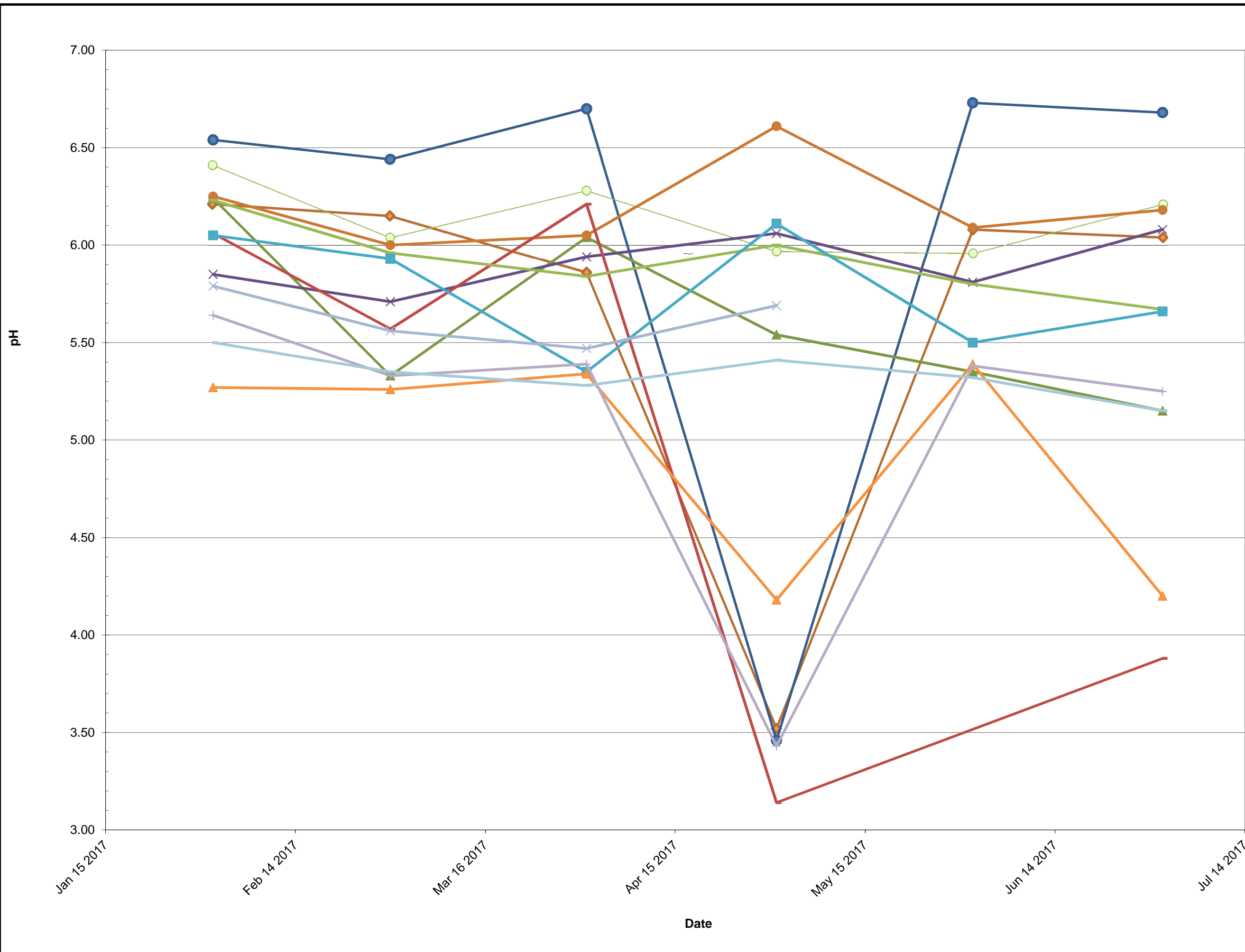
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MEASURED INTERMEDIATE GROUNDWATER
PH CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
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Figure
B-9

PE/RG	PM	DR
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LEGEND

- ◆ RW01-MW(IA)
- RW02-MW(IA)
- RW03-MW(I)
- ▲ RW05-MW(IA)
- × RW06-MW(I)
- RW07-MW(I)
- RW08-MW(I)
- RW09-MW(I)
- RW11-MW(I)
- ▲ RW12-MW(I)
- × RW13-MW(I)
- + RW18-MW(I)
- RW19-MW(I)



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MEASURED INTERMEDIATE GROUNDWATER
PH CONCENTRATION BY MONTH
PARCEL A3: INTERIM MEASUREMENT
PROGRESS REPORT

Date
December 15, 2017

Figure
B-10

PE/RG	PM	DR
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APPENDIX C

Statistically Significant Trend Test Results

Mann-Kendall Trend Analysis

Parameter: Zinc

Location: RW07-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
74.8	81.6	-6.8	0	1
86.4	81.6	4.8	1	1
102	81.6	20.4	2	1
107	81.6	25.4	3	1
114	81.6	32.4	4	1
86.4	74.8	11.6	5	1
102	74.8	27.2	6	1
107	74.8	32.2	7	1
114	74.8	39.2	8	1
102	86.4	15.6	9	1
107	86.4	20.6	10	1
114	86.4	27.6	11	1
107	102	5	12	1
114	102	12	13	1
114	107	7	14	1

S Statistic = 14 - 1 = 13

Comparing at 95% confidence level (upward trend)

Probability of obtaining $S \geq 13$ is 0.0083

S > 0 and 0.0083 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: pH

Location: RW01-MW(SA)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4.42	4.97	-0.55	0	1
5.36	4.97	0.39	1	1
5.52	4.97	0.55	2	1
5.66	4.97	0.69	3	1
5.36	4.42	0.94	4	1
5.52	4.42	1.1	5	1
5.66	4.42	1.24	6	1
5.52	5.36	0.16	7	1
5.66	5.36	0.3	8	1
5.66	5.52	0.14	9	1

S Statistic = 9 - 1 = 8

Comparing at 95% confidence level (upward trend)

Probability of obtaining S >= 8 is 0.042

S > 0 and 0.042 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: pH

Location: RW19-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
6.92	6.45	0.47	1	0
7.04	6.45	0.59	2	0
7.35	6.45	0.9	3	0
7.19	6.45	0.74	4	0
7.04	6.92	0.12	5	0
7.35	6.92	0.43	6	0
7.19	6.92	0.27	7	0
7.35	7.04	0.31	8	0
7.19	7.04	0.15	9	0
7.19	7.35	-0.16	9	1

S Statistic = 9 - 1 = 8

Comparing at 95% confidence level (upward trend)

Probability of obtaining S >= 8 is 0.042

S > 0 and 0.042 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: pH

Location: RW03-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
5.65	3.85	1.8	1	0
5.88	3.85	2.03	2	0
5.89	3.85	2.04	3	0
5.9	3.85	2.05	4	0
5.88	5.65	0.23	5	0
5.89	5.65	0.24	6	0
5.9	5.65	0.25	7	0
5.89	5.88	0.01	8	0
5.9	5.88	0.02	9	0
5.9	5.89	0.01	10	0

S Statistic = 10 - 0 = 10

Comparing at 95% confidence level (upward trend)

Probability of obtaining S >= 10 is 0.0083

S > 0 and 0.0083 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: Cadmium

Location: RW09-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
17.5	22.3	-4.8	0	1
16.6	22.3	-5.7	0	2
14.9	22.3	-7.4	0	3
13.9	22.3	-8.4	0	4
13.4	22.3	-8.9	0	5
16.6	17.5	-0.9	0	6
14.9	17.5	-2.6	0	7
13.9	17.5	-3.6	0	8
13.4	17.5	-4.1	0	9
14.9	16.6	-1.7	0	10
13.9	16.6	-2.7	0	11
13.4	16.6	-3.2	0	12
13.9	14.9	-1	0	13
13.4	14.9	-1.5	0	14
13.4	13.9	-0.5	0	15

S Statistic = 0 - 15 = -15

Comparing at 95% confidence level (downward trend)

Probability of obtaining $S \geq 15$ is 0.0014

S < 0 and 0.0014 < 0.05 indicating a downward trend

Mann-Kendall Trend Analysis

Parameter: Cadmium

Location: RW08-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
11	3.8	7.2	1	0
7.8	3.8	4	2	0
3.2	3.8	-0.6	2	1
1.7 J	3.8	-2.1	2	2
0.74 J	3.8	-3.06	2	3
7.8	11	-3.2	2	4
3.2	11	-7.8	2	5
1.7 J	11	-9.3	2	6
0.74 J	11	-10.26	2	7
3.2	7.8	-4.6	2	8
1.7 J	7.8	-6.1	2	9
0.74 J	7.8	-7.06	2	10
1.7 J	3.2	-1.5	2	11
0.74 J	3.2	-2.46	2	12
0.74 J	1.7 J	-0.96	2	13

S Statistic = 2 - 13 = -11

Comparing at 95% confidence level (downward trend)

Probability of obtaining S >= 11 is 0.028

S < 0 and 0.028 < 0.05 indicating a downward trend

Mann-Kendall Trend Analysis

Parameter: Zinc

Location: RW19-MW(S)

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
7100	10100	-3000	0	1
6260	10100	-3840	0	2
4860	10100	-5240	0	3
3720	10100	-6380	0	4
3700	10100	-6400	0	5
6260	7100	-840	0	6
4860	7100	-2240	0	7
3720	7100	-3380	0	8
3700	7100	-3400	0	9
4860	6260	-1400	0	10
3720	6260	-2540	0	11
3700	6260	-2560	0	12
3720	4860	-1140	0	13
3700	4860	-1160	0	14
3700	3720	-20	0	15

S Statistic = 0 - 15 = -15

Comparing at 95% confidence level (downward trend)

Probability of obtaining $S \geq 15$ is 0.0014

S < 0 and 0.0014 < 0.05 indicating a downward trend

Mann-Kendall Trend Analysis

Parameter: Cadmium

Location: RW09-MW(I)

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4	3.1	0.9	1	0
5	3.1	1.9	2	0
11.1	3.1	8	3	0
8.1	3.1	5	4	0
12.9	3.1	9.8	5	0
5	4	1	6	0
11.1	4	7.1	7	0
8.1	4	4.1	8	0
12.9	4	8.9	9	0
11.1	5	6.1	10	0
8.1	5	3.1	11	0
12.9	5	7.9	12	0
8.1	11.1	-3	12	1
12.9	11.1	1.8	13	1
12.9	8.1	4.8	14	1

S Statistic = 14 - 1 = 13

Comparing at 95% confidence level (upward trend)

Probability of obtaining S \geq 13 is 0.0083

S > 0 and 0.0083 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: Zinc

Location: RW05-MW(IA)

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
34200	22900	11300	1	0
25000	22900	2100	2	0
38800	22900	15900	3	0
40400	22900	17500	4	0
39600	22900	16700	5	0
25000	34200	-9200	5	1
38800	34200	4600	6	1
40400	34200	6200	7	1
39600	34200	5400	8	1
38800	25000	13800	9	1
40400	25000	15400	10	1
39600	25000	14600	11	1
40400	38800	1600	12	1
39600	38800	800	13	1
39600	40400	-800	13	2

S Statistic = 13 - 2 = 11

Comparing at 95% confidence level (upward trend)

Probability of obtaining S \geq 11 is 0.028

S > 0 and 0.028 < 0.05 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: Cadmium

Location: RW19-MW(I)

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3450	3760	-310	0	1
3380	3760	-380	0	2
2770	3760	-990	0	3
2280	3760	-1480	0	4
2550	3760	-1210	0	5
3380	3450	-70	0	6
2770	3450	-680	0	7
2280	3450	-1170	0	8
2550	3450	-900	0	9
2770	3380	-610	0	10
2280	3380	-1100	0	11
2550	3380	-830	0	12
2280	2770	-490	0	13
2550	2770	-220	0	14
2550	2280	270	1	14

S Statistic = 1 - 14 = -13

Comparing at 95% confidence level (downward trend)

Probability of obtaining $S \geq 13$ is 0.0083

$S < 0$ and $0.0083 < 0.05$ indicating a downward trend

Mann-Kendall Trend Analysis

Parameter: Zinc

Location: RW11-MW(I)

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
301000	368000	-67000	0	1
288000	368000	-80000	0	2
336000	368000	-32000	0	3
201000	368000	-167000	0	4
192000	368000	-176000	0	5
288000	301000	-13000	0	6
336000	301000	35000	1	6
201000	301000	-100000	1	7
192000	301000	-109000	1	8
336000	288000	48000	2	8
201000	288000	-87000	2	9
192000	288000	-96000	2	10
201000	336000	-135000	2	11
192000	336000	-144000	2	12
192000	201000	-9000	2	13

S Statistic = 2 - 13 = -11

Comparing at 95% confidence level (downward trend)

Probability of obtaining S >= 11 is 0.028

S < 0 and 0.028 < 0.05 indicating a downward trend

APPENDIX D

Laboratory Data from Recent Sampling

Appendix D: Lab Sample ID Conversion Chart

Several wells at the Rod and Wire Mill area of Sparrows Point have undergone name changes at some point during their existence. Specifically, some well names have changed so that they are different from those that were used in the laboratory reports contained in this appendix. The following chart is meant to act as a guide to match up well names used in this appendix with those used in the rest of the report.

<u>Well ID in rest of IM Progress Report</u>	<u>Well ID in this Appendix (Lab Reports)</u>
RW01-MW(IA)	RW01-MW(I)
RW01-MW(SA)	RW01-MW(S)
RW02-MW(IA)	RW02-MW(I)
RW02-MW(SA)	RW02-MW(S)
RW05-MW(IA)	RW05-MW(I)
RW15-MW(IA)	RW15-MW(I)
RW15-MW(SA)	RW15-MW(S)
RW17-MW(SA)	RW17-MW(S)
RW15-MW(I)	RW20-MW(I)
RW15-MW(S)	RW20-MW(S)
RW22-MW(I)	RW21-MW(I)
RW05-MW(I)	RW22-MW(I)
RW05-MW(S)	RW22-MW(S)
RW20-MW(S)	RW23-MW(S)
RW17-MW(S)	RW24-MW(S)
RW21-MW(S)	RW25-MW(S)

February 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3
Pace Project No.: 30210492

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Trip Blank sample analysis canceled as no VOC analysis is being performed on any sample.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3
Pace Project No.: 30210492

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel A3
Pace Project No.: 30210492

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210492001	RW01 - MW (S)	Water	02/10/17 10:47	02/10/17 21:40
30210492002	RW01 - MW (I)	Water	02/10/17 11:34	02/10/17 21:40
30210492003	RW02 - MW (S)	Water	02/10/17 12:20	02/10/17 21:40
30210492004	RW02 - MW (I)	Water	02/10/17 12:50	02/10/17 21:40
30210492005	RW03 - MW (S)	Water	02/10/17 14:50	02/10/17 21:40
30210492006	RW03 - MW (I)	Water	02/10/17 15:35	02/10/17 21:40
30210492007	Trip Blank	Water	02/10/17 00:01	02/10/17 21:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3
Pace Project No.: 30210492

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210492001	RW01 - MW (S)	EPA 6010C	PJD	2
30210492002	RW01 - MW (I)	EPA 6010C	PJD	2
30210492003	RW02 - MW (S)	EPA 6010C	PJD	2
30210492004	RW02 - MW (I)	EPA 6010C	PJD	2
30210492005	RW03 - MW (S)	EPA 6010C	PJD	2
30210492006	RW03 - MW (I)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3

Pace Project No.: 30210492

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 17, 2017

General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3
Pace Project No.: 30210492

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW01 - MW (S)									
Lab ID: 30210492001									
Collected: 02/10/17 10:47 Received: 02/10/17 21:40 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	2.4J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:34	7440-43-9	
Zinc	13200	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:10	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW01 - MW (I)		Lab ID: 30210492002		Collected: 02/10/17 11:34		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	401	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:36	7440-43-9	
Zinc	12900	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:13	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW02 - MW (S)		Lab ID: 30210492003		Collected: 02/10/17 12:20		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	9.8	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:53	7440-43-9	
Zinc	45200	ug/L	1000	108	100	02/16/17 08:33	02/17/17 01:25	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW02 - MW (I)		Lab ID: 30210492004		Collected: 02/10/17 12:50		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	41.3	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:56	7440-43-9	
Zinc	2740	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:56	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW03 - MW (S)		Lab ID: 30210492005		Collected: 02/10/17 14:50		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	7.9	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:58	7440-43-9	
Zinc	6200	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:27	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3
Pace Project No.: 30210492

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW03 - MW (I)									
Lab ID: 30210492006									
Collected: 02/10/17 15:35 Received: 02/10/17 21:40 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	189	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 01:01	7440-43-9	
Zinc	9740	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:33	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3
Pace Project No.: 30210492

QC Batch: 249474 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30210492001, 30210492002, 30210492003, 30210492004, 30210492005, 30210492006

METHOD BLANK: 1227019 Matrix: Water
Associated Lab Samples: 30210492001, 30210492002, 30210492003, 30210492004, 30210492005, 30210492006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/16/17 23:50	
Zinc	ug/L	10.0 U	10.0	1.1	02/16/17 23:50	

LABORATORY CONTROL SAMPLE: 1227020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	496	99	80-120	

MATRIX SPIKE SAMPLE: 1227022

Parameter	Units	30210492002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	401	500	926	105	75-125	
Zinc	ug/L	12900	500	13400	112	75-125	

MATRIX SPIKE SAMPLE: 1227024

Parameter	Units	30210609003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.8	500	520	103	75-125	
Zinc	ug/L	1080	500	1490	82	75-125	

SAMPLE DUPLICATE: 1227021

Parameter	Units	30210492002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	401	415	3	20	
Zinc	ug/L	12900	13200	3	20	

SAMPLE DUPLICATE: 1227023

Parameter	Units	30210609003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.8	3.9	2	20	
Zinc	ug/L	1080	1070	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel A3

Pace Project No.: 30210492

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3

Pace Project No.: 30210492

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210492001	RW01 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492002	RW01 - MW (I)	EPA 3005A	249474	EPA 6010C	249566
30210492003	RW02 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492004	RW02 - MW (I)	EPA 3005A	249474	EPA 6010C	249566
30210492005	RW03 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492006	RW03 - MW (I)	EPA 3005A	249474	EPA 6010C	249566

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Pittsburgh



Client Name: SPANNONS

Project # 0210492

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used C Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.2 °C Correction Factor: +0.2 °C Final Temp: 2.4 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 2/10/17

ARM
2/10/17
2/10/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>INT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/	/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		/		16. <u>VOAs received empty</u>
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210609001	RW 07-MW(S)	Water	02/13/17 09:25	02/13/17 23:00
30210609002	RW 07-MW(I)	Water	02/13/17 10:20	02/13/17 23:00
30210609003	RW 08-MW(S)	Water	02/13/17 11:20	02/13/17 23:00
30210609004	Duplicate	Water	02/13/17 00:01	02/13/17 23:00
30210609005	RW 08-MW(I)	Water	02/13/17 12:10	02/13/17 23:00
30210609006	RW 09-MW(S)	Water	02/13/17 13:40	02/13/17 23:00
30210609007	RW 09-MW(I)	Water	02/13/17 14:20	02/13/17 23:00
30210609008	RW 11-MW(S)	Water	02/13/17 15:15	02/13/17 23:00
30210609009	Field Blank	Water	02/13/17 16:25	02/13/17 23:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210609001	RW 07-MW(S)	EPA 6010C	PJD	2
30210609002	RW 07-MW(I)	EPA 6010C	PJD	2
30210609003	RW 08-MW(S)	EPA 6010C	PJD	2
30210609004	Duplicate	EPA 6010C	PJD	2
30210609005	RW 08-MW(I)	EPA 6010C	PJD	2
30210609006	RW 09-MW(S)	EPA 6010C	PJD	2
30210609007	RW 09-MW(I)	EPA 6010C	PJD	2
30210609008	RW 11-MW(S)	EPA 6010C	PJD	2
30210609009	Field Blank	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 17, 2017

General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 07-MW(S)		Lab ID: 30210609001	Collected: 02/13/17 09:25	Received: 02/13/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.8J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:09	7440-43-9	
Zinc	81.6	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:09	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 07-MW(I) **Lab ID: 30210609002** Collected: 02/13/17 10:20 Received: 02/13/17 23:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.2J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:11	7440-43-9	
Zinc	944	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:11	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 08-MW(S)		Lab ID: 30210609003		Collected: 02/13/17 11:20		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.8	ug/L	3.0	0.34	1	02/16/17 08:33	02/16/17 23:55	7440-43-9	
Zinc	1080	ug/L	10.0	1.1	1	02/16/17 08:33	02/16/17 23:55	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: Duplicate									
Lab ID: 30210609004									
Collected: 02/13/17 00:01 Received: 02/13/17 23:00 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.8J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:19	7440-43-9	
Zinc	86.2	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:19	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Sample: RW 08-MW(I)		Lab ID: 30210609005	Collected: 02/13/17 12:10	Received: 02/13/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	0.49J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:22	7440-43-9	
Zinc	178	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:22	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW 09-MW(S)									
Lab ID: 30210609006									
Collected: 02/13/17 13:40 Received: 02/13/17 23:00 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	22.3	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:24	7440-43-9	
Zinc	14500	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:03	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 09-MW(I)		Lab ID: 30210609007		Collected: 02/13/17 14:20		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.1	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:26	7440-43-9	
Zinc	51000	ug/L	1000	108	100	02/16/17 08:33	02/17/17 01:05	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 11-MW(S)		Lab ID: 30210609008	Collected: 02/13/17 15:15	Received: 02/13/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	0.78J	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:29	7440-43-9	
Zinc	8790	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:08	7440-66-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: Field Blank									
Lab ID: 30210609009									
Collected: 02/13/17 16:25 Received: 02/13/17 23:00 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.0 U	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:31	7440-43-9	
Zinc	3.4J	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:31	7440-66-6	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210609

QC Batch:	249474	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30210609001, 30210609002, 30210609003, 30210609004, 30210609005, 30210609006, 30210609007, 30210609008, 30210609009		

METHOD BLANK: 1227019 Matrix: Water
Associated Lab Samples: 30210609001, 30210609002, 30210609003, 30210609004, 30210609005, 30210609006, 30210609007, 30210609008, 30210609009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/16/17 23:50	
Zinc	ug/L	10.0 U	10.0	1.1	02/16/17 23:50	

LABORATORY CONTROL SAMPLE: 1227020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	496	99	80-120	

MATRIX SPIKE SAMPLE: 1227022

Parameter	Units	30210492002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	401	500	926	105	75-125	
Zinc	ug/L	12900	500	13400	112	75-125	

MATRIX SPIKE SAMPLE: 1227024

Parameter	Units	30210609003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.8	500	520	103	75-125	
Zinc	ug/L	1080	500	1490	82	75-125	

SAMPLE DUPLICATE: 1227021

Parameter	Units	30210492002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	401	415	3	20	
Zinc	ug/L	12900	13200	3	20	

SAMPLE DUPLICATE: 1227023

Parameter	Units	30210609003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.8	3.9	2	20	
Zinc	ug/L	1080	1070	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210609001	RW 07-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609002	RW 07-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609003	RW 08-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609004	Duplicate	EPA 3005A	249474	EPA 6010C	249566
30210609005	RW 08-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609006	RW 09-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609007	RW 09-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609008	RW 11-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609009	Field Blank	EPA 3005A	249474	EPA 6010C	249566

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: EnviroAnalytics Group	Report To: James Calenda	Attention: Laura Sargent	Company Name: EnviroAnalytics Group	Page: () of ()	
Address: 1430 Sparrows Point Blvd	Copy To:	Company Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	REGULATORY AGENCY	
Sparrows Point, MD 21219	PO Number:	Reference: Awaiting PO	Reference: Awaiting PO	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Email To: jcalenda@enviroanalyticsgroup.com	Project Name: Area A Parcel A3 (GW)	Pace Project Manager: Samantha Bayura	Pace Profile #: Awaiting Pro #	Site Location	STATE: MD
Phone: 314-620-3056	Requested Due Date/TAT: 2-17-17				

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Matrix Code (see valid codes to left)	Sample Type (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Requested Analysis																							
				COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	SAMPLE TEMP AT COLLECTION	UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	DI Water	VOC/8260B	SVOC 8270D	DRO/8015B	GRO/8015B	METALS/6010C	Mercury/7471A or 7470A	Hexavalent Chromium/7196A	Total Cyanide/9012A	PCB/8082 (soil)	Oil and Grease/1664A (ad)	Oil and Grease/9071B (soil)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	RW07 - mw(G)	WTG	G	2-13-17	925	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	001
2	RW07 - mw(G)	WTG	G	2-13-17	1020	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	002	
3	RW08 - mw(G)	WTG	G	2-13-17	1120	3		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ms/msd	
4	Duplicate	WTG	G	2-13-17	1210	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	003	
5	RW08 - mw(G)	WTG	G	2-13-17	1340	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	004	
6	RW09 - mw(G)	WTG	G	2-13-17	1420	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	005	
7	RW09 - mw(G)	WTG	G	2-13-17	1515	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	006	
8	RW11 - mw(G)	WTG	G	2-13-17	1625	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	007	
9	Field Blank	WTG	C	2-13-17	1625	1																									008	
10																																009

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Data Package Required? (Y/N):		James Calenda	2-13-17	1630	James Calenda	2-13-17	1636
Data Validation Required? (Y/N):		James Calenda	2-13-17	1850	James Calenda	2-13-17	1930
If data package is required, attach data package checklist.		James Calenda	2-13-17	1930	James Calenda	2-13-17	2300
Temp in °C			1.8				
Received on Ice (Y/N)			Y				
Custody Sealed (Y/N)			N				
Cooler (Y/N)							
Samples Intact (Y/N)							
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Lisa Peron SIGNATURE of SAMPLER: <i>Lisa Peron</i> DATE Signed (MM/DD/YY): 2-13-17							

WO# : 30210609

30210609

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt Pittsburgh

30210609

097A



Client Name: EnviroAid Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.9 °C Correction Factor: -0.1 °C Final Temp: 1.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 097A 2-14-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15. <u>PHLZ</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>097A</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 22, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210854001	RW16-MW(S)	Water	02/14/17 09:15	02/15/17 22:00
30210854002	RW16-MW(I)	Water	02/14/17 10:05	02/15/17 22:00
30210854003	RW15-MW(I)	Water	02/14/17 10:55	02/15/17 22:00
30210854004	RW15-MW(S)	Water	02/14/17 11:50	02/15/17 22:00
30210854005	RW19-MW(S)	Water	02/14/17 12:35	02/15/17 22:00
30210854006	RW19-MW(I)	Water	02/14/17 13:15	02/15/17 22:00
30210854007	RW18-MW(I)	Water	02/14/17 15:30	02/15/17 22:00
30210854008	RW10-MW(I)	Water	02/15/17 10:20	02/15/17 22:00
30210854009	RW13-MW(I)	Water	02/15/17 12:10	02/15/17 22:00
30210854010	Duplicate	Water	02/15/17 00:01	02/15/17 22:00
30210854011	Trip Blank	Water	02/15/17 00:01	02/15/17 22:00
30210854012	Field Blank	Water	02/15/17 15:40	02/15/17 22:00
30210854013	RW12-MW(I)	Water	02/15/17 15:18	02/15/17 22:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210854001	RW16-MW(S)	EPA 6010C	KAS	2
30210854002	RW16-MW(I)	EPA 6010C	KAS	2
30210854003	RW15-MW(I)	EPA 6010C	KAS	2
30210854004	RW15-MW(S)	EPA 6010C	KAS	2
30210854005	RW19-MW(S)	EPA 6010C	KAS	2
30210854006	RW19-MW(I)	EPA 6010C	KAS	2
30210854007	RW18-MW(I)	EPA 6010C	KAS	2
30210854008	RW10-MW(I)	EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
30210854009	RW13-MW(I)	EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
30210854010	Duplicate	EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
30210854011	Trip Blank	EPA 8260B	LEL	55
30210854012	Field Blank	EPA 6010C	KAS	18
		EPA 7470A	PJD	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
30210854013	RW12-MW(I)	EPA 6010C	KAS	2

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

12 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 249761

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 1229013)
 - Aluminum
 - Antimony

Additional Comments:

Batch Comments:

Cd and Zn failed for the serial dilution.

- QC Batch: 249839

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- BLANK (Lab ID: 1229011)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- DUP (Lab ID: 1229013)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- DUP (Lab ID: 1229016)
 - Silver
 - Aluminum
 - Arsenic
 - Barium

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- DUP (Lab ID: 1229016)
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- Duplicate (Lab ID: 30210854010)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- Field Blank (Lab ID: 30210854012)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- Field Blank (Lab ID: 30210854012)
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- LCS (Lab ID: 1229012)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- MS (Lab ID: 1229014)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- MS (Lab ID: 1229014)
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- MS (Lab ID: 1229017)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- MSD (Lab ID: 1229015)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- MSD (Lab ID: 1229015)
 - Vanadium
 - Zinc
- RW10-MW(I) (Lab ID: 30210854008)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium
 - Zinc
- RW12-MW(I) (Lab ID: 30210854013)
 - Cadmium
 - Zinc
- RW13-MW(I) (Lab ID: 30210854009)
 - Silver
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Cobalt
 - Chromium
 - Copper
 - Iron
 - Manganese
 - Nickel
 - Lead
 - Antimony
 - Selenium
 - Thallium
 - Vanadium

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249761

- 1c: Cd and Zn failed for the serial dilution.
- RW13-MW(I) (Lab ID: 30210854009)
 - Zinc
 - RW15-MW(I) (Lab ID: 30210854003)
 - Cadmium
 - Zinc
 - RW15-MW(S) (Lab ID: 30210854004)
 - Cadmium
 - Zinc
 - RW16-MW(I) (Lab ID: 30210854002)
 - Cadmium
 - Zinc
 - RW16-MW(S) (Lab ID: 30210854001)
 - Cadmium
 - Zinc
 - RW18-MW(I) (Lab ID: 30210854007)
 - Cadmium
 - Zinc
 - RW19-MW(I) (Lab ID: 30210854006)
 - Cadmium
 - Zinc
 - RW19-MW(S) (Lab ID: 30210854005)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP,Dissolved

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Serial dilution failed for Ni and Zinc

- QC Batch: 249814

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- BLANK (Lab ID: 1228946)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP,Dissolved

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- BLANK (Lab ID: 1228946)
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- DUP (Lab ID: 1228948)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- Duplicate (Lab ID: 30210854010)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 6010C
Description: 6010C MET ICP,Dissolved
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- Duplicate (Lab ID: 30210854010)
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- LCS (Lab ID: 1228947)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- MS (Lab ID: 1228949)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 6010C
Description: 6010C MET ICP,Dissolved
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- MS (Lab ID: 1228949)
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- MSD (Lab ID: 1228950)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved
- RW10-MW(I) (Lab ID: 30210854008)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 6010C

Description: 6010C MET ICP,Dissolved

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- RW13-MW(I) (Lab ID: 30210854009)
 - Silver, Dissolved
 - Aluminum, Dissolved
 - Arsenic, Dissolved
 - Barium, Dissolved
 - Beryllium, Dissolved
 - Cadmium, Dissolved
 - Cobalt, Dissolved
 - Chromium, Dissolved
 - Copper, Dissolved
 - Iron, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Lead, Dissolved
 - Antimony, Dissolved
 - Selenium, Dissolved
 - Thallium, Dissolved
 - Vanadium, Dissolved
 - Zinc, Dissolved

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 7470A

Description: 7470 Mercury

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 7470A

Description: 7470 Mercury, Dissolved

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

3 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 8270D by SIM

Description: 8270D MSSV PAH by SIM

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

4 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 249730

B: Analyte was detected in the associated method blank.

- BLANK for HBN 249730 [OEXT/310 (Lab ID: 1228917)
- Naphthalene

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 8270D
Description: 8270D MSSV Organics
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

General Information:

4 samples were analyzed for EPA 8270D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 8260B

Description: 8260B MSV

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 249543

B: Analyte was detected in the associated method blank.

- BLANK for HBN 249543 [MSV/3274 (Lab ID: 1227273)]
- Acetone

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 249543

C9: Common Laboratory Contaminant.

- BLANK (Lab ID: 1227273)
- Acetone
- Methylene Chloride

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Method: EPA 7196A

Description: 7196 Chromium, Hexavalent

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

4 samples were analyzed for EPA 7196A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Method: EPA 9012B
Description: 9012B Cyanide, Total
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

General Information:

4 samples were analyzed for EPA 9012B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 9012B with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW16-MW(S) **Lab ID: 30210854001** Collected: 02/14/17 09:15 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	22.9	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:45	7440-43-9	1c
Zinc	3370	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:45	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW16-MW(I) **Lab ID: 30210854002** Collected: 02/14/17 10:05 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	12.1	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:47	7440-43-9	1c
Zinc	86300	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:03	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW15-MW(I) **Lab ID: 30210854003** Collected: 02/14/17 10:55 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	103	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:50	7440-43-9	1c
Zinc	92600	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:05	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW15-MW(S) **Lab ID: 30210854004** Collected: 02/14/17 11:50 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	44.7	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:52	7440-43-9	1c
Zinc	3470	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:52	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW19-MW(S) **Lab ID: 30210854005** Collected: 02/14/17 12:35 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	14.8	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:54	7440-43-9	1c
Zinc	10100	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:07	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW19-MW(I) **Lab ID: 30210854006** Collected: 02/14/17 13:15 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3760	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 19:15	7440-43-9	1c
Zinc	5900000	ug/L	50000	5400	5000	02/20/17 11:01	02/22/17 01:04	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW18-MW(I) **Lab ID: 30210854007** Collected: 02/14/17 15:30 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	70.3	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 19:00	7440-43-9	1c
Zinc	728000	ug/L	5000	540	500	02/20/17 11:01	02/21/17 21:45	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW10-MW(I) **Lab ID:** 30210854008 **Collected:** 02/15/17 10:20 **Received:** 02/15/17 22:00 **Matrix:** Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	80.7	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 17:01	7429-90-5	1c
Antimony	6.0 U	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 17:01	7440-36-0	1c
Arsenic	15.0	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7440-38-2	1c
Barium	98.1	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 17:01	7440-41-7	1c
Cadmium	446	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 17:01	7440-43-9	1c
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-47-3	1c
Cobalt	57.4	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 17:01	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 17:01	7440-50-8	1c
Iron	148000	ug/L	7000	984	100	02/20/17 11:01	02/21/17 21:21	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7439-92-1	1c
Manganese	10300	ug/L	500	70.7	100	02/20/17 11:01	02/21/17 21:21	7439-96-5	1c
Nickel	33.3	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 17:01	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 17:01	7782-49-2	1c
Silver	1.5J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 17:01	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 17:01	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 17:01	7440-62-2	1c
Zinc	104000	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:21	7440-66-6	1c
6010C MET ICP,Dissolved Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Iron, Dissolved	164000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:34	7439-89-6	2c
Manganese, Dissolved	11100	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:34	7439-96-5	2c
Zinc, Dissolved	111000	ug/L	1000	108	100	02/20/17 08:25	02/20/17 23:34	7440-66-6	2c
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:41	7429-90-5	2c
Antimony, Dissolved	6.0 U	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:41	7440-36-0	2c
Arsenic, Dissolved	13.9	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7440-38-2	2c
Barium, Dissolved	98.3	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:41	7440-41-7	2c
Cadmium, Dissolved	455	ug/L	3.0	0.34	1	02/20/17 08:25	02/20/17 22:41	7440-43-9	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-47-3	2c
Cobalt, Dissolved	59.3	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:41	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:41	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7439-92-1	2c
Nickel, Dissolved	37.0	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:41	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:41	7782-49-2	2c
Silver, Dissolved	2.4J	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:41	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:41	7440-28-0	2c
Vanadium, Dissolved	5.0 U	ug/L	5.0	0.27	1	02/20/17 08:25	02/20/17 22:41	7440-62-2	2c
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:56	7439-97-6	
7470 Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.20 U	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:18	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I) **Lab ID:** 30210854008 **Collected:** 02/15/17 10:20 **Received:** 02/15/17 22:00 **Matrix:** Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8270D MSSV PAH by SIM									
Analytical Method: EPA 8270D by SIM					Preparation Method: EPA 3510C				
Acenaphthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	83-32-9	
Acenaphthylene	0.10 U	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 21:34	208-96-8	
Anthracene	0.030J	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 21:34	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 21:34	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 21:34	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 21:34	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:34	53-70-3	
1,4-Dioxane (p-Dioxane)	1.0	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 19:36	123-91-1	
Fluoranthene	0.018J	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	206-44-0	
Fluorene	0.019J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:34	193-39-5	
2-Methylnaphthalene	0.11	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 21:34	91-57-6	
Naphthalene	5.5	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 21:34	91-20-3	
Phenanthrene	0.023J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	49	%	19-123		1	02/20/17 08:38	02/20/17 21:34	321-60-8	
Terphenyl-d14 (S)	86	%	58-130		1	02/20/17 08:38	02/20/17 21:34	1718-51-0	
8270D MSSV Organics									
Analytical Method: EPA 8270D					Preparation Method: EPA 3510C				
Acenaphthene	0.56J	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:34	83-32-9	
Acenaphthylene	0.91J	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 18:34	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 18:34	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:34	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 18:34	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	92-52-4	
Caprolactam	1.1J	ug/L	2.5	0.14	1	02/20/17 08:38	02/20/17 18:34	105-60-2	
Carbazole	3.4	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:34	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 18:34	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 18:34	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:34	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.59	1	02/20/17 08:38	02/20/17 18:34	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 18:34	120-83-2	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW10-MW(I) **Lab ID: 30210854008** Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

