

# ROD AND WIRE MILL INTERIM MEASURES PROGRESS REPORT – JANUARY 2018

TRADEPOINT ATLANTIC  
SPARROWS POINT, MARYLAND

Prepared for:



## ENVIROANALYTICS GROUP

1650 Des Peres Road, Suite 230  
Saint Louis, Missouri 63131

Prepared by:



## ARM GROUP INC.

9175 Guilford Road  
Suite 310  
Columbia, Maryland 21046

ARM Project No. 180450M

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Stewart Kabis".

Stewart Kabis, G.I.T.  
Project Geologist

A handwritten signature in black ink, appearing to read "Neil Peters".

T. Neil Peters, P.E.  
Vice President

Revision 0 – November 2, 2018

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## 1.0 INTRODUCTION

This Progress Report for the Rod and Wire Mill Interim Measures 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 Area (RWM), a description of historical interim remedial measures that operated at the RWM, a description of additional remedial work that was completed in 2016 and 2017 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 remedial 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 ADDITIONAL REMEDIAL WORK IN 2016

### 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 appeared 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 showed 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 focused primarily on groundwater in the intermediate zone and eliminate the potential for future unacceptable groundwater discharges from this zone to surface water. Groundwater in the shallow zone has been impacted by the former placement of slag fill. The metal contamination in this zone has not migrated and therefore is not the primary focus of this work.

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 also removed from the RWM during construction of the trenches and disposed off-site. 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 in January 2018, 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) (4.27 ft above mean sea level, or amsl) and RW19-MW(S) (3.15 ft amsl). These two locations are the farthest to the east and farthest inland. The lowest groundwater elevation was -1.35 ft amsl, observed in well RW01-MW(S) in the southwestern portion of the site. Based on these January 2018 groundwater measurements, shallow groundwater is expected to flow generally to the west and to the south at a shallow gradient.

Measurements of pH collected from shallow zone wells in January 2018 show a small area of basic groundwater centered around a measurement of 12.1 in well RW16-MW(S). However, most other values in the shallow zone are close to or below 7. The lowest measurements are in wells RW11-MW(S), RW12-MW(S), and RW14-MW(S) in the central portion of the site. A figure depicting the pH of the shallow zone groundwater based on measurements collected in January 2018 (one year after the installation of the remediation trenches) is included as **Figure 13**.

Cadmium results for shallow zone wells collected in January 2018 show that over the past year, cadmium has increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. The cadmium concentration is below 8.8 µg/L in six wells in the western portion and two wells in the northern portion of the site. These wells include RW04-MW(S), RW05-MW(S), RW06-MW(S), RW07-MW(S), RW08-MW(S), RW11-MW(S), RW16-MW(S), and RW19-MW(S). The highest cadmium concentration in the shallow zone during the January 2018 sampling event was in the central portion of the site centered around RW14-MW(S) (2,800 µg/L). The concentration in this well was three orders of magnitude greater than the concentration in the majority of shallow zone wells. The second highest concentration was nearby at RW18-MW(S) (218 µg/L). Cadmium concentrations for samples collected in January 2018 from the shallow zone are shown on **Figure 14**.

Like those for cadmium, zinc results for shallow zone wells show that concentrations have increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. During the January 2018 sampling event, the highest concentration of zinc in the shallow zone was at well RW14-MW(S) with a concentration of 61,800 µg/L. Zinc concentrations for samples collected in January 2018 from shallow zone wells are shown on **Figure 15**.

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

### 3.2.2. Intermediate Groundwater Zone

A synoptic round of groundwater level measurements was collected from the existing monitoring wells in January 2018 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 RW05-MW(I) (1.56 ft amsl) and RW12-MW(I) (1.18 ft amsl), which are located in the southwestern and central portions of the Site, respectively. The lowest groundwater elevation was observed at RW07-MW(I) (-1.05 ft amsl). These January 2018 groundwater measurements indicate the potentiometric surface in the intermediate zone is relatively flat, with less than a foot of elevation difference between most portions of the Site.