8270D MSSV Organics

Analytical Method: EPA 8270D Preparation Method: EPA 3510C

Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:34	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 18:34	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 18:34	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.69	1	02/20/17 08:38	02/20/17 18:34	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 18:34	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 18:34	117-84-0	
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:34	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:34	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 18:34	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 18:34	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:34	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	78-59-1	
2-Methylnaphthalene	1.6	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:34	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:34	95-48-7	
3&4-Methylphenol(m&p Cresol)	14.7	ug/L	2.0	0.47	1	02/20/17 08:38	02/20/17 18:34		
Naphthalene	7.5	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 18:34	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 18:34	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 18:34	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	98-95-3	
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 18:34	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.64	1	02/20/17 08:38	02/20/17 18:34	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 18:34	85-01-8	
Phenol	0.56J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 18:34	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 18:34	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.62	1	02/20/17 08:38	02/20/17 18:34	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:34	88-06-2	

Surrogates

Nitrobenzene-d5 (S)	48	%	16-112		1	02/20/17 08:38	02/20/17 18:34	4165-60-0	
2-Fluorobiphenyl (S)	39	%	18-115		1	02/20/17 08:38	02/20/17 18:34	321-60-8	
Terphenyl-d14 (S)	65	%	54-118		1	02/20/17 08:38	02/20/17 18:34	1718-51-0	
Phenol-d6 (S)	20	%	10-48		1	02/20/17 08:38	02/20/17 18:34	13127-88-3	
2-Fluorophenol (S)	30	%	10-76		1	02/20/17 08:38	02/20/17 18:34	367-12-4	
2,4,6-Tribromophenol (S)	60	%	27-129		1	02/20/17 08:38	02/20/17 18:34	118-79-6	

8260B MSV

Analytical Method: EPA 8260B

Acetone	12.1	ug/L	10.0	3.5	1		02/17/17 00:34	67-64-1	B
Benzene	2.3	ug/L	1.0	0.21	1		02/17/17 00:34	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:34	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:34	75-25-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW10-MW(I) **Lab ID:** 30210854008 Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV Analytical Method: EPA 8260B									
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:34	74-83-9	
2-Butanone (MEK)	8.9J	ug/L	10.0	2.4	1		02/17/17 00:34	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:34	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 00:34	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:34	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 00:34	75-00-3	
Chloroform	0.76J	ug/L	1.0	0.40	1		02/17/17 00:34	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 00:34	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 00:34	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 00:34	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 00:34	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 00:34	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	75-71-8	
1,1-Dichloroethane	3.0	ug/L	1.0	0.37	1		02/17/17 00:34	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:34	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 00:34	540-59-0	
1,1-Dichloroethene	0.26J	ug/L	1.0	0.20	1		02/17/17 00:34	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 00:34	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:34	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:34	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 00:34	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 00:34	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 00:34	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 00:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 00:34	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	1634-04-4	
Styrene	1.3	ug/L	1.0	0.17	1		02/17/17 00:34	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 00:34	127-18-4	
Toluene	1.5	ug/L	1.0	0.21	1		02/17/17 00:34	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 00:34	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:34	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:34	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	79-00-5	
Trichloroethene	0.28J	ug/L	1.0	0.20	1		02/17/17 00:34	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 00:34	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 00:34	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 00:34	75-01-4	
Xylene (Total)	3.4	ug/L	3.0	0.47	1		02/17/17 00:34	1330-20-7	
m&p-Xylene	1.4J	ug/L	2.0	0.28	1		02/17/17 00:34	179601-23-1	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I) Lab ID: 30210854008 Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Analytical Method: EPA 8260B									
o-Xylene	2.0	ug/L	1.0	0.19	1		02/17/17 00:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/17/17 00:34	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-128		1		02/17/17 00:34	17060-07-0	
Toluene-d8 (S)	100	%	59-140		1		02/17/17 00:34	2037-26-5	
Dibromofluoromethane (S)	96	%	66-132		1		02/17/17 00:34	1868-53-7	
7196 Chromium, Hexavalent Analytical Method: EPA 7196A									
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:01	18540-29-9	
9012B Cyanide, Total Analytical Method: EPA 9012B Preparation Method: EPA 9012B									
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:38	57-12-5	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW13-MW(I) **Lab ID: 30210854009** Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	66.3	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 16:45	7429-90-5	1c, D6
Antimony	18.8	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 16:45	7440-36-0	1c, D6
Arsenic	7.0	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 16:45	7440-38-2	1c
Barium	31.3	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 16:45	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 16:45	7440-41-7	1c
Cadmium	54900	ug/L	3000	344	1000	02/20/17 11:01	02/22/17 01:10	7440-43-9	1c, ML
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 16:45	7440-47-3	1c
Cobalt	444	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 16:45	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 16:45	7440-50-8	1c
Iron	377000	ug/L	70000	9840	1000	02/20/17 11:01	02/22/17 01:10	7439-89-6	1c, ML
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 16:45	7439-92-1	1c
Manganese	24800	ug/L	5000	707	1000	02/20/17 11:01	02/22/17 01:10	7439-96-5	1c, ML
Nickel	297	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 16:45	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 16:45	7782-49-2	1c
Silver	5.7J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 16:45	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 16:45	7440-28-0	1c
Vanadium	25.0 U	ug/L	25.0	1.4	5	02/20/17 11:01	02/21/17 17:45	7440-62-2	1c
Zinc	600000	ug/L	10000	1080	1000	02/20/17 11:01	02/22/17 01:10	7440-66-6	1c, ML
6010C MET ICP, Dissolved Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Vanadium, Dissolved	25.0 U	ug/L	25.0	1.4	5	02/20/17 08:25	02/20/17 22:58	7440-62-2	2c
Zinc, Dissolved	677000	ug/L	10000	1080	1000	02/20/17 08:25	02/20/17 23:39	7440-66-6	2c, ML
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:25	7429-90-5	2c
Antimony, Dissolved	11.0	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:25	7440-36-0	2c
Arsenic, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:25	7440-38-2	2c
Barium, Dissolved	33.9	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:25	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:25	7440-41-7	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:25	7440-47-3	2c
Cobalt, Dissolved	417	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:25	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:25	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:25	7439-92-1	2c
Nickel, Dissolved	293	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:25	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:25	7782-49-2	2c
Silver, Dissolved	7.9	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:25	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:25	7440-28-0	2c
Cadmium, Dissolved	66300	ug/L	300	34.4	100	02/20/17 08:25	02/20/17 23:08	7440-43-9	2c, MH, ML
Iron, Dissolved	484000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:08	7439-89-6	2c, MH, ML
Manganese, Dissolved	27800	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:08	7439-96-5	2c, MH, ML
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:47	7439-97-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW13-MW(I) **Lab ID: 30210854009** Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury, Dissolved									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.20 U	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:08	7439-97-6	
8270D MSSV PAH by SIM									
Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.60	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	83-32-9	ML
Acenaphthylene	1.2	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 21:52	208-96-8	ML
Anthracene	0.034J	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:52	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 21:52	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 21:52	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 21:52	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:52	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 21:52	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:52	53-70-3	
1,4-Dioxane (p-Dioxane)	1.1	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:03	123-91-1	
Fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:52	206-44-0	
Fluorene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:52	193-39-5	
2-Methylnaphthalene	1.5	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 21:52	91-57-6	ML
Naphthalene	6.6	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 21:52	91-20-3	ML
Phenanthrene	0.019J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	51	%	19-123		1	02/20/17 08:38	02/20/17 21:52	321-60-8	
Terphenyl-d14 (S)	88	%	58-130		1	02/20/17 08:38	02/20/17 21:52	1718-51-0	
8270D MSSV Organics									
Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:56	83-32-9	ML
Acenaphthylene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:56	208-96-8	ML
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 18:56	120-12-7	ML
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 18:56	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:56	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:56	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 18:56	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	92-52-4	ML
Caprolactam	2.5 U	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 18:56	105-60-2	
Carbazole	0.14J	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:56	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 18:56	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 18:56	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	91-58-7	ML
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	95-57-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW13-MW(I) **Lab ID: 30210854009** Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not perform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report				Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF					
8270D MSSV Organics			Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	218-01-9		
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:56	53-70-3		
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:56	91-94-1	ML	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 18:56	120-83-2		
Diethylphthalate	0.26J	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:56	84-66-2	ML	
2,4-Dimethylphenol	1.0J	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 18:56	105-67-9		
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	84-74-2		
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 18:56	51-28-5		
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 18:56	121-14-2	ML	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 18:56	606-20-2	ML	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 18:56	117-84-0		
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:56	117-81-7		
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	206-44-0		
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:56	86-73-7	ML	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	87-68-3	ML	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 18:56	118-74-1	ML	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 18:56	77-47-4		
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	67-72-1	ML	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:56	193-39-5		
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	78-59-1		
2-Methylnaphthalene	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:56	91-57-6	ML	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:56	95-48-7		
3&4-Methylphenol(m&p Cresol)	4.6	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 18:56			
Naphthalene	5.5	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 18:56	91-20-3	ML	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 18:56	88-74-4		
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 18:56	100-01-6		
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	98-95-3		
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	621-64-7		
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 18:56	86-30-6		
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 18:56	87-86-5		
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 18:56	85-01-8	ML	
Phenol	0.27J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 18:56	108-95-2		
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	129-00-0		
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	95-94-3	ML	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 18:56	58-90-2		
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 18:56	95-95-4		
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:56	88-06-2		
Surrogates										
Nitrobenzene-d5 (S)	47	%	16-112		1	02/20/17 08:38	02/20/17 18:56	4165-60-0		
2-Fluorobiphenyl (S)	41	%	18-115		1	02/20/17 08:38	02/20/17 18:56	321-60-8		
Terphenyl-d14 (S)	65	%	54-118		1	02/20/17 08:38	02/20/17 18:56	1718-51-0		
Phenol-d6 (S)	21	%	10-48		1	02/20/17 08:38	02/20/17 18:56	13127-88-3		
2-Fluorophenol (S)	29	%	10-76		1	02/20/17 08:38	02/20/17 18:56	367-12-4		
2,4,6-Tribromophenol (S)	61	%	27-129		1	02/20/17 08:38	02/20/17 18:56	118-79-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: RW13-MW(I) **Lab ID: 30210854009** Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Acetone	10.0 U	ug/L	10.0	3.5	1		02/17/17 01:00	67-64-1	MH
Benzene	1.6	ug/L	1.0	0.21	1		02/17/17 01:00	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:00	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:00	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:00	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/17/17 01:00	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:00	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 01:00	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:00	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 01:00	75-00-3	
Chloroform	0.59J	ug/L	1.0	0.40	1		02/17/17 01:00	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 01:00	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 01:00	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 01:00	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 01:00	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 01:00	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	75-71-8	
1,1-Dichloroethane	0.70J	ug/L	1.0	0.37	1		02/17/17 01:00	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:00	107-06-2	
1,2-Dichloroethene (Total)	1.5J	ug/L	2.0	0.85	1		02/17/17 01:00	540-59-0	
1,1-Dichloroethene	0.36J	ug/L	1.0	0.20	1		02/17/17 01:00	75-35-4	
cis-1,2-Dichloroethene	1.3	ug/L	1.0	0.56	1		02/17/17 01:00	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:00	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:00	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 01:00	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 01:00	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 01:00	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 01:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 01:00	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 01:00	127-18-4	
Toluene	0.27J	ug/L	1.0	0.21	1		02/17/17 01:00	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 01:00	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:00	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:00	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	79-00-5	
Trichloroethene	1.2	ug/L	1.0	0.20	1		02/17/17 01:00	79-01-6	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW13-MW(I) **Lab ID: 30210854009** Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 01:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 01:00	76-13-1	
Vinyl chloride	0.52J	ug/L	1.0	0.33	1		02/17/17 01:00	75-01-4	
Xylene (Total)	3.0 U	ug/L	3.0	0.47	1		02/17/17 01:00	1330-20-7	
m&p-Xylene	2.0 U	ug/L	2.0	0.28	1		02/17/17 01:00	179601-23-1	
o-Xylene	1.0 U	ug/L	1.0	0.19	1		02/17/17 01:00	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	78-117		1		02/17/17 01:00	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/17/17 01:00	17060-07-0	
Toluene-d8 (S)	101	%	59-140		1		02/17/17 01:00	2037-26-5	
Dibromofluoromethane (S)	97	%	66-132		1		02/17/17 01:00	1868-53-7	
7196 Chromium, Hexavalent									
Analytical Method: EPA 7196A									
Chromium, Hexavalent	23000J	ug/L	100000	16900	10000		02/16/17 00:06	18540-29-9	
9012B Cyanide, Total									
Analytical Method: EPA 9012B Preparation Method: EPA 9012B									
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:32	57-12-5	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate									
Lab ID: 30210854010 Collected: 02/15/17 00:01 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	70.0	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 17:04	7429-90-5	1c
Antimony	3.4J	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 17:04	7440-36-0	1c
Arsenic	12.6	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:04	7440-38-2	1c
Barium	101	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 17:04	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 17:04	7440-41-7	1c
Cadmium	464	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 17:04	7440-43-9	1c
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 17:04	7440-47-3	1c
Cobalt	59.6	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 17:04	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 17:04	7440-50-8	1c
Iron	153000	ug/L	7000	984	100	02/20/17 11:01	02/21/17 21:23	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:04	7439-92-1	1c
Manganese	10700	ug/L	500	70.7	100	02/20/17 11:01	02/21/17 21:23	7439-96-5	1c
Nickel	34.8	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 17:04	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 17:04	7782-49-2	1c
Silver	1.7J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 17:04	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 17:04	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 17:04	7440-62-2	1c
Zinc	105000	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:23	7440-66-6	1c
6010C MET ICP,Dissolved Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Iron, Dissolved	172000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:36	7439-89-6	2c
Manganese, Dissolved	11700	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:36	7439-96-5	2c
Zinc, Dissolved	116000	ug/L	1000	108	100	02/20/17 08:25	02/20/17 23:36	7440-66-6	2c
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:44	7429-90-5	2c
Antimony, Dissolved	6.0 U	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:44	7440-36-0	2c
Arsenic, Dissolved	10.8	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:44	7440-38-2	2c
Barium, Dissolved	102	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:44	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:44	7440-41-7	2c
Cadmium, Dissolved	461	ug/L	3.0	0.34	1	02/20/17 08:25	02/20/17 22:44	7440-43-9	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:44	7440-47-3	2c
Cobalt, Dissolved	61.4	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:44	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:44	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:44	7439-92-1	2c
Nickel, Dissolved	38.6	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:44	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:44	7782-49-2	2c
Silver, Dissolved	2.3J	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:44	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:44	7440-28-0	2c
Vanadium, Dissolved	5.0 U	ug/L	5.0	0.27	1	02/20/17 08:25	02/20/17 22:44	7440-62-2	2c
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:58	7439-97-6	
7470 Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.20 U	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:23	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate **Lab ID: 30210854010** Collected: 02/15/17 00:01 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8270D MSSV PAH by SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.53	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	83-32-9	
Acenaphthylene	1.0	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 22:09	208-96-8	
Anthracene	0.037J	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:09	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 22:09	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 22:09	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 22:09	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:09	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 22:09	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:09	53-70-3	
1,4-Dioxane (p-Dioxane)	0.92	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:29	123-91-1	
Fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:09	206-44-0	
Fluorene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:09	193-39-5	
2-Methylnaphthalene	1.5	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 22:09	91-57-6	
Naphthalene	5.9	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 22:09	91-20-3	
Phenanthrene	0.018J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:09	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	43	%	19-123		1	02/20/17 08:38	02/20/17 22:09	321-60-8	
Terphenyl-d14 (S)	86	%	58-130		1	02/20/17 08:38	02/20/17 22:09	1718-51-0	

8270D MSSV Organics Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	0.55J	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:00	83-32-9	
Acenaphthylene	0.78J	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:00	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 20:00	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 20:00	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:00	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:00	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 20:00	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	92-52-4	
Caprolactam	2.5 U	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 20:00	105-60-2	
Carbazole	3.6	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:00	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 20:00	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 20:00	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:00	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:00	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 20:00	120-83-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate **Lab ID: 30210854010** Collected: 02/15/17 00:01 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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8270D MSSV Organics Analytical Method: EPA 8270D Preparation Method: EPA 3510C

Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:00	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 20:00	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 20:00	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 20:00	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 20:00	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 20:00	117-84-0	
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:00	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:00	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 20:00	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 20:00	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:00	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	78-59-1	
2-Methylnaphthalene	1.4	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:00	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:00	95-48-7	
3&4-Methylphenol(m&p Cresol)	13.2	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 20:00		
Naphthalene	6.8	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 20:00	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 20:00	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 20:00	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	98-95-3	
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 20:00	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 20:00	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 20:00	85-01-8	
Phenol	0.51J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 20:00	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 20:00	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 20:00	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:00	88-06-2	

Surrogates

Nitrobenzene-d5 (S)	41	%	16-112		1	02/20/17 08:38	02/20/17 20:00	4165-60-0	
2-Fluorobiphenyl (S)	35	%	18-115		1	02/20/17 08:38	02/20/17 20:00	321-60-8	
Terphenyl-d14 (S)	71	%	54-118		1	02/20/17 08:38	02/20/17 20:00	1718-51-0	
Phenol-d6 (S)	18	%	10-48		1	02/20/17 08:38	02/20/17 20:00	13127-88-3	
2-Fluorophenol (S)	27	%	10-76		1	02/20/17 08:38	02/20/17 20:00	367-12-4	
2,4,6-Tribromophenol (S)	59	%	27-129		1	02/20/17 08:38	02/20/17 20:00	118-79-6	

8260B MSV

Analytical Method: EPA 8260B

Acetone	12.0	ug/L	10.0	3.5	1		02/17/17 01:26	67-64-1	B
Benzene	2.3	ug/L	1.0	0.21	1		02/17/17 01:26	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:26	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:26	75-25-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B							
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:26	74-83-9	
2-Butanone (MEK)	9.2J	ug/L	10.0	2.4	1		02/17/17 01:26	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:26	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 01:26	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:26	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 01:26	75-00-3	
Chloroform	0.72J	ug/L	1.0	0.40	1		02/17/17 01:26	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 01:26	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 01:26	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 01:26	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 01:26	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 01:26	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	75-71-8	
1,1-Dichloroethane	2.9	ug/L	1.0	0.37	1		02/17/17 01:26	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:26	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 01:26	540-59-0	
1,1-Dichloroethene	0.28J	ug/L	1.0	0.20	1		02/17/17 01:26	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 01:26	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:26	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:26	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 01:26	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 01:26	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 01:26	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 01:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 01:26	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 01:26	127-18-4	
Toluene	1.5	ug/L	1.0	0.21	1		02/17/17 01:26	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 01:26	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:26	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:26	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	79-00-5	
Trichloroethene	1.0 U	ug/L	1.0	0.20	1		02/17/17 01:26	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 01:26	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 01:26	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 01:26	75-01-4	
Xylene (Total)	3.5	ug/L	3.0	0.47	1		02/17/17 01:26	1330-20-7	
m&p-Xylene	1.4J	ug/L	2.0	0.28	1		02/17/17 01:26	179601-23-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01	Received: 02/15/17 22:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B							
o-Xylene	2.1	ug/L	1.0	0.19	1		02/17/17 01:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/17/17 01:26	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-128		1		02/17/17 01:26	17060-07-0	
Toluene-d8 (S)	102	%	59-140		1		02/17/17 01:26	2037-26-5	
Dibromofluoromethane (S)	94	%	66-132		1		02/17/17 01:26	1868-53-7	
7196 Chromium, Hexavalent		Analytical Method: EPA 7196A							
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9	
9012B Cyanide, Total		Analytical Method: EPA 9012B Preparation Method: EPA 9012B							
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:39	57-12-5	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Sample: Trip Blank **Lab ID: 30210854011** Collected: 02/15/17 00:01 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV Analytical Method: EPA 8260B									
Acetone	10.0 U	ug/L	10.0	3.5	1		02/16/17 23:43	67-64-1	
Benzene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/16/17 23:43	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/16/17 23:43	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/16/17 23:43	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/16/17 23:43	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/16/17 23:43	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/16/17 23:43	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/16/17 23:43	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/16/17 23:43	75-00-3	
Chloroform	1.0 U	ug/L	1.0	0.40	1		02/16/17 23:43	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/16/17 23:43	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/16/17 23:43	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/16/17 23:43	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/16/17 23:43	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/16/17 23:43	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	75-71-8	
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.37	1		02/16/17 23:43	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/16/17 23:43	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/16/17 23:43	540-59-0	
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		02/16/17 23:43	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/16/17 23:43	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/16/17 23:43	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/16/17 23:43	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/16/17 23:43	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/16/17 23:43	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/16/17 23:43	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/16/17 23:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/16/17 23:43	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/16/17 23:43	127-18-4	
Toluene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/16/17 23:43	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/16/17 23:43	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/16/17 23:43	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	79-00-5	
Trichloroethene	0.29J	ug/L	1.0	0.20	1		02/16/17 23:43	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/16/17 23:43	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Trip Blank		Lab ID: 30210854011		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B							
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/16/17 23:43	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/16/17 23:43	75-01-4	
Xylene (Total)	3.0 U	ug/L	3.0	0.47	1		02/16/17 23:43	1330-20-7	
m&p-Xylene	2.0 U	ug/L	2.0	0.28	1		02/16/17 23:43	179601-23-1	
o-Xylene	1.0 U	ug/L	1.0	0.19	1		02/16/17 23:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/16/17 23:43	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/16/17 23:43	17060-07-0	
Toluene-d8 (S)	102	%	59-140		1		02/16/17 23:43	2037-26-5	
Dibromofluoromethane (S)	94	%	66-132		1		02/16/17 23:43	1868-53-7	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank Lab ID: 30210854012 Collected: 02/15/17 15:40 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	50.0 U	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 18:19	7429-90-5	1c
Antimony	6.0 U	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 18:19	7440-36-0	1c
Arsenic	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 18:19	7440-38-2	1c
Barium	10.0 U	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 18:19	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 18:19	7440-41-7	1c
Cadmium	3.0 U	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:19	7440-43-9	1c
Chromium	0.57J	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 18:19	7440-47-3	1c
Cobalt	5.0 U	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 18:19	7440-48-4	1c
Copper	3.0J	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 18:19	7440-50-8	1c
Iron	70.0 U	ug/L	70.0	9.8	1	02/20/17 11:01	02/21/17 18:19	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 18:19	7439-92-1	1c
Manganese	5.0 U	ug/L	5.0	0.71	1	02/20/17 11:01	02/21/17 18:19	7439-96-5	1c
Nickel	10.0 U	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 18:19	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 18:19	7782-49-2	1c
Silver	6.0 U	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 18:19	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 18:19	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 18:19	7440-62-2	1c
Zinc	10.0 U	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:19	7440-66-6	1c
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/21/17 00:03	7439-97-6	
8270D MSSV PAH by SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	83-32-9	
Acenaphthylene	0.10 U	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 22:27	208-96-8	
Anthracene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:27	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 22:27	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 22:27	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 22:27	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:27	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 22:27	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:27	53-70-3	
1,4-Dioxane (p-Dioxane)	0.10 U	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:52	123-91-1	
Fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:27	206-44-0	
Fluorene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:27	193-39-5	
2-Methylnaphthalene	0.042J	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 22:27	91-57-6	
Naphthalene	0.063J	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 22:27	91-20-3	B
Phenanthrene	0.022J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:27	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	19-123		1	02/20/17 08:38	02/20/17 22:27	321-60-8	
Terphenyl-d14 (S)	83	%	58-130		1	02/20/17 08:38	02/20/17 22:27	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank **Lab ID:** 30210854012 Collected: 02/15/17 15:40 Received: 02/15/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8270D MSSV Organics									
Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:22	83-32-9	
Acenaphthylene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:22	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 20:22	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 20:22	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:22	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:22	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 20:22	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	92-52-4	
Caprolactam	2.5 U	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 20:22	105-60-2	
Carbazole	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:22	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 20:22	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 20:22	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:22	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:22	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 20:22	120-83-2	
Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:22	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 20:22	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 20:22	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 20:22	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 20:22	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 20:22	117-84-0	
bis(2-Ethylhexyl)phthalate	0.25J	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:22	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:22	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 20:22	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 20:22	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:22	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	78-59-1	
2-Methylnaphthalene	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:22	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:22	95-48-7	
3&4-Methylphenol(m&p Cresol)	2.0 U	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 20:22		
Naphthalene	1.0 U	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 20:22	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 20:22	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 20:22	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	98-95-3	

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank Lab ID: 30210854012 Collected: 02/15/17 15:40 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8270D MSSV Organics Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 20:22	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 20:22	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 20:22	85-01-8	
Phenol	1.0 U	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 20:22	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 20:22	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 20:22	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:22	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	53	%	16-112		1	02/20/17 08:38	02/20/17 20:22	4165-60-0	
2-Fluorobiphenyl (S)	47	%	18-115		1	02/20/17 08:38	02/20/17 20:22	321-60-8	
Terphenyl-d14 (S)	71	%	54-118		1	02/20/17 08:38	02/20/17 20:22	1718-51-0	
Phenol-d6 (S)	22	%	10-48		1	02/20/17 08:38	02/20/17 20:22	13127-88-3	
2-Fluorophenol (S)	32	%	10-76		1	02/20/17 08:38	02/20/17 20:22	367-12-4	
2,4,6-Tribromophenol (S)	50	%	27-129		1	02/20/17 08:38	02/20/17 20:22	118-79-6	
8260B MSV Analytical Method: EPA 8260B									
Acetone	10.0 U	ug/L	10.0	3.5	1		02/17/17 00:09	67-64-1	
Benzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:09	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:09	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:09	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/17/17 00:09	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:09	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 00:09	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:09	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 00:09	75-00-3	
Chloroform	0.95J	ug/L	1.0	0.40	1		02/17/17 00:09	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 00:09	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 00:09	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 00:09	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 00:09	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 00:09	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	75-71-8	
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.37	1		02/17/17 00:09	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:09	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 00:09	540-59-0	
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		02/17/17 00:09	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 00:09	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	78-87-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank Lab ID: 30210854012 Collected: 02/15/17 15:40 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Analytical Method: EPA 8260B									
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:09	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:09	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 00:09	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 00:09	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 00:09	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 00:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 00:09	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 00:09	127-18-4	
Toluene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 00:09	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:09	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:09	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	79-00-5	
Trichloroethene	0.22J	ug/L	1.0	0.20	1		02/17/17 00:09	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 00:09	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 00:09	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 00:09	75-01-4	
Xylene (Total)	3.0 U	ug/L	3.0	0.47	1		02/17/17 00:09	1330-20-7	
m&p-Xylene	2.0 U	ug/L	2.0	0.28	1		02/17/17 00:09	179601-23-1	
o-Xylene	1.0 U	ug/L	1.0	0.19	1		02/17/17 00:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	78-117		1		02/17/17 00:09	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/17/17 00:09	17060-07-0	
Toluene-d8 (S)	100	%	59-140		1		02/17/17 00:09	2037-26-5	
Dibromofluoromethane (S)	93	%	66-132		1		02/17/17 00:09	1868-53-7	
7196 Chromium, Hexavalent Analytical Method: EPA 7196A									
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9	
9012B Cyanide, Total Analytical Method: EPA 9012B Preparation Method: EPA 9012B									
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:40	57-12-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW12-MW(I)		Lab ID: 30210854013		Collected: 02/15/17 15:18		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	4740	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 21:31	7440-43-9	1c
Zinc	249000	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:31	7440-66-6	1c,MH

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249769 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1229081 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	0.20 U	0.20	0.017	02/20/17 23:43	

LABORATORY CONTROL SAMPLE: 1229082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229084 1229085

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.20 U	2.5	2.5	2.4	2.5	97	101	75-125	4	20	

SAMPLE DUPLICATE: 1229083

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.20 U	0.20 U		20	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249768

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury Dissolved

Associated Lab Samples: 30210854008, 30210854009, 30210854010

METHOD BLANK: 1229076

Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	0.20 U	0.20	0.017	02/21/17 00:05	

LABORATORY CONTROL SAMPLE: 1229077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	1	0.91	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229079 1229080

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	0.20 U	2.5	2.5	2.4	2.4	98	94	75-125	4	20	

SAMPLE DUPLICATE: 1229078

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	0.20 U	0.20 U		20	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249761 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30210854001, 30210854002, 30210854003, 30210854004, 30210854005, 30210854006, 30210854007, 30210854008, 30210854009, 30210854010, 30210854012, 30210854013

METHOD BLANK: 1229011 Matrix: Water
Associated Lab Samples: 30210854001, 30210854002, 30210854003, 30210854004, 30210854005, 30210854006, 30210854007, 30210854008, 30210854009, 30210854010, 30210854012, 30210854013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	50.0 U	50.0	16.8	02/21/17 16:41	1c
Antimony	ug/L	6.0 U	6.0	2.8	02/21/17 16:41	1c
Arsenic	ug/L	5.0 U	5.0	4.0	02/21/17 16:41	1c
Barium	ug/L	10.0 U	10.0	0.53	02/21/17 16:41	1c
Beryllium	ug/L	1.0 U	1.0	0.22	02/21/17 16:41	1c
Cadmium	ug/L	3.0 U	3.0	0.34	02/21/17 16:41	1c
Chromium	ug/L	5.0 U	5.0	0.53	02/21/17 16:41	1c
Cobalt	ug/L	5.0 U	5.0	0.23	02/21/17 16:41	1c
Copper	ug/L	5.0 U	5.0	1.3	02/21/17 16:41	1c
Iron	ug/L	70.0 U	70.0	9.8	02/21/17 16:41	1c
Lead	ug/L	5.0 U	5.0	4.0	02/21/17 16:41	1c
Manganese	ug/L	5.0 U	5.0	0.71	02/21/17 16:41	1c
Nickel	ug/L	10.0 U	10.0	0.85	02/21/17 16:41	1c
Selenium	ug/L	8.0 U	8.0	4.4	02/21/17 16:41	1c
Silver	ug/L	6.0 U	6.0	0.56	02/21/17 16:41	1c
Thallium	ug/L	10.0 U	10.0	2.7	02/21/17 16:41	1c
Vanadium	ug/L	5.0 U	5.0	0.27	02/21/17 16:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	02/21/17 16:41	1c

LABORATORY CONTROL SAMPLE: 1229012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	5120	102	80-120	1c
Antimony	ug/L	500	493	99	80-120	1c
Arsenic	ug/L	500	460	92	80-120	1c
Barium	ug/L	500	518	104	80-120	1c
Beryllium	ug/L	500	526	105	80-120	1c
Cadmium	ug/L	500	488	98	80-120	1c
Chromium	ug/L	500	475	95	80-120	1c
Cobalt	ug/L	500	463	93	80-120	1c
Copper	ug/L	500	521	104	80-120	1c
Iron	ug/L	5000	5240	105	80-120	1c
Lead	ug/L	500	459	92	80-120	1c
Manganese	ug/L	500	519	104	80-120	1c
Nickel	ug/L	500	484	97	80-120	1c
Selenium	ug/L	500	485	97	80-120	1c
Silver	ug/L	250	246	99	80-120	1c
Thallium	ug/L	500	473	95	80-120	1c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1229012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	ug/L	500	461	92	80-120	1c
Zinc	ug/L	500	493	99	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229014 1229015

Parameter	Units	30210854009		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Aluminum	ug/L	66.3	5000	5000	5110	5080	101	100	75-125	1	20	1c	
Antimony	ug/L	18.8	500	500	504	512	97	99	75-125	2	20	1c	
Arsenic	ug/L	7.0	500	500	522	507	103	100	75-125	3	20	1c	
Barium	ug/L	31.3	500	500	547	538	103	101	75-125	2	20	1c	
Beryllium	ug/L	1.0 U	500	500	526	524	105	105	75-125	0	20	1c	
Cadmium	ug/L	54900	500	500	51900	48500	-612	-1290	75-125	7	20	1c,ML	
Chromium	ug/L	5.0 U	500	500	479	471	96	94	75-125	2	20	1c	
Cobalt	ug/L	444	500	500	975	958	106	103	75-125	2	20	1c	
Copper	ug/L	5.0 U	500	500	527	524	105	105	75-125	1	20	1c	
Iron	ug/L	377000	5000	5000	380000	358000	60	-376	75-125	6	20	1c,ML	
Lead	ug/L	5.0 U	500	500	476	470	95	94	75-125	1	20	1c	
Manganese	ug/L	24800	500	500	24600	23000	-42	-358	75-125	7	20	1c,ML	
Nickel	ug/L	297	500	500	771	754	95	91	75-125	2	20	1c	
Selenium	ug/L	8.0 U	500	500	572	554	114	111	75-125	3	20	1c	
Silver	ug/L	5.7J	250	250	269	270	105	106	75-125	0	20	1c	
Thallium	ug/L	10.0 U	500	500	431	424	86	85	75-125	1	20	1c	
Vanadium	ug/L	25.0 U	500	500	440	433	88	87	75-125	2	20	1c	
Zinc	ug/L	600000	500	500	559000	524000	-8360	-15300	75-125	6	20	1c,ML	

MATRIX SPIKE SAMPLE: 1229017

Parameter	Units	30210854013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	35.8J	5000	4940	98	75-125	1c
Antimony	ug/L	6.0 U	500	478	96	75-125	1c
Arsenic	ug/L	5.0 U	500	513	103	75-125	1c
Barium	ug/L	10.4	500	488	96	75-125	1c
Beryllium	ug/L	1.0 U	500	538	108	75-125	1c
Cadmium	ug/L	4740	500	5350	122	75-125	1c
Chromium	ug/L	5.0 U	500	490	98	75-125	1c
Cobalt	ug/L	67.6	500	584	103	75-125	1c
Copper	ug/L	5.0 U	500	513	103	75-125	1c
Iron	ug/L	107000	5000	112000	96	75-125	1c
Lead	ug/L	5.0 U	500	468	94	75-125	1c
Manganese	ug/L	9130	500	9660	106	75-125	1c
Nickel	ug/L	58.4	500	521	92	75-125	1c
Selenium	ug/L	8.0 U	500	543	109	75-125	1c
Silver	ug/L	1.6J	250	254	101	75-125	1c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE SAMPLE: 1229017

Parameter	Units	30210854013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Thallium	ug/L	10.0 U	500	432	86	75-125	1c
Vanadium	ug/L	5.0 U	500	467	93	75-125	1c
Zinc	ug/L	249000	500	250000	260	75-125	1c,MH

SAMPLE DUPLICATE: 1229013

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum	ug/L	66.3	83.6	23	20	1c,D6
Antimony	ug/L	18.8	13.8	30	20	1c,D6
Arsenic	ug/L	7.0	4.5J		20	1c
Barium	ug/L	31.3	31.4	0	20	1c
Beryllium	ug/L	1.0 U	1.0 U		20	1c
Cadmium	ug/L	54900	52300	5	20	1c
Chromium	ug/L	5.0 U	5.0 U		20	1c
Cobalt	ug/L	444	452	2	20	1c
Copper	ug/L	5.0 U	5.0 U		20	1c
Iron	ug/L	377000	361000	4	20	1c
Lead	ug/L	5.0 U	5.0 U		20	1c
Manganese	ug/L	24800	24200	2	20	1c
Nickel	ug/L	297	301	1	20	1c
Selenium	ug/L	8.0 U	8.0 U		20	1c
Silver	ug/L	5.7J	5.8J		20	1c
Thallium	ug/L	10.0 U	10.0 U		20	1c
Vanadium	ug/L	25.0 U	25.0 U		20	1c
Zinc	ug/L	600000	575000	4	20	1c

SAMPLE DUPLICATE: 1229016

Parameter	Units	30210854013 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum	ug/L	35.8J	25.3J		20	1c
Antimony	ug/L	6.0 U	6.0 U		20	1c
Arsenic	ug/L	5.0 U	5.0 U		20	1c
Barium	ug/L	10.4	10.4	0	20	1c
Beryllium	ug/L	1.0 U	1.0 U		20	1c
Cadmium	ug/L	4740	4850	2	20	1c
Chromium	ug/L	5.0 U	5.0 U		20	1c
Cobalt	ug/L	67.6	67.8	0	20	1c
Copper	ug/L	5.0 U	5.0 U		20	1c
Iron	ug/L	107000	108000	1	20	1c
Lead	ug/L	5.0 U	5.0 U		20	1c
Manganese	ug/L	9130	9320	2	20	1c
Nickel	ug/L	58.4	59.1	1	20	1c
Selenium	ug/L	8.0 U	8.0 U		20	1c
Silver	ug/L	1.6J	1.1J		20	1c

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

SAMPLE DUPLICATE: 1229016

Parameter	Units	30210854013 Result	Dup Result	RPD	Max RPD	Qualifiers
Thallium	ug/L	10.0 U	10.0 U		20	1c
Vanadium	ug/L	5.0 U	5.0 U		20	1c
Zinc	ug/L	249000	255000	2	20	1c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249737 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET Dissolved
Associated Lab Samples: 30210854008, 30210854009, 30210854010

METHOD BLANK: 1228946 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	50.0 U	50.0	16.8	02/20/17 22:55	2c
Antimony, Dissolved	ug/L	6.0 U	6.0	2.8	02/20/17 22:55	2c
Arsenic, Dissolved	ug/L	5.0 U	5.0	4.0	02/20/17 22:55	2c
Barium, Dissolved	ug/L	10.0 U	10.0	0.53	02/20/17 22:55	2c
Beryllium, Dissolved	ug/L	1.0 U	1.0	0.22	02/20/17 22:55	2c
Cadmium, Dissolved	ug/L	3.0 U	3.0	0.34	02/20/17 22:55	2c
Chromium, Dissolved	ug/L	5.0 U	5.0	0.53	02/20/17 22:55	2c
Cobalt, Dissolved	ug/L	5.0 U	5.0	0.23	02/20/17 22:55	2c
Copper, Dissolved	ug/L	5.0 U	5.0	1.3	02/20/17 22:55	2c
Iron, Dissolved	ug/L	70.0 U	70.0	9.8	02/20/17 22:55	2c
Lead, Dissolved	ug/L	5.0 U	5.0	4.0	02/20/17 22:55	2c
Manganese, Dissolved	ug/L	5.0 U	5.0	0.71	02/20/17 22:55	2c
Nickel, Dissolved	ug/L	1.1J	10.0	0.85	02/20/17 22:55	2c
Selenium, Dissolved	ug/L	8.0 U	8.0	4.4	02/20/17 22:55	2c
Silver, Dissolved	ug/L	6.0 U	6.0	0.56	02/20/17 22:55	2c
Thallium, Dissolved	ug/L	10.0 U	10.0	2.7	02/20/17 22:55	2c
Vanadium, Dissolved	ug/L	5.0 U	5.0	0.27	02/20/17 22:55	2c
Zinc, Dissolved	ug/L	2.5J	10.0	1.1	02/20/17 22:55	2c