Measurements of pH collected from intermediate zone wells in January 2018 show areas of basic groundwater in the central and southwestern portions of the site. Groundwater in wells RW01-MW(I), RW02-MW(I), RW10-MW(I), RW13-MW(I), and RW15-MW(I) had pH measurements of 10.32 or greater. All other values are 7.68 or below. The lowest measurements (5.87 or less) are in wells RW09-MW(I), RW11-MW(I), RW12-MW(I), and RW22-MW(I) near the northern portion of the site. A figure depicting the pH of the intermediate zone groundwater based on measurements collected in January 2018 (one year after the installation remediation trenches) is included as **Figure 17**.

Cadmium results for intermediate zone wells collected in January 2018 show that cadmium concentrations vary significantly, but have generally decreased from levels observed in July 2017. Four wells, listed below, were identified as having statistically significant downward trends in cadmium concentration. In the western portion of the site, all wells except for RW02-MW(I) and RW03-MW(I) had cadmium concentrations below 8.8 µg/L. Cadmium concentrations were highest in well RW19-MW(I) (1,800 µg/L) at the northeastern boundary, and also relatively high in wells RW11-MW(I), RW12-MW(I), and RW13-MW(I) in the central portion of the site. Cadmium concentrations for samples collected in January 2018 from the intermediate zone are shown on **Figure 18**.

Like the cadmium results, zinc results for intermediate zone wells collected in January 2018 show that cadmium concentrations vary significantly, but have generally decreased from levels observed in July 2017. Six wells, listed below, were identified as having statistically significant downward trends in zinc concentration. The concentration of zinc is highest at RW19-MW(I) (3,840,000 µg/L), farthest to the east, and concentrations are lowest along most of the western Site boundary. Zinc concentrations for samples collected in January 2018 from intermediate zone wells are shown on **Figure 19**.

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

## 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.

Since the implementation of the remediation trenches, the pH of groundwater in the shallow zone remained relatively stable in most wells, with some wells exhibiting increases and some exhibiting decreases. Similarly, results over the past year indicate cadmium concentrations have increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. The cadmium concentration in RW14-MW(S) (2,800 µg/L) in the central portion of the Site is anomalously high compared to other shallow zone wells. This is not surprising given that RW14-MW(S) also had one of the lowest pH values (5.45) in January 2018. The majority of shallow zone wells have cadmium concentrations of 13.1 µg/L or below as of January 2018.

Like the cadmium results, zinc results for shallow zone wells show that concentrations have increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole over the past year. Spatially, zinc concentrations vary significantly across the Site. Similar to the cadmium concentration, well RW14-MW(S) has the highest concentration of zinc as of January 2018 (61,800 µg/L), corresponding with one of the lowest pH measurements.

In intermediate zone wells over the past year, pH measurements generally remained relatively stable, with some wells exhibiting overall increases. Cadmium concentrations have decreased or remained relatively stable overall over this time-frame. The three highest cadmium concentrations correspond to the three locations with the three lowest pH measurements: RW11-MW(I), RW12-MW(I), and RW19-MW(I).

For zinc in the intermediate zone, most intermediate zone wells exhibited overall decreases or remained relatively stable over the past year. As of January 2018 the concentration of zinc was highest at RW19-MW(I) (3,840,000 µg/L), farthest to the east, and concentrations are lowest along most of the western Site boundary.

Now that analytical data have been collected from most wells for a full year, clearer trends are becoming apparent for pH, cadmium and zinc concentrations in groundwater at the Site. Concentrations of these parameters have fluctuated but do not appear to be increasing or decreasing in the shallow groundwater zone as a whole. However, noticeable progress is evident in the intermediate groundwater zone. It is recommended that monitoring should continue at the Site to assess 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.