LABORATORY CONTROL SAMPLE: 1228947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	5000	4440	89	80-120	2c
Antimony, Dissolved	ug/L	500	465	93	80-120	2c
Arsenic, Dissolved	ug/L	500	451	90	80-120	2c
Barium, Dissolved	ug/L	500	462	92	80-120	2c
Beryllium, Dissolved	ug/L	500	468	94	80-120	2c
Cadmium, Dissolved	ug/L	500	481	96	80-120	2c
Chromium, Dissolved	ug/L	500	475	95	80-120	2c
Cobalt, Dissolved	ug/L	500	452	90	80-120	2c
Copper, Dissolved	ug/L	500	459	92	80-120	2c
Iron, Dissolved	ug/L	5000	4510	90	80-120	2c
Lead, Dissolved	ug/L	500	451	90	80-120	2c
Manganese, Dissolved	ug/L	500	458	92	80-120	2c
Nickel, Dissolved	ug/L	500	479	96	80-120	2c
Selenium, Dissolved	ug/L	500	477	95	80-120	2c
Silver, Dissolved	ug/L	250	236	94	80-120	2c
Thallium, Dissolved	ug/L	500	461	92	80-120	2c
Vanadium, Dissolved	ug/L	500	464	93	80-120	2c
Zinc, Dissolved	ug/L	500	489	98	80-120	2c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228949												1228950			
Parameter	Units	30210854009 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual				
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD					
Aluminum, Dissolved	ug/L	50.0 U	5000	5000	4940	4950	99	99	75-125	0	20	2c			
Antimony, Dissolved	ug/L	11.0	500	500	502	507	98	99	75-125	1	20	2c			
Arsenic, Dissolved	ug/L	5.0 U	500	500	498	507	99	101	75-125	2	20	2c			
Barium, Dissolved	ug/L	33.9	500	500	539	540	101	101	75-125	0	20	2c			
Beryllium, Dissolved	ug/L	1.0 U	500	500	507	510	101	102	75-125	1	20	2c			
Cadmium, Dissolved	ug/L	66300	500	500	67800	66400	298	22	75-125	2	20	2c, MH, ML			
Chromium, Dissolved	ug/L	5.0 U	500	500	489	499	98	100	75-125	2	20	2c			
Cobalt, Dissolved	ug/L	417	500	500	928	942	102	105	75-125	2	20	2c			
Copper, Dissolved	ug/L	5.0 U	500	500	504	509	101	102	75-125	1	20	2c			
Iron, Dissolved	ug/L	484000	5000	5000	499000	482000	302	-24	75-125	3	20	2c, MH, ML			
Lead, Dissolved	ug/L	5.0 U	500	500	470	484	94	97	75-125	3	20	2c			
Manganese, Dissolved	ug/L	27800	500	500	28800	27800	204	4	75-125	4	20	2c, MH, ML			
Nickel, Dissolved	ug/L	293	500	500	764	778	94	97	75-125	2	20	2c			
Selenium, Dissolved	ug/L	8.0 U	500	500	542	548	108	110	75-125	1	20	2c			
Silver, Dissolved	ug/L	7.9	250	250	269	270	105	105	75-125	0	20	2c			
Thallium, Dissolved	ug/L	10.0 U	500	500	426	438	85	88	75-125	3	20	2c			
Vanadium, Dissolved	ug/L	25.0 U	500	500	441	450	88	90	75-125	2	20	2c			
Zinc, Dissolved	ug/L	677000	500	500	676000	661000	-100	-3120	75-125	2	20	2c, ML			

SAMPLE DUPLICATE: 1228948

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	50.0 U	50.0 U			20 2c
Antimony, Dissolved	ug/L	11.0	11.2	2		20 2c
Arsenic, Dissolved	ug/L	5.0 U	5.0 U			20 2c
Barium, Dissolved	ug/L	33.9	33.0	3		20 2c
Beryllium, Dissolved	ug/L	1.0 U	1.0 U			20 2c
Cadmium, Dissolved	ug/L	66300	69000	4		20 2c
Chromium, Dissolved	ug/L	5.0 U	5.0 U			20 2c
Cobalt, Dissolved	ug/L	417	429	3		20 2c
Copper, Dissolved	ug/L	5.0 U	5.0 U			20 2c
Iron, Dissolved	ug/L	484000	506000	4		20 2c
Lead, Dissolved	ug/L	5.0 U	5.0 U			20 2c
Manganese, Dissolved	ug/L	27800	29200	5		20 2c
Nickel, Dissolved	ug/L	293	301	3		20 2c
Selenium, Dissolved	ug/L	8.0 U	8.0 U			20 2c
Silver, Dissolved	ug/L	7.9	8.1	3		20 2c
Thallium, Dissolved	ug/L	10.0 U	10.0 U			20 2c
Vanadium, Dissolved	ug/L	25.0 U	25.0 U			20 2c
Zinc, Dissolved	ug/L	677000	705000	4		20 2c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249543 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

METHOD BLANK: 1227273 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	1.0 U	1.0	0.53	02/16/17 17:43	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
1,1,2-Trichloroethane	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	50.0	0.39	02/16/17 17:43	
1,1-Dichloroethane	ug/L	1.0 U	1.0	0.37	02/16/17 17:43	
1,1-Dichloroethene	ug/L	1.0 U	1.0	0.20	02/16/17 17:43	
1,2,3-Trichlorobenzene	ug/L	2.0 U	2.0	0.36	02/16/17 17:43	
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0	0.34	02/16/17 17:43	
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	5.0	0.54	02/16/17 17:43	
1,2-Dibromoethane (EDB)	ug/L	1.0 U	1.0	0.22	02/16/17 17:43	
1,2-Dichlorobenzene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
1,2-Dichloroethane	ug/L	1.0 U	1.0	0.30	02/16/17 17:43	
1,2-Dichloropropane	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
1,3-Dichlorobenzene	ug/L	1.0 U	1.0	0.26	02/16/17 17:43	
1,4-Dichlorobenzene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
2-Butanone (MEK)	ug/L	10.0 U	10.0	2.4	02/16/17 17:43	
2-Hexanone	ug/L	10.0 U	10.0	0.25	02/16/17 17:43	
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	10.0	0.32	02/16/17 17:43	
Acetone	ug/L	10.3	10.0	3.5	02/16/17 17:43	C9
Benzene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
Bromodichloromethane	ug/L	1.0 U	1.0	0.24	02/16/17 17:43	
Bromoform	ug/L	1.0 U	1.0	0.30	02/16/17 17:43	
Bromomethane	ug/L	1.0 U	1.0	0.53	02/16/17 17:43	
Carbon disulfide	ug/L	1.0 U	1.0	0.34	02/16/17 17:43	
Carbon tetrachloride	ug/L	1.0 U	1.0	0.47	02/16/17 17:43	
Chlorobenzene	ug/L	1.0 U	1.0	0.14	02/16/17 17:43	
Chloroethane	ug/L	1.0 U	1.0	0.68	02/16/17 17:43	
Chloroform	ug/L	1.0 U	1.0	0.40	02/16/17 17:43	
Chloromethane	ug/L	1.0 U	1.0	0.51	02/16/17 17:43	
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.56	02/16/17 17:43	
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.14	02/16/17 17:43	
Cyclohexane	ug/L	10.0 U	10.0	0.59	02/16/17 17:43	
Dibromochloromethane	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
Dichlorodifluoromethane	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Ethylbenzene	ug/L	1.0 U	1.0	0.24	02/16/17 17:43	
Isopropylbenzene (Cumene)	ug/L	1.0 U	1.0	0.12	02/16/17 17:43	
m&p-Xylene	ug/L	2.0 U	2.0	0.28	02/16/17 17:43	
Methyl acetate	ug/L	5.0 U	5.0	0.59	02/16/17 17:43	
Methyl-tert-butyl ether	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
Methylene Chloride	ug/L	1.6	1.0	0.55	02/16/17 17:43	C9
o-Xylene	ug/L	1.0 U	1.0	0.19	02/16/17 17:43	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

METHOD BLANK: 1227273

Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Styrene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Tetrachloroethene	ug/L	1.0 U	1.0	0.43	02/16/17 17:43	
Toluene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Trichloroethene	ug/L	1.0 U	1.0	0.20	02/16/17 17:43	
Trichlorofluoromethane	ug/L	1.0 U	1.0	0.31	02/16/17 17:43	
Vinyl chloride	ug/L	1.0 U	1.0	0.33	02/16/17 17:43	
Xylene (Total)	ug/L	3.0 U	3.0	0.47	02/16/17 17:43	
1,2-Dichloroethane-d4 (S)	%	94	70-128		02/16/17 17:43	
4-Bromofluorobenzene (S)	%	103	78-117		02/16/17 17:43	
Dibromofluoromethane (S)	%	95	66-132		02/16/17 17:43	
Toluene-d8 (S)	%	100	59-140		02/16/17 17:43	

LABORATORY CONTROL SAMPLE: 1227274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.8	89	79-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	64-130	
1,1,2-Trichloroethane	ug/L	20	20.0	100	78-118	
1,1,2-Trichlorotrifluoroethane	ug/L	20	13.8J	69	39-138	
1,1-Dichloroethane	ug/L	20	18.0	90	77-124	
1,1-Dichloroethene	ug/L	20	17.0	85	74-127	
1,2,3-Trichlorobenzene	ug/L	20	21.2	106	73-140	
1,2,4-Trichlorobenzene	ug/L	20	19.7	99	81-130	
1,2-Dibromo-3-chloropropane	ug/L	20	16.3	81	53-133	
1,2-Dibromoethane (EDB)	ug/L	20	18.2	91	69-126	
1,2-Dichlorobenzene	ug/L	20	18.8	94	83-117	
1,2-Dichloroethane	ug/L	20	17.9	89	73-118	
1,2-Dichloropropane	ug/L	20	18.6	93	77-126	
1,3-Dichlorobenzene	ug/L	20	18.6	93	83-119	
1,4-Dichlorobenzene	ug/L	20	18.7	94	83-119	
2-Butanone (MEK)	ug/L	20	17.3	86	55-134	
2-Hexanone	ug/L	20	25.4	127	78-156	
4-Methyl-2-pentanone (MIBK)	ug/L	20	17.6	88	63-121	
Acetone	ug/L	20	19.1	96	51-144	
Benzene	ug/L	20	17.3	87	80-113	
Bromodichloromethane	ug/L	20	19.6	98	78-121	
Bromoform	ug/L	20	17.8	89	71-130	
Bromomethane	ug/L	20	23.5	117	58-154	
Carbon disulfide	ug/L	20	18.5	93	66-152	
Carbon tetrachloride	ug/L	20	17.6	88	69-133	
Chlorobenzene	ug/L	20	19.4	97	85-116	
Chloroethane	ug/L	20	17.6	88	76-136	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1227274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	20	17.5	87	76-118	
Chloromethane	ug/L	20	16.6	83	67-148	
cis-1,2-Dichloroethene	ug/L	20	17.7	89	77-126	
cis-1,3-Dichloropropene	ug/L	20	19.0	95	75-119	
Cyclohexane	ug/L	20	17.9	89	65-146	
Dibromochloromethane	ug/L	20	22.0	110	66-131	
Dichlorodifluoromethane	ug/L	20	11.7	59	10-175	
Ethylbenzene	ug/L	20	18.1	90	80-115	
Isopropylbenzene (Cumene)	ug/L	20	17.4	87	78-114	
m&p-Xylene	ug/L	40	35.9	90	82-116	
Methyl acetate	ug/L	20	18.8	94	56-155	
Methyl-tert-butyl ether	ug/L	20	17.0	85	82-126	
Methylene Chloride	ug/L	20	22.5	112	61-142	
o-Xylene	ug/L	20	17.7	88	81-113	
Styrene	ug/L	20	18.2	91	84-120	
Tetrachloroethene	ug/L	20	19.2	96	82-120	
Toluene	ug/L	20	19.6	98	82-116	
trans-1,2-Dichloroethene	ug/L	20	17.5	87	76-125	
trans-1,3-Dichloropropene	ug/L	20	16.8	84	73-119	
Trichloroethene	ug/L	20	17.9	90	84-116	
Trichlorofluoromethane	ug/L	20	15.7	79	59-138	
Vinyl chloride	ug/L	20	15.7	79	63-133	
Xylene (Total)	ug/L	60	53.6	89	82-115	
1,2-Dichloroethane-d4 (S)	%			94	70-128	
4-Bromofluorobenzene (S)	%			100	78-117	
Dibromofluoromethane (S)	%			101	66-132	
Toluene-d8 (S)	%			106	59-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1227277 1227278

Parameter	Units	MS 30210854009		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
1,1,1-Trichloroethane	ug/L	1.0 U	20	20	16.5	17.0	83	85	54-140	3	30	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	20	20	16.3	17.2	82	86	54-124	5	30	
1,1,2-Trichloroethane	ug/L	1.0 U	20	20	17.1	17.8	86	89	58-120	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	20	20	13.7J	13.5J	68	68	41-186		30	
1,1-Dichloroethane	ug/L	0.70J	20	20	17.8	17.9	86	86	55-133	0	30	
1,1-Dichloroethene	ug/L	0.36J	20	20	17.3	17.8	85	87	48-141	3	30	
1,2,3-Trichlorobenzene	ug/L	2.0 U	20	20	13.3	15.6	66	78	40-123	16	30	
1,2,4-Trichlorobenzene	ug/L	1.0 U	20	20	14.0	15.8	70	79	33-130	12	30	
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	20	20	11.7	12.5	59	63	23-126	7	30	
1,2-Dibromoethane (EDB)	ug/L	1.0 U	20	20	16.4	16.9	82	85	58-115	3	30	
1,2-Dichlorobenzene	ug/L	1.0 U	20	20	16.0	16.6	80	83	57-124	4	30	
1,2-Dichloroethane	ug/L	1.0 U	20	20	16.2	16.3	81	82	58-123	1	30	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Parameter	Units	1227277		1227278		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MSD Result								
1,2-Dichloropropane	ug/L	1.0 U	20	20	16.9	18.0	85	90	55-125	6	30		
1,3-Dichlorobenzene	ug/L	1.0 U	20	20	16.1	16.8	81	84	62-113	4	30		
1,4-Dichlorobenzene	ug/L	1.0 U	20	20	16.2	16.5	81	83	61-111	2	30		
2-Butanone (MEK)	ug/L	10.0 U	20	20	19.9	18.6	88	81	43-128	7	30		
2-Hexanone	ug/L	10.0 U	20	20	26.0	24.8	130	124	43-135	5	30		
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	20	20	17.4	16.6	87	83	47-123	5	30		
Acetone	ug/L	10.0 U	20	20	33.3	30.7	167	153	10-150	8	30	MH	
Benzene	ug/L	1.6	20	20	17.7	18.1	81	83	63-123	2	30		
Bromodichloromethane	ug/L	1.0 U	20	20	16.7	17.2	83	86	55-127	3	30		
Bromoform	ug/L	1.0 U	20	20	12.4	12.8	62	64	44-131	3	30		
Bromomethane	ug/L	1.0 U	20	20	21.6	22.3	108	112	10-149	3	30		
Carbon disulfide	ug/L	1.0 U	20	20	18.4	18.1	92	91	47-158	2	30		
Carbon tetrachloride	ug/L	1.0 U	20	20	15.7	16.5	79	82	44-155	5	30		
Chlorobenzene	ug/L	1.0 U	20	20	17.0	17.8	85	89	57-121	5	30		
Chloroethane	ug/L	1.0 U	20	20	19.5	18.1	97	91	57-156	7	30		
Chloroform	ug/L	0.59J	20	20	16.6	17.1	80	82	56-132	3	30		
Chloromethane	ug/L	1.0 U	20	20	18.8	18.6	94	93	42-163	1	30		
cis-1,2-Dichloroethene	ug/L	1.3	20	20	17.6	18.1	82	84	46-139	3	30		
cis-1,3-Dichloropropene	ug/L	1.0 U	20	20	15.6	16.2	78	81	55-119	4	30		
Cyclohexane	ug/L	10.0 U	20	20	18.6	18.5	93	92	24-167	1			
Dibromochloromethane	ug/L	1.0 U	20	20	16.2	17.4	81	87	52-129	7	30		
Dichlorodifluoromethane	ug/L	1.0 U	20	20	13.1	11.8	66	59	10-175	11	30		
Ethylbenzene	ug/L	1.0 U	20	20	16.0	17.0	80	85	70-120	6	30		
Isopropylbenzene (Cumene)	ug/L	1.0 U	20	20	15.6	16.1	78	81	71-129	3	30		
m&p-Xylene	ug/L	2.0 U	40	40	32.6	34.4	81	86	70-123	5	30		
Methyl acetate	ug/L	5.0 U	20	20	15.4	14.4	77	72	25-127	7	30		
Methyl-tert-butyl ether	ug/L	1.0 U	20	20	16.3	15.7	81	79	63-143	3	30		
Methylene Chloride	ug/L	1.0 U	20	20	20.6	20.6	103	103	38-134	0	30		
o-Xylene	ug/L	1.0 U	20	20	15.8	17.0	79	85	68-122	7	30		
Styrene	ug/L	1.0 U	20	20	16.1	17.0	80	85	49-135	6	30		
Tetrachloroethene	ug/L	1.0 U	20	20	16.6	17.7	83	89	53-125	6	30		
Toluene	ug/L	0.27J	20	20	16.9	17.9	83	88	66-124	6	30		
trans-1,2-Dichloroethene	ug/L	1.0 U	20	20	17.4	17.7	86	87	52-136	1	30		
trans-1,3-Dichloropropene	ug/L	1.0 U	20	20	13.4	14.3	67	71	54-118	6	30		
Trichloroethene	ug/L	1.2	20	20	17.7	18.4	83	86	50-127	4	30		
Trichlorofluoromethane	ug/L	1.0 U	20	20	16.2	16.2	81	81	63-167	1	30		
Vinyl chloride	ug/L	0.52J	20	20	17.7	16.8	86	82	54-149	5	30		
Xylene (Total)	ug/L	3.0 U	60	60	48.4	51.4	81	86	68-123	6	30		
1,2-Dichloroethane-d4 (S)	%						97	94	70-128				
4-Bromofluorobenzene (S)	%						102	100	78-117				
Dibromofluoromethane (S)	%						100	96	66-132				
Toluene-d8 (S)	%						101	103	59-140				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249730 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3510C Analysis Description: 8270D Water PAH by SIM MSSV
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1228917 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.10 U	0.10	0.029	02/20/17 18:49	
2-Methylnaphthalene	ug/L	0.10 U	0.10	0.021	02/20/17 21:17	
Acenaphthene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Acenaphthylene	ug/L	0.10 U	0.10	0.014	02/20/17 21:17	
Anthracene	ug/L	0.10 U	0.10	0.012	02/20/17 21:17	
Benzo(a)anthracene	ug/L	0.10 U	0.10	0.014	02/20/17 21:17	
Benzo(a)pyrene	ug/L	0.10 U	0.10	0.0071	02/20/17 21:17	
Benzo(b)fluoranthene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Benzo(g,h,i)perylene	ug/L	0.10 U	0.10	0.019	02/20/17 21:17	
Benzo(k)fluoranthene	ug/L	0.10 U	0.10	0.011	02/20/17 21:17	
Chrysene	ug/L	0.10 U	0.10	0.0075	02/20/17 21:17	
Dibenz(a,h)anthracene	ug/L	0.10 U	0.10	0.028	02/20/17 21:17	
Fluoranthene	ug/L	0.10 U	0.10	0.010	02/20/17 21:17	
Fluorene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Indeno(1,2,3-cd)pyrene	ug/L	0.10 U	0.10	0.027	02/20/17 21:17	
Naphthalene	ug/L	0.057J	0.10	0.018	02/20/17 21:17	
Phenanthrene	ug/L	0.10 U	0.10	0.015	02/20/17 21:17	
Pyrene	ug/L	0.10 U	0.10	0.012	02/20/17 21:17	
2-Fluorobiphenyl (S)	%	63	19-123		02/20/17 21:17	
Terphenyl-d14 (S)	%	93	58-130		02/20/17 21:17	

LABORATORY CONTROL SAMPLE: 1228918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	2	1.2	61	47-103	
Acenaphthene	ug/L	2	1.2	61	48-104	
Acenaphthylene	ug/L	2	1.2	61	44-109	
Anthracene	ug/L	2	1.3	63	49-112	
Benzo(a)anthracene	ug/L	2	1.8	90	63-109	
Benzo(a)pyrene	ug/L	2	1.8	89	51-98	
Benzo(b)fluoranthene	ug/L	2	2.0	99	41-139	
Benzo(g,h,i)perylene	ug/L	2	1.8	92	44-124	
Benzo(k)fluoranthene	ug/L	2	1.7	87	58-125	
Chrysene	ug/L	2	1.8	88	62-115	
Dibenz(a,h)anthracene	ug/L	2	1.8	91	55-124	
Fluoranthene	ug/L	2	1.5	75	65-112	
Fluorene	ug/L	2	1.3	64	49-108	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.8	91	54-125	
Naphthalene	ug/L	2	1.2	62	42-107	
Phenanthrene	ug/L	2	1.3	63	50-109	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1228918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pyrene	ug/L	2	1.5	75	64-109	
2-Fluorobiphenyl (S)	%			60	19-123	
Terphenyl-d14 (S)	%			85	58-130	

LABORATORY CONTROL SAMPLE: 1228919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	0.58	29	10-79	
2-Fluorobiphenyl (S)	%			55	19-123	
Terphenyl-d14 (S)	%			87	58-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228920 1228921

Parameter	Units	30210854009		1228921		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
2-Methylnaphthalene	ug/L	1.5	2	2	1.3	1.2	-12	-14	47-103	4	20 ML
Acenaphthene	ug/L	0.60	2	2	1.0	1.1	22	23	48-104	2	20 ML
Acenaphthylene	ug/L	1.2	2	2	1.4	1.4	10	11	44-109	2	20 ML
Anthracene	ug/L	0.034J	2	2	1.4	1.3	65	65	49-112	1	20
Benzo(a)anthracene	ug/L	0.10 U	2	2	2.0	1.8	96	91	63-109	6	20
Benzo(a)pyrene	ug/L	0.10 U	2	2	1.8	1.7	89	85	51-98	5	20
Benzo(b)fluoranthene	ug/L	0.10 U	2	2	1.8	1.7	91	83	41-139	10	20
Benzo(g,h,i)perylene	ug/L	0.10 U	2	2	1.6	1.6	79	79	44-124	1	20
Benzo(k)fluoranthene	ug/L	0.10 U	2	2	1.7	1.6	84	77	58-125	9	20
Chrysene	ug/L	0.10 U	2	2	1.8	1.6	86	82	62-115	6	20
Dibenz(a,h)anthracene	ug/L	0.10 U	2	2	1.6	1.6	78	78	55-124	1	20
Fluoranthene	ug/L	0.10 U	2	2	1.8	1.8	91	86	65-112	5	20
Fluorene	ug/L	0.10 U	2	2	1.2	1.3	58	63	49-108	8	20
Indeno(1,2,3-cd)pyrene	ug/L	0.10 U	2	2	1.6	1.5	77	76	54-125	1	20
Naphthalene	ug/L	6.6	2	2	5.9	6.1	-32	-21	42-107	4	20 ML
Phenanthrene	ug/L	0.019J	2	2	1.4	1.4	68	66	50-109	3	20
Pyrene	ug/L	0.10 U	2	2	1.8	1.7	88	84	64-109	5	20
2-Fluorobiphenyl (S)	%						48	49	19-123		20
Terphenyl-d14 (S)	%						86	81	58-130		20

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249729 Analysis Method: EPA 8270D
QC Batch Method: EPA 3510C Analysis Description: 8270D Water MSSV
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1228913 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
2,3,4,6-Tetrachlorophenol	ug/L	1.0 U	1.0	0.52	02/20/17 17:29	
2,4,5-Trichlorophenol	ug/L	2.5 U	2.5	0.62	02/20/17 17:29	
2,4,6-Trichlorophenol	ug/L	1.0 U	1.0	0.59	02/20/17 17:29	
2,4-Dichlorophenol	ug/L	1.0 U	1.0	0.32	02/20/17 17:29	
2,4-Dimethylphenol	ug/L	1.0 U	1.0	0.46	02/20/17 17:29	
2,4-Dinitrophenol	ug/L	2.5 U	2.5	0.44	02/20/17 17:29	
2,4-Dinitrotoluene	ug/L	1.0 U	1.0	0.69	02/20/17 17:29	
2,6-Dinitrotoluene	ug/L	1.0 U	1.0	0.23	02/20/17 17:29	
2-Chloronaphthalene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
2-Chlorophenol	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Methylnaphthalene	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Methylphenol(o-Cresol)	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Nitroaniline	ug/L	2.5 U	2.5	0.58	02/20/17 17:29	
3&4-Methylphenol(m&p Cresol)	ug/L	2.0 U	2.0	0.47	02/20/17 17:29	
3,3'-Dichlorobenzidine	ug/L	1.0 U	1.0	0.59	02/20/17 17:29	
4-Chloroaniline	ug/L	1.0 U	1.0	0.33	02/20/17 17:29	
4-Nitroaniline	ug/L	2.5 U	2.5	0.32	02/20/17 17:29	
Acenaphthene	ug/L	1.0 U	1.0	0.23	02/20/17 17:29	
Acenaphthylene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Acetophenone	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
Anthracene	ug/L	1.0 U	1.0	0.13	02/20/17 17:29	
Benzaldehyde	ug/L	1.0 U	1.0	0.70	02/20/17 17:29	
Benzo(a)anthracene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Benzo(a)pyrene	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Benzo(b)fluoranthene	ug/L	1.0 U	1.0	0.18	02/20/17 17:29	
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0	0.16	02/20/17 17:29	
Benzo(k)fluoranthene	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Biphenyl (Diphenyl)	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
bis(2-Chloroethoxy)methane	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
bis(2-Chloroethyl) ether	ug/L	1.0 U	1.0	0.33	02/20/17 17:29	
bis(2-Chloroisopropyl) ether	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
bis(2-Ethylhexyl)phthalate	ug/L	1.0 U	1.0	0.20	02/20/17 17:29	
Caprolactam	ug/L	2.5 U	2.5	0.14	02/20/17 17:29	
Carbazole	ug/L	1.0 U	1.0	0.13	02/20/17 17:29	
Chrysene	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
Di-n-butylphthalate	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Di-n-octylphthalate	ug/L	1.0 U	1.0	0.22	02/20/17 17:29	
Dibenz(a,h)anthracene	ug/L	1.0 U	1.0	0.18	02/20/17 17:29	
Diethylphthalate	ug/L	1.0 U	1.0	0.20	02/20/17 17:29	
Fluoranthene	ug/L	1.0 U	1.0	0.10	02/20/17 17:29	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

METHOD BLANK: 1228913 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluorene	ug/L	1.0 U	1.0	0.24	02/20/17 17:29	
Hexachloro-1,3-butadiene	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
Hexachlorobenzene	ug/L	1.0 U	1.0	0.12	02/20/17 17:29	
Hexachlorocyclopentadiene	ug/L	1.0 U	1.0	0.60	02/20/17 17:29	
Hexachloroethane	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
Indeno(1,2,3-cd)pyrene	ug/L	1.0 U	1.0	0.14	02/20/17 17:29	
Isophorone	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
N-Nitroso-di-n-propylamine	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
N-Nitrosodiphenylamine	ug/L	1.0 U	1.0	0.39	02/20/17 17:29	
Naphthalene	ug/L	1.0 U	1.0	0.31	02/20/17 17:29	
Nitrobenzene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Pentachlorophenol	ug/L	2.5 U	2.5	0.64	02/20/17 17:29	
Phenanthrene	ug/L	1.0 U	1.0	0.15	02/20/17 17:29	
Phenol	ug/L	1.0 U	1.0	0.19	02/20/17 17:29	
Pyrene	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
2,4,6-Tribromophenol (S)	%	48	27-129		02/20/17 17:29	
2-Fluorobiphenyl (S)	%	47	18-115		02/20/17 17:29	
2-Fluorophenol (S)	%	37	10-76		02/20/17 17:29	
Nitrobenzene-d5 (S)	%	51	16-112		02/20/17 17:29	
Phenol-d6 (S)	%	26	10-48		02/20/17 17:29	
Terphenyl-d14 (S)	%	68	54-118		02/20/17 17:29	

LABORATORY CONTROL SAMPLE: 1228914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	10	5.0	50	47-107	
2,3,4,6-Tetrachlorophenol	ug/L	10	6.2	62	42-141	
2,4,5-Trichlorophenol	ug/L	10	7.3	73	50-132	
2,4,6-Trichlorophenol	ug/L	10	5.4	54	41-142	
2,4-Dichlorophenol	ug/L	10	5.5	55	40-90	
2,4-Dimethylphenol	ug/L	10	5.2	52	34-84	
2,4-Dinitrophenol	ug/L	10	7.0	70	10-156	
2,4-Dinitrotoluene	ug/L	10	7.3	73	59-137	
2,6-Dinitrotoluene	ug/L	10	6.5	65	52-139	
2-Chloronaphthalene	ug/L	10	5.2	52	42-120	
2-Chlorophenol	ug/L	10	5.6	56	39-109	
2-Methylnaphthalene	ug/L	10	4.5	45	36-78	
2-Methylphenol(o-Cresol)	ug/L	10	6.0	60	35-105	
2-Nitroaniline	ug/L	10	6.9	69	51-139	
3&4-Methylphenol(m&p Cresol)	ug/L	10	6.1	61	35-102	
3,3'-Dichlorobenzidine	ug/L	10	7.4	74	51-138	
4-Chloroaniline	ug/L	10	5.0	50	22-98	
4-Nitroaniline	ug/L	10	9.6	96	50-165	
Acenaphthene	ug/L	10	5.9	59	48-120	

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1228914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthylene	ug/L	10	5.9	59	46-119	
Acetophenone	ug/L	10	6.3	63	45-109	
Anthracene	ug/L	10	6.7	67	56-124	
Benzaldehyde	ug/L	10	7.7	77	10-175	
Benzo(a)anthracene	ug/L	10	8.2	82	63-130	
Benzo(a)pyrene	ug/L	10	8.2	82	61-128	
Benzo(b)fluoranthene	ug/L	10	8.4	84	60-142	
Benzo(g,h,i)perylene	ug/L	10	8.4	84	27-157	
Benzo(k)fluoranthene	ug/L	10	9.3	93	55-145	
Biphenyl (Diphenyl)	ug/L	10	5.6	56	46-113	
bis(2-Chloroethoxy)methane	ug/L	10	5.4	54	40-91	
bis(2-Chloroethyl) ether	ug/L	10	6.9	69	39-111	
bis(2-Chloroisopropyl) ether	ug/L	10	7.5	75	30-123	
bis(2-Ethylhexyl)phthalate	ug/L	10	11.0	110	52-145	
Caprolactam	ug/L	10	3.5	35	12-41	
Carbazole	ug/L	10	8.8	88	58-133	
Chrysene	ug/L	10	8.5	85	61-133	
Di-n-butylphthalate	ug/L	10	9.5	95	60-140	
Di-n-octylphthalate	ug/L	10	11.9	119	43-152	
Dibenz(a,h)anthracene	ug/L	10	9.0	90	38-153	
Diethylphthalate	ug/L	10	7.5	75	58-133	
Fluoranthene	ug/L	10	8.3	83	63-129	
Fluorene	ug/L	10	6.2	62	51-123	
Hexachloro-1,3-butadiene	ug/L	10	4.0	40	30-87	
Hexachlorobenzene	ug/L	10	6.6	66	52-137	
Hexachlorocyclopentadiene	ug/L	10	3.2	32	20-96	
Hexachloroethane	ug/L	10	4.6	46	30-101	
Indeno(1,2,3-cd)pyrene	ug/L	10	8.7	87	37-154	
Isophorone	ug/L	10	5.4	54	40-94	
N-Nitroso-di-n-propylamine	ug/L	10	6.9	69	42-122	
N-Nitrosodiphenylamine	ug/L	10	5.1	51	38-105	
Naphthalene	ug/L	10	4.4	44	36-83	
Nitrobenzene	ug/L	10	5.2	52	38-91	
Pentachlorophenol	ug/L	10	8.8	88	22-151	
Phenanthrene	ug/L	10	6.6	66	55-126	
Phenol	ug/L	10	3.4	34	17-57	
Pyrene	ug/L	10	8.1	81	57-136	
2,4,6-Tribromophenol (S)	%			64	27-129	
2-Fluorobiphenyl (S)	%			53	18-115	
2-Fluorophenol (S)	%			38	10-76	
Nitrobenzene-d5 (S)	%			47	16-112	
Phenol-d6 (S)	%			30	10-48	
Terphenyl-d14 (S)	%			77	54-118	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Parameter	Units	1228915		1228916		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,2,4,5-Tetrachlorobenzene	ug/L	1.0 U	10.2	10.2	3.7	3.4	36	33	47-107	8	25	ML	
2,3,4,6-Tetrachlorophenol	ug/L	1.0 U	10.2	10.2	6.0	5.6	59	55	42-141	7	25		
2,4,5-Trichlorophenol	ug/L	2.5 U	10.2	10.2	5.8	5.6	57	55	50-132	4	25		
2,4,6-Trichlorophenol	ug/L	1.0 U	10.2	10.2	4.9	4.2	48	41	41-142	17	25		
2,4-Dichlorophenol	ug/L	1.0 U	10.2	10.2	4.9	4.5	48	44	40-90	10	25		
2,4-Dimethylphenol	ug/L	1.0J	10.2	10.2	5.6	5.1	45	40	34-84	10	25		
2,4-Dinitrophenol	ug/L	2.5 U	10.2	10.2	7.9	6.6	78	65	10-156	19	25		
2,4-Dinitrotoluene	ug/L	1.0 U	10.2	10.2	6.4	5.7	63	56	59-137	13	25	ML	
2,6-Dinitrotoluene	ug/L	1.0 U	10.2	10.2	5.5	4.6	54	45	52-139	18	25	ML	
2-Chloronaphthalene	ug/L	1.0 U	10.2	10.2	4.2	3.7	41	37	42-120	11	25	ML	
2-Chlorophenol	ug/L	1.0 U	10.2	10.2	5.0	4.6	49	45	39-109	8	25		
2-Methylnaphthalene	ug/L	1.0 U	10.2	10.2	3.6	3.2	35	30	36-78	13	25	ML	
2-Methylphenol(o-Cresol)	ug/L	1.0 U	10.2	10.2	4.9	4.5	48	45	35-105	8	25		
2-Nitroaniline	ug/L	2.5 U	10.2	10.2	6.4	5.4	63	53	51-139	16	25		
3&4-Methylphenol(m&p Cresol)	ug/L	4.6	10.2	10.2	9.5	11.1	48	64	35-102	16	25		
3,3'-Dichlorobenzidine	ug/L	1.0 U	10.2	10.2	1.2	1.3	12	13	51-138	11	25	ML	
4-Chloroaniline	ug/L	1.0 U	10.2	10.2	3.9	3.7	39	36	22-98	7	25		
4-Nitroaniline	ug/L	2.5 U	10.2	10.2	9.2	8.0	90	78	50-165	14	25		
Acenaphthene	ug/L	1.0 U	10.2	10.2	4.5	4.0	45	39	48-120	13	25	ML	
Acenaphthylene	ug/L	1.0 U	10.2	10.2	4.6	4.0	45	40	46-119	14	25	ML	
Acetophenone	ug/L	1.0 U	10.2	10.2	5.5	5.4	53	52	45-109	2	25		
Anthracene	ug/L	1.0 U	10.2	10.2	5.6	5.4	54	53	56-124	3	25	ML	
Benzaldehyde	ug/L	1.0 U	10.2	10.2	6.4	5.5	61	52	10-175	15	25		
Benzo(a)anthracene	ug/L	1.0 U	10.2	10.2	7.4	7.1	72	70	63-130	3	25		
Benzo(a)pyrene	ug/L	1.0 U	10.2	10.2	7.2	6.9	70	68	61-128	3	25		
Benzo(b)fluoranthene	ug/L	1.0 U	10.2	10.2	7.4	7.2	72	71	60-142	2	25		
Benzo(g,h,i)perylene	ug/L	1.0 U	10.2	10.2	7.7	7.7	76	75	27-157	1	25		
Benzo(k)fluoranthene	ug/L	1.0 U	10.2	10.2	7.2	6.8	71	67	55-145	6	25		
Biphenyl (Diphenyl)	ug/L	1.0 U	10.2	10.2	4.2	3.8	41	37	46-113	12	25	ML	
bis(2-Chloroethoxy)methane	ug/L	1.0 U	10.2	10.2	4.6	4.2	45	42	40-91	8	25		
bis(2-Chloroethyl) ether	ug/L	1.0 U	10.2	10.2	5.7	5.0	56	49	39-111	12	25		
bis(2-Chloroisopropyl) ether	ug/L	1.0 U	10.2	10.2	6.1	5.5	60	54	30-123	11	25		
bis(2-Ethylhexyl)phthalate	ug/L	1.0 U	10.2	10.2	9.0	9.1	86	88	52-145	1	25		
Caprolactam	ug/L	2.5 U	10.2	10.2	2.9	2.9	29	29	12-41	0	25		
Carbazole	ug/L	0.14J	10.2	10.2	8.5	8.1	82	78	58-133	5	25		
Chrysene	ug/L	1.0 U	10.2	10.2	7.1	6.8	70	67	61-133	4	25		
Di-n-butylphthalate	ug/L	1.0 U	10.2	10.2	8.2	8.0	79	78	60-140	2	25		
Di-n-octylphthalate	ug/L	1.0 U	10.2	10.2	9.3	9.3	91	91	43-152	0	25		
Dibenz(a,h)anthracene	ug/L	1.0 U	10.2	10.2	7.7	7.8	76	77	38-153	1	25		
Diethylphthalate	ug/L	0.26J	10.2	10.2	6.6	6.0	62	56	58-133	11	25	ML	
Fluoranthene	ug/L	1.0 U	10.2	10.2	7.1	6.8	70	67	63-129	5	25		
Fluorene	ug/L	1.0 U	10.2	10.2	4.9	4.2	48	41	51-123	15	25	ML	
Hexachloro-1,3-butadiene	ug/L	1.0 U	10.2	10.2	2.6	2.3	26	23	30-87	11	25	ML	
Hexachlorobenzene	ug/L	1.0 U	10.2	10.2	5.1	4.6	50	45	52-137	12	25	ML	
Hexachlorocyclopentadiene	ug/L	1.0 U	10.2	10.2	2.6	2.1	26	21	20-96	22	25		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Parameter	Units	1228915		1228916		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Hexachloroethane	ug/L	1.0 U	10.2	10.2	3.1	2.7	30	27	30-101	13	25 ML
Indeno(1,2,3-cd)pyrene	ug/L	1.0 U	10.2	10.2	7.8	7.6	76	75	37-154	2	25
Isophorone	ug/L	1.0 U	10.2	10.2	4.5	4.1	44	41	40-94	9	25
N-Nitroso-di-n-propylamine	ug/L	1.0 U	10.2	10.2	6.0	6.1	59	60	42-122	2	25
N-Nitrosodiphenylamine	ug/L	1.0 U	10.2	10.2	4.7	4.2	46	41	38-105	10	25
Naphthalene	ug/L	5.5	10.2	10.2	7.8	6.8	23	13	36-83	14	25 ML
Nitrobenzene	ug/L	1.0 U	10.2	10.2	4.6	4.2	45	41	38-91	10	25
Pentachlorophenol	ug/L	2.5 U	10.2	10.2	8.8	8.5	87	84	22-151	4	25
Phenanthrene	ug/L	1.0 U	10.2	10.2	6.2	5.4	60	53	55-126	13	25 ML
Phenol	ug/L	0.27J	10.2	10.2	2.7	2.4	23	21	17-57	12	25
Pyrene	ug/L	1.0 U	10.2	10.2	6.8	6.7	67	66	57-136	2	25
2,4,6-Tribromophenol (S)	%						62	58	27-129		
2-Fluorobiphenyl (S)	%						40	36	18-115		
2-Fluorophenol (S)	%						30	28	10-76		
Nitrobenzene-d5 (S)	%						42	39	16-112		
Phenol-d6 (S)	%						21	19	10-48		
Terphenyl-d14 (S)	%						63	62	54-118		

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249461 Analysis Method: EPA 7196A
QC Batch Method: EPA 7196A Analysis Description: 7196 Chromium, Hexavalent
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1226998 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	10.0 U	10.0	1.7	02/15/17 23:00	

LABORATORY CONTROL SAMPLE: 1226999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	250	259	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1227000 1227001

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	23000J	2500000	2500000	2480000	2460000	98	98	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

QC Batch: 249924 Analysis Method: EPA 9012B
QC Batch Method: EPA 9012B Analysis Description: 9012B Cyanide, Total
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1229718 Matrix: Water
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	mg/L	0.010 U	0.010	0.0018	02/21/17 20:27	

LABORATORY CONTROL SAMPLE: 1229719

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.20	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229835 1229836

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	0.010 U	.1	.1	0.10	0.098	100	98	90-110	2	20	

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QUALIFIERS

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 249814
[1] Serial dilution failed for Ni and Zinc
Batch: 249839
[1] Cd and Zn failed for the serial dilution.

ANALYTE QUALIFIERS

1c Cd and Zn failed for the serial dilution.
2c Serial dilution failed for Ni and Zinc
B Analyte was detected in the associated method blank.
C9 Common Laboratory Contaminant.
D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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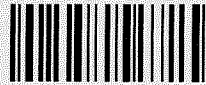
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW
Pace Project No.: 30210854

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210854001	RW16-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854002	RW16-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854003	RW15-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854004	RW15-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854005	RW19-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854006	RW19-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854007	RW18-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854008	RW10-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854009	RW13-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854010	Duplicate	EPA 3005A	249761	EPA 6010C	249839
30210854012	Field Blank	EPA 3005A	249761	EPA 6010C	249839
30210854013	RW12-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854008	RW10-MW(I)	EPA 3005A	249737	EPA 6010C	249814
30210854009	RW13-MW(I)	EPA 3005A	249737	EPA 6010C	249814
30210854010	Duplicate	EPA 3005A	249737	EPA 6010C	249814
30210854008	RW10-MW(I)	EPA 7470A	249769	EPA 7470A	249791
30210854009	RW13-MW(I)	EPA 7470A	249769	EPA 7470A	249791
30210854010	Duplicate	EPA 7470A	249769	EPA 7470A	249791
30210854012	Field Blank	EPA 7470A	249769	EPA 7470A	249791
30210854008	RW10-MW(I)	EPA 7470A	249768	EPA 7470A	249790
30210854009	RW13-MW(I)	EPA 7470A	249768	EPA 7470A	249790
30210854010	Duplicate	EPA 7470A	249768	EPA 7470A	249790
30210854008	RW10-MW(I)	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854009	RW13-MW(I)	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854010	Duplicate	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854012	Field Blank	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854008	RW10-MW(I)	EPA 3510C	249729	EPA 8270D	249841
30210854009	RW13-MW(I)	EPA 3510C	249729	EPA 8270D	249841
30210854010	Duplicate	EPA 3510C	249729	EPA 8270D	249841
30210854012	Field Blank	EPA 3510C	249729	EPA 8270D	249841
30210854008	RW10-MW(I)	EPA 8260B	249543		
30210854009	RW13-MW(I)	EPA 8260B	249543		
30210854010	Duplicate	EPA 8260B	249543		
30210854011	Trip Blank	EPA 8260B	249543		
30210854012	Field Blank	EPA 8260B	249543		
30210854008	RW10-MW(I)	EPA 7196A	249461		
30210854009	RW13-MW(I)	EPA 7196A	249461		
30210854010	Duplicate	EPA 7196A	249461		
30210854012	Field Blank	EPA 7196A	249461		
30210854008	RW10-MW(I)	EPA 9012B	249924	EPA 9012B	249999
30210854009	RW13-MW(I)	EPA 9012B	249924	EPA 9012B	249999
30210854010	Duplicate	EPA 9012B	249924	EPA 9012B	249999
30210854012	Field Blank	EPA 9012B	249924	EPA 9012B	249999

REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information: 30210854	
Company: EnviroAnalytics Group		Report To: James Calenda		Attention: Laura Sargent	
Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219		Copy To:		Company Name: EnviroAnalytics Group	
Email To: jcalenda@enviroanalyticsgroup.com		PO Number: <i>Awaiting PO</i>		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Phone: 314-620-3056 Fax:		Project Name: <i>Area A Parcel A3 6W</i>		Pace Quote Reference: Samantha Bayura	
Requested Due Date/TAT: <i>2-22-17</i>		Project Number: <i>Awaiting Proj #</i>		Pace Profile #:	
REGULATORY AGENCY					
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____					
Site Location				STATE: MD	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis: Filtered (Y/N)										Pace Project No./ Lab I.D.		
					COMPOSITE START	COMPOSITE END/GRAB					Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	VOC/8260B	SVOC 8270D	<i>DR08045B Total Cad</i>	<i>GR08045B Dissolved Metals</i>	PCB/8082 (soil)	METALS/6010C	Oil and Grease/9071B (soil)	Mercury/7471A or 7470A	Hexavalent Chromium/7196A	Total Cyanide/9012A	Oil and Grease/1664A (aq)	PCB/680 (aq)		Residual Chlorine (Y/N)	
1	RW16-mw(S)		WT G	G				2-14-17	838	1		X						X															001
2	RW16-mw(I)		WT G	G				2-14-17	925	1		X						X														002	
3	RW15-mw(I)		WT G	G				2-14-17	1020	1		X						X														003	
4	RW15-mw(S)		WT G	G				2-14-17	1105	1		X						X														004	
5	RW19-mw(S)		WT G	G				2-14-17	1200	1		X						X														005	
6	RW19-mw(I)		WT G	G				2-14-17	1241	1		X						X														006	
7	RW18-mw(I)		WT G	G				2-14-17	1450	1		X						X														007	
8	RW10-mw(I)		WT G	G				2-15-17	1020	9	3	1	2	3				X	X		X	X	X	X								008	
9	RW13-mw(I)		WT G	G				2-15-17	1210	27	9	3	6	9				X	X		X											ms/msd 009	
10	Duplicate		WT G	G				2-15-17	-	9	3	1	2	3				X	X		X											010	
11	Trip Blank		WT C	C				2-15-17	-	2								X														011	
12	Field Blank		NTC	C				2-15-17	1540	8	3	1	1	3				X	X		X	X	X	X								012	

ADDITIONAL COMMENTS	RELINQUISHED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME	SAMPLE CONDITIONS						
Data Package Required? (Y/N):	<i>Jay R</i>	2-15-17	16:35	<i>Daniel Hillgrove</i>	2/15/17	16:35							
Data Validation Required? (Y/N):	<i>Daniel Hillgrove</i>	2/15/17	18:55	<i>Michael Pace</i>	2-15-17	19:00							
If data package is required, attach data package checklist.	<i>Michael Pace</i>	2/15/17	22:00	<i>Michael Pace</i>	2-15-17	22:00	2/09						

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>Lisa Perrin</i>					
SIGNATURE of SAMPLER: <i>Lisa Perrin</i>					
DATE Signed (MM/DD/YY): <i>2-15-17</i>					

REVISED
SMB 2/10/17

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

Section B Required Project Information:		Section C Invoice Information:	
Client Information: EnviroAnalytics Group 1430 Sparrows Point Blvd Sparrows Point, MD 21219 jcalenda@enviroanalyticsgroup.com 314-620-3056 Fax: 2-22-17	Report To: James Calenda Copy To: PO Number: <i>Awaiting PO</i> Project Name: <i>Area A Parcel A36</i> Project Number: <i>Awaiting #</i>	Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Samantha Bayura Pace Profile #:	REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER Site Location: MD STATE:

Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SOL/SOLID OL OIL WP WPE AR AIR OT OTHER TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Pace Project No./ Lab I.D.			
				COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other		VOC/8260B	SVOC 8270D	DRG/8045B <i>total</i>	GRE/8045B <i>pesticide</i>	PCB/8082 (soil)	METALS/6010C	Oil and Grease/9071B (soil)	Mercury/7411A or 7470A	Hexavalent Chromium/7196A	Total Cyanide/9012A		Oil and Grease/1664A (aq)	PCB/680 (aq)	Residual Chlorine (Y/N)
				DATE	TIME	DATE	TIME																									
		RW16-mw(S)	WT G			2-14-17	915	1																			001					
		RW16-mw(I)	WT G			2-14-17	1005	1																			002					
		RW15-mw(I)	WT G			2-14-17	1055	1																			003					
		RW15-mw(S)	WT G			2-14-17	1150	1																			004					
		RW19-mw(S)	WT G			2-14-17	1235	1																			005					
		RW19-mw(I)	WT G			2-14-17	1315	1																			006					
		RW18-mw(S) (I)	WT G			2-14-17	1530	1																			007					
		RW12-mw(I)	WT G			2-15-17	1518	1																			013					
		RW10-mw(I)	WT G			2-15-17	1020	9	3	1	2	3														008						
		RW13-mw(I)	WT G			2-15-17	1210	27	9	3	6	9														ms/msd 009						
		Duplicate	WT G			2-15-17		9	3	1	2	3														010						
		Field Blank	WT C			2-15-17	1540	8	3	1	1	3														SMB 2/10/17 011-012						

ADDITIONAL COMMENTS	RELINQUISHED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Signature Required? (Y/N)	<i>James Calenda</i>	2-15-17	1635				
Signature Required? (Y/N)							
Signature is required, attach data package checklist.							

SAMPLER NAME AND SIGNATURE	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>Lisa Perron</i>				
SIGNATURE of SAMPLER: <i>Lisa Perron</i>				
DATE Signed (MM/DD/YY): <i>2-15-17</i>				

REVISED

OMB 2110-17

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a DOCUMENT. All relevant fields must be completed accurately.

Pages: 2 of 2

Section B
Required Project Information:

Section C
Invoice Information:

Information: EnviroAnalytics Group 1430 Sparrows Point Blvd Sparrows Point, MD 21219 calenda@enviroanalyticsgroup.com 20-3056 Date/TAT: <u>2-22-17</u>	Report To: James Calenda Copy To: PO Number: <u>Awaiting PO</u> Project Name: <u>Area A Parcel A3 GW</u> Project Number: <u>Awaiting #</u>	Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Samantha Bayura Pace Project Manager: Pace Profile #:
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REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location MD
STATE: MD

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW-WT WASTE WATER WW PRODUCT P SOL/SOLID SL OIL OI WIFE WF AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol				
<u>rip Blank</u>		<u>WT</u>	<u>C</u>		<u>9-15-17</u>	<u>-</u>	<u>2</u>			<u>2</u>					<u>X</u>			<u>30210854</u>
																		<u>Oil</u>

ADDITIONAL COMMENTS: Required? (Y/N): Required? (Y/N): Required, attach data package checklist.	RELINQUISHED BY / AFFILIATION: <u>[Signature]</u>	DATE: <u>2-15-17</u>	TIME: <u>1635</u>	ACCEPTED BY / AFFILIATION:	DATE:	TIME:	SAMPLE CONDITIONS	
--	--	----------------------	-------------------	----------------------------	-------	-------	-------------------	--

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <u>Lisa Perran</u>	SIGNATURE of SAMPLER: <u>[Signature]</u>				
DATE Signed (MM/DD/YY): <u>2-15-17</u>					

Sample Condition Upon Receipt Pittsburgh

30210854



Client Name: Sparrows Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: NA

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.2/1.0 °C Correction Factor: -0.1 °C Final Temp: 2.1/0.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 2-15-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>		/		5. <u>Sample times & Sample IDs do not match COC. No sample RWIS-mw(I) Received on sample jars</u>
Samples Arrived within Hold Time::	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.			/	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			/	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>PC</u> Date/time of preservation: <u>2-15-17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	/			16.
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr		/		Initial when completed: <u>PC</u> Date: <u>2-15-17</u>

RWIS-mw(s) L7 see email for clarification
-NE Rec'd two labeled

Client Notification/ Resolution:

Person Contacted: Lisa Perrin Date/Time: 2/16 & 2/17 Contacted By: SMB

Comments/ Resolution: Contacted for clarification on analysis Requested
Also Requested Revised COC and clarification on sample collection
time due to discrepancies between COC and bottles
- Revised COC Rec'd via email 2/16/17
- no package needed.

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

untitled

Sparrows project 30210854 presented the following problems:

7 sample times did not match COC/labels

2 samples came in marked RW15-MW(S) and no samples were marked RW15-MW(I)

	Sample Time	COC/Label Time	
RW16-MW(S)	0915	0838	
RW16-MW(I)	1005	0925	
RW15-MW(I)	-	-	
RW15-MW(S)	1055	1020	I - 3
	1150	1105	S - 4
RW19-MW(S)	1235	1200	
RW19-MW(I)	1315	1241	
RW18-MW(I)	1530	1450	

February 22, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel AB GW
Pace Project No.: 30211148

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211148001	RW11-MW (I)	Water	02/16/17 09:40	02/17/17 22:00
30211148002	RW06-MW (I)	Water	02/16/17 11:00	02/17/17 22:00
30211148003	RW05-MW (I)	Water	02/16/17 12:08	02/17/17 22:00
30211148004	RW21-PZM 023	Water	02/16/17 13:40	02/17/17 22:00
30211148005	RW20-PZM 020	Water	02/16/17 14:38	02/17/17 22:00
30211148006	RW17-PZM 019	Water	02/16/17 15:34	02/17/17 22:00
30211148007	RW01-PZM 020	Water	02/16/17 16:20	02/17/17 22:00
30211148008	RW13-PZM 020	Water	02/17/17 09:43	02/17/17 22:00
30211148009	RW24-50 ft	Water	02/17/17 11:00	02/17/17 22:00
30211148010	RW23-50 ft	Water	02/17/17 12:00	02/17/17 22:00
30211148011	RW10-PZM 020	Water	02/17/17 12:55	02/17/17 22:00

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SAMPLE ANALYTE COUNT

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211148001	RW11-MW (I)	EPA 6010C	PJD	2
30211148002	RW06-MW (I)	EPA 6010C	PJD	2
30211148003	RW05-MW (I)	EPA 6010C	PJD	2
30211148004	RW21-PZM 023	EPA 6010C	PJD	2
30211148005	RW20-PZM 020	EPA 6010C	PJD	2
30211148006	RW17-PZM 019	EPA 6010C	PJD	2
30211148007	RW01-PZM 020	EPA 6010C	PJD	2
30211148008	RW13-PZM 020	EPA 6010C	PJD	2
30211148009	RW24-50 ft	EPA 6010C	PJD	2
30211148010	RW23-50 ft	EPA 6010C	PJD	2
30211148011	RW10-PZM 020	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

General Information:

11 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Serial dilution failed for Cd and Zn

- QC Batch: 249840

PDS failed for Zn

- QC Batch: 249840

Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- BLANK (Lab ID: 1229034)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1229036)
 - Cadmium

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- DUP (Lab ID: 1229036)
 - Zinc
- DUP (Lab ID: 1229039)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1229035)
 - Cadmium
 - Zinc
- MS (Lab ID: 1229037)
 - Cadmium
 - Zinc
- MS (Lab ID: 1229040)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1229038)
 - Cadmium
 - Zinc
- RW01-PZM 020 (Lab ID: 30211148007)
 - Cadmium
 - Zinc
- RW05-MW (I) (Lab ID: 30211148003)
 - Cadmium
 - Zinc
- RW06-MW (I) (Lab ID: 30211148002)
 - Cadmium
 - Zinc
- RW10-PZM 020 (Lab ID: 30211148011)
 - Cadmium
 - Zinc
- RW11-MW (I) (Lab ID: 30211148001)
 - Cadmium
 - Zinc
- RW13-PZM 020 (Lab ID: 30211148008)
 - Cadmium
 - Zinc
- RW17-PZM 019 (Lab ID: 30211148006)
 - Cadmium
 - Zinc
- RW20-PZM 020 (Lab ID: 30211148005)
 - Cadmium
 - Zinc
- RW21-PZM 023 (Lab ID: 30211148004)
 - Cadmium

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: February 22, 2017

Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- RW21-PZM 023 (Lab ID: 30211148004)
 - Zinc
- RW23-50 ft (Lab ID: 30211148010)
 - Cadmium
 - Zinc
- RW24-50 ft (Lab ID: 30211148009)
 - Cadmium
 - Zinc

2c: Serial dilution failed for Cd and Zn

- BLANK (Lab ID: 1229034)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1229036)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1229039)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1229035)
 - Cadmium
 - Zinc
- MS (Lab ID: 1229037)
 - Cadmium
 - Zinc
- MS (Lab ID: 1229040)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1229038)
 - Cadmium
 - Zinc
- RW01-PZM 020 (Lab ID: 30211148007)
 - Cadmium
 - Zinc
- RW05-MW (I) (Lab ID: 30211148003)
 - Cadmium
 - Zinc
- RW06-MW (I) (Lab ID: 30211148002)
 - Cadmium
 - Zinc
- RW10-PZM 020 (Lab ID: 30211148011)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: February 22, 2017

Analyte Comments:

QC Batch: 249763

2c: Serial dilution failed for Cd and Zn

- RW11-MW (I) (Lab ID: 30211148001)
 - Cadmium
 - Zinc
- RW13-PZM 020 (Lab ID: 30211148008)
 - Cadmium
 - Zinc
- RW17-PZM 019 (Lab ID: 30211148006)
 - Cadmium
 - Zinc
- RW20-PZM 020 (Lab ID: 30211148005)
 - Cadmium
 - Zinc
- RW21-PZM 023 (Lab ID: 30211148004)
 - Cadmium
 - Zinc
- RW23-50 ft (Lab ID: 30211148010)
 - Cadmium
 - Zinc
- RW24-50 ft (Lab ID: 30211148009)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW11-MW (I) **Lab ID: 30211148001** Collected: 02/16/17 09:40 Received: 02/17/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1690	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:32	7440-43-9	1c,2c
Zinc	368000	ug/L	1000	108	100	02/20/17 11:04	02/21/17 02:43	7440-66-6	1c,2c, ML

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Sample: RW06-MW (I) Lab ID: 30211148002 Collected: 02/16/17 11:00 Received: 02/17/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	12.5	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:47	7440-43-9	1c,2c
Zinc	1900	ug/L	10.0	1.1	1	02/20/17 11:04	02/21/17 01:47	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Sample: RW05-MW (I)		Lab ID: 30211148003		Collected: 02/16/17 12:08		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1070	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:50	7440-43-9	1c,2c
Zinc	22900	ug/L	1000	108	100	02/20/17 11:04	02/21/17 02:57	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW21-PZM 023		Lab ID: 30211148004		Collected: 02/16/17 13:40	Received: 02/17/17 22:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	1170	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:07	7440-43-9	1c,2c	
Zinc	12300	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:00	7440-66-6	1c,2c	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW20-PZM 020 **Lab ID: 30211148005** Collected: 02/16/17 14:38 Received: 02/17/17 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	7.2	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:09	7440-43-9	1c,2c
Zinc	5250	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:02	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW17-PZM 019 **Lab ID: 30211148006** Collected: 02/16/17 15:34 Received: 02/17/17 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	7580	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:05	7440-43-9	1c,2c
Zinc	198000	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:05	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW01-PZM 020		Lab ID: 30211148007		Collected: 02/16/17 16:20	Received: 02/17/17 22:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	91.5	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:14	7440-43-9	1c,2c	
Zinc	113000	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:12	7440-66-6	1c,2c	

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Sample: RW13-PZM 020		Lab ID: 30211148008		Collected: 02/17/17 09:43	Received: 02/17/17 22:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	115	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:16	7440-43-9	1c,2c	
Zinc	44300	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:14	7440-66-6	1c,2c	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW24-50 ft **Lab ID: 30211148009** Collected: 02/17/17 11:00 Received: 02/17/17 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	23600	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:17	7440-43-9	1c,2c
Zinc	561000	ug/L	10000	1080	1000	02/20/17 11:04	02/21/17 03:29	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW
Pace Project No.: 30211148

Sample: RW23-50 ft		Lab ID: 30211148010		Collected: 02/17/17 12:00		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3410	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:21	7440-43-9	1c,2c
Zinc	176000	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:19	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW10-PZM 020		Lab ID: 30211148011		Collected: 02/17/17 12:55	Received: 02/17/17 22:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	71.6	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:24	7440-43-9	1c,2c	
Zinc	150000	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:22	7440-66-6	1c,2c, MH	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel AB GW
Pace Project No.: 30211148

QC Batch: 249763 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30211148001, 30211148002, 30211148003, 30211148004, 30211148005, 30211148006, 30211148007, 30211148008, 30211148009, 30211148010, 30211148011

METHOD BLANK: 1229034 Matrix: Water
Associated Lab Samples: 30211148001, 30211148002, 30211148003, 30211148004, 30211148005, 30211148006, 30211148007, 30211148008, 30211148009, 30211148010, 30211148011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/21/17 01:28	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	02/21/17 01:28	1c,2c

LABORATORY CONTROL SAMPLE: 1229035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	520	104	80-120	1c,2c
Zinc	ug/L	500	514	103	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229037 1229038

Parameter	Units	30211148001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1690	500	500	2140	2080	89	77	75-125	3	20	1c,2c
Zinc	ug/L	368000	500	500	346000	351000	-4480	-3420	75-125	2	20	1c,2c, ML

MATRIX SPIKE SAMPLE: 1229040

Parameter	Units	30211148011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	71.6	500	570	100	75-125	1c,2c
Zinc	ug/L	150000	500	151000	320	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1229036

Parameter	Units	30211148001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1690	1730	2	20	1c,2c
Zinc	ug/L	368000	366000	1	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Area A Parcel AB GW

Pace Project No.: 30211148

SAMPLE DUPLICATE: 1229039

Parameter	Units	30211148011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	71.6	71.2	1	20	1c,2c
Zinc	ug/L	150000	156000	4	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 249840

[1] Serial dilution failed for Cd and Zn

[2] PDS failed for Zn

ANALYTE QUALIFIERS

1c PDS failed for Zn

2c Serial dilution failed for Cd and Zn

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel AB GW
Pace Project No.: 30211148

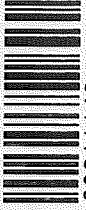
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30211148001	RW11-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148002	RW06-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148003	RW05-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148004	RW21-PZM 023	EPA 3005A	249763	EPA 6010C	249840
30211148005	RW20-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148006	RW17-PZM 019	EPA 3005A	249763	EPA 6010C	249840
30211148007	RW01-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148008	RW13-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148009	RW24-50 ft	EPA 3005A	249763	EPA 6010C	249840
30211148010	RW23-50 ft	EPA 3005A	249763	EPA 6010C	249840
30211148011	RW10-PZM 020	EPA 3005A	249763	EPA 6010C	249840

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CU JY / Analytica

The Chain-of-Custody is: A DOCUMENT. All relevant



30211148

Page: 1 of 1

Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1430 Sparrows Point Blvd

Sparrows Point, MD 21219

Email To: icalenda@enviroanalyticsgroup.com

Phone: 314-620-3056 Fax:

Requested Due Date/TAT: 2-23-17

Section B

Required Project Information:

Report To: James Calenda

Copy To:

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Quote Reference: Samantha Baylura

Project Name: Area A - River A36W

Project Number: 1702060M

Section C

Invoice Information:

Attention: Laura Sargent

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location: MD

STATE: _____

Requested Analysis Filtered (Y/N)

Analysis Test ↑

Preservatives

Unpreserved

H2SO4

HNO3

HCl

NaOH

Na2S2O3

Methanol

Other

OF CONTAINERS

SAMPLE TEMP AT COLLECTION

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED

COMPOSITE START

COMPOSITE END/GRAB

DATE

TIME

DATE

TIME

RELINQUISHED BY/AFFILIATION

DATE

TIME

ACCEPTED BY/AFFILIATION

DATE

TIME

ADDITIONAL COMMENTS

Relinquished by: James Calenda

2-17-17 16:05

Accepted by: Lisa Penn

2-17-17 18:30

Relinquished by: Samantha Baylura

2-17-17 22:00

Accepted by: Lisa Penn

2-17-17 22:00

Additional Comments: If data package is required, attach data package checklist.

Temp In °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

PCB/8082 (soil)

GRO/8015B

VOC/8260B

SVOC 8270D

DRO/8015B

METALS/6010C

Oil and Grease/9071B (soil)

Mercury/7471A or 7470A

Hexavalent Chromium/7196A

Total Cyanide/9012A

Oil and Grease/1664A (aq)

PCB/680 (aq)

Residual Chlorine (Y/N)

211148

Pace Project No./ Lab I.D.

Sample Condition Upon Receipt Pittsburgh

30211148



Client Name: Sparrows Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: NA

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.4 °C Correction Factor: -0.1 °C Final Temp: 2.3 °C
 Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 2-17-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.			/	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			/	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>PC</u> Date/time of preservation <u>2-17-17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: <u>PC</u> Date: <u>2-17-17</u>

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

March 08, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW
Pace Project No.: 30212070

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30212070001	RW13-MWI	Water	02/28/17 11:24	02/28/17 22:10

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW
Pace Project No.: 30212070

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30212070001	RW13-MWI	EPA 8270D by SIM	TMK	3

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30212070

Method: EPA 8270D by SIM
Description: 8270D MSSV PAH by SIM
Client: EnviroAnalytics Group, LLC
Date: March 08, 2017

General Information:

1 sample was analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 250912

S0: Surrogate recovery outside laboratory control limits.

- RW13-MWI (Lab ID: 30212070001)
- Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 250912

1c: This sample was re-extracted. Surrogate recovery in the re-extract was acceptable and the re-extract results were comparable to the original results. The original, in hold, results are reported.

- RW13-MWI (Lab ID: 30212070001)
- Terphenyl-d14 (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30212070

Method: EPA 8270D by SIM
Description: 8270D MSSV PAH by SIM
Client: EnviroAnalytics Group, LLC
Date: March 08, 2017

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Sample: RW13-MWI		Lab ID: 30212070001		Collected: 02/28/17 11:24		Received: 02/28/17 22:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM		Analytical Method: EPA 8270D by SIM		Preparation Method: EPA 3510C					
1,4-Dioxane (p-Dioxane)	0.65	ug/L	0.10	0.030	1	03/03/17 09:06	03/03/17 17:29	123-91-1	
Surrogates									
2-Fluorobiphenyl (S)	42	%	19-123		1	03/03/17 09:06	03/03/17 17:29	321-60-8	
Terphenyl-d14 (S)	48	%	58-130		1	03/03/17 09:06	03/03/17 17:29	1718-51-0	1c,S0

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30212070

QC Batch: 250912 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3510C Analysis Description: 8270D Water PAH by SIM MSSV
Associated Lab Samples: 30212070001

METHOD BLANK: 1234494 Matrix: Water
Associated Lab Samples: 30212070001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.10 U	0.10	0.029	03/03/17 16:44	
2-Fluorobiphenyl (S)	%	64	19-123		03/03/17 16:44	
Terphenyl-d14 (S)	%	90	58-130		03/03/17 16:44	

LABORATORY CONTROL SAMPLE: 1234495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	0.40	20	10-79	
2-Fluorobiphenyl (S)	%			61	19-123	
Terphenyl-d14 (S)	%			73	58-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1234496 1234497

Parameter	Units	30212070001		1234497		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
1,4-Dioxane (p-Dioxane)	ug/L	0.65	2.1	2	1.0	18	18	10-79	1	20	
2-Fluorobiphenyl (S)	%					53	54	19-123		20	
Terphenyl-d14 (S)	%					70	58	58-130		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1c This sample was re-extracted. Surrogate recovery in the re-extract was acceptable and the re-extract results were comparable to the original results. The original, in hold, results are reported.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30212070001	RW13-MWI	EPA 3510C	250912	EPA 8270D by SIM	251052

REPORT OF LABORATORY ANALYSIS

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Chain-C
The Chain-of-Cu

WO#: 30212070

Section A
Required Client Information:
Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: jcalenda@enviroanalyticsgroup.com
Phone: 314-620-3056
Requested Due Date/TAT: 3-7-17

Section B
Required Project Information:
Report To: James Calenda
Copy To:
PO Number: Awaiting PO
Project Name: Area A Parcel A36
Project Number: 170306m

Attention: Laura Sargent
Company Name: EnviroAnalytics Group
Address: 1660 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:
Pace Project Manager: Samantha Bayura
Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: MD
STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES		Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
			COMPOSITE START	COMPOSITE END/GRAB				DI Water	Methanol					
1	RW13-MWI		DATE TIME	DATE TIME		WT6	44			Y				
2			2/20/12											
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS				
Data Package Required? (Y/N):		David S. Halligan		2/28/17	16:22	David S. Halligan		2/28/17	17:05					
Data Validation Required? (Y/N):		David S. Halligan		2/28/17	14:05	David S. Halligan		2/28/17	2:50					
If data package is required, attach data package checklist.		David S. Halligan		2/28/17	10:10	David S. Halligan		2/28/17	20:10			Y	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Lisa Davis
SIGNATURE of SAMPLER: [Signature]
DATE Signed (MM/DD/YYYY): 2/28/17

Sample Condition Upon Receipt Pittsburgh



Client Name: Sparrows

Project # 30212070

BLM

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 6 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 0.8 °C Correction Factor: 10.2 °C Final Temp: 1.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BLM 3-1-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:	/			13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>BLM</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline
Pace Project No.: 30214343

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214343001	RW01-MWI	Water	03/27/17 10:44	03/27/17 22:20
30214343002	RW01-MWS	Water	03/27/17 12:16	03/27/17 22:20
30214343003	RW02-MWI	Water	03/27/17 13:40	03/27/17 22:20
30214343004	RW02-MWS	Water	03/27/17 14:49	03/27/17 22:20
30214343005	RW03-MWI	Water	03/27/17 16:13	03/27/17 22:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline
Pace Project No.: 30214343

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214343001	RW01-MWI	EPA 6010C	PJD	2
30214343002	RW01-MWS	EPA 6010C	PJD	2
30214343003	RW02-MWI	EPA 6010C	PJD	2
30214343004	RW02-MWS	EPA 6010C	PJD	2
30214343005	RW03-MWI	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 03, 2017

General Information:

5 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline
Pace Project No.: 30214343

Sample: RW01-MWI		Lab ID: 30214343001		Collected: 03/27/17 10:44		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1060	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:42	7440-43-9	
Zinc	17800	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:19	7440-66-6	MH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW01-MWS		Lab ID: 30214343002		Collected: 03/27/17 12:16		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2.9J	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:56	7440-43-9	
Zinc	10800	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:33	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW02-MWI		Lab ID: 30214343003		Collected: 03/27/17 13:40		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	284	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:59	7440-43-9	
Zinc	9110	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:36	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW02-MWS		Lab ID: 30214343004		Collected: 03/27/17 14:49		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	9.1	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:07	7440-43-9	
Zinc	34600	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:38	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW03-MWI **Lab ID: 30214343005** Collected: 03/27/17 16:13 Received: 03/27/17 22:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	196	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:09	7440-43-9	
Zinc	9240	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:41	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 Baseline
Pace Project No.: 30214343

QC Batch: 253957 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30214343001, 30214343002, 30214343003, 30214343004, 30214343005

METHOD BLANK: 1250131 Matrix: Water
Associated Lab Samples: 30214343001, 30214343002, 30214343003, 30214343004, 30214343005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250134 1250135

Parameter	Units	30214343001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137

Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	11.0	500	526	103	75-125	
Zinc	ug/L	8710	500	9270	112	75-125	

SAMPLE DUPLICATE: 1250133

Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214343001	RW01-MWI	EPA 3005A	253957	EPA 6010C	254032
30214343002	RW01-MWS	EPA 3005A	253957	EPA 6010C	254032
30214343003	RW02-MWI	EPA 3005A	253957	EPA 6010C	254032
30214343004	RW02-MWS	EPA 3005A	253957	EPA 6010C	254032
30214343005	RW03-MWI	EPA 3005A	253957	EPA 6010C	254032

REPORT OF LABORATORY ANALYSIS

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WO#: 30214343

Document completed accurately.

Section A
Required Client Information:

Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: icalenda@enviroanalyticsgroup.com
Phone: 314-620-3056 Fax:
Requested Due Date/TAT: 5-DAY 4-3-17

Section B
Required Project Information:

Report To: James Calenda
Copy To:
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:
Pace Project Manager: Samantha Bayura
Pace Profile #:

Section C
Regulatory Agency:

Attention: Laura Sargent
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:
Pace Project Manager: Samantha Bayura
Pace Profile #:

Section D
Requested Analysis Filtered (Y/N)

Site Location: MD
STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOLID SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	Sample ID (A-Z, 0-9, /, -) Sample IDs MUST BE UNIQUE	Matrix Code (see valid codes to left)	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.													
				DATE	TIME					UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	DI Water	Analysis Test	METALS/6010C	Mercury/7471A or 7470A	Hexavalent Chromium/7196A		Total Cyanide/9012A	PCB/8082 (soil)	Total Crb/6010C	Oil and Grease/1664A (soil)	Oil and Grease/9071B (soil)	Residual Chlorine (Y/N)							
1		Rw01-MWI	MG	3/27/17	1044	G	1	X												X														001	
2		Rw01-MWS			1216		1	X												X														007	
3		Rw02-MWI			1340		1	X												X														003	
4		Rw02-MWS			1449		1	X												X														004	
5		Rw03-MWI			1613		1	X												X														005	
6																																			
7																																			
8																																			
9																																			
10																																			
11																																			
12																																			
			ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS																		
Data Package Required? (Y/N)			Charles A. Berger / Pace		3/27/17		1700		17:00		David J. Hilligren		3/27/17		17:00		Received on																		
Data Validation Required? (Y/N)			David J. Hilligren		3/27/17		1835				Alyssa K. Lacey		3/27/17		0800		Cooler (Y/N)																		
If data package is required, attach data package checklist.			David J. Hilligren		3/27/17		2020				Alyssa K. Lacey		3/27/17		0800		Ice (Y/N)																		
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Temp in °C																		
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Custody Sealed																		
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Samples Intact (Y/N)																		

Document completed accurately.