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## **FIGURES**

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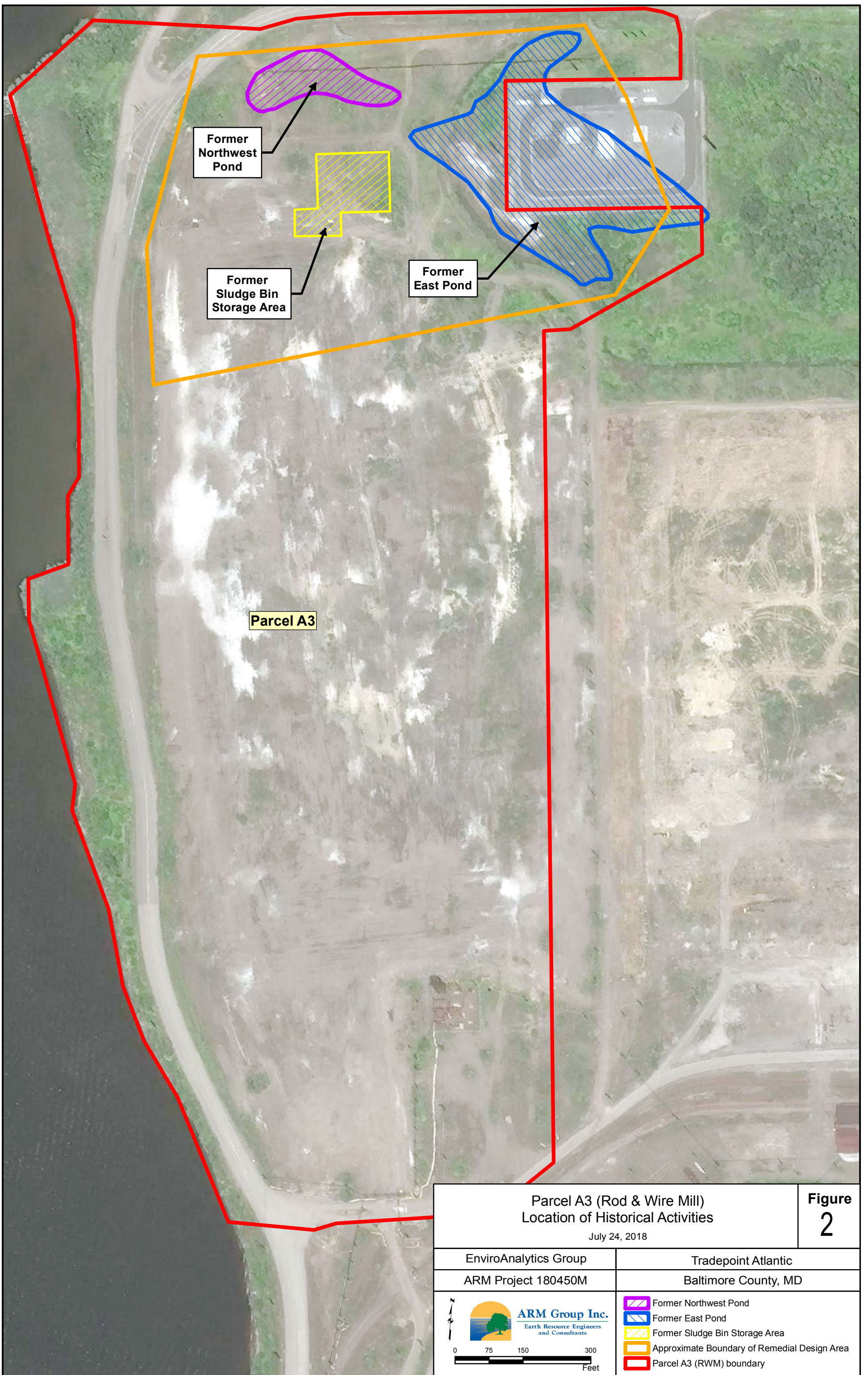