Section C
Regulatory Agency:

Attention: Laura Sargent
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:
Pace Project Manager: Samantha Bayura
Pace Profile #:

Section D
Requested Analysis Filtered (Y/N)

Site Location: MD
STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOLID SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	Sample ID (A-Z, 0-9, /, -) Sample IDs MUST BE UNIQUE	Matrix Code (see valid codes to left)	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.														
				DATE	TIME					UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	DI Water	Analysis Test	METALS/6010C	Mercury/7471A or 7470A	Hexavalent Chromium/7196A		Total Cyanide/9012A	PCB/8082 (soil)	Total Crb/6010C	Oil and Grease/1664A (soil)	Oil and Grease/9071B (soil)	Residual Chlorine (Y/N)								
1		Rw01-MWI	MG	3/27/17	1044	G	1	X												X															001	
2		Rw01-MWS			1216		1	X												X																007
3		Rw02-MWI			1340		1	X												X																003
4		Rw02-MWS			1449		1	X												X																004
5		Rw03-MWI			1613		1	X												X																005
6																																				
7																																				
8																																				
9																																				
10																																				
11																																				
12																																				
			ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS																			
Data Package Required? (Y/N)			Charles A. Berger / Pace		3/27/17		1700		17:00		David J. Hilligren		3/27/17		17:00		Received on																			
Data Validation Required? (Y/N)			David J. Hilligren		3/27/17		1835				Alyssa K. Lacey		3/27/17		0800		Cooler (Y/N)																			
If data package is required, attach data package checklist.			David J. Hilligren		3/27/17		2020				Alyssa K. Lacey		3/27/17		0800		Ice (Y/N)																			
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Temp in °C																			
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Custody Sealed																			
			Charles A. Berger		3/27/17						Charles A. Berger		3/27/17				Samples Intact (Y/N)																			

Sample Condition Upon Receipt Pittsburgh



Client Name: SCAWONS

Project # 30214343

Handwritten initials

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used LD Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 0.8 °C Correction Factor: +0.0 °C Final Temp: 0.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JRM 3/28/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>JRM</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline
Pace Project No.: 30214454

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Parcel A3 Baseline
Pace Project No.: 30214454

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214454001	RW03-MWS	Water	03/28/17 09:32	03/28/17 23:30
30214454002	RW06-MWI	Water	03/28/17 11:08	03/28/17 23:30
30214454003	RW07-MWI	Water	03/28/17 12:48	03/28/17 23:30
30214454004	RW07-MWS	Water	03/28/17 13:38	03/28/17 23:30
30214454005	RW08-MWI	Water	03/28/17 14:46	03/28/17 23:30
30214454006	RW08-MWS	Water	03/28/17 15:25	03/28/17 23:30
30214454007	RW09-MWS	Water	03/28/17 16:17	03/28/17 23:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214454001	RW03-MWS	EPA 6010C	PJD	2
30214454002	RW06-MWI	EPA 6010C	PJD	2
30214454003	RW07-MWI	EPA 6010C	PJD	2
30214454004	RW07-MWS	EPA 6010C	PJD	2
30214454005	RW08-MWI	EPA 6010C	PJD	2
30214454006	RW08-MWS	EPA 6010C	PJD	2
30214454007	RW09-MWS	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 03, 2017

General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW03-MWS **Lab ID: 30214454001** Collected: 03/28/17 09:32 Received: 03/28/17 23:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	4.7	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:12	7440-43-9	
Zinc	6510	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:49	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW06-MWI		Lab ID: 30214454002		Collected: 03/28/17 11:08		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	9.2	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:14	7440-43-9	
Zinc	1680	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:14	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW07-MWI **Lab ID: 30214454003** Collected: 03/28/17 12:48 Received: 03/28/17 23:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	4.6	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:16	7440-43-9	
Zinc	1210	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:16	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW07-MWS **Lab ID: 30214454004** Collected: 03/28/17 13:38 Received: 03/28/17 23:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.7J	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:19	7440-43-9	
Zinc	74.8	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:19	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW08-MWI		Lab ID: 30214454005		Collected: 03/28/17 14:46		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	0.39J	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:21	7440-43-9	
Zinc	44.6	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:21	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW08-MWS **Lab ID: 30214454006** Collected: 03/28/17 15:25 Received: 03/28/17 23:30 Matrix: Water

Comments: • Sample ID, collection date and time not listed on sample container

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	11.0	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:24	7440-43-9	
Zinc	8710	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:51	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline
Pace Project No.: 30214454

Sample: RW09-MWS		Lab ID: 30214454007		Collected: 03/28/17 16:17		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	17.5	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:36	7440-43-9	
Zinc	12400	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:59	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 Baseline
Pace Project No.: 30214454

QC Batch: 253957 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30214454001, 30214454002, 30214454003, 30214454004, 30214454005, 30214454006, 30214454007

METHOD BLANK: 1250131 Matrix: Water
Associated Lab Samples: 30214454001, 30214454002, 30214454003, 30214454004, 30214454005, 30214454006, 30214454007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250134 1250135

Parameter	Units	30214343001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137

Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	11.0	500	526	103	75-125	
Zinc	ug/L	8710	500	9270	112	75-125	

SAMPLE DUPLICATE: 1250133

Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline
Pace Project No.: 30214454

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214454001	RW03-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454002	RW06-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454003	RW07-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454004	RW07-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454005	RW08-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454006	RW08-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454007	RW09-MWS	EPA 3005A	253957	EPA 6010C	254032

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: / of /

30214454

Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1430 Sparrows Point Blvd

Sparrows Point, MD 21219

Email To: icalenda@enviroanalyticsgroup.com

Phone: 314-620-3056

Requested Due Date/TAT: 5-DAY TAT

Section B

Required Project Information:

Report To: James Calenda

Copy To:

PO Number: Quarry PO

Object Name: Parcel A3 Baseline

Project Number: 160236M

Section C

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1660 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference: Samantha Bayura

Pace Project Manager: Samantha Bayura

Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: MD
 STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOILSOLID SL OIL OI WIPE WI AIR AR OTHER OT TISSUE TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
			DATE	TIME					
1	Rw03 - MWS	G	3/28/17	0932		1	X	001	
2	Rw06 - MWT	G		1108		1	X	002	
3	Rw07 - MWT	G		1248		1	X	003	
4	Rw07 - MWS	G		1338		1	X	004	
5	Rw08 - MWT	G		1446		1	X	005	
6	Rw08 - MWS	G		1525		1	X	006	
7	Rw09 - MWS	G		1617		1	X	007	

ADDITIONAL COMMENTS

Data Package Required? (Y/N) (N)

Data Validation Required? (Y/N) (N)

If data package is required, attach data package 3/29/17

RELINQUISHED BY / AFFILIATION: Charles A. Berger DATE: 3/29/17 TIME: 17:10

ACCEPTED BY / AFFILIATION: Charles A. Berger DATE: 3/29/17 TIME: 17:10

SAMPLER NAME AND SIGNATURE: Charles Berger

PRINT Name of SAMPLER: Charles Berger DATE Signed (MM/DD/YY): 3/29/17

SIGNATURE of SAMPLER: Charles A. Berger

WO#: 30214454

30214454

Sample Condition Upon Receipt Pittsburgh



30214454 - 4

Client Name: SPAWNS Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used _____ Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.2 °C Correction Factor: +0.00 Final Temp: 1.2 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AKL 3/29/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Sample 006 has no I.D./date / time on bottle. All others matched.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>AKM</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

Client Notification/ Resolution: Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline
Pace Project No.: 30214572

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Parcel A3 Baseline
Pace Project No.: 30214572

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214572001	RW09-MWI	Water	03/29/17 08:51	03/29/17 22:40
30214572002	RW11-MWS	Water	03/29/17 09:55	03/29/17 22:40
30214572003	RW11-MWI	Water	03/29/17 10:57	03/29/17 22:40
30214572004	RW12-MWI	Water	03/29/17 12:20	03/29/17 22:40
30214572005	RW16-MWI	Water	03/29/17 13:29	03/29/17 22:40
30214572006	RW16-MWS	Water	03/29/17 14:17	03/29/17 22:40
30214572007	RW19-MWI	Water	03/29/17 15:15	03/29/17 22:40
30214572008	RW19-MWS	Water	03/29/17 16:00	03/29/17 22:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214572001	RW09-MWI	EPA 6010C	PJD	2
30214572002	RW11-MWS	EPA 6010C	PJD	2
30214572003	RW11-MWI	EPA 6010C	PJD	2
30214572004	RW12-MWI	EPA 6010C	PJD	2
30214572005	RW16-MWI	EPA 6010C	PJD	2
30214572006	RW16-MWS	EPA 6010C	PJD	2
30214572007	RW19-MWI	EPA 6010C	PJD	2
30214572008	RW19-MWS	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 03, 2017

General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline
Pace Project No.: 30214572

Sample: RW09-MWI		Lab ID: 30214572001		Collected: 03/29/17 08:51	Received: 03/29/17 22:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	4.0	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:38	7440-43-9	
Zinc	51900	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:01	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW11-MWS		Lab ID: 30214572002		Collected: 03/29/17 09:55		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.8J	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:40	7440-43-9	
Zinc	10500	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:03	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW11-MWI		Lab ID: 30214572003		Collected: 03/29/17 10:57		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1490	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:43	7440-43-9	
Zinc	301000	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:06	7440-66-6	

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW12-MWI		Lab ID: 30214572004		Collected: 03/29/17 12:20		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3530	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:45	7440-43-9	
Zinc	216000	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:08	7440-66-6	

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW16-MWI		Lab ID: 30214572005		Collected: 03/29/17 13:29	Received: 03/29/17 22:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	28.6	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:48	7440-43-9		
Zinc	90300	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:11	7440-66-6		

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW16-MWS **Lab ID: 30214572006** Collected: 03/29/17 14:17 Received: 03/29/17 22:40 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	13.5	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:50	7440-43-9	
Zinc	4320	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:18	7440-66-6	

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline
Pace Project No.: 30214572

Sample: RW19-MWI		Lab ID: 30214572007		Collected: 03/29/17 15:15		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3450	ug/L	300	34.4	100	03/31/17 08:28	04/01/17 00:21	7440-43-9	
Zinc	4650000	ug/L	100000	10800	10000	03/31/17 08:28	04/01/17 00:27	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW19-MWS		Lab ID: 30214572008		Collected: 03/29/17 16:00	Received: 03/29/17 22:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	6.9	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:55	7440-43-9		
Zinc	7100	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:23	7440-66-6		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 Baseline
Pace Project No.: 30214572

QC Batch: 253957 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30214572001, 30214572002, 30214572003, 30214572004, 30214572005, 30214572006, 30214572007, 30214572008

METHOD BLANK: 1250131 Matrix: Water
Associated Lab Samples: 30214572001, 30214572002, 30214572003, 30214572004, 30214572005, 30214572006, 30214572007, 30214572008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250134 1250135

Parameter	Units	30214343001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137

Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		11.0	500	526	103	75-125
Zinc	ug/L		8710	500	9270	112	75-125

SAMPLE DUPLICATE: 1250133

Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 Baseline

Pace Project No.: 30214572

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline
Pace Project No.: 30214572

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214572001	RW09-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572002	RW11-MWS	EPA 3005A	253957	EPA 6010C	254032
30214572003	RW11-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572004	RW12-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572005	RW16-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572006	RW16-MWS	EPA 3005A	253957	EPA 6010C	254032
30214572007	RW19-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572008	RW19-MWS	EPA 3005A	253957	EPA 6010C	254032

REPORT OF LABORATORY ANALYSIS

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WO#: 30214572



Page: / of /

Document completed accurately.

Section A
Required Client Information:

Company: EnviroAnalytics Group
 Address: 1430 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To: jcalenda@enviroanalyticsgroup.com
 Phone: 314-620-3056 Fax:
 Requested Due Date/TAT: 5- Day TAT

Report To: James Calenda
 Copy To:
 Attention: Laura Sargent
 Company Name: EnviroAnalytics Group
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
 Pace Quote Reference:
 Pace Project Manager: Samantha Bayura
 Pace Profile #:
 Project Name: Parcel A3 Baseline
 Project Number: 160236M

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MD
 STATE: MD

Section B
Required Project Information:

Valid Matrix Codes
 MATRIX CODE
 DRINKING WATER DW
 WASTE WATER WW
 PRODUCT P
 SOIL/SOLID SL
 OIL OL
 WIFE WP
 AIR AR
 OTHER OT
 TISSUE TS

Section D
 Required Client Information
 SAMPLE ID
 (A-Z, 0-9, /, -)
 Sample IDs MUST BE UNIQUE

ITEM #	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Temp in °C	Received on	Custody Sealed	Samples Intact	
			DATE	TIME										
1	Rw09 - MWT	G	3/29/17	0851	1	Unpreserved	H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol DI Water	Y	Oil and Grease/9071B (soil) Oil and Grease/1664A (soil) Total Cyanide/9012A PCB/8082 (soil) Total Chromium/6210C Total Lead/6210C	17.2	3/29/17	17.2	Y	
2	Rw11 - MWS	G	3/29/17	0955	1									
3	Rw11 - MWT	G	3/29/17	1057	1									
4	Rw12 - MWT	G	3/29/17	1220	1									
5	Rw16 - MWT	G	3/29/17	1329	1									
6	Rw16 - MWS	G	3/29/17	1417	1									
7	Rw19 - MWT	G	3/29/17	1515	1									
8	Rw19 - MWS	G	3/29/17	1600	1									
9														
10														
11														
12														

ADDITIONAL COMMENTS
 Data Package Required? (Y/N):
 Data Validation Required? (Y/N):
 If data package is required, attach data package checklist.

RELINQUISHED BY / AFFILIATION: Charles A. Bayura
 DATE: 3/29/17
 TIME: 17:33

ACCEPTED BY / AFFILIATION: [Signature]
 DATE: 3/29/17
 TIME: 19:20

SAMPLER NAME AND SIGNATURE: Charles A. Bayura
 PRINT Name of SAMPLER: Charles Bayura
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 3/29/17

Sample Condition Upon Receipt Pittsburgh



Client Name: SPARROWS

Project # 30214572

ARM

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used Q Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.0 °C Correction Factor: +0.0 °C Final Temp: 1.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 3/30/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WI</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 06, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214700001	RW05-MWI	Water	03/30/17 10:05	03/30/17 23:15
30214700002	RW15-MWI	Water	03/30/17 11:12	03/30/17 23:15
30214700003	RW18-MWI	Water	03/30/17 12:22	03/30/17 23:15
30214700004	RW13-MWI	Water	03/30/17 13:37	03/30/17 23:15
30214700005	RW10-MWI	Water	03/30/17 14:35	03/30/17 23:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214700001	RW05-MWI	EPA 6010C	PJD	2
30214700002	RW15-MWI	EPA 6010C	PJD	2
30214700003	RW18-MWI	EPA 6010C	PJD	2
30214700004	RW13-MWI	EPA 6010C	PJD	2
30214700005	RW10-MWI	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 06, 2017

General Information:

5 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

The serial dilution exceeded the limits for Zn.

- QC Batch: 254323

Analyte Comments:

QC Batch: 254242

1c: The serial dilution exceeded the limits for Zn.

- BLANK (Lab ID: 1251907)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1251909)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 06, 2017

Analyte Comments:

QC Batch: 254242

1c: The serial dilution exceeded the limits for Zn.

- LCS (Lab ID: 1251908)
 - Cadmium
 - Zinc
- MS (Lab ID: 1251910)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1251911)
 - Cadmium
 - Zinc
- RW05-MWI (Lab ID: 30214700001)
 - Cadmium
 - Zinc
- RW10-MWI (Lab ID: 30214700005)
 - Cadmium
 - Zinc
- RW13-MWI (Lab ID: 30214700004)
 - Cadmium
 - Zinc
- RW15-MWI (Lab ID: 30214700002)
 - Cadmium
 - Zinc
- RW18-MWI (Lab ID: 30214700003)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Sample: RW05-MWI		Lab ID: 30214700001		Collected: 03/30/17 10:05	Received: 03/30/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	791	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:34	7440-43-9	1c	
Zinc	34200	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:05	7440-66-6	1c,ML	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Sample: RW15-MWI		Lab ID: 30214700002		Collected: 03/30/17 11:12		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	74.1	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:47	7440-43-9	1c
Zinc	95600	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:20	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW18-MWI									
Lab ID: 30214700003									
Collected: 03/30/17 12:22 Received: 03/30/17 23:15 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	63.8	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:50	7440-43-9	1c
Zinc	592000	ug/L	10000	1080	1000	04/04/17 11:12	04/05/17 02:15	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Sample: RW13-MWI **Lab ID: 30214700004** Collected: 03/30/17 13:37 Received: 03/30/17 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	633	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:00	7440-43-9	1c
Zinc	58200	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:31	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW10-MWI									
Lab ID: 30214700005									
Collected: 03/30/17 14:35 Received: 03/30/17 23:15 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.0 U	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:03	7440-43-9	1c
Zinc	20.4	ug/L	10.0	1.1	1	04/04/17 11:12	04/05/17 01:03	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 Baseline GW
Pace Project No.: 30214700

QC Batch: 254242 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30214700001, 30214700002, 30214700003, 30214700004, 30214700005

METHOD BLANK: 1251907 Matrix: Water
Associated Lab Samples: 30214700001, 30214700002, 30214700003, 30214700004, 30214700005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	04/05/17 00:29	1c
Zinc	ug/L	10.0 U	10.0	1.1	04/05/17 00:29	1c

LABORATORY CONTROL SAMPLE: 1251908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c
Zinc	ug/L	500	525	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251910 1251911

Parameter	Units	30214700001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	791	500	500	1320	1310	105	104	75-125	0	20	1c
Zinc	ug/L	34200	500	500	33800	34100	-88	-34	75-125	1	20	1c,ML

SAMPLE DUPLICATE: 1251909

Parameter	Units	30214700001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	791	815	3	20	1c
Zinc	ug/L	34200	34300	0	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 254323

[1] The serial dilution exceeded the limits for Zn.

ANALYTE QUALIFIERS

1c The serial dilution exceeded the limits for Zn.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214700001	RW05-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700002	RW15-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700003	RW18-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700004	RW13-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700005	RW10-MWI	EPA 3005A	254242	EPA 6010C	254323

REPORT OF LABORATORY ANALYSIS

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Document
 WO#: 30214700
 The
 30214700



Section A
 Required Client Information:
 Company: EnviroAnalytics Group
 Address: 1430 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To: jcalenda@enviroanalyticsgroup.com
 Phone: 314-620-3056 Fax:
 Requested Due Date/TAT: 5-Day

Section B
 Required Project Information:
 Report To: James Calenda
 Copy To:
 Company Name: EnviroAnalytics Group
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
 Pace Quote Reference:
 Pace Project Manager: Samantha Bayura
 Pace Profile #:

Section C
 Invoice Information:
 Attention: Laura Sargent
 Site Location: MD
 STATE: MD

Section D
 Required Client Information:
 Project Name: Parcel A3 Baseline GW
 Project Number: 160236M

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER PRODUCT P SOILSOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
				COMPOSITE START	COMPOSITE END/GRAB									
1	RW05 - MWI	GW G	G	3-30	1005	3/30/17	1622	1	DI Water	Y				
2	RW15 - MWI	G	G	3-30	1112	3/30/17	1920	1	NaOH	Y				
3	RW18 - MWI	G	G	3-30	1222	3/30/17	1920	1	HCl	Y				
4	RW13 - MWI	G	G	3-30	1337	3/30/17	1920	1	HNO3	Y				
5	RW10 - MWI	G	G	3-30	1435	3/30/17	1920	1	H2SO4	Y				
6									Unpreserved					
7														
8														
9														
10														
11														
12														

Section E
 ADDITIONAL COMMENTS
 Data Package Required? (Y/N):
 Data Validation Required? (Y/N):
 If data package is required, attach data package checklist.

Section F
 RELINQUISHED BY / AFFILIATION
 DATE TIME
 ACCEPTED BY / AFFILIATION
 DATE TIME

Section G
 SAMPLE CONDITIONS

Section H
 SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Stewart Kabis
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 3/30/17

Sample Condition Upon Receipt Pittsburgh



Client Name: SPARRANS

Project # 30214700

ARM

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used (2) Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.8 °C Correction Factor: +0.0 °C Final Temp: 1.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 3/31/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 28, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 25, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217069001	RW08-MWS	Water	04/25/17 09:18	04/25/17 23:15
30217069002	RW06-MWI	Water	04/25/17 10:43	04/25/17 23:15
30217069003	RW08-MWI	Water	04/25/17 09:58	04/25/17 23:15
30217069004	RW03-MWS	Water	04/25/17 11:37	04/25/17 23:15
30217069005	RW03-MWI	Water	04/25/17 12:07	04/25/17 23:15
30217069006	RW02-MWS	Water	04/25/17 13:09	04/25/17 23:15
30217069007	RW01-MWS	Water	04/25/17 15:56	04/25/17 23:15
30217069008	RW02-MWI	Water	04/25/17 13:58	04/25/17 23:15

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217069001	RW08-MWS	EPA 6010C	PJD	2
30217069002	RW06-MWI	EPA 6010C	PJD	2
30217069003	RW08-MWI	EPA 6010C	PJD	2
30217069004	RW03-MWS	EPA 6010C	PJD	2
30217069005	RW03-MWI	EPA 6010C	PJD	2
30217069006	RW02-MWS	EPA 6010C	PJD	2
30217069007	RW01-MWS	EPA 6010C	PJD	2
30217069008	RW02-MWI	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 28, 2017

General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zinc PDS failed.

- QC Batch: 256680

Analyte Comments:

QC Batch: 256626

1c: Cd and Zinc PDS failed.

- BLANK (Lab ID: 1263894)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1263896)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: April 28, 2017

Analyte Comments:

QC Batch: 256626

1c: Cd and Zinc PDS failed.

- LCS (Lab ID: 1263895)
 - Cadmium
 - Zinc
- MS (Lab ID: 1263897)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1263898)
 - Cadmium
 - Zinc
- RW01-MWS (Lab ID: 30217069007)
 - Cadmium
 - Zinc
- RW02-MWI (Lab ID: 30217069008)
 - Cadmium
 - Zinc
- RW02-MWS (Lab ID: 30217069006)
 - Cadmium
 - Zinc
- RW03-MWI (Lab ID: 30217069005)
 - Cadmium
 - Zinc
- RW03-MWS (Lab ID: 30217069004)
 - Cadmium
 - Zinc
- RW06-MWI (Lab ID: 30217069002)
 - Cadmium
 - Zinc
- RW08-MWI (Lab ID: 30217069003)
 - Cadmium
 - Zinc
- RW08-MWS (Lab ID: 30217069001)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Sample: RW08-MWS		Lab ID: 30217069001		Collected: 04/25/17 09:18	Received: 04/25/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	7.8	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:23	7440-43-9	1c	
Zinc	9520	ug/L	1000	108	100	04/27/17 08:06	04/27/17 22:59	7440-66-6	1c,MH	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Sample: RW06-MWI		Lab ID: 30217069002		Collected: 04/25/17 10:43		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	14.0	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:37	7440-43-9	1c
Zinc	1420	ug/L	10.0	1.1	1	04/27/17 08:06	04/27/17 22:37	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW08-MWI Lab ID: 30217069003 Collected: 04/25/17 09:58 Received: 04/25/17 23:15 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.0 U	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:39	7440-43-9	1c
Zinc	85.0	ug/L	10.0	1.1	1	04/27/17 08:06	04/27/17 22:39	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Sample: RW03-MWS		Lab ID: 30217069004		Collected: 04/25/17 11:37		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.2	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:47	7440-43-9	1c
Zinc	4860	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:21	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Sample: RW03-MWI		Lab ID: 30217069005		Collected: 04/25/17 12:07		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	192	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:49	7440-43-9	1c
Zinc	7830	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:34	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW02-MWS Lab ID: 30217069006 Collected: 04/25/17 13:09 Received: 04/25/17 23:15 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	9.8	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:52	7440-43-9	1c
Zinc	47700	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:37	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Sample: RW01-MWS		Lab ID: 30217069007		Collected: 04/25/17 15:56		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.7J	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:54	7440-43-9	1c
Zinc	11500	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:39	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Sample: RW02-MWI		Lab ID: 30217069008		Collected: 04/25/17 13:58	Received: 04/25/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	296	ug/L	15.0	1.7	5	04/27/17 08:06	04/27/17 23:19	7440-43-9	1c	
Zinc	10700	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:41	7440-66-6	1c	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

QC Batch: 256626 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30217069001, 30217069002, 30217069003, 30217069004, 30217069005, 30217069006, 30217069007, 30217069008

METHOD BLANK: 1263894 Matrix: Water
Associated Lab Samples: 30217069001, 30217069002, 30217069003, 30217069004, 30217069005, 30217069006, 30217069007, 30217069008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	04/27/17 22:18	1c
Zinc	ug/L	10.0 U	10.0	1.1	04/27/17 22:18	1c

LABORATORY CONTROL SAMPLE: 1263895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	516	103	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263897 1263898

Parameter	Units	30217069001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	7.8	500	500	513	515	101	101	75-125	0	20	1c
Zinc	ug/L	9520	500	500	10400	10200	170	140	75-125	1	20	1c, MH

SAMPLE DUPLICATE: 1263896

Parameter	Units	30217069001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	7.8	7.8	0	20	1c
Zinc	ug/L	9520	9220	3	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 256680

[1] Cd and Zinc PDS failed.

ANALYTE QUALIFIERS

1c Cd and Zinc PDS failed.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217069

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217069001	RW08-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069002	RW06-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069003	RW08-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069004	RW03-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069005	RW03-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069006	RW02-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069007	RW01-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069008	RW02-MWI	EPA 3005A	256626	EPA 6010C	256680

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: jcalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: Requested Due Date/TAI: 5-day 5/11/17		Section B Required Project Information: Report To: James Calenda Copy To: PO Number: Awaiting PO # Project Name: Area A-Parcel 1A3 Baseline Project Number: 170206M		Section C Invoice Information: Attention: Laura Sargenta Company Name: EnviroAnalytics Group Address: 1850 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Section D Required Client Information: Valid Matrix Codes MATRIX DW WT DRINKING WATER WATER WW WASTE WATER PRODUCT P SOLID OIL OL WIFE WIFE AR OTHER TISSUE TS SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE		Requested Analysis Filtered (Y/N)		Regulatory Agency <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER Site Location STATE: MD	

ITEM #	Valid Matrix Codes	MATRIX CODE (see valid codes to left)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Residue	Pace Project No. / Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB							
1	RW08-mws	WT6	DATE	TIME	DATE	TIME	H ₂ SO ₄	X			001
2	RW06-mwi	WT6	4/25/17	918			NaOH	X			002
3	RW08-mwi	WT6		1043			HCl	X			003
4	RW03-mws	WT6		958			Na ₂ O ₃	X			004
5	RW03-mwi	WT6		1137			Unpreserved	X			005
6	RW02-mws	WT6		1207			HNO ₃	X			006
7	RW01-mws	WT6		1309			H ₂ SO ₄	X			007
8	RW02-mwi	WT6		1556			Other	X			008
9				1358			Methanol				
10											
11											
12											

ADDITIONAL COMMENTS Data Package Required? (Y/N) Data Validation Required? (Y/N) If data package is required, attach data package checklist.		RELINQUISHED BY / AFFILIATION DATE TIME 4/25/17 1600 4/25/17 1900 4/25/17 2305		ACCEPTED BY / AFFILIATION DATE TIME 4/25/17 1630 4/25/17 1955 4/25/17 2315		SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed (Y/N) Temp in °C Samples Intact (Y/N)	
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Lisa Perrin SIGNATURE of SAMPLER: <i>[Signature]</i>		DATE Signed (MM/DD/YY): 4/25/17					

Sample Condition Upon Receipt Pittsburgh

30217069

AMC



Client Name: Enviro Ana Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.3 °C Correction Factor: 10.0 °C Final Temp: 2.3 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DCRA 4-25-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix:	X			
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>DCRA</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present		X		
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: _____ Date: _____

PHL2

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 26, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217178001	RW01-MWI	Water	04/26/17 11:30	04/26/17 23:50
30217178002	RW07-MWS	Water	04/26/17 12:18	04/26/17 23:50
30217178003	RW07-MWI	Water	04/26/17 13:07	04/26/17 23:50
30217178004	RW09-MWS	Water	04/26/17 13:50	04/26/17 23:50
30217178005	RW09-MWI	Water	04/26/17 14:17	04/26/17 23:50
30217178006	RW12-MWI	Water	04/26/17 15:28	04/26/17 23:50

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217178001	RW01-MWI	EPA 6010C	PJD	2
30217178002	RW07-MWS	EPA 6010C	PJD	2
30217178003	RW07-MWI	EPA 6010C	PJD	2
30217178004	RW09-MWS	EPA 6010C	PJD	2
30217178005	RW09-MWI	EPA 6010C	PJD	2
30217178006	RW12-MWI	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 03, 2017

General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed the PDS

- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- BLANK (Lab ID: 1266420)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1266422)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1266421)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266423)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266426)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1266424)
 - Cadmium
 - Zinc
- RW01-MWI (Lab ID: 30217178001)
 - Cadmium
 - Zinc
- RW07-MWI (Lab ID: 30217178003)
 - Cadmium
 - Zinc
- RW07-MWS (Lab ID: 30217178002)
 - Cadmium
 - Zinc
- RW09-MWI (Lab ID: 30217178005)
 - Cadmium
 - Zinc
- RW09-MWS (Lab ID: 30217178004)
 - Cadmium
 - Zinc
- RW12-MWI (Lab ID: 30217178006)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

Sample: RW01-MWI		Lab ID: 30217178001		Collected: 04/26/17 11:30		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	859	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:11	7440-43-9	1c
Zinc	17400	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:23	7440-66-6	1c,MH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Sample: RW07-MWS **Lab ID: 30217178002** Collected: 04/26/17 12:18 Received: 04/26/17 23:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.4J	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:25	7440-43-9	1c
Zinc	86.4	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:25	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

Sample: RW07-MWI		Lab ID: 30217178003		Collected: 04/26/17 13:07		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.0 U	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:27	7440-43-9	1c
Zinc	364	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:27	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Sample: RW09-MWS		Lab ID: 30217178004		Collected: 04/26/17 13:50		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	16.6	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:37	7440-43-9	1c
Zinc	12900	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:38	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW09-MWI									
Lab ID: 30217178005									
Collected: 04/26/17 14:17 Received: 04/26/17 23:50 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	5.0	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:40	7440-43-9	1c
Zinc	57500	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:45	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Sample: RW12-MWI		Lab ID: 30217178006		Collected: 04/26/17 15:28		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2730	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:42	7440-43-9	1c
Zinc	188000	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:48	7440-66-6	1c

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QUALITY CONTROL DATA

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

QC Batch: 257096 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30217178001, 30217178002, 30217178003, 30217178004, 30217178005, 30217178006

METHOD BLANK: 1266420 Matrix: Water
Associated Lab Samples: 30217178001, 30217178002, 30217178003, 30217178004, 30217178005, 30217178006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424

Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426

Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422

Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Area A Parcel A3 Baseline
Pace Project No.: 30217178

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 257167

[1] Cd and Zn failed the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217178001	RW01-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178002	RW07-MWS	EPA 3005A	257096	EPA 6010C	257167
30217178003	RW07-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178004	RW09-MWS	EPA 3005A	257096	EPA 6010C	257167
30217178005	RW09-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178006	RW12-MWI	EPA 3005A	257096	EPA 6010C	257167

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CHAI
The Chain

WO#: 30217178



CHAI
The Chain



Section A
Required Client Information:
Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: lcatalanda@enviroanalyticsgroup.com
Phone: 314-620-3056 Fax:
Requested Due Date/TIME: 5-day 5/2/17

Section B
Required Project Information:
Report To: James Catalanda
Copy To:
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MD STATE: MD

Attention: Laura Sargent

ITEM #	Valid Matrix Codes MATRIX CODE DW WT WASTE WATER PRODUCT SOLID OIL WIPE AIR OTHER TISSUE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
			COMPOSITE START	COMPOSITE END/STOP					
1	RW01-MWI	WT G	4/26/17	1130	1	1			001
2	RW07-MWS	WT G	12/18		1	1			002
3	RW07-MWI	WT G	1307		1	1			003
4	RW09-MWS	WT G	1350		1	1			004
5	RW09-MWI	WT G	1417		1	1			005
6	RW12-MWI	WT G	1528		1	1			006
7									
8									
9									
10									
11									
12									

Additional handwritten notes in table:
 - Row 1: Analysis Test ↑ Total Zn + Cd
 - Row 1: RELINQUISHED BY / AFFILIATION: Laura Sargent, DATE: 4/26/17, TIME: 1626
 - Row 1: ACCEPTED BY / AFFILIATION: Daniel J. Hillier, DATE: 4/26/17, TIME: 1705
 - Row 2: RELINQUISHED BY / AFFILIATION: Daniel J. Hillier, DATE: 4/26/17, TIME: 1940
 - Row 2: ACCEPTED BY / AFFILIATION: Michael Smith, DATE: 4/26/17, TIME: 1940
 - Row 3: RELINQUISHED BY / AFFILIATION: Michael Smith, DATE: 4/26/17, TIME: 2350
 - Row 3: ACCEPTED BY / AFFILIATION: Deborah Hillier, DATE: 4/26/17, TIME: 2350

ADDITIONAL COMMENTS
 Data Package Required? (Y/N) Y
 Data Validation Required? (Y/N) Y
 If data package is required, attach data package checklist.

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Lisa Peron
 SIGNATURE of SAMPLER: *Lisa Peron*
 DATE Signed (MM/DD/YY): 4/26/17

Temp in °C _____
 Received on Ice (Y/N) _____
 Custody Sealed (Y/N) _____
 Samples Intact (Y/N) _____

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

AMC

Sample Condition Upon Receipt Pittsburgh



Client Name: Enviro Ana.

Project # 30217178

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 4.6 °C Correction Factor: 1.00 °C Final Temp: 4.6 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: QAHA 4-27-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			<u>PHL2</u>
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>QAHA</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present		X		
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217316001	RW11-MWI	Water	04/27/17 09:08	04/27/17 23:20
30217316002	RW11-MWS	Water	04/27/17 10:05	04/27/17 23:20
30217316003	RW18-MWI	Water	04/27/17 11:15	04/27/17 23:20
30217316004	RW19-MWS	Water	04/27/17 11:52	04/27/17 23:20
30217316005	RW19-MWI	Water	04/27/17 12:17	04/27/17 23:20
30217316006	RW16-MWS	Water	04/27/17 14:07	04/27/17 23:20
30217316007	RW16-MWI	Water	04/27/17 14:40	04/27/17 23:20
30217316008	RW15-MWI	Water	04/27/17 15:20	04/27/17 23:20

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SAMPLE ANALYTE COUNT

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217316001	RW11-MWI	EPA 6010C	PJD	2
30217316002	RW11-MWS	EPA 6010C	PJD	2
30217316003	RW18-MWI	EPA 6010C	PJD	2
30217316004	RW19-MWS	EPA 6010C	PJD	2
30217316005	RW19-MWI	EPA 6010C	PJD	2
30217316006	RW16-MWS	EPA 6010C	PJD	2
30217316007	RW16-MWI	EPA 6010C	PJD	2
30217316008	RW15-MWI	EPA 6010C	PJD	2

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PROJECT NARRATIVE

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 03, 2017

General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

- Cd and Zn failed the PDS
- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

- 1c: Cd and Zn failed the PDS
- BLANK (Lab ID: 1266420)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1266422)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1266421)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266423)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266426)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1266424)
 - Cadmium
 - Zinc
- RW11-MWI (Lab ID: 30217316001)
 - Cadmium
 - Zinc
- RW11-MWS (Lab ID: 30217316002)
 - Cadmium
 - Zinc
- RW15-MWI (Lab ID: 30217316008)
 - Cadmium
 - Zinc
- RW16-MWI (Lab ID: 30217316007)
 - Cadmium
 - Zinc
- RW16-MWS (Lab ID: 30217316006)
 - Cadmium
 - Zinc
- RW18-MWI (Lab ID: 30217316003)
 - Cadmium
 - Zinc
- RW19-MWI (Lab ID: 30217316005)
 - Cadmium
 - Zinc
- RW19-MWS (Lab ID: 30217316004)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW11-MWI		Lab ID: 30217316001		Collected: 04/27/17 09:08		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1800	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:45	7440-43-9	1c
Zinc	288000	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:50	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW11-MWS Lab ID: 30217316002 Collected: 04/27/17 10:05 Received: 04/27/17 23:20 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	5.3	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:47	7440-43-9	1c
Zinc	13100	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:53	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW18-MWI		Lab ID: 30217316003		Collected: 04/27/17 11:15		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	119	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:49	7440-43-9	1c
Zinc	633000	ug/L	10000	1080	1000	05/02/17 08:25	05/03/17 02:32	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW19-MWS		Lab ID: 30217316004		Collected: 04/27/17 11:52		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	8.5	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:52	7440-43-9	1c
Zinc	6260	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:57	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW19-MWI		Lab ID: 30217316005		Collected: 04/27/17 12:17		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3380	ug/L	300	34.4	100	05/02/17 08:25	05/03/17 02:00	7440-43-9	1c,MH
Zinc	7010000	ug/L	100000	10800	10000	05/02/17 08:25	05/03/17 02:35	7440-66-6	1c,MH

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW16-MWS **Lab ID: 30217316006** Collected: 04/27/17 14:07 Received: 04/27/17 23:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	11.9	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:15	7440-43-9	1c
Zinc	3350	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 23:15	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW16-MWI		Lab ID: 30217316007		Collected: 04/27/17 14:40		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	194	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:18	7440-43-9	1c
Zinc	314000	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:07	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW15-MWI Lab ID: 30217316008 Collected: 04/27/17 15:20 Received: 04/27/17 23:20 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	109	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:20	7440-43-9	1c
Zinc	122000	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:22	7440-66-6	1c

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QUALITY CONTROL DATA

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

QC Batch: 257096 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30217316001, 30217316002, 30217316003, 30217316004, 30217316005, 30217316006, 30217316007, 30217316008

METHOD BLANK: 1266420 Matrix: Water
Associated Lab Samples: 30217316001, 30217316002, 30217316003, 30217316004, 30217316005, 30217316006, 30217316007, 30217316008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424

Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426

Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422

Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 257167

[1] Cd and Zn failed the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 GW Baseline
Pace Project No.: 30217316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217316001	RW11-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316002	RW11-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316003	RW18-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316004	RW19-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316005	RW19-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316006	RW16-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316007	RW16-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316008	RW15-MWI	EPA 3005A	257096	EPA 6010C	257167

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Pittsburgh

30217316

AMC



Client Name: EnviroAna Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 4.6 °C Correction Factor: 10.0 °C Final Temp: 46 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: 09/18/11

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AKK</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present		X		
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW
Pace Project No.: 30217500

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217500001	RW05-MWI	Water	04/28/17 00:00	04/28/17 22:45
30217500002	RW10-MWI	Water	04/28/17 13:12	04/28/17 22:45
30217500003	RW13-MWI	Water	04/28/17 14:03	04/28/17 22:45

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SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217500001	RW05-MWI	EPA 6010C	PJD	2
30217500002	RW10-MWI	EPA 6010C	PJD	2
30217500003	RW13-MWI	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 03, 2017

General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

- Cd and Zn failed the PDS
- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

- 1c: Cd and Zn failed the PDS
- BLANK (Lab ID: 1266420)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1266422)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1266421)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266423)
 - Cadmium
 - Zinc
- MS (Lab ID: 1266426)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1266424)
 - Cadmium
 - Zinc
- RW05-MWI (Lab ID: 30217500001)
 - Cadmium
 - Zinc
- RW10-MWI (Lab ID: 30217500002)
 - Cadmium
 - Zinc
- RW13-MWI (Lab ID: 30217500003)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Sample: RW05-MWI **Lab ID: 30217500001** Collected: 04/28/17 00:00 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1600	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:23	7440-43-9	1c
Zinc	25000	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:25	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

Sample: RW10-MWI **Lab ID: 30217500002** Collected: 04/28/17 13:12 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	198	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:25	7440-43-9	1c
Zinc	75800	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:27	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Sample: RW13-MWI **Lab ID: 30217500003** Collected: 04/28/17 14:03 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1370	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:28	7440-43-9	1c
Zinc	70500	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:30	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

QC Batch: 257096 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30217500001, 30217500002, 30217500003

METHOD BLANK: 1266420 Matrix: Water
Associated Lab Samples: 30217500001, 30217500002, 30217500003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424

Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426

Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422

Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Area A Parcel A3 GW
Pace Project No.: 30217500

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 257167
[1] Cd and Zn failed the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217500001	RW05-MWI	EPA 3005A	257096	EPA 6010C	257167
30217500002	RW10-MWI	EPA 3005A	257096	EPA 6010C	257167
30217500003	RW13-MWI	EPA 3005A	257096	EPA 6010C	257167

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: jcalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: Requested Due Date/TAT: 5-day 5/4/17		Section B Required Project Information: Report To: James Calenda Copy To: PO Number: <i>Analyses</i> Project Name: <i>Area A Parcel A3 GW</i> Project Number: <i>Awaiting</i>		Section C Invoice Information: Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Pace Profile #:		Page: <u>1</u> of <u>1</u>
Section D Required Client Information SAMPLE ID (A-Z, 0-9 / - / -) Sample IDs MUST BE UNIQUE		Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WASTE WATER WW WATER PRODUCT P SOLID S WASTE AIR WP OTHER OI TISSUE TS		Matrix Code (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) COLLECTED COMPOSITE START DATE TIME COMPOSITE END/GRAB DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other Y/N Analysis Test Total Zn + Cd XXX		Requested Analysis Filtered (Y/N)

ITEM #	Matrix Code	Sample Type	Collected		Sample Temp at Collection	# of Containers	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
			DATE	TIME										
1	RW05-MWI	MG	4/20/17	1400	1400	1	Unpreserved	N		001		Y	N	Y
2	RW10-MWI	MG	4/25/17	1900	1900	1	Unpreserved	N		002		Y	N	Y
3	RW13-MWI	MG	4/28/17	2245	2245	1	Unpreserved	N		003		Y	N	Y
4														
5														
6														
7														
8														
9														
10														
11														
12														

WO#: 30217500

Section E ADDITIONAL COMMENTS Data Package Required? (Y/N) Data Validation Required? (Y/N) If data package is required, attach data package checklist.	RELINQUISHED BY / AFFILIATION DATE TIME ACCEPTED BY / AFFILIATION DATE TIME	SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed (Y/N) Samples Intact (Y/N)
Relinquished by: <i>James Calenda</i> Date: <i>4/20/17</i> Time: <i>1400</i> Accepted by: <i>Diana Sargent</i> Date: <i>4/25/17</i> Time: <i>1900</i> Accepted by: <i>Diana Sargent</i> Date: <i>4/28/17</i> Time: <i>2245</i>	Relinquished by: <i>James Calenda</i> Date: <i>4/20/17</i> Time: <i>1400</i> Accepted by: <i>Diana Sargent</i> Date: <i>4/25/17</i> Time: <i>1900</i> Accepted by: <i>Diana Sargent</i> Date: <i>4/28/17</i> Time: <i>2245</i>	Received on Ice: <i>Y</i> Custody Sealed: <i>N</i> Samples Intact: <i>Y</i>

Sample Condition Upon Receipt Pittsburgh



Client Name: SPARROWS

Project # 30217500

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 12 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.1 °C Correction Factor: +0.0 °C Final Temp: 1.1 °C
Temp should be above freezing to 6°C

Date and Initials of person examining contents: JRM 4/29/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>		/		5. <u>No time on 001, time on 002 is 1312, 003: 131403</u>
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>JRM</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr				Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 30, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 22, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219509001	Trip Blank 1	Water	05/22/17 00:01	05/22/17 22:50
30219509002	RW-19-MW(I)	Water	05/22/17 08:41	05/22/17 22:50
30219509003	RW-19-MW(S)	Water	05/22/17 09:21	05/22/17 22:50
30219509004	RW-18-MW(I)	Water	05/22/17 10:02	05/22/17 22:50
30219509005	RW-15-MW(I)	Water	05/22/17 10:39	05/22/17 22:50
30219509006	RW-16-MW(I)	Water	05/22/17 11:18	05/22/17 22:50
30219509007	RW-16-MW(S)	Water	05/22/17 11:47	05/22/17 22:50
30219509008	RW-13-MW(I)	Water	05/22/17 12:32	05/22/17 22:50
30219509009	RW-12-MW(I)	Water	05/22/17 13:25	05/22/17 22:50
30219509010	RW-11-MW(I)	Water	05/22/17 14:17	05/22/17 22:50
30219509011	RW-11-MW(S)	Water	05/22/17 14:36	05/22/17 22:50
30219509012	RW-10-MW(I)	Water	05/22/17 15:32	05/22/17 22:50
30219509013	RW-05-MW(I)	Water	05/22/17 16:21	05/22/17 22:50

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SAMPLE ANALYTE COUNT

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219509002	RW-19-MW(I)	EPA 6010C	PJD	2
30219509003	RW-19-MW(S)	EPA 6010C	PJD	2
30219509004	RW-18-MW(I)	EPA 6010C	PJD	2
30219509005	RW-15-MW(I)	EPA 6010C	PJD	2
30219509006	RW-16-MW(I)	EPA 6010C	PJD	2
30219509007	RW-16-MW(S)	EPA 6010C	PJD	2
30219509008	RW-13-MW(I)	EPA 6010C	PJD	2
30219509009	RW-12-MW(I)	EPA 6010C	PJD	2
30219509010	RW-11-MW(I)	EPA 6010C	PJD	2
30219509011	RW-11-MW(S)	EPA 6010C	PJD	2
30219509012	RW-10-MW(I)	EPA 6010C	PJD	2
30219509013	RW-05-MW(I)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 30, 2017

General Information:

12 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed for the PDS.

- QC Batch: 259895

Zn failed on the serial dilution

- QC Batch: 259895

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- BLANK (Lab ID: 1279742)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1279744)
 - Cadmium

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PROJECT NARRATIVE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- DUP (Lab ID: 1279744)
 - Zinc
- DUP (Lab ID: 1279747)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1279743)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279745)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279748)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1279746)
 - Cadmium
 - Zinc
- RW-05-MW(I) (Lab ID: 30219509013)
 - Cadmium
 - Zinc
- RW-10-MW(I) (Lab ID: 30219509012)
 - Cadmium
 - Zinc
- RW-11-MW(I) (Lab ID: 30219509010)
 - Cadmium
 - Zinc
- RW-11-MW(S) (Lab ID: 30219509011)
 - Cadmium
 - Zinc
- RW-12-MW(I) (Lab ID: 30219509009)
 - Cadmium
 - Zinc
- RW-13-MW(I) (Lab ID: 30219509008)
 - Cadmium
 - Zinc
- RW-15-MW(I) (Lab ID: 30219509005)
 - Cadmium
 - Zinc
- RW-16-MW(I) (Lab ID: 30219509006)
 - Cadmium
 - Zinc
- RW-16-MW(S) (Lab ID: 30219509007)
 - Cadmium

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PROJECT NARRATIVE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- RW-16-MW(S) (Lab ID: 30219509007)
 - Zinc
- RW-18-MW(I) (Lab ID: 30219509004)
 - Cadmium
 - Zinc
- RW-19-MW(I) (Lab ID: 30219509002)
 - Cadmium
 - Zinc
- RW-19-MW(S) (Lab ID: 30219509003)
 - Cadmium
 - Zinc

2c: Zn failed on the serial dilution

- BLANK (Lab ID: 1279742)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1279744)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1279747)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1279743)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279745)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279748)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1279746)
 - Cadmium
 - Zinc
- RW-05-MW(I) (Lab ID: 30219509013)
 - Cadmium
 - Zinc
- RW-10-MW(I) (Lab ID: 30219509012)
 - Cadmium
 - Zinc
- RW-11-MW(I) (Lab ID: 30219509010)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 30, 2017

Analyte Comments:

QC Batch: 259796

2c: Zn failed on the serial dilution

- RW-11-MW(S) (Lab ID: 30219509011)
 - Cadmium
 - Zinc
- RW-12-MW(I) (Lab ID: 30219509009)
 - Cadmium
 - Zinc
- RW-13-MW(I) (Lab ID: 30219509008)
 - Cadmium
 - Zinc
- RW-15-MW(I) (Lab ID: 30219509005)
 - Cadmium
 - Zinc
- RW-16-MW(I) (Lab ID: 30219509006)
 - Cadmium
 - Zinc
- RW-16-MW(S) (Lab ID: 30219509007)
 - Cadmium
 - Zinc
- RW-18-MW(I) (Lab ID: 30219509004)
 - Cadmium
 - Zinc
- RW-19-MW(I) (Lab ID: 30219509002)
 - Cadmium
 - Zinc
- RW-19-MW(S) (Lab ID: 30219509003)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-19-MW(I)		Lab ID: 30219509002		Collected: 05/22/17 08:41	Received: 05/22/17 22:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2770	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 02:44	7440-43-9	1c,2c
Zinc	5370000	ug/L	100000	10800	10000	05/26/17 09:20	05/27/17 04:03	7440-66-6	1c,2c, ML

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-19-MW(S)		Lab ID: 30219509003		Collected: 05/22/17 09:21		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.6	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:33	7440-43-9	1c,2c
Zinc	4860	ug/L	100	10.8	10	05/26/17 09:20	05/27/17 02:58	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Sample: RW-18-MW(I)		Lab ID: 30219509004	Collected: 05/22/17 10:02	Received: 05/22/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	92.0	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:36	7440-43-9	1c,2c
Zinc	246000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:01	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-15-MW(I) **Lab ID: 30219509005** Collected: 05/22/17 10:39 Received: 05/22/17 22:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	91.1	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:48	7440-43-9	1c,2c
Zinc	100000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:03	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-16-MW(I) **Lab ID: 30219509006** Collected: 05/22/17 11:18 Received: 05/22/17 22:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	73.9	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:50	7440-43-9	1c,2c
Zinc	207000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:06	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-16-MW(S)		Lab ID: 30219509007	Collected: 05/22/17 11:47	Received: 05/22/17 22:50	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	64.1	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:53	7440-43-9	1c,2c	
Zinc	15800	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:13	7440-66-6	1c,2c	

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-13-MW(I)		Lab ID: 30219509008		Collected: 05/22/17 12:32		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	5370	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 03:16	7440-43-9	1c,2c
Zinc	163000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:16	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-12-MW(I) **Lab ID: 30219509009** Collected: 05/22/17 13:25 Received: 05/22/17 22:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3820	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:58	7440-43-9	1c,2c
Zinc	232000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:18	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-11-MW(I)		Lab ID: 30219509010		Collected: 05/22/17 14:17		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2600	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:00	7440-43-9	1c,2c
Zinc	336000	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:20	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-11-MW(S)		Lab ID: 30219509011	Collected: 05/22/17 14:36	Received: 05/22/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.8J	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:03	7440-43-9	1c,2c
Zinc	12500	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:23	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-10-MW(I)		Lab ID: 30219509012		Collected: 05/22/17 15:32	Received: 05/22/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	2.5J	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:05	7440-43-9	1c,2c	
Zinc	1150	ug/L	10.0	1.1	1	05/26/17 09:20	05/27/17 02:05	7440-66-6	1c,2c	

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ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-05-MW(I) **Lab ID: 30219509013** Collected: 05/22/17 16:21 Received: 05/22/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	397	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:18	7440-43-9	1c,2c
Zinc	38800	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:25	7440-66-6	1c,2c

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QUALITY CONTROL DATA

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

QC Batch: 259796 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30219509002, 30219509003, 30219509004, 30219509005, 30219509006, 30219509007, 30219509008, 30219509009, 30219509010, 30219509011, 30219509012, 30219509013

METHOD BLANK: 1279742 Matrix: Water
Associated Lab Samples: 30219509002, 30219509003, 30219509004, 30219509005, 30219509006, 30219509007, 30219509008, 30219509009, 30219509010, 30219509011, 30219509012, 30219509013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/27/17 01:12	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	05/27/17 01:12	1c,2c

LABORATORY CONTROL SAMPLE: 1279743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	513	103	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279745 1279746

Parameter	Units	30219509002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	2770	500	500	3390	3310	123	108	75-125	2	20	1c,2c
Zinc	ug/L	5370000	500	500	5330000	5800000	-7000	86800	75-125	8	20	1c,2c, ML

MATRIX SPIKE SAMPLE: 1279748

Parameter	Units	30219509012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	2.5J	500	516	103	75-125	1c,2c
Zinc	ug/L	1150	500	1640	97	75-125	1c,2c

SAMPLE DUPLICATE: 1279744

Parameter	Units	30219509002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2770	2770	0	20	1c,2c
Zinc	ug/L	5370000	5730000	6	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

SAMPLE DUPLICATE: 1279747

Parameter	Units	30219509012 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.5J	2.8J		20	1c,2c
Zinc	ug/L	1150	1180	3	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 259895

[1] Cd and Zn failed for the PDS.

[2] Zn failed on the serial dilution

ANALYTE QUALIFIERS

1c Cd and Zn failed for the PDS.

2c Zn failed on the serial dilution

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: R&W A3 GW Sampling
Pace Project No.: 30219509

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219509002	RW-19-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509003	RW-19-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509004	RW-18-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509005	RW-15-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509006	RW-16-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509007	RW-16-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509008	RW-13-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509009	RW-12-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509010	RW-11-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509011	RW-11-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509012	RW-10-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509013	RW-05-MW(I)	EPA 3005A	259796	EPA 6010C	259895

REPORT OF LABORATORY ANALYSIS

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CHAI
The Chain

WO#: 30219509



Section A
Required Client Information:
Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: jcalenda@enviroanalyticsgroup.com
Phone: 314-620-3056
Requested Due Date: 5 Days

Section B
Required Project Information:
Report To: James Calenda
Copy To:
Project Name: Sparrows Point, MD 21219
Project Number: 140236M
Requested Due Date: 5 Days

Section C
Required Client Information:
Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: jcalenda@enviroanalyticsgroup.com
Phone: 314-620-3056
Requested Due Date: 5 Days

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTEWATER WW PRODUCT P SOIL S OIL/SOLID SL OIL GL WIRE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Pace Project No / Lab I.D.
				DATE	TIME					
1		WT G		5/22/17	0841		2		001	
2		WT G		5/22/17	0841		1		002	
3		WT G		5/22/17	0841		1		003	
4		WT G		5/22/17	1801		1		004	
5		WT G		5/22/17	1039		1		005	
6		WT G		5/22/17	1118		1		006	
7		WT G		5/22/17	1147		1		007	
8		WT G		5/22/17	1232		1		008	
9		WT G		5/22/17	1325		1		009	
10		WT G		5/22/17	1417		1		010	
11		WT G		5/22/17	1436		1		011	
12		WT G		5/22/17	1532		1		012	
RELINQUISHED BY / AFFILIATION Robert Bantz Date: 5/22/17 16:45 Signature: [Signature]										
ACCEPTED BY / AFFILIATION Robert Bantz Date: 5/22/17 19:00 Signature: [Signature]										
DATE 5/22/17 16:45 5/22/17 19:00 5/22/17 22:50										
DATE 5/22/17 16:45 5/22/17 19:00 5/22/17 22:50										
TEMP IN °C 1.9 Y N Y										
RECEIVED ON Y N Y										
CUSTODY SEALED Y N Y										
SAMPLES INTACT Y N Y										



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: icalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: Requested Due Date/TAT: 3 days		Section B Required Project Information: Report To: James Calenda Copy To: PO Number: Project Name: Flow Gas Sampling AS Project Number: 140323207		Section C Invoice Information: Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Samantha Bayura Pace Profile #:	
Section D Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE RW05-MW1		Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOLID S OIL CL WIPE WP AIR AR OTHER OT TISSUE TS		REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> RCRA <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> OTHER Site Location: MD STATE:	

Page: **2** of **2**

ITEM #	Valid Matrix Codes	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES		Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
		COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME		
1				G	5G	1	H ₂ SO ₄ HNO ₃ NaOH Na ₂ S ₂ O ₃ Methanol DI Water	Analysis Test	X	013
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
Data Package Required? (Y/N)	Robert Berke	5/22/17	1645	David S. Williams	5/22/17	1645	Received on	Temp in °C	Samples Intact
Data Validation Required? (Y/N)	David S. Williams	5/22/17	1900	Robert Berke	5/22/17	2000	Ice (Y/N)	Cooler (Y/N)	
If data package is required, attach data package checklist.	David S. Williams	5/22/17	2250	Robert Berke	5/22/17	2250	1.9	Y	Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Robert Berke**
 SIGNATURE of SAMPLER: *Robert Berke*
 DATE Signed (MM/DD/YYYY): **05/22/17**

Sample Condition Upon Receipt Pittsburgh

KH



Client Name: EnviroAnalytics

Project #

30219509

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Water Blue None

Cooler Temperature Observed Temp 1.9 °C Correction Factor: 0.0 °C Final Temp: 1.9 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: KH 5/23/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>W+</u>	/			5.
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics				Initial when completed: <u>KH</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):		/		16.
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 01, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219635001	Trip Blank 1	Water	05/23/17 00:01	05/23/17 23:15
30219635002	RW01-MW-(I)	Water	05/23/17 08:54	05/23/17 23:15
30219635003	RW01-MW-(S)	Water	05/23/17 09:27	05/23/17 23:15
30219635004	RW02-MW-(I)	Water	05/23/17 10:06	05/23/17 23:15
30219635005	RW02-MW-(S)	Water	05/23/17 11:00	05/23/17 23:15
30219635006	RW03-MW-(I)	Water	05/23/17 12:05	05/23/17 23:15
30219635007	RW03-MW-(S)	Water	05/23/17 12:38	05/23/17 23:15
30219635008	RW06-MW-(I)	Water	05/23/17 13:27	05/23/17 23:15
30219635009	RW07-MW-(I)	Water	05/23/17 14:13	05/23/17 23:15
30219635010	RW07-MW-(S)	Water	05/23/17 14:54	05/23/17 23:15
30219635011	RW08-MW-(I)	Water	05/23/17 15:50	05/23/17 23:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219635001	Trip Blank 1	EPA 8260B	JAS	55
30219635002	RW01-MW-(I)	EPA 6010C	PJD	2
30219635003	RW01-MW-(S)	EPA 6010C	PJD	2
30219635004	RW02-MW-(I)	EPA 6010C	PJD	2
30219635005	RW02-MW-(S)	EPA 6010C	PJD	2
30219635006	RW03-MW-(I)	EPA 6010C	PJD	2
30219635007	RW03-MW-(S)	EPA 6010C	PJD	2
30219635008	RW06-MW-(I)	EPA 6010C	PJD	2
30219635009	RW07-MW-(I)	EPA 6010C	PJD	2
30219635010	RW07-MW-(S)	EPA 6010C	PJD	2
30219635011	RW08-MW-(I)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 01, 2017

General Information:

10 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Zn failed for the PDS.

- QC Batch: 260280

Analyte Comments:

QC Batch: 260163

1c: Zn failed for the PDS.

- BLANK (Lab ID: 1281567)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1281569)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: June 01, 2017

Analyte Comments:

QC Batch: 260163

1c: Zn failed for the PDS.

- LCS (Lab ID: 1281568)
 - Cadmium
 - Zinc
- MS (Lab ID: 1281570)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1281571)
 - Cadmium
 - Zinc
- RW01-MW-(I) (Lab ID: 30219635002)
 - Cadmium
 - Zinc
- RW01-MW-(S) (Lab ID: 30219635003)
 - Cadmium
 - Zinc
- RW02-MW-(I) (Lab ID: 30219635004)
 - Cadmium
 - Zinc
- RW02-MW-(S) (Lab ID: 30219635005)
 - Cadmium
 - Zinc
- RW03-MW-(I) (Lab ID: 30219635006)
 - Cadmium
 - Zinc
- RW03-MW-(S) (Lab ID: 30219635007)
 - Cadmium
 - Zinc
- RW06-MW-(I) (Lab ID: 30219635008)
 - Cadmium
 - Zinc
- RW07-MW-(I) (Lab ID: 30219635009)
 - Cadmium
 - Zinc
- RW07-MW-(S) (Lab ID: 30219635010)
 - Cadmium
 - Zinc
- RW08-MW-(I) (Lab ID: 30219635011)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Method: EPA 8260B
Description: 8260B MSV
Client: EnviroAnalytics Group, LLC
Date: June 01, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 259645

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: Trip Blank 1 **Lab ID: 30219635001** Collected: 05/23/17 00:01 Received: 05/23/17 23:15 Matrix: Water

Comments: • Trip Blank not needed as no samples are being analyzed for VOC analysis.

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Acetone	29.9	ug/L	10.0	3.8	1		05/25/17 11:59	67-64-1	M5
Benzene	1.0 U	ug/L	1.0	0.35	1		05/25/17 11:59	71-43-2	M5
Bromodichloromethane	1.0 U	ug/L	1.0	0.43	1		05/25/17 11:59	75-27-4	M5
Bromoform	1.0 U	ug/L	1.0	0.40	1		05/25/17 11:59	75-25-2	M5
Bromomethane	1.0 U	ug/L	1.0	0.90	1		05/25/17 11:59	74-83-9	IH,M5
2-Butanone (MEK)	10.0 U	ug/L	10.0	5.5	1		05/25/17 11:59	78-93-3	IH,M5
Carbon disulfide	1.0 U	ug/L	1.0	0.25	1		05/25/17 11:59	75-15-0	M5
Carbon tetrachloride	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	56-23-5	M5
Chlorobenzene	1.0 U	ug/L	1.0	0.19	1		05/25/17 11:59	108-90-7	M5
Chloroethane	1.0 U	ug/L	1.0	0.42	1		05/25/17 11:59	75-00-3	M5
Chloroform	1.0 U	ug/L	1.0	0.33	1		05/25/17 11:59	67-66-3	M5
Chloromethane	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	74-87-3	M5
Cyclohexane	10.0 U	ug/L	10.0	1.6	1		05/25/17 11:59	110-82-7	M5
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.43	1		05/25/17 11:59	96-12-8	M5
Dibromochloromethane	1.0 U	ug/L	1.0	0.35	1		05/25/17 11:59	124-48-1	M5
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.48	1		05/25/17 11:59	106-93-4	M5
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	95-50-1	M5
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	541-73-1	M5
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.44	1		05/25/17 11:59	106-46-7	M5
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.31	1		05/25/17 11:59	75-71-8	M5
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.34	1		05/25/17 11:59	75-34-3	M5
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.36	1		05/25/17 11:59	107-06-2	M5
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.80	1		05/25/17 11:59	540-59-0	M5
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		05/25/17 11:59	75-35-4	M5
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.48	1		05/25/17 11:59	156-59-2	M5
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	156-60-5	M5
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.62	1		05/25/17 11:59	78-87-5	M5
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	10061-01-5	M5
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.74	1		05/25/17 11:59	10061-02-6	M5
Ethylbenzene	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	100-41-4	M5
2-Hexanone	10.0 U	ug/L	10.0	1.7	1		05/25/17 11:59	591-78-6	M5
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.25	1		05/25/17 11:59	98-82-8	M5
Methyl acetate	5.0 U	ug/L	5.0	0.42	1		05/25/17 11:59	79-20-9	M5
Methylene Chloride	1.0 U	ug/L	1.0	0.59	1		05/25/17 11:59	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	1.7	1		05/25/17 11:59	108-10-1	M5
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.27	1		05/25/17 11:59	1634-04-4	M5
Styrene	1.0 U	ug/L	1.0	0.18	1		05/25/17 11:59	100-42-5	M5
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.19	1		05/25/17 11:59	79-34-5	M5
Tetrachloroethene	1.0 U	ug/L	1.0	0.33	1		05/25/17 11:59	127-18-4	M5
Toluene	1.0 U	ug/L	1.0	0.29	1		05/25/17 11:59	108-88-3	M5
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.55	1		05/25/17 11:59	87-61-6	M5
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.39	1		05/25/17 11:59	120-82-1	M5
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.22	1		05/25/17 11:59	71-55-6	M5
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.45	1		05/25/17 11:59	79-00-5	M5
Trichloroethene	1.0 U	ug/L	1.0	0.50	1		05/25/17 11:59	79-01-6	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: Trip Blank 1 **Lab ID: 30219635001** Collected: 05/23/17 00:01 Received: 05/23/17 23:15 Matrix: Water

Comments: • Trip Blank not needed as no samples are being analyzed for VOC analysis.

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	75-69-4	M5
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	1.4	1		05/25/17 11:59	76-13-1	M5
Vinyl chloride	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	75-01-4	M5
Xylene (Total)	3.0 U	ug/L	3.0	1.1	1		05/25/17 11:59	1330-20-7	M5
m&p-Xylene	2.0 U	ug/L	2.0	0.70	1		05/25/17 11:59	179601-23-1	M5
o-Xylene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	95-47-6	M5
Surrogates									
4-Bromofluorobenzene (S)	101	%	78-117		1		05/25/17 11:59	460-00-4	M5
1,2-Dichloroethane-d4 (S)	97	%	70-128		1		05/25/17 11:59	17060-07-0	M5
Toluene-d8 (S)	100	%	59-140		1		05/25/17 11:59	2037-26-5	M5
Dibromofluoromethane (S)	97	%	66-132		1		05/25/17 11:59	1868-53-7	M5

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW01-MW-(I)		Lab ID: 30219635002	Collected: 05/23/17 08:54	Received: 05/23/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	526	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 22:53	7440-43-9	1c
Zinc	14900	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:34	7440-66-6	1c,MH

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW01-MW-(S) Lab ID: 30219635003 Collected: 05/23/17 09:27 Received: 05/23/17 23:15 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.2	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:07	7440-43-9	1c
Zinc	6120	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:53	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Sample: RW02-MW-(I)		Lab ID: 30219635004		Collected: 05/23/17 10:06	Received: 05/23/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	24.4	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:10	7440-43-9	1c	
Zinc	2520	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:10	7440-66-6	1c	

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW02-MW-(S)									
Lab ID: 30219635005									
Collected: 05/23/17 11:00 Received: 05/23/17 23:15 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	11.2	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:17	7440-43-9	1c
Zinc	47800	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:55	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW03-MW-(I)		Lab ID: 30219635006		Collected: 05/23/17 12:05		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	84.0	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:19	7440-43-9	1c
Zinc	2960	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:19	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW03-MW-(S) Lab ID: 30219635007 Collected: 05/23/17 12:38 Received: 05/23/17 23:15 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.9	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:22	7440-43-9	1c
Zinc	5380	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:58	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW06-MW-(I) Lab ID: 30219635008 Collected: 05/23/17 13:27 Received: 05/23/17 23:15 Matrix: Water									
6010C MET ICP Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	20.4	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:24	7440-43-9	1c
Zinc	999	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:24	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW07-MW-(I)		Lab ID: 30219635009		Collected: 05/23/17 14:13		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.1J	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:26	7440-43-9	1c
Zinc	298	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:26	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW07-MW-(S) **Lab ID: 30219635010** Collected: 05/23/17 14:54 Received: 05/23/17 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.9J	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:29	7440-43-9	1c
Zinc	102	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:29	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW08-MW-(I)									
Lab ID: 30219635011									
Collected: 05/23/17 15:50 Received: 05/23/17 23:15 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.5J	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:31	7440-43-9	1c
Zinc	188	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:31	7440-66-6	1c

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QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

QC Batch: 260163 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30219635002, 30219635003, 30219635004, 30219635005, 30219635006, 30219635007, 30219635008, 30219635009, 30219635010, 30219635011

METHOD BLANK: 1281567 Matrix: Water
Associated Lab Samples: 30219635002, 30219635003, 30219635004, 30219635005, 30219635006, 30219635007, 30219635008, 30219635009, 30219635010, 30219635011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/31/17 22:48	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/31/17 22:48	1c

LABORATORY CONTROL SAMPLE: 1281568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	509	102	80-120	1c
Zinc	ug/L	500	515	103	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281570 1281571

Parameter	Units	30219635002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	526	500	500	1040	1070	103	109	75-125	3	20	1c
Zinc	ug/L	14900	500	500	15300	15800	78	180	75-125	3	20	1c, MH

SAMPLE DUPLICATE: 1281569

Parameter	Units	30219635002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	526	520	1	20	1c
Zinc	ug/L	14900	14800	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

QC Batch: 259645 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Associated Lab Samples: 30219635001

METHOD BLANK: 1279045 Matrix: Water
Associated Lab Samples: 30219635001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	1.0 U	1.0	0.22	05/25/17 11:05	M5
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0	0.19	05/25/17 11:05	M5
1,1,2-Trichloroethane	ug/L	1.0 U	1.0	0.45	05/25/17 11:05	M5
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	50.0	1.4	05/25/17 11:05	M5
1,1-Dichloroethane	ug/L	1.0 U	1.0	0.34	05/25/17 11:05	M5
1,1-Dichloroethene	ug/L	1.0 U	1.0	0.20	05/25/17 11:05	M5
1,2,3-Trichlorobenzene	ug/L	2.0 U	2.0	0.55	05/25/17 11:05	M5
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0	0.39	05/25/17 11:05	M5
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	5.0	0.43	05/25/17 11:05	M5
1,2-Dibromoethane (EDB)	ug/L	1.0 U	1.0	0.48	05/25/17 11:05	M5
1,2-Dichlorobenzene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
1,2-Dichloroethane	ug/L	1.0 U	1.0	0.36	05/25/17 11:05	M5
1,2-Dichloroethene (Total)	ug/L	2.0 U	2.0	0.80	05/25/17 11:05	M5
1,2-Dichloropropane	ug/L	1.0 U	1.0	0.62	05/25/17 11:05	M5
1,3-Dichlorobenzene	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
1,4-Dichlorobenzene	ug/L	1.0 U	1.0	0.44	05/25/17 11:05	M5
2-Butanone (MEK)	ug/L	10.0 U	10.0	5.5	05/25/17 11:05	M5
2-Hexanone	ug/L	10.0 U	10.0	1.7	05/25/17 11:05	M5
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	10.0	1.7	05/25/17 11:05	M5
Acetone	ug/L	10.0 U	10.0	3.8	05/25/17 11:05	M5
Benzene	ug/L	1.0 U	1.0	0.35	05/25/17 11:05	M5
Bromodichloromethane	ug/L	1.0 U	1.0	0.43	05/25/17 11:05	M5
Bromoform	ug/L	1.0 U	1.0	0.40	05/25/17 11:05	M5
Bromomethane	ug/L	1.0 U	1.0	0.90	05/25/17 11:05	M5
Carbon disulfide	ug/L	1.0 U	1.0	0.25	05/25/17 11:05	M5
Carbon tetrachloride	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
Chlorobenzene	ug/L	1.0 U	1.0	0.19	05/25/17 11:05	M5
Chloroethane	ug/L	1.0 U	1.0	0.42	05/25/17 11:05	M5
Chloroform	ug/L	1.0 U	1.0	0.33	05/25/17 11:05	M5
Chloromethane	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.48	05/25/17 11:05	M5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
Cyclohexane	ug/L	10.0 U	10.0	1.6	05/25/17 11:05	M5
Dibromochloromethane	ug/L	1.0 U	1.0	0.35	05/25/17 11:05	M5
Dichlorodifluoromethane	ug/L	1.0 U	1.0	0.31	05/25/17 11:05	M5
Ethylbenzene	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
Isopropylbenzene (Cumene)	ug/L	1.0 U	1.0	0.25	05/25/17 11:05	M5
m&p-Xylene	ug/L	2.0 U	2.0	0.70	05/25/17 11:05	M5
Methyl acetate	ug/L	5.0 U	5.0	0.42	05/25/17 11:05	M5
Methyl-tert-butyl ether	ug/L	1.0 U	1.0	0.27	05/25/17 11:05	M5
Methylene Chloride	ug/L	1.0 U	1.0	0.59	05/25/17 11:05	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

METHOD BLANK: 1279045

Matrix: Water

Associated Lab Samples: 30219635001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
o-Xylene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
Styrene	ug/L	1.0 U	1.0	0.18	05/25/17 11:05	M5
Tetrachloroethene	ug/L	1.0 U	1.0	0.33	05/25/17 11:05	M5
Toluene	ug/L	1.0 U	1.0	0.29	05/25/17 11:05	M5
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.74	05/25/17 11:05	M5
Trichloroethene	ug/L	1.0 U	1.0	0.50	05/25/17 11:05	M5
Trichlorofluoromethane	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
Vinyl chloride	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
Xylene (Total)	ug/L	3.0 U	3.0	1.1	05/25/17 11:05	M5
1,2-Dichloroethane-d4 (S)	%	96	70-128		05/25/17 11:05	M5
4-Bromofluorobenzene (S)	%	106	78-117		05/25/17 11:05	M5
Dibromofluoromethane (S)	%	94	66-132		05/25/17 11:05	M5
Toluene-d8 (S)	%	100	59-140		05/25/17 11:05	M5

LABORATORY CONTROL SAMPLE: 1279046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.6	88	79-125	M5
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	64-130	M5
1,1,2-Trichloroethane	ug/L	20	20.0	100	78-118	M5
1,1,2-Trichlorotrifluoroethane	ug/L	20	24.4J	122	39-138	M5
1,1-Dichloroethane	ug/L	20	19.4	97	77-124	M5
1,1-Dichloroethene	ug/L	20	19.5	98	74-127	M5
1,2,3-Trichlorobenzene	ug/L	20	18.5	92	73-140	M5
1,2,4-Trichlorobenzene	ug/L	20	19.3	97	81-130	M5
1,2-Dibromo-3-chloropropane	ug/L	20	19.9	99	53-133	M5
1,2-Dibromoethane (EDB)	ug/L	20	20.6	103	69-126	M5
1,2-Dichlorobenzene	ug/L	20	19.1	96	83-117	M5
1,2-Dichloroethane	ug/L	20	17.1	86	73-118	M5
1,2-Dichloroethene (Total)	ug/L	40	36.6	92	70-130	M5
1,2-Dichloropropane	ug/L	20	18.0	90	77-126	M5
1,3-Dichlorobenzene	ug/L	20	19.5	97	83-119	M5
1,4-Dichlorobenzene	ug/L	20	19.5	98	83-119	M5
2-Butanone (MEK)	ug/L	20	25.5	127	55-134	M5
2-Hexanone	ug/L	20	22.0	110	78-156	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	20.3	102	63-121	M5
Acetone	ug/L	20	16.4	82	51-144	M5
Benzene	ug/L	20	19.0	95	80-113	M5
Bromodichloromethane	ug/L	20	18.9	94	78-121	M5
Bromoform	ug/L	20	20.8	104	71-130	M5
Bromomethane	ug/L	20	29.0	145	58-154	M5
Carbon disulfide	ug/L	20	21.4	107	66-152	M5
Carbon tetrachloride	ug/L	20	17.5	88	69-133	M5

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QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

LABORATORY CONTROL SAMPLE: 1279046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	19.6	98	85-116	M5
Chloroethane	ug/L	20	18.4	92	76-136	M5
Chloroform	ug/L	20	18.4	92	76-118	M5
Chloromethane	ug/L	20	14.1	71	67-148	M5
cis-1,2-Dichloroethene	ug/L	20	18.2	91	77-126	M5
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-119	M5
Cyclohexane	ug/L	20	25.6	128	65-146	M5
Dibromochloromethane	ug/L	20	20.2	101	66-131	M5
Dichlorodifluoromethane	ug/L	20	15.2	76	10-175	M5
Ethylbenzene	ug/L	20	19.4	97	80-115	M5
Isopropylbenzene (Cumene)	ug/L	20	21.1	105	78-114	M5
m&p-Xylene	ug/L	40	39.5	99	82-116	M5
Methyl acetate	ug/L	20	12.2	61	56-155	M5
Methyl-tert-butyl ether	ug/L	20	20.9	105	82-126	M5
Methylene Chloride	ug/L	20	18.2	91	61-142	M5
o-Xylene	ug/L	20	20.4	102	81-113	M5
Styrene	ug/L	20	19.8	99	84-120	M5
Tetrachloroethene	ug/L	20	18.9	95	82-120	M5
Toluene	ug/L	20	20.2	101	82-116	M5
trans-1,2-Dichloroethene	ug/L	20	18.4	92	76-125	M5
trans-1,3-Dichloropropene	ug/L	20	20.4	102	73-119	M5
Trichloroethene	ug/L	20	18.3	92	84-116	M5
Trichlorofluoromethane	ug/L	20	17.1	86	59-138	M5
Vinyl chloride	ug/L	20	19.3	97	63-133	M5
Xylene (Total)	ug/L	60	60.0	100	82-115	M5
1,2-Dichloroethane-d4 (S)	%			91	70-128	M5
4-Bromofluorobenzene (S)	%			104	78-117	M5
Dibromofluoromethane (S)	%			93	66-132	M5
Toluene-d8 (S)	%			106	59-140	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 259645

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 260280

[1] Zn failed for the PDS.

ANALYTE QUALIFIERS

1c Zn failed for the PDS.

IH This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

M5 A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire GW Sampling A3
Pace Project No.: 30219635

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219635002	RW01-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635003	RW01-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635004	RW02-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635005	RW02-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635006	RW03-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635007	RW03-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635008	RW06-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635009	RW07-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635010	RW07-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635011	RW08-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635001	Trip Blank 1	EPA 8260B	259645		

REPORT OF LABORATORY ANALYSIS

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WO#: 30219635

CUSTODY / Analytical Request Document

is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: calenda@enviroanalyticsgroup.com
Phone: 314-620-3056
Requested Due Date/TAT: 5 days

Section C

Invoice Information:

Report To: James Calenda
Copy To:
Company Name: EnviroAnalytics Group
Address: 1650 Das Pares Road, Suite 303 St. Louis, MO 63181
Pace Quote Reference:
Pace Project Manager: Samantha Bayura
Pace Profile #:

REGULATORY AGENCY
NPDES
UST
RCRA
OTHER
Site Location
STATE: MD

Table with columns: ITEM #, Section D Required Client Information, Valid Matrix Codes, MATRIX CODE, SAMPLE TYPE, COLLECTED, DATE, TIME, OF CONTAINERS, Preservatives, Requested Analysis Filtered (Y/N), Analysis Test, VOC/8260B, SVOC 8270D, DRO/8015B, GRO/8015B, METALS/6010C, Mercury/7471A or 7470A, Hexavalent Chromium/7196A, Total Cyanide/9012A, PCB/8082 (soil), Oil and Grease/1664A (soil), Oil and Grease/9071B (soil), Residual Chlorine (Y/N), Pace Project No./ Lab I.D.

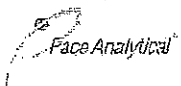
Table with columns: ADDITIONAL COMMENTS, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robert Bate
SIGNATURE of SAMPLER: Robert Bate
DATE Signed (MM/DD/YYYY): 03/23/17

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt Pittsburgh

BLM



Client Name: EnviroAnalytics Project # 30219635

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
 Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.8 °C Correction Factor: 0.0 °C Final Temp: 3.8 °C
 Temp should be above freezing to 6°C

Date and Initials of person examining contents: KA 5/24/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics				Initial when completed: <u>KA</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):		/		16.
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 30, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: R&W GW Samples
Pace Project No.: 30219768

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 25, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: R&W GW Samples

Pace Project No.: 30219768

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: R&W GW Samples
Pace Project No.: 30219768

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219768002	RW08-MW(S)	Water	05/24/17 09:03	05/25/17 00:20
30219768003	RW09-MW(I)	Water	05/24/17 09:13	05/25/17 00:20
30219768004	RW09-MW(S)	Water	05/24/17 10:20	05/25/17 00:20

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SAMPLE ANALYTE COUNT

Project: R&W GW Samples

Pace Project No.: 30219768

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219768002	RW08-MW(S)	EPA 6010C	PJD	2
30219768003	RW09-MW(I)	EPA 6010C	PJD	2
30219768004	RW09-MW(S)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R&W GW Samples
Pace Project No.: 30219768

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 30, 2017

General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed for the PDS.
• QC Batch: 259895

Zn failed on the serial dilution
• QC Batch: 259895

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.
• BLANK (Lab ID: 1279742)
• Cadmium
• Zinc
• DUP (Lab ID: 1279744)
• Cadmium

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PROJECT NARRATIVE

Project: R&W GW Samples
Pace Project No.: 30219768

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- DUP (Lab ID: 1279744)
 - Zinc
- DUP (Lab ID: 1279747)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1279743)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279745)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279748)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1279746)
 - Cadmium
 - Zinc
- RW08-MW(S) (Lab ID: 30219768002)
 - Cadmium
 - Zinc
- RW09-MW(I) (Lab ID: 30219768003)
 - Cadmium
 - Zinc
- RW09-MW(S) (Lab ID: 30219768004)
 - Cadmium
 - Zinc

2c: Zn failed on the serial dilution

- BLANK (Lab ID: 1279742)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1279744)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1279747)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1279743)
 - Cadmium
 - Zinc
- MS (Lab ID: 1279745)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R&W GW Samples

Pace Project No.: 30219768

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: May 30, 2017

Analyte Comments:

QC Batch: 259796

2c: Zn failed on the serial dilution

- MS (Lab ID: 1279748)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1279746)
 - Cadmium
 - Zinc
- RW08-MW(S) (Lab ID: 30219768002)
 - Cadmium
 - Zinc
- RW09-MW(I) (Lab ID: 30219768003)
 - Cadmium
 - Zinc
- RW09-MW(S) (Lab ID: 30219768004)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R&W GW Samples

Pace Project No.: 30219768

Sample: RW08-MW(S)		Lab ID: 30219768002		Collected: 05/24/17 09:03		Received: 05/25/17 00:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.2	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:21	7440-43-9	1c,2c
Zinc	2680	ug/L	10.0	1.1	1	05/26/17 09:20	05/27/17 02:21	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R&W GW Samples

Pace Project No.: 30219768

Sample: RW09-MW(I)		Lab ID: 30219768003		Collected: 05/24/17 09:13		Received: 05/25/17 00:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	11.1	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:23	7440-43-9	1c,2c
Zinc	57200	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:28	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R&W GW Samples
Pace Project No.: 30219768

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW09-MW(S)									
Lab ID: 30219768004									
Collected: 05/24/17 10:20 Received: 05/25/17 00:20 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	14.9	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:26	7440-43-9	1c,2c
Zinc	11900	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:30	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R&W GW Samples
Pace Project No.: 30219768

QC Batch: 259796 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30219768002, 30219768003, 30219768004

METHOD BLANK: 1279742 Matrix: Water
Associated Lab Samples: 30219768002, 30219768003, 30219768004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/27/17 01:12	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	05/27/17 01:12	1c,2c

LABORATORY CONTROL SAMPLE: 1279743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	513	103	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279745 1279746

Parameter	Units	30219509002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	2770	500	500	3390	3310	123	108	75-125	2	20	1c,2c
Zinc	ug/L	5370000	500	500	5330000	5800000	-7000	86800	75-125	8	20	1c,2c, ML

MATRIX SPIKE SAMPLE: 1279748

Parameter	Units	30219509012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	2.5J	500	516	103	75-125	1c,2c
Zinc	ug/L	1150	500	1640	97	75-125	1c,2c

SAMPLE DUPLICATE: 1279744

Parameter	Units	30219509002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2770	2770	0	20	1c,2c
Zinc	ug/L	5370000	5730000	6	20	1c,2c

SAMPLE DUPLICATE: 1279747

Parameter	Units	30219509012 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.5J	2.8J		20	1c,2c
Zinc	ug/L	1150	1180	3	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: R&W GW Samples
Pace Project No.: 30219768

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 259895

[1] Cd and Zn failed for the PDS.

[2] Zn failed on the serial dilution

ANALYTE QUALIFIERS

1c Cd and Zn failed for the PDS.

2c Zn failed on the serial dilution

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: R&W GW Samples

Pace Project No.: 30219768

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219768002	RW08-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219768003	RW09-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219768004	RW09-MW(S)	EPA 3005A	259796	EPA 6010C	259895

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

4 of 7

Section A
 Required Client Information:
 Company: EnviroAnalytics Group
 Address: 1430 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To: calenda@enviroanalyticsgroup.com
 Phone: 314-620-3056
 Requested Due Date/TAT: 5 days

Section B
 Required Project Information:
 Report To: James Calenda
 Copy To:
 PO Number:
 Project Name: R20348-1-1
 Project Number: 20348-1-1

Section C
 Invoice Information:
 Attention: Laura Sargent
 Company Name: EnviroAnalytics Group
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
 Pace Quota Reference:
 Pace Project Manager: Samantha Bayura
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MD
 STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WWT WASTE WATER WAW PRODUCT P SOIL/SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol DI Water	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
1		Trip Blank 1			WTG		12/21/17			
2		R-208 - mwt(5)		0903	WTG		1	X		
3		R-209 - mwt(1)		0905	WTG		1	X		
4		R-209 - mwt(57)		1020	WTG		1	X		
5										
6										
7										
8										
9										
10										
11										
12										

WO#: 30219768

30219768

ADDITIONAL COMMENTS
 Data Package Required? (Y/N): Y
 Data Validation Required? (Y/N): Y
 If data package is required, attach data package checklist.

RELINQUISHED BY / AFFILIATION
 Robert Barte
 Date: 5/24/17
 Time: 10:20

ACCEPTED BY / AFFILIATION
 Robert Barte
 Date: 5/24/17
 Time: 10:20

TEMP IN °C
 38

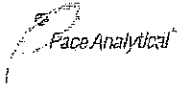
RECEIVED ON
 Ice (Y/N): Y
 Custody Sealed (Y/N): Y
 Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Robert Barte
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 05/24/17

Sample Condition Upon Receipt Pittsburgh

30219768

AMC



Client Name: EnviroAna Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.8 °C Correction Factor: 10.0 °C Final Temp: 3.8 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: AMC 5-25-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>AMC</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):		X		16.
Trip Blank Present:	X			17.
Trip Blank Custody Seals Present	X			
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 12, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220708001	RW01-MW(I)	Water	06/05/17 11:01	06/05/17 23:15
30220708002	RW01-MW(S)	Water	06/05/17 11:42	06/05/17 23:15
30220708003	RW02-MW(I)	Water	06/05/17 13:22	06/05/17 23:15
30220708004	RW02-MW(S)	Water	06/05/17 14:17	06/05/17 23:15
30220708005	RW03-MW(I)	Water	06/05/17 15:22	06/05/17 23:15
30220708006	RW03-MW(S)	Water	06/05/17 16:22	06/05/17 23:15

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220708001	RW01-MW(I)	EPA 6010C	PJD	2
30220708002	RW01-MW(S)	EPA 6010C	PJD	2
30220708003	RW02-MW(I)	EPA 6010C	PJD	2
30220708004	RW02-MW(S)	EPA 6010C	PJD	2
30220708005	RW03-MW(I)	EPA 6010C	PJD	2
30220708006	RW03-MW(S)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 12, 2017

General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed in the PDS.

- QC Batch: 261433

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- BLANK (Lab ID: 1286693)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1286695)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 12, 2017

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- DUP (Lab ID: 1286698)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1286694)
 - Cadmium
 - Zinc
- MS (Lab ID: 1286696)
 - Cadmium
 - Zinc
- MS (Lab ID: 1286699)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1286697)
 - Cadmium
 - Zinc
- RW01-MW(I) (Lab ID: 30220708001)
 - Cadmium
 - Zinc
- RW01-MW(S) (Lab ID: 30220708002)
 - Cadmium
 - Zinc
- RW02-MW(I) (Lab ID: 30220708003)
 - Cadmium
 - Zinc
- RW02-MW(S) (Lab ID: 30220708004)
 - Cadmium
 - Zinc
- RW03-MW(I) (Lab ID: 30220708005)
 - Cadmium
 - Zinc
- RW03-MW(S) (Lab ID: 30220708006)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW01-MW(I)									
Lab ID: 30220708001									
Collected: 06/05/17 11:01 Received: 06/05/17 23:15 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	666	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:38	7440-43-9	1c
Zinc	16800	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:08	7440-66-6	1c,MH

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW01-MW(S)		Lab ID: 30220708002		Collected: 06/05/17 11:42		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2.7J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:52	7440-43-9	1c
Zinc	10600	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:23	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW02-MW(I)		Lab ID: 30220708003		Collected: 06/05/17 13:22	Received: 06/05/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	451	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:55	7440-43-9	1c	
Zinc	15200	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:25	7440-66-6	1c	

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW02-MW(S)		Lab ID: 30220708004		Collected: 06/05/17 14:17	Received: 06/05/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	11.9	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:03	7440-43-9	1c	
Zinc	46900	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:27	7440-66-6	1c	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW03-MW(I)		Lab ID: 30220708005		Collected: 06/05/17 15:22	Received: 06/05/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	37.4	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:05	7440-43-9	1c	
Zinc	2440	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:05	7440-66-6	1c	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

Sample: RW03-MW(S)		Lab ID: 30220708006		Collected: 06/05/17 16:22		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	4.0	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:08	7440-43-9	1c
Zinc	5500	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:30	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220708

QC Batch: 261330 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30220708001, 30220708002, 30220708003, 30220708004, 30220708005, 30220708006

METHOD BLANK: 1286693 Matrix: Water
Associated Lab Samples: 30220708001, 30220708002, 30220708003, 30220708004, 30220708005, 30220708006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/09/17 22:33	1c
Zinc	ug/L	10.0 U	10.0	1.1	06/09/17 22:33	1c

LABORATORY CONTROL SAMPLE: 1286694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	510	102	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1286696 1286697

Parameter	Units	30220708001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	666	500	500	1190	1220	104	110	75-125	3	20	1c
Zinc	ug/L	16800	500	500	17600	18000	160	238	75-125	2	20	1c, MH

MATRIX SPIKE SAMPLE: 1286699

Parameter	Units	30220820004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.48J	500	499	100	75-125	1c
Zinc	ug/L	71.9	500	554	96	75-125	1c

SAMPLE DUPLICATE: 1286695

Parameter	Units	30220708001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	666	688	3	20	1c
Zinc	ug/L	16800	16900	1	20	1c

SAMPLE DUPLICATE: 1286698

Parameter	Units	30220820004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.48J	0.56J		20	1c
Zinc	ug/L	71.9	73.2	2	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 261433

[1] Cd and Zn failed in the PDS.

ANALYTE QUALIFIERS

1c Cd and Zn failed in the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220708001	RW01-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708002	RW01-MW(S)	EPA 3005A	261330	EPA 6010C	261433
30220708003	RW02-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708004	RW02-MW(S)	EPA 3005A	261330	EPA 6010C	261433
30220708005	RW03-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708006	RW03-MW(S)	EPA 3005A	261330	EPA 6010C	261433

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CHAIN-OF-CUSTODY / Analytical Request Docu

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed ac



Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1600 Sparrows Point Blvd, Suite B2 Sparrows Point, MD 21219	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group
Email To:	icalenda@enviroanalyticsgroup.com	Purchase Order No.:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Quote Reference:	
Requested Due Date/TAT:	5 Day	Project Number:	170384-1	Pace Project Manager:	Samantha Bayura
				Site Location:	MD
				STATE:	

ITEM #	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OIL WI WIPE AR AIR OT OTHER TS TISSUE	Required Client Information	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test ↑ Total Cadmium 6010 Total Zinc 6010	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME						
1	RW01 - MW(E)		WT G	6/5/17	11:01	1	X	X		001	
2	RW01 - MW(S)		WT G		11:41	1	X	X		002	
3	RW02 - MW(A)		WT G		13:22	1	X	X		003	
4	RW02 - MW(S)		WT G		14:17	1	X	X		004	
5	RW03 - MW(E)		WT G		15:22	1	X	X		005	
6	RW03 - MW(S)		WT G		16:23	1	X	X		006	
7											
8											
9											
10											
11											
12											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Beitz	6/5/17	16:32	David & Hillegas Pace	6/5/17	17:42	
	David & Hillegas Pace	6/5/17	19:33	David & Hillegas Pace	6/5/17	20:08	
	David & Hillegas Pace	6/5/17	23:52	David & Hillegas Pace	6/5/17	23:52	
							Temp in °C
							Received on
							Cooler (Y/N)
							Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Bob Beitz
 SIGNATURE of SAMPLER: *Bob Beitz*
 DATE Signed (MM/DD/YYYY): 6/5/17

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt Pittsburgh

30220708



Client Name: Sparrows Pt. Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: NA

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.6 °C Correction Factor: 0 °C Final Temp: 2.6 °C
Temp should be above freezing to 6°C

PC
6/15/17

Date and Initials of person examining contents:
PC 6/15/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.			/	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			/	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>PC</u> Date/time of preservation <u>6/15/17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr		/		Initial when completed: <u>PC</u> Date: <u>6/15/17</u>

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 12, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220820

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220820

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220820

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220820001	RW06-MW (S)	Water	06/06/17 09:53	06/06/17 22:30
30220820002	RW06-MW (I)	Water	06/06/17 10:42	06/06/17 22:30
30220820003	RW06-MW (D)	Water	06/06/17 11:17	06/06/17 22:30
30220820004	RW08-MW (I)	Water	06/06/17 12:32	06/06/17 22:30
30220820005	RW08-MW (S)	Water	06/06/17 13:27	06/06/17 22:30
30220820006	RW07-MW (I)	Water	06/06/17 14:58	06/06/17 22:30
30220820007	RW07-MW (S)	Water	06/06/17 15:47	06/06/17 22:30

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220820001	RW06-MW (S)	EPA 6010C	PJD	2
30220820002	RW06-MW (I)	EPA 6010C	PJD	2
30220820003	RW06-MW (D)	EPA 6010C	PJD	2
30220820004	RW08-MW (I)	EPA 6010C	PJD	2
30220820005	RW08-MW (S)	EPA 6010C	PJD	2
30220820006	RW07-MW (I)	EPA 6010C	PJD	2
30220820007	RW07-MW (S)	EPA 6010C	PJD	2

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 12, 2017

General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed in the PDS.

- QC Batch: 261433

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- BLANK (Lab ID: 1286693)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1286695)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 12, 2017

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- DUP (Lab ID: 1286698)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1286694)
 - Cadmium
 - Zinc
- MS (Lab ID: 1286696)
 - Cadmium
 - Zinc
- MS (Lab ID: 1286699)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1286697)
 - Cadmium
 - Zinc
- RW06-MW (D) (Lab ID: 30220820003)
 - Cadmium
 - Zinc
- RW06-MW (I) (Lab ID: 30220820002)
 - Cadmium
 - Zinc
- RW06-MW (S) (Lab ID: 30220820001)
 - Cadmium
 - Zinc
- RW07-MW (I) (Lab ID: 30220820006)
 - Cadmium
 - Zinc
- RW07-MW (S) (Lab ID: 30220820007)
 - Cadmium
 - Zinc
- RW08-MW (I) (Lab ID: 30220820004)
 - Cadmium
 - Zinc
- RW08-MW (S) (Lab ID: 30220820005)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW06-MW (S)		Lab ID: 30220820001		Collected: 06/06/17 09:53	Received: 06/06/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	3.0 U	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:10	7440-43-9	1c	
Zinc	30.2	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:10	7440-66-6	1c	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW06-MW (I)		Lab ID: 30220820002	Collected: 06/06/17 10:42	Received: 06/06/17 22:30	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	14.3	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:12	7440-43-9	1c	
Zinc	876	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:12	7440-66-6	1c	

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW06-MW (D)									
Lab ID: 30220820003									
Collected: 06/06/17 11:17 Received: 06/06/17 22:30 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.1J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:15	7440-43-9	1c
Zinc	58.0	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:15	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW08-MW (I)		Lab ID: 30220820004		Collected: 06/06/17 12:32		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	0.48J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:20	7440-43-9	1c
Zinc	71.9	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:20	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW08-MW (S)		Lab ID: 30220820005		Collected: 06/06/17 13:27		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.7J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:17	7440-43-9	1c
Zinc	1870	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:17	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220820

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW07-MW (I)									
Lab ID: 30220820006									
Collected: 06/06/17 14:58 Received: 06/06/17 22:30 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	0.91J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:38	7440-43-9	1c
Zinc	432	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:38	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW07-MW (S)		Lab ID: 30220820007		Collected: 06/06/17 15:47	Received: 06/06/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	2.3J	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:41	7440-43-9	1c	
Zinc	107	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:41	7440-66-6	1c	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220820

QC Batch: 261330 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30220820001, 30220820002, 30220820003, 30220820004, 30220820005, 30220820006, 30220820007

METHOD BLANK: 1286693 Matrix: Water
Associated Lab Samples: 30220820001, 30220820002, 30220820003, 30220820004, 30220820005, 30220820006, 30220820007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/09/17 22:33	1c
Zinc	ug/L	10.0 U	10.0	1.1	06/09/17 22:33	1c

LABORATORY CONTROL SAMPLE: 1286694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	510	102	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1286696 1286697

Parameter	Units	30220708001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	666	500	500	1190	1220	104	110	75-125	3	20	1c
Zinc	ug/L	16800	500	500	17600	18000	160	238	75-125	2	20	1c, MH

MATRIX SPIKE SAMPLE: 1286699

Parameter	Units	30220820004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.48J	500	499	100	75-125	1c
Zinc	ug/L	71.9	500	554	96	75-125	1c

SAMPLE DUPLICATE: 1286695

Parameter	Units	30220708001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	666	688	3	20	1c
Zinc	ug/L	16800	16900	1	20	1c

SAMPLE DUPLICATE: 1286698

Parameter	Units	30220820004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.48J	0.56J		20	1c
Zinc	ug/L	71.9	73.2	2	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 261433

[1] Cd and Zn failed in the PDS.

ANALYTE QUALIFIERS

1c Cd and Zn failed in the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220820001	RW06-MW (S)	EPA 3005A	261330	EPA 6010C	261433
30220820002	RW06-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820003	RW06-MW (D)	EPA 3005A	261330	EPA 6010C	261433
30220820004	RW08-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820005	RW08-MW (S)	EPA 3005A	261330	EPA 6010C	261433
30220820006	RW07-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820007	RW07-MW (S)	EPA 3005A	261330	EPA 6010C	261433

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W# : 30220820

CHAIN-OF-CUSTODY / Analytical Request Docu

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed acc



Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: EnviroAnalytics Group	Report To: James Calenda	Attention: Laura Sargent	Company Name: EnviroAnalytics Group	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	REGULATORY AGENCY
Address: 1600 Sparrows Point Blvd, Suite B2	Copy To: Stewart Kabis	Purchase Order No.:	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	State: MD	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Email To: jcalenda@enviroanalyticsgroup.com	Project Name: Rod and Wire Mill GW Sampling	Project Number: 175384-1-1	Pace Quote Reference: Samantha Bayura	Site Location	<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
Phone: 314-620-3056	Requested Due Date/TAT: 5 Day				

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID S OIL OI WASTE WATER WWT AIR AR OTHER OT TISSUE TS	Required Client Information	SAMPLE ID (A-Z, 0-9 / -)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	PRESERVATIVES	Analysis Test	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB					
1			RW06-MW(S)	G	DATE: 6/6/17	TIME: 0953	1	H ₂ SO ₄	Total Cadmium 6010		001
2			RW06-MW(I)	G	DATE: 6/6/17	TIME: 1042	1	HNO ₃	Total Cadmium 6010		002
3			RW06-MW(D)	G	DATE: 6/6/17	TIME: 1117	1	HCl	Total Cadmium 6010		003
4			RW08-MW(I)	G	DATE: 6/6/17	TIME: 1332	1	NaOH	Total Cadmium 6010		004
5			RW08-MW(S)	G	DATE: 6/6/17	TIME: 1321	1	NaOH	Total Cadmium 6010		005
6			RW07-MW(I)	G	DATE: 6/6/17	TIME: 1458	1	HNO ₃	Total Cadmium 6010		006
7			RW07-MW(S)	G	DATE: 6/6/17	TIME: 1547	1	HNO ₃	Total Cadmium 6010		007

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Bantz	6/6/17	1602	David L. Halligan	6/6/17	1908	Received on Ice (Y/N) <input type="checkbox"/>
	David L. Halligan	6/6/17	1908	David L. Halligan	6/6/17	1908	Cooler (Y/N) <input type="checkbox"/>
	David L. Halligan	6/6/17	2250	David L. Halligan	6/6/17	2250	Temp in °C
	David L. Halligan	6/6/17	2250	David L. Halligan	6/6/17	2250	Received on Ice (Y/N) <input type="checkbox"/>
	David L. Halligan	6/6/17	2250	David L. Halligan	6/6/17	2250	Cooler (Y/N) <input type="checkbox"/>
	David L. Halligan	6/6/17	2250	David L. Halligan	6/6/17	2250	Samples Intact (Y/N) <input type="checkbox"/>

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt Pittsburgh

30220820



Client Name: Sparrows Pt. Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: NA

PC
6-6-17

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice Wet Blue None

Cooler Temperature Observed Temp 1.1 °C Correction Factor: 0 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 6-6-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used: -Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>PC</u> Date/time of preservation: <u>6-6-17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>PC</u> Date: <u>6-6-17</u>

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220937001	RW05-MW(I)	Water	06/07/17 08:57	06/07/17 22:50
30220937002	RW04-MW(S)	Water	06/07/17 09:57	06/07/17 22:50
30220937003	RW09-MW(I)	Water	06/07/17 10:50	06/07/17 22:50
30220937004	RW09-MW(S)	Water	06/07/17 11:27	06/07/17 22:50
30220937005	RW22-MW(I)	Water	06/07/17 13:04	06/07/17 22:50
30220937006	RW11-MW(S)	Water	06/07/17 14:17	06/07/17 22:50
30220937007	RW11-MW(I)	Water	06/07/17 15:07	06/07/17 22:50
30220937008	RW10-MW(I)	Water	06/07/17 16:35	06/07/17 22:50

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220937001	RW05-MW(I)	EPA 6010C	PJD	2
30220937002	RW04-MW(S)	EPA 6010C	PJD	2
30220937003	RW09-MW(I)	EPA 6010C	PJD	2
30220937004	RW09-MW(S)	EPA 6010C	PJD	2
30220937005	RW22-MW(I)	EPA 6010C	PJD	2
30220937006	RW11-MW(S)	EPA 6010C	PJD	2
30220937007	RW11-MW(I)	EPA 6010C	PJD	2
30220937008	RW10-MW(I)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed on the Serial Dilution

- QC Batch: 261736

Zn failed on the PDS

- QC Batch: 261736

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc
- RW04-MW(S) (Lab ID: 30220937002)
 - Cadmium
 - Zinc
- RW05-MW(I) (Lab ID: 30220937001)
 - Cadmium
 - Zinc
- RW09-MW(I) (Lab ID: 30220937003)
 - Cadmium
 - Zinc
- RW09-MW(S) (Lab ID: 30220937004)
 - Cadmium
 - Zinc
- RW10-MW(I) (Lab ID: 30220937008)
 - Cadmium
 - Zinc
- RW11-MW(I) (Lab ID: 30220937007)
 - Cadmium
 - Zinc
- RW11-MW(S) (Lab ID: 30220937006)
 - Cadmium
 - Zinc
- RW22-MW(I) (Lab ID: 30220937005)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc
- RW04-MW(S) (Lab ID: 30220937002)
 - Cadmium
 - Zinc
- RW05-MW(I) (Lab ID: 30220937001)
 - Cadmium
 - Zinc
- RW09-MW(I) (Lab ID: 30220937003)
 - Cadmium
 - Zinc
- RW09-MW(S) (Lab ID: 30220937004)
 - Cadmium
 - Zinc
- RW10-MW(I) (Lab ID: 30220937008)
 - Cadmium
 - Zinc
- RW11-MW(I) (Lab ID: 30220937007)
 - Cadmium
 - Zinc
- RW11-MW(S) (Lab ID: 30220937006)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW22-MW(I) (Lab ID: 30220937005)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW05-MW(I)		Lab ID: 30220937001		Collected: 06/07/17 08:57		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	577	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:30	7440-43-9	1c,2c
Zinc	40400	ug/L	1000	108	100	06/13/17 08:19	06/13/17 23:53	7440-66-6	1c,2c, MH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW04-MW(S)									
Lab ID: 30220937002									
Collected: 06/07/17 09:57 Received: 06/07/17 22:50 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	0.70J	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:44	7440-43-9	1c,2c
Zinc	58.2	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 22:44	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW09-MW(I)		Lab ID: 30220937003		Collected: 06/07/17 10:50		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	8.1	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:47	7440-43-9	1c,2c
Zinc	51900	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:07	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW09-MW(S)		Lab ID: 30220937004		Collected: 06/07/17 11:27		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	13.9	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:54	7440-43-9	1c,2c
Zinc	13000	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:10	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW22-MW(I) **Lab ID: 30220937005** Collected: 06/07/17 13:04 Received: 06/07/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	1.9J	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:57	7440-43-9	1c,2c
Zinc	374	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 22:57	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW11-MW(S)									
Lab ID: 30220937006									
Collected: 06/07/17 14:17 Received: 06/07/17 22:50 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	0.94J	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:59	7440-43-9	1c,2c
Zinc	13500	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:12	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW11-MW(l)		Lab ID: 30220937007		Collected: 06/07/17 15:07		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	218	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:01	7440-43-9	1c,2c
Zinc	201000	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:15	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW10-MW(I)									
Lab ID: 30220937008									
Collected: 06/07/17 16:35 Received: 06/07/17 22:50 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	27.2	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:04	7440-43-9	1c,2c
Zinc	34600	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:22	7440-66-6	1c,2c

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

QC Batch: 261633 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30220937001, 30220937002, 30220937003, 30220937004, 30220937005, 30220937006, 30220937007, 30220937008

METHOD BLANK: 1288443 Matrix: Water
Associated Lab Samples: 30220937001, 30220937002, 30220937003, 30220937004, 30220937005, 30220937006, 30220937007, 30220937008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE: 1288444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1288446 1288447

Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE: 1288449

Parameter	Units	30221073003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1288445

Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c,2c
Zinc	ug/L	12200	12400	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 261736

[1] Cd and Zn failed on the Serial Dilution

[2] Zn failed on the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed on the Serial Dilution

2c Zn failed on the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30220937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220937001	RW05-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937002	RW04-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937003	RW09-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937004	RW09-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937005	RW22-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937006	RW11-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937007	RW11-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937008	RW10-MW(I)	EPA 3005A	261633	EPA 6010C	261736

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WO#: 30220937

CUSTODY / Analytical Request Document

is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Page: 1 of 1

Section A
 Required Client Information:
 Company: EnviroAnalytics Group
 Report To: James Calenda
 Address: 1600 Sparrows Point Blvd, Suite B2
 Copy To: Stewart Kabis
 Sparrows Point, MD 21219
 Email To: jcalenda@enviroanalyticsgroup.com
 Purchase Order No.:
 Project Name: Rod and Wire Mill GW Sampling
 Project Reference: Samantha Bayura
 Pace Profile #:
 Phone: 314-620-3056 Fax:
 Requested Due Date/TAT: s Day

Section C
 Invoice Information:
 Attention: Laura Sargent
 Company Name: EnviroAnalytics Group
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63181
 Pace Quote Reference:
 Pace Project Manager: Samantha Bayura
 Regulatory Agency: NPDES GROUND WATER RCRA UST DRINKING WATER OTHER
 Site Location: MD
 STATE:

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START DATE TIME	COMPOSITE END/GRAB DATE TIME						
1		RW05 - MW(I)	WT G	1	6/17/11	0857	1	X	X		001	
2		RW04 - MW(S)	WT G	1	6/17/11	0957	1	X	X		002	
3		RW09 - MW(I)	WT G	1	6/17/11	1050	1	X	X		003	
4		RW09 - MW(S)	WT G	1	6/17/11	1127	1	X	X		004	
5		RW22 - MW(I)	WT G	1	6/17/11	1304	1	X	X		005	
6		RW11 - MW(S)	WT G	1	6/17/11	1417	1	X	X		006	
7		RW11 - MW(I)	WT G	1	6/17/11	1567	1	X	X		007	
8		RW10 - MW(I)	WT G	1	6/17/11	1635	1	X	X		008	
9												
10												
11												
12												

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START DATE TIME	COMPOSITE END/GRAB DATE TIME						
1		RW05 - MW(I)	WT G	1	6/17/11	0857	1	X	X		001	
2		RW04 - MW(S)	WT G	1	6/17/11	0957	1	X	X		002	
3		RW09 - MW(I)	WT G	1	6/17/11	1050	1	X	X		003	
4		RW09 - MW(S)	WT G	1	6/17/11	1127	1	X	X		004	
5		RW22 - MW(I)	WT G	1	6/17/11	1304	1	X	X		005	
6		RW11 - MW(S)	WT G	1	6/17/11	1417	1	X	X		006	
7		RW11 - MW(I)	WT G	1	6/17/11	1567	1	X	X		007	
8		RW10 - MW(I)	WT G	1	6/17/11	1635	1	X	X		008	
9												
10												
11												
12												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Bentz	6/17/11	1639	James Calenda	6/17/11	1647	
	David S. Hilligoss	6/17/11	1845	David S. Hilligoss	6/17/11	2000	
	David S. Hilligoss	6/17/11	2255	David S. Hilligoss	6/17/11	2250	

Temp in °C: _____
 Received on: _____
 Custody Sealed: _____
 Cooler (Y/N): _____
 Samples Intact (Y/N): _____

DATE Signed (MM/DD/YY): 06/07/11
 SIGNATURE of SAMPLER: *Bob Bentz*
 PRINT Name of SAMPLER: Bob Bentz

KBH

Sample Condition Upon Receipt Pittsburgh



Client Name: EnviroAnalytics

Project # 30220937

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 1 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.9 °C Correction Factor: 0.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KBH 6/18/17

Comments:

Yes No N/A

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>KBH</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr		/		Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221073001	RW12-MW(I)	Water	06/08/17 09:00	06/08/17 22:25
30221073002	RW12-MW(S)	Water	06/08/17 09:47	06/08/17 22:25
30221073003	RW14-MW(S)	Water	06/08/17 10:47	06/08/17 22:25
30221073004	RW15-MW(S)	Water	06/08/17 11:52	06/08/17 22:25
30221073005	RW18-MW(I)	Water	06/08/17 13:04	06/08/17 22:25
30221073006	RW18-MW(S)	Water	06/08/17 13:55	06/08/17 22:25
30221073007	RW19-MW(I)	Water	06/08/17 15:08	06/08/17 22:25
30221073008	RW19-MW(S)	Water	06/08/17 15:58	06/08/17 22:25

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SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221073001	RW12-MW(I)	EPA 6010C	PJD	2
30221073002	RW12-MW(S)	EPA 6010C	PJD	2
30221073003	RW14-MW(S)	EPA 6010C	PJD	2
30221073004	RW15-MW(S)	EPA 6010C	PJD	2
30221073005	RW18-MW(I)	EPA 6010C	PJD	2
30221073006	RW18-MW(S)	EPA 6010C	PJD	2
30221073007	RW19-MW(I)	EPA 6010C	PJD	2
30221073008	RW19-MW(S)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: June 14, 2017

General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed on the Serial Dilution

- QC Batch: 261736

Zn failed on the PDS

- QC Batch: 261736

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc
- RW12-MW(I) (Lab ID: 30221073001)
 - Cadmium
 - Zinc
- RW12-MW(S) (Lab ID: 30221073002)
 - Cadmium
 - Zinc
- RW14-MW(S) (Lab ID: 30221073003)
 - Cadmium
 - Zinc
- RW15-MW(S) (Lab ID: 30221073004)
 - Cadmium
 - Zinc
- RW18-MW(I) (Lab ID: 30221073005)
 - Cadmium
 - Zinc
- RW18-MW(S) (Lab ID: 30221073006)
 - Cadmium
 - Zinc
- RW19-MW(I) (Lab ID: 30221073007)
 - Cadmium
 - Zinc
- RW19-MW(S) (Lab ID: 30221073008)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc
- RW12-MW(I) (Lab ID: 30221073001)
 - Cadmium
 - Zinc
- RW12-MW(S) (Lab ID: 30221073002)
 - Cadmium
 - Zinc
- RW14-MW(S) (Lab ID: 30221073003)
 - Cadmium
 - Zinc
- RW15-MW(S) (Lab ID: 30221073004)
 - Cadmium
 - Zinc
- RW18-MW(I) (Lab ID: 30221073005)
 - Cadmium
 - Zinc
- RW18-MW(S) (Lab ID: 30221073006)
 - Cadmium
 - Zinc
- RW19-MW(I) (Lab ID: 30221073007)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW19-MW(S) (Lab ID: 30221073008)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW12-MW(I)		Lab ID: 30221073001		Collected: 06/08/17 09:00		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2260	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:06	7440-43-9	1c,2c
Zinc	226000	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:24	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW12-MW(S)		Lab ID: 30221073002	Collected: 06/08/17 09:47	Received: 06/08/17 22:25	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	29.7	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:09	7440-43-9	1c,2c
Zinc	11400	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:27	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW14-MW(S)		Lab ID: 30221073003	Collected: 06/08/17 10:47	Received: 06/08/17 22:25	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1520	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:11	7440-43-9	1c,2c
Zinc	12200	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:29	7440-66-6	1c,2c, MH

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW15-MW(S)									
Lab ID: 30221073004									
Collected: 06/08/17 11:52 Received: 06/08/17 22:25 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	69.4	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:23	7440-43-9	1c,2c
Zinc	6560	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:37	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW18-MW(I)		Lab ID: 30221073005		Collected: 06/08/17 13:04		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	65.1	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:25	7440-43-9	1c,2c
Zinc	694000	ug/L	10000	1080	1000	06/13/17 08:19	06/14/17 00:56	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW18-MW(S)		Lab ID: 30221073006	Collected: 06/08/17 13:55	Received: 06/08/17 22:25	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	356	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:28	7440-43-9	1c,2c
Zinc	25500	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:42	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW19-MW(I)		Lab ID: 30221073007		Collected: 06/08/17 15:08		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2280	ug/L	30.0	3.4	10	06/13/17 08:19	06/14/17 00:44	7440-43-9	1c,2c
Zinc	6720000	ug/L	100000	10800	10000	06/13/17 08:19	06/14/17 02:06	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30221073

Sample: RW19-MW(S)		Lab ID: 30221073008		Collected: 06/08/17 15:58		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	2.4J	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:33	7440-43-9	1c,2c
Zinc	3720	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 23:33	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

QC Batch: 261633 Analysis Method: EPA 6010C
 QC Batch Method: EPA 3005A Analysis Description: 6010C MET
 Associated Lab Samples: 30221073001, 30221073002, 30221073003, 30221073004, 30221073005, 30221073006, 30221073007, 30221073008

METHOD BLANK: 1288443 Matrix: Water
 Associated Lab Samples: 30221073001, 30221073002, 30221073003, 30221073004, 30221073005, 30221073006, 30221073007, 30221073008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE: 1288444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1288446 1288447

Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE: 1288449

Parameter	Units	30221073003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c, MH

SAMPLE DUPLICATE: 1288445

Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c,2c
Zinc	ug/L	12200	12400	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 261736

[1] Cd and Zn failed on the Serial Dilution

[2] Zn failed on the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed on the Serial Dilution

2c Zn failed on the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30221073001	RW12-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073002	RW12-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073003	RW14-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073004	RW15-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073005	RW18-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073006	RW18-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073007	RW19-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073008	RW19-MW(S)	EPA 3005A	261633	EPA 6010C	261736

REPORT OF LABORATORY ANALYSIS

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Section A
Required Client Information:

Company: **EnviroAnalytics Group**
Address: **1600 Sparrows Point Blvd, Suite B2**
Sparrows Point, MD 21219
Email To: **lcalenda@enviroanalyticsgroup.com**
Phone: **314-620-3056** Fax:
Requested Due Date/TAT: **5 Day**

Section B
Required Project Information:

Report To: **James Calenda**
Copy To: **Stewart Kabis**
Purchase Order No.:
Project Name: **Rod and Wire Mill GW Sampling**
Project Number: **170384-1-1**

Attention: **Laura Sargent**
Company Name: **EnviroAnalytics Group**
Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**
Reference: **Face Quote**
Pace Project Manager: **Samantha Bayura**
Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
Site Location: **MD**
STATE:

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OIL WIPE WIPE AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↑	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB					DATE	TIME	DATE	TIME	DATE	TIME			
1	Rw12 - Mw(G)			6/9/17	0900	WT G	1									001	
2	Rw12 - Mw(S)				0947	WT B	1									002	
3	Rw14 - Mw(S)				1047	WT G	1									003	
4	Rw15 - Mw(S)				1152	WT G	1									004	
5	Rw18 - Mw(G)				1304	WT G	1									005	
6	Rw18 - Mw(S)				1355	WT G	1									006	
7	Rw19 - Mw(S)				1508	WT G	1									007	
8	Rw19 - Mw(S)				1558	WT G	1									008	
9																	
10																	
11																	
12																	

RELIQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
						Received on	Cooler (Y/N)	Samples Intact (Y/N)
Bob Bentz	6/9/17	1606	David A. Sargent	6/17/17	1634			
David A. Sargent	6/17/17	1846	David A. Sargent	6/17/17	1900			
David A. Sargent	6/17/17	2225	David A. Sargent	6/17/17	2225	0.9	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: **Bob Bentz**
SIGNATURE of SAMPLER: *Bob Bentz*
DATE Signed (MM/DD/YY): **06/08/17**

Sample Condition Upon Receipt Pittsburgh

KEH



Client Name: EnviroAnalytics

Project # 30221073

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 6 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 0.9 °C Correction Factor: 0.0 °C Final Temp: 0.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KEH 6/21/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>KEH</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30221240

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30221240

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221240001	RW21 - MW (D)	Water	06/09/17 08:38	06/09/17 22:25

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221240001	RW21 - MW (D)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

General Information:

1 sample was analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed on the Serial Dilution

- QC Batch: 261736

Zn failed on the PDS

- QC Batch: 261736

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc
- RW21 - MW (D) (Lab ID: 30221240001)
 - Cadmium
 - Zinc

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288445)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1288448)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1288444)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288446)
 - Cadmium
 - Zinc
- MS (Lab ID: 1288449)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1288447)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30221240

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW21 - MW (D) (Lab ID: 30221240001)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Sample: RW21 - MW (D) **Lab ID: 30221240001** Collected: 06/09/17 08:38 Received: 06/09/17 22:25 Matrix: Water

Comments: • 6/10/17 - Added 3ml HNO3 to Metals bottle prior to analysis. pH <2.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	0.35J	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:36	7440-43-9	1c,2c
Zinc	303	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 23:36	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30221240

QC Batch: 261633 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30221240001

METHOD BLANK: 1288443 Matrix: Water
Associated Lab Samples: 30221240001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE: 1288444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1288446 1288447

Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE: 1288449

Parameter	Units	30221073003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1288445

Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c,2c
Zinc	ug/L	12200	12400	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30221240

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 261736

[1] Cd and Zn failed on the Serial Dilution

[2] Zn failed on the PDS

ANALYTE QUALIFIERS

1c Cd and Zn failed on the Serial Dilution

2c Zn failed on the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30221240001	RW21 - MW (D)	EPA 3005A	261633	EPA 6010C	261736

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

30221240

Page: _____ of _____

Section A
 Required Client Information:
 Company: **EnviroAnalytics Group**
 Address: **1600 Sparrows Point Blvd, Suite B2**
 Sparrows Point, MD 21219
 Email To: **icalenda@enviroanalyticsgroup.com**
 Phone: **314-620-3056** Fax: _____
 Requested Due Date/TAT: **5 Day**

Section B
 Required Project Information:
 Report To: **James Calenda**
 Copy To: **Stewart Kabis**
 Purchase Order No.: _____
 Project Name: **Rod and Wire Mill GW Sampling**
 Project Number: _____

Section C
 Invoice Information:
 Attention: **Laura Sargent**
 Company Name: **EnviroAnalytics Group**
 Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**
 Pace Guide
 Reference: _____
 Pace Project Manager: **Samantha Bayura**
 Pace Profile #: _____

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____
 Site Location: _____
 STATE: **MD**

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Temp in °C	Received on	Custody Sealed	Samples Intact
			COMPOSITE START	COMPOSITE END/GRAB										
1	RW21 - MW (D)		DATE: 6/9/17	TIME: 0830	G	WT G		1	X	Y				
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

WO#: 30221240

30221240

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Bob Bentz	6/9/17	0857	James Calenda	6/9/17	1635	
James Calenda	6/9/17	1549	James Calenda	6/9/17	1900	
James Calenda	6/9/17	2225	James Calenda	6/9/17	2225	

ADDITIONAL COMMENTS
Bob Bentz
James Calenda
James Calenda

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Bob Bentz**
 SIGNATURE of SAMPLER: *Bob Bentz*
 DATE Signed (MM/DD/YY): **06/09/17**

Sample Condition Upon Receipt Pittsburgh

30221240

ARM



Client Name: SPAWONS Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.8 °C Correction Factor: +0.0 °C Final Temp: 3.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 6/10/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.		/		
exceptions: VOA, coliform, TOC, O&G, Phenolics				
Initial when completed	<u>ARM</u>	Date/time of preservation	<u>6/10/17 0830</u>	
Lot # of added preservative	<u>DL17-0025</u>			
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	
Initial when completed:		Date:		

6 mL ARM 6/10/17
Added some HNO₃ to metals
bottle. PH2

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for
Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223716001	Trip Blank 1	Water	07/10/17 00:01	07/10/17 22:30
30223716002	RW01-MWI	Water	07/10/17 09:37	07/10/17 22:30
30223716003	RW01-MW(S)	Water	07/10/17 10:44	07/10/17 22:30
30223716004	RW02-MW(I)	Water	07/10/17 11:35	07/10/17 22:30
30223716005	RW02-MW(S)	Water	07/10/17 12:17	07/10/17 22:30
30223716006	RW03-MW(I)	Water	07/10/17 13:12	07/10/17 22:30
30223716007	RW03-MW(S)	Water	07/10/17 14:05	07/10/17 22:30
30223716008	RW06-MW(I)	Water	07/10/17 15:07	07/10/17 22:30
30223716009	RW06-MW(D)	Water	07/10/17 15:55	07/10/17 22:30
30223716010	RW06-MW(S)	Water	07/10/17 16:45	07/10/17 22:30

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30223716002	RW01-MWI	EPA 6010C	PJD	2
30223716003	RW01-MW(S)	EPA 6010C	PJD	2
30223716004	RW02-MW(I)	EPA 6010C	PJD	2
30223716005	RW02-MW(S)	EPA 6010C	PJD	2
30223716006	RW03-MW(I)	EPA 6010C	PJD	2
30223716007	RW03-MW(S)	EPA 6010C	PJD	2
30223716008	RW06-MW(I)	EPA 6010C	PJD	2
30223716009	RW06-MW(D)	EPA 6010C	PJD	2
30223716010	RW06-MW(S)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 17, 2017

General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264707

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223716002

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1303581)
- Zinc

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

- Zn failed for the PDS.
- QC Batch: 264766

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: July 17, 2017

Analyte Comments:

QC Batch: 264707

1c: Zn failed for the PDS.

- BLANK (Lab ID: 1303578)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1303580)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1303579)
 - Cadmium
 - Zinc
- MS (Lab ID: 1303581)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1303582)
 - Cadmium
 - Zinc
- RW01-MW(S) (Lab ID: 30223716003)
 - Cadmium
 - Zinc
- RW01-MWI (Lab ID: 30223716002)
 - Cadmium
 - Zinc
- RW02-MW(I) (Lab ID: 30223716004)
 - Cadmium
 - Zinc
- RW02-MW(S) (Lab ID: 30223716005)
 - Cadmium
 - Zinc
- RW03-MW(I) (Lab ID: 30223716006)
 - Cadmium
 - Zinc
- RW03-MW(S) (Lab ID: 30223716007)
 - Cadmium
 - Zinc
- RW06-MW(D) (Lab ID: 30223716009)
 - Cadmium
 - Zinc
- RW06-MW(I) (Lab ID: 30223716008)
 - Cadmium
 - Zinc
- RW06-MW(S) (Lab ID: 30223716010)
 - Cadmium
 - Zinc

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 17, 2017

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW01-MWI		Lab ID: 30223716002		Collected: 07/10/17 09:37		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	530	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:28	7440-43-9	1c
Zinc	16100	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:20	7440-66-6	1c,MH

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW01-MW(S)		Lab ID: 30223716003	Collected: 07/10/17 10:44	Received: 07/10/17 22:30	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	2.3J	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:42	7440-43-9	1c	
Zinc	14800	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:35	7440-66-6	1c	

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW02-MW(I)		Lab ID: 30223716004		Collected: 07/10/17 11:35		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	421	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:45	7440-43-9	1c
Zinc	15300	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:37	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW02-MW(S)		Lab ID: 30223716005		Collected: 07/10/17 12:17		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	4.3	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:52	7440-43-9	1c
Zinc	97100	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:40	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW03-MW(I)		Lab ID: 30223716006		Collected: 07/10/17 13:12		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	138	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:54	7440-43-9	1c
Zinc	8330	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:42	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Sample: RW03-MW(S)		Lab ID: 30223716007		Collected: 07/10/17 14:05	Received: 07/10/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	4.6	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:57	7440-43-9	1c	
Zinc	8460	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:49	7440-66-6	1c	

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW06-MW(I)									
Lab ID: 30223716008									
Collected: 07/10/17 15:07 Received: 07/10/17 22:30 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	10.2	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:59	7440-43-9	1c
Zinc	1690	ug/L	10.0	1.1	1	07/12/17 08:12	07/12/17 23:59	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW06-MW(D)									
Lab ID: 30223716009									
Collected: 07/10/17 15:55 Received: 07/10/17 22:30 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	0.52J	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:02	7440-43-9	1c
Zinc	9.8J	ug/L	10.0	1.1	1	07/12/17 08:12	07/13/17 00:02	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW06-MW(S)		Lab ID: 30223716010		Collected: 07/10/17 16:45		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	3.6	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:04	7440-43-9	1c
Zinc	152	ug/L	10.0	1.1	1	07/12/17 08:12	07/13/17 00:04	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

QC Batch: 264707 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30223716002, 30223716003, 30223716004, 30223716005, 30223716006, 30223716007, 30223716008, 30223716009, 30223716010

METHOD BLANK: 1303578 Matrix: Water
Associated Lab Samples: 30223716002, 30223716003, 30223716004, 30223716005, 30223716006, 30223716007, 30223716008, 30223716009, 30223716010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/12/17 23:24	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/12/17 23:24	1c

LABORATORY CONTROL SAMPLE: 1303579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	533	107	80-120	1c
Zinc	ug/L	500	532	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1303581 1303582

Parameter	Units	30223716002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	530	500	500	1050	1040	103	103	75-125	0	20	1c
Zinc	ug/L	16100	500	500	18000	16600	374	86	75-125	8	20	1c, MH

SAMPLE DUPLICATE: 1303580

Parameter	Units	30223716002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	530	529	0	20	1c
Zinc	ug/L	16100	16000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 264766

[1] Zn failed for the PDS.

ANALYTE QUALIFIERS

1c Zn failed for the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223716002	RW01-MWI	EPA 3005A	264707	EPA 6010C	264766
30223716003	RW01-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716004	RW02-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716005	RW02-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716006	RW03-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716007	RW03-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716008	RW06-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716009	RW06-MW(D)	EPA 3005A	264707	EPA 6010C	264766
30223716010	RW06-MW(S)	EPA 3005A	264707	EPA 6010C	264766

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: **EnviroAnalytics Group**

Address: **1600 Sparrows Point Blvd, Suite B2**

Sparrows Point, MD 21219

Email To: icalenda@enviroanalyticsgroup.com

Phone: **314-620-3056** Fax:

Requested Due Date/TAT: **5 Day**

Section B

Required Project Information:

Report To: **James Calenda**

Copy To: **Stewart Kabis**

Purchase Order No.:

Project Name: **Road and Wire Mill GW Sampling**

Project Number: **170384-1-1**

Section C

Invoice Information:

Attention: **Laura Sargent**

Company Name: **EnviroAnalytics Group**

Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**

Pace Quote Reference: **Samantha Bayura**

Pace Project Manager:

Pace Profile #:

Page: / of /

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location

STATE: **MD**

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIPE AIR OTHER TISSUE	COLLECTED		DATE	TIME	SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives	Analysis Test ↑	Y/N	Temp in °C	Received on	Cooler (Y/N)	Custody Sealed	Samples Intact (Y/N)
			COMPOSITE START	COMPOSITE END/GRAB													
1	Trip Blank				7/10/17	0937	WT G		2	HCl	Total Zinc 6010	X					001
2	Rw101 - MWI				7/10/17	1044	WT G		1	HNO3	Total Cadmium 6010	X					002
3	Rw101 - MW(S)				7/10/17	1135	WT G		1	H2SO4		X					003
4	Rw102 - MWI				7/10/17	1217	WT G		1	Unpreserved		X					004
5	Rw102 - MW(S)				7/10/17	1316	WT G		1	HCl		X					005
6	Rw103 - MWI				7/10/17	1405	WT G		1	HNO3		X					006
7	Rw103 - MW(S)				7/10/17	1507	WT G		1	H2SO4		X					007
8	Rw106 - MWI				7/10/17	1555	WT G		1	HCl		X					008
9	Rw106 - MW(S)				7/10/17	1645	WT G		1	Unpreserved		X					009
10	Rw106 - MW(S)						WT G					X					010
11																	
12																	

WO#: 30223716



ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Bentz	7/10/17	1700	Paul H. Williams	7/10/17	1700	
	Paul H. Williams	7/10/17	1857	Paul H. Williams	7/10/17	1930	
	Paul H. Williams	7/10/17	2230	Paul H. Williams	7/10/17	2230	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **Bob Bentz**

SIGNATURE of SAMPLER: *Bob Bentz*

DATE Signed (MM/DD/YYYY): **07/10/17**

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt Pittsburgh

30223716



Client Name: EnviroAna. Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label	<u>AML</u>
LIMS Login	<u>AML</u>

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals Intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.8 °C Correction Factor: -0.2 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 7-11-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. <u>outer package labeled</u>
-Includes date/Time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics				Initial when completed: <u>AML</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Trip Blank analysis not needed as no samples have VOC analysis.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223801001	Trip Blank 1	Water	07/11/17 00:01	07/11/17 23:30
30223801002	RW07-MW(I)	Water	07/11/17 07:37	07/11/17 23:30
30223801003	RW07-MW(S)	Water	07/11/17 08:25	07/11/17 23:30
30223801004	RW08-MW(I)	Water	07/11/17 09:25	07/11/17 23:30
30223801005	RW08-MW(S)	Water	07/11/17 10:15	07/11/17 23:30
30223801006	RW09-MW(I)	Water	07/11/17 11:13	07/11/17 23:30
30223801007	RW09-MW(S)	Water	07/11/17 11:57	07/11/17 23:30
30223801008	RW11-MW(I)	Water	07/11/17 12:57	07/11/17 23:30
30223801009	RW11-MW(S)	Water	07/11/17 13:45	07/11/17 23:30
30223801010	RW10-MW(I)	Water	07/11/17 14:45	07/11/17 23:30
30223801011	RW04-MW(S)	Water	07/11/17 15:55	07/11/17 23:30

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SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30223801002	RW07-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801003	RW07-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801004	RW08-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801005	RW08-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801006	RW09-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801007	RW09-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801008	RW11-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801009	RW11-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801010	RW10-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801011	RW04-MW(S)	EPA 6010C	PJD	2	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW07-MW(I)		Lab ID: 30223801002		Collected: 07/11/17 07:37		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.2J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 21:57	7440-43-9	1c,2c
Zinc	45.7	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 21:57	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW07-MW(S) **Lab ID: 30223801003** Collected: 07/11/17 08:25 Received: 07/11/17 23:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	2.8J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:11	7440-43-9	1c,2c
Zinc	114	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:11	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW08-MW(I)		Lab ID: 30223801004		Collected: 07/11/17 09:25		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.3J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:14	7440-43-9	1c,2c
Zinc	153	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:14	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW08-MW(S)		Lab ID: 30223801005	Collected: 07/11/17 10:15	Received: 07/11/17 23:30	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	0.74J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:21	7440-43-9	1c,2c	
Zinc	968	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:21	7440-66-6	1c,2c	

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW09-MW(I)		Lab ID: 30223801006		Collected: 07/11/17 11:13		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	12.9	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:24	7440-43-9	1c,2c
Zinc	65600	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:38	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW09-MW(S)		Lab ID: 30223801007		Collected: 07/11/17 11:57		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	13.4	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:26	7440-43-9	1c,2c
Zinc	11500	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:41	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Sample: RW11-MW(l)		Lab ID: 30223801008		Collected: 07/11/17 12:57		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	518	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:28	7440-43-9	1c,2c
Zinc	192000	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:43	7440-66-6	1c,2c

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Sample: RW11-MW(S)		Lab ID: 30223801009		Collected: 07/11/17 13:45	Received: 07/11/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	0.84J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:31	7440-43-9	1c,2c	
Zinc	10900	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:50	7440-66-6	1c,2c	

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Sample: RW10-MW(I)		Lab ID: 30223801010	Collected: 07/11/17 14:45	Received: 07/11/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	16.3	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:33	7440-43-9	1c,2c
Zinc	25900	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:53	7440-66-6	1c,2c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW04-MW(S)		Lab ID: 30223801011		Collected: 07/11/17 15:55		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	1.2J	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:36	7440-43-9	1c,2c
Zinc	179	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:36	7440-66-6	1c,2c

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QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

QC Batch: 264841 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30223801002, 30223801003, 30223801004, 30223801005, 30223801006, 30223801007, 30223801008, 30223801009, 30223801010, 30223801011

METHOD BLANK: 1304368 Matrix: Water
Associated Lab Samples: 30223801002, 30223801003, 30223801004, 30223801005, 30223801006, 30223801007, 30223801008, 30223801009, 30223801010, 30223801011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/13/17 21:52	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	07/13/17 21:52	1c,2c

LABORATORY CONTROL SAMPLE: 1304369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	538	108	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1304371 1304372

Parameter	Units	30223801002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1.2J	500	500	536	533	107	106	75-125	1	20	1c,2c
Zinc	ug/L	45.7	500	500	562	560	103	103	75-125	0	20	1c,2c

SAMPLE DUPLICATE: 1304370

Parameter	Units	30223801002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.2J	1.1J		20	1c,2c
Zinc	ug/L	45.7	47.1	3	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: 264924

[1] Zn failed in the serial dilution.
[2] Cd failed in the PDS

ANALYTE QUALIFIERS

1c Cd failed in the PDS
2c Zn failed in the serial dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling
Pace Project No.: 30223801

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223801002	RW07-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801003	RW07-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801004	RW08-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801005	RW08-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801006	RW09-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801007	RW09-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801008	RW11-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801009	RW11-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801010	RW10-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801011	RW04-MW(S)	EPA 3005A	264841	EPA 6010C	264924

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY

WO#: 30223801

The Chain-of-Custody is a LEI



Section A
Required Client Information:

Company: **EnviroAnalytics Group**

Address: **1600 Sparrows Point Blvd, Suite B2**

Sparrows Point, MD 21219

Email To: calenda@enviroanalyticsgroup.com

Phone: **314-620-3056** Fax:

Requested Due Date/TAT: **5 Day**

Section B
Required Project Information:

Report To: **James Calenda**

Copy To: **Stewart Kabis**

Purchase Order No.:

Project Name: **Red and Wire Mill GW Sampling**

Project Number:

Attention: **Laura Sargent**

Company Name: **EnviroAnalytics Group**

Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**

Pace Quote Reference:

Pace Project Manager: **Samantha Bayura**

Pace Profile #:

Page: **1** of **1**

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location

STATE: **MD**

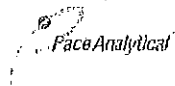
ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₈ Methanol Other	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Inact (Y/N)
			COMPOSITE START	COMPOSITE END/GRAB											
1	Trip Blank 1				WT G		2								
2	Rw07 - MW(S)			7/11/17	WT G		1	X							
3	Rw07 - MW(S)			0737	WT G		1	X							
4	Rw08 - MW(S)			0805	WT G		1	X							
5	Rw08 - MW(S)			0925	WT G		1	X							
6	Rw09 - MW(S)			1015	WT G		1	X							
7	Rw09 - MW(S)			1113	WT G		1	X							
8	Rw11 - MW(S)			1157	WT G		1	X							
9	Rw11 - MW(S)			1257	WT G		1	X							
10	Rw10 - MW(S)			1345	WT G		1	X							
11	Rw04 - MW(S)			1445	WT G		1	X							
12	Rw04 - MW(S)			1555	WT G		1	X							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	<i>Bob Bentz</i>	7/11/17	1607	<i>Dariusz Kille</i>	7/17/17	1618	
	<i>Dariusz Kille</i>	7/11/17	1825	<i>Bob Bentz</i>	7/17/17	1938	
	<i>Bob Bentz</i>	7/11/17	2330	<i>Bob Bentz</i>	7/17/17	2330	Y N Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: *Bob Bentz*
SIGNATURE of SAMPLER: *[Signature]*
DATE Signed (MM/DD/YYYY): *07/11/17*

Sample Condition Upon Receipt Pittsburgh

30223801



Client Name: Sparrows Pt. Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label	<u>PC</u>
LIMS Login	

Tracking #: NA

Custody Seal on Cooler/Box Present: yes no Seals Intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.6 °C Correction Factor: 0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

PC
7-11-17

Date and Initials of person examining contents:	<u>PC 7-11-17</u>
---	-------------------

Comments:	Yes	No	N/A	
Chain of Custody Present:	/	/		1.
Chain of Custody Filled Out:	/	/		2.
Chain of Custody Relinquished:	/	/		3.
Sampler Name & Signature on COC:	/	/		4.
Sample Labels match COC:	/	/		5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/	/		6.
Short Hold Time Analysis (<72hr remaining):	/	/		7.
Rush Turn Around Time Requested:	/	/		8.
Sufficient Volume:	/	/		9.
Correct Containers Used:	/	/		10.
-Pace Containers Used:	/	/		
Containers Intact:	/	/		11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.			/	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			/	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>PC</u> Date/time of preservation: <u>7-11-17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	/	/		16.
Trip Blank Present:	/	/		17.
Trip Blank Custody Seals Present	/	/		
Rad Aqueous Samples Screened > 0.5 mrem/hr	/	/		Initial when completed: <u>PC</u> Date: <u>7-11-17</u>

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219


RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 12, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for
Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223943001	RW05-MW(I)	Water	07/12/17 08:00	07/12/17 23:30
30223943002	RW12-MW(I)	Water	07/12/17 09:00	07/12/17 23:30
30223943003	RW12-MW(S)	Water	07/12/17 09:50	07/12/17 23:30
30223943004	RW15-MW(S)	Water	07/12/17 11:07	07/12/17 23:30
30223943005	RW18-MW(I)	Water	07/12/17 12:15	07/12/17 23:30
30223943006	RW18-MW(S)	Water	07/12/17 13:07	07/12/17 23:30
30223943007	RW19-MW(I)	Water	07/12/17 14:10	07/12/17 23:30
30223943008	RW19-MW(S)	Water	07/12/17 15:00	07/12/17 23:30
30223943009	RW21-MW(D)	Water	07/12/17 16:00	07/12/17 23:30

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30223943001	RW05-MW(I)	EPA 6010C	PJD	2
30223943002	RW12-MW(I)	EPA 6010C	PJD	2
30223943003	RW12-MW(S)	EPA 6010C	PJD	2
30223943004	RW15-MW(S)	EPA 6010C	PJD	2
30223943005	RW18-MW(I)	EPA 6010C	PJD	2
30223943006	RW18-MW(S)	EPA 6010C	PJD	2
30223943007	RW19-MW(I)	EPA 6010C	PJD	2
30223943008	RW19-MW(S)	EPA 6010C	PJD	2
30223943009	RW21-MW(D)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: July 17, 2017

General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264987

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223943001

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1305199)
 - Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1305198)
 - Zinc

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Cd and Zn failed on the PDS.

- QC Batch: 265079

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 17, 2017

Analyte Comments:

QC Batch: 264987

1c: Cd and Zn failed on the PDS.

- BLANK (Lab ID: 1305195)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1305197)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1305196)
 - Cadmium
 - Zinc
- MS (Lab ID: 1305198)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1305199)
 - Cadmium
 - Zinc
- RW05-MW(I) (Lab ID: 30223943001)
 - Cadmium
 - Zinc
- RW12-MW(I) (Lab ID: 30223943002)
 - Cadmium
 - Zinc
- RW12-MW(S) (Lab ID: 30223943003)
 - Cadmium
 - Zinc
- RW15-MW(S) (Lab ID: 30223943004)
 - Cadmium
 - Zinc
- RW18-MW(I) (Lab ID: 30223943005)
 - Cadmium
 - Zinc
- RW18-MW(S) (Lab ID: 30223943006)
 - Cadmium
 - Zinc
- RW19-MW(I) (Lab ID: 30223943007)
 - Cadmium
 - Zinc
- RW19-MW(S) (Lab ID: 30223943008)
 - Cadmium
 - Zinc
- RW21-MW(D) (Lab ID: 30223943009)
 - Cadmium
 - Zinc

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Method: EPA 6010C

Description: 6010C MET ICP

Client: EnviroAnalytics Group, LLC

Date: July 17, 2017

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW05-MW(I) **Lab ID: 30223943001** Collected: 07/12/17 08:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	11.9	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:26	7440-43-9	1c
Zinc	39600	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:24	7440-66-6	1c,MH, ML

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW12-MW(I) **Lab ID: 30223943002** Collected: 07/12/17 09:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	2730	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:40	7440-43-9	1c
Zinc	219000	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:39	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW12-MW(S) **Lab ID: 30223943003** Collected: 07/12/17 09:50 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	12.6	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:43	7440-43-9	1c
Zinc	9090	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:41	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW15-MW(S) **Lab ID: 30223943004** Collected: 07/12/17 11:07 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	94.8	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:50	7440-43-9	1c
Zinc	10200	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:43	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW18-MW(I) **Lab ID: 30223943005** Collected: 07/12/17 12:15 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	61.7	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:53	7440-43-9	1c
Zinc	575000	ug/L	10000	1080	1000	07/14/17 10:59	07/14/17 22:59	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW18-MW(S) **Lab ID: 30223943006** Collected: 07/12/17 13:07 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	240	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:55	7440-43-9	1c
Zinc	13300	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:54	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW19-MW(I) **Lab ID: 30223943007** Collected: 07/12/17 14:10 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	2550	ug/L	300	34.4	100	07/14/17 10:59	07/14/17 22:56	7440-43-9	1c
Zinc	5330000	ug/L	100000	10800	10000	07/14/17 10:59	07/14/17 23:01	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Sample: RW19-MW(S) **Lab ID: 30223943008** Collected: 07/12/17 15:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	9.7	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:00	7440-43-9	1c
Zinc	3700	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:00	7440-66-6	1c

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

Sample: RW21-MW(D) **Lab ID: 30223943009** Collected: 07/12/17 16:00 Received: 07/12/17 23:30 Matrix: Water

Comments:

- Sample is basic, acid was not added in receiving. Will be brought to correct pH in metals department.
- Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	3.0 U	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:03	7440-43-9	1c
Zinc	103	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:03	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

QC Batch: 264987 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30223943001, 30223943002, 30223943003, 30223943004, 30223943005, 30223943006, 30223943007, 30223943008, 30223943009

METHOD BLANK: 1305195 Matrix: Water
Associated Lab Samples: 30223943001, 30223943002, 30223943003, 30223943004, 30223943005, 30223943006, 30223943007, 30223943008, 30223943009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/14/17 21:21	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/14/17 21:21	1c

LABORATORY CONTROL SAMPLE: 1305196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	1c
Zinc	ug/L	500	526	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1305198 1305199

Parameter	Units	30223943001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.9	500	500	536	553	105	108	75-125	3	20	1c
Zinc	ug/L	39600	500	500	39800	40400	44	170	75-125	2	20	1c, MH, ML

SAMPLE DUPLICATE: 1305197

Parameter	Units	30223943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.9	12.2	3	20	1c
Zinc	ug/L	39600	40100	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30223943

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 265079

[1] Cd and Zn failed on the PDS.

ANALYTE QUALIFIERS

1c Cd and Zn failed on the PDS.
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223943001	RW05-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943002	RW12-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943003	RW12-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943004	RW15-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943005	RW18-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943006	RW18-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943007	RW19-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943008	RW19-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943009	RW21-MW(D)	EPA 3005A	264987	EPA 6010C	265079

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: EnviroAnalytics Group	Report To: James Calenda	Attention: Laura Sargent
Address: 1600 Sparrows Point Blvd, Suite B2	Copy To: Stewart Kabis	Company Name: EnviroAnalytics Group
Sparrows Point, MD 21219	Purchase Order No.:	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To: jcalenda@enviroanalyticsgroup.com	Project Name: Rod and Wire Mill GW Sampling	Pace Quote References:
Phone: 314-620-3056	Requested Due Date/TAT: 5 Day	Pace Project Manager: Samantha Bayura
		Site Location: MD
		STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Matrix Code (see valid codes to left)	Sample Type (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test ↑ Total Cadmium 6010 Total Zinc 6010	Requested Analysis Filtered (Y/N)	Residue	Pace Project No./ Lab I.D.
				DATE	TIME						
1	FW BB	WTG	G	7/12/17	0800	1	X	X		001	
2	RW105 - MW(I)	WTG	G		0905	1	X	X		002	
3	RW12 - MW(I)	WTG	G		0950	1	X	X		003	
4	RW12 - MW(S)	WTG	G			1	X	X		004	
5	RW14 - MW(S)	WTG	G			1	X	X		005	
6	RW15 - MW(S)	WTG	G		1107	1	X	X		006	
7	RW18 - MW(S)	WTG	G		1215	1	X	X		007	
8	RW18 - MW(S)	WTG	G		1507	1	X	X		008	
9	RW19 - MW(I)	WTG	G		1410	1	X	X		009	
10	RW19 - MW(S)	WTG	G		1500	1	X	X		000	
11	RW21 - MW(D)	WTG	G		1600	1	X	X			

WO#: 30223943

30223943

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Beatz	7/12/17	1605	Raymond R. K. [Signature]	7/12/17	1633	
	Daniel [Signature]	7/12/17	1835	[Signature]	7/12/17	1955	
	[Signature]	7/12/17	2530	Washington Pace	7-12-17	2330	Y N Y

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Temp in °C
Received on
Ice (Y/N)
Custody Sealed
Cooler (Y/N)
Samples Intact
F-ALL-Q-02Urev.06, Z-F68-2007

30223943

Sample Condition Upon Receipt Pittsburgh



Client Name: Enviro Ana Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label	<u>ANL</u>
LIMS Login	<u>ANL</u>

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals Intact: yes no

Thermometer Used 8 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 4.1 °C Correction Factor: +0.0 °C Final Temp: 4.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 7-13-17 ANL

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				<u>Outer packaging of samples 001-008 labeled, 009 bottle is labeled</u>
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X	X		<u>Sample 009 is basic did not try to preserve</u>
exceptions: VOA, coliform, TDC, O&G, Phenolics				Initial when completed <u>ANL</u> Date/time of preservation _____
				Lot # of added preservative _____
Headspace In VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in reports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda
EnviroAnalytics Group, LLC
Sparrows Point Terminal
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

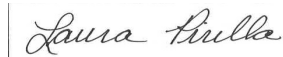
RE: Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for
Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224060001	RW22-MW(I)	Water	07/13/17 07:45	07/13/17 23:00

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SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224060001	RW22-MW(I)	EPA 6010C	PJD	2

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 17, 2017

General Information:

1 sample was analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264987

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223943001

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1305199)
 - Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1305198)
 - Zinc

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

- Cd and Zn failed on the PDS.
- QC Batch: 265079

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

Method: EPA 6010C
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 17, 2017

Analyte Comments:

QC Batch: 264987

1c: Cd and Zn failed on the PDS.

- BLANK (Lab ID: 1305195)
 - Cadmium
 - Zinc
- DUP (Lab ID: 1305197)
 - Cadmium
 - Zinc
- LCS (Lab ID: 1305196)
 - Cadmium
 - Zinc
- MS (Lab ID: 1305198)
 - Cadmium
 - Zinc
- MSD (Lab ID: 1305199)
 - Cadmium
 - Zinc
- RW22-MW(I) (Lab ID: 30224060001)
 - Cadmium
 - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: RW22-MW(I)									
Lab ID: 30224060001									
Collected: 07/13/17 07:45 Received: 07/13/17 23:00 Matrix: Water									
6010C MET ICP									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	17.5	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:05	7440-43-9	1c
Zinc	1730	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:05	7440-66-6	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

QC Batch: 264987 Analysis Method: EPA 6010C
QC Batch Method: EPA 3005A Analysis Description: 6010C MET
Associated Lab Samples: 30224060001

METHOD BLANK: 1305195 Matrix: Water
Associated Lab Samples: 30224060001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/14/17 21:21	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/14/17 21:21	1c

LABORATORY CONTROL SAMPLE: 1305196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	1c
Zinc	ug/L	500	526	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1305198 1305199

Parameter	Units	30223943001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.9	500	500	536	553	105	108	75-125	3	20	1c
Zinc	ug/L	39600	500	500	39800	40400	44	170	75-125	2	20	1c, MH, ML

SAMPLE DUPLICATE: 1305197

Parameter	Units	30223943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.9	12.2	3	20	1c
Zinc	ug/L	39600	40100	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rod and Wire Mill GW Sampling
Pace Project No.: 30224060

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 265079

[1] Cd and Zn failed on the PDS.

ANALYTE QUALIFIERS

1c Cd and Zn failed on the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30224060001	RW22-MW(I)	EPA 3005A	264987	EPA 6010C	265079

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information: Company: EnviroAnalytics Group Address: 1600 Sparrows Point Blvd, Suite B2 Sparrows Point, MD 21219 Email To: jalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: Requested Due Date/TAT: 5 Day		Section B Required Project Information: Report To: James Calenda Copy To: Stewart Kabis Purchase Order No.: Project Name: Rod and Wire Mill GW Sampling Project Number:		Section C Invoice Information: Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Site Location: MD Pace Project Manager: Samantha Bayura Pace Profile #:		REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
--	--	---	--	---	--	---	--

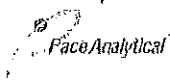
ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
					COMPOSITE START	COMPOSITE END/GRAB								
1	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / / -) Sample IDs MUST BE UNIQUE RW22-MW(E)	Valid Matrix Codes MATRIX DRINKING WATER WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIFE AIR OTHER TISSUE	MATRIX CODE DW WT WW P SL OL WP AR OT TS	SAMPLE TYPE (G=GRAB C=COMP) WG	COMPOSITE START 7/15/17	COMPOSITE END/GRAB 0845	DATE 7/15/17	TIME 1965	DATE 7/17/17	TIME 1715	ACCEPTED BY / AFFILIATION Bob Bente	DATE 7/13/17	TIME 2300	SAMPLE CONDITIONS 4.1 Y NY
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

Section D Required Client Information SAMPLE ID (A-Z, 0-9 / / -) Sample IDs MUST BE UNIQUE WO#: 30224060		Requested Analysis: Filtered (Y/N) <input type="checkbox"/> Y <input type="checkbox"/> N		Preservatives <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> HNO ₃ <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> Na ₂ S ₂ O ₃ <input type="checkbox"/> Methanol <input type="checkbox"/> Other		Analysis Test <input checked="" type="checkbox"/> Total Cadmium 6010 <input checked="" type="checkbox"/> Total Zinc 6010		# OF CONTAINERS <input checked="" type="checkbox"/> Unpreserved		SAMPLE TEMP AT COLLECTION <input type="checkbox"/> DATE <input type="checkbox"/> TIME		RELINQUISHED BY / AFFILIATION <input type="checkbox"/> DATE <input type="checkbox"/> TIME		ACCEPTED BY / AFFILIATION <input type="checkbox"/> DATE <input type="checkbox"/> TIME		Temp in °C <input type="checkbox"/> Received on <input type="checkbox"/> Ice (Y/N) <input type="checkbox"/> Custody Sealed <input type="checkbox"/> Cooler (Y/N) <input type="checkbox"/> Samples Intact	
--	--	--	--	---	--	--	--	---	--	---	--	---	--	---	--	--	--

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Bob Bente**
 SIGNATURE of SAMPLER: *[Signature]*
 DATE Signed (MM/DD/YYYY): **07/13/17**

Sample Condition Upon Receipt Pittsburgh

30224060



Client Name: EnviroAna

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label	<u>ANL</u>
LIMS Login	<u>ANL</u>

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals Intact: yes no

Thermometer Used 7 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 4.3 °C Correction Factor: -0.2 °C Final Temp: 4.1 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: ANL 7-14-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5. <u>Outer packaging labeled</u>
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>ANL</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in reports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.