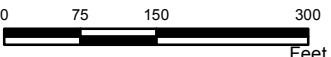


Site Boundary  
 Parcel Boundaries  
 Private Property

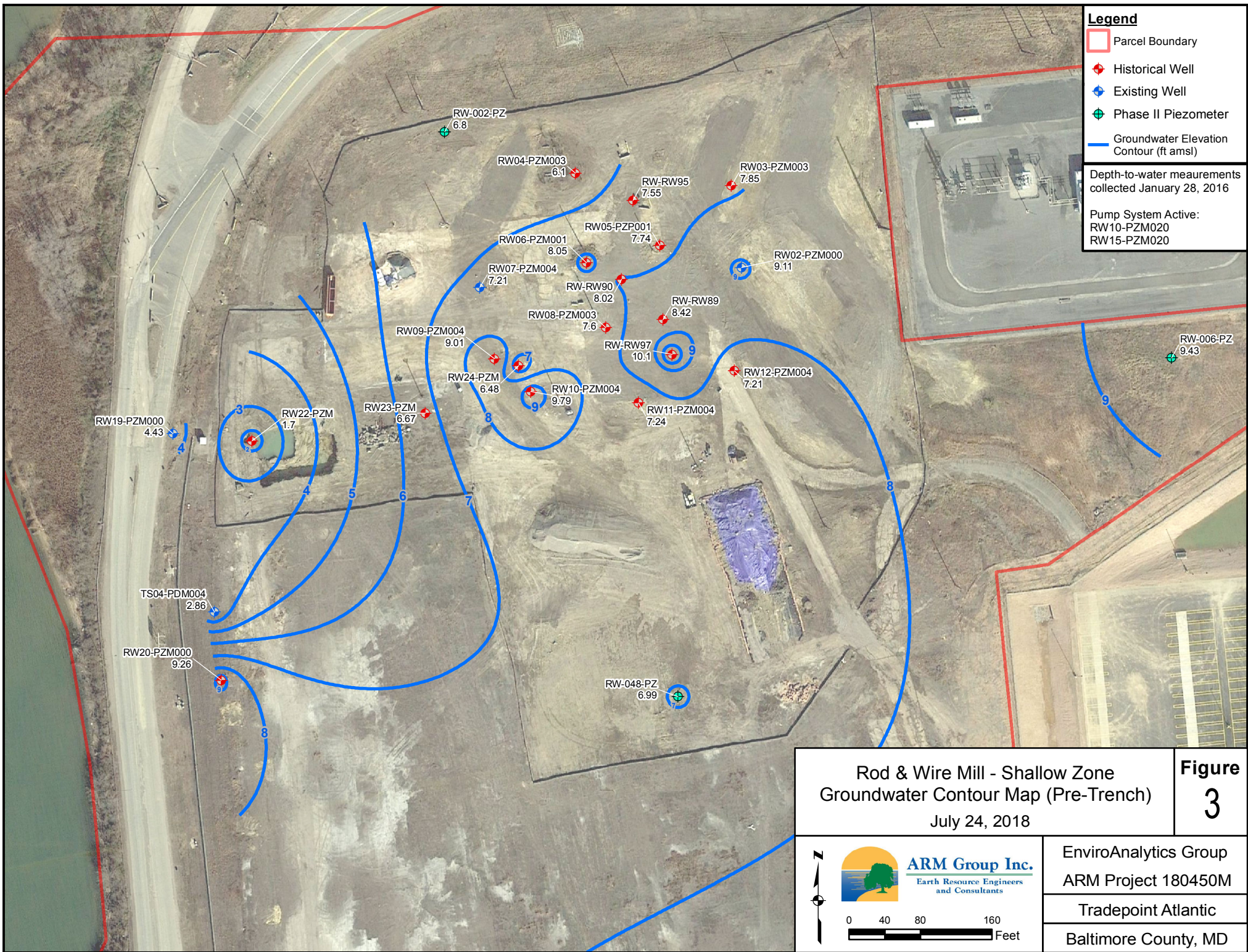
<b>Tradepoint Atlantic</b> <b>Area A and Area B Parcels</b> June 21, 2018		<b>Figure</b> <span style="font-size: 2em; font-weight: bold;">1</span>
 	 <b>ARM Group Inc.</b> Engineers and Scientists	Tradepoint Atlantic
		Baltimore County, MD
		EnviroAnalytics Group
		Area A: Project 150298M Area B: Project 150300M Development: Project 160443M







<b>Parcel A3 (Rod &amp; Wire Mill)</b> <b>Location of Historical Activities</b> July 24, 2018		<b>Figure</b> <b>2</b>
EnviroAnalytics Group	Tradepoint Atlantic	
ARM Project 180450M	Baltimore County, MD	
	<ul style="list-style-type: none"> <li> Former Northwest Pond</li> <li> Former East Pond</li> <li> Former Sludge Bin Storage Area</li> <li> Approximate Boundary of Remedial Design Area</li> <li> Parcel A3 (RWM) boundary</li> </ul>	
		





Rod & Wire Mill - Shallow Zone  
 Groundwater Contour Map (Pre-Trench)  
 July 24, 2018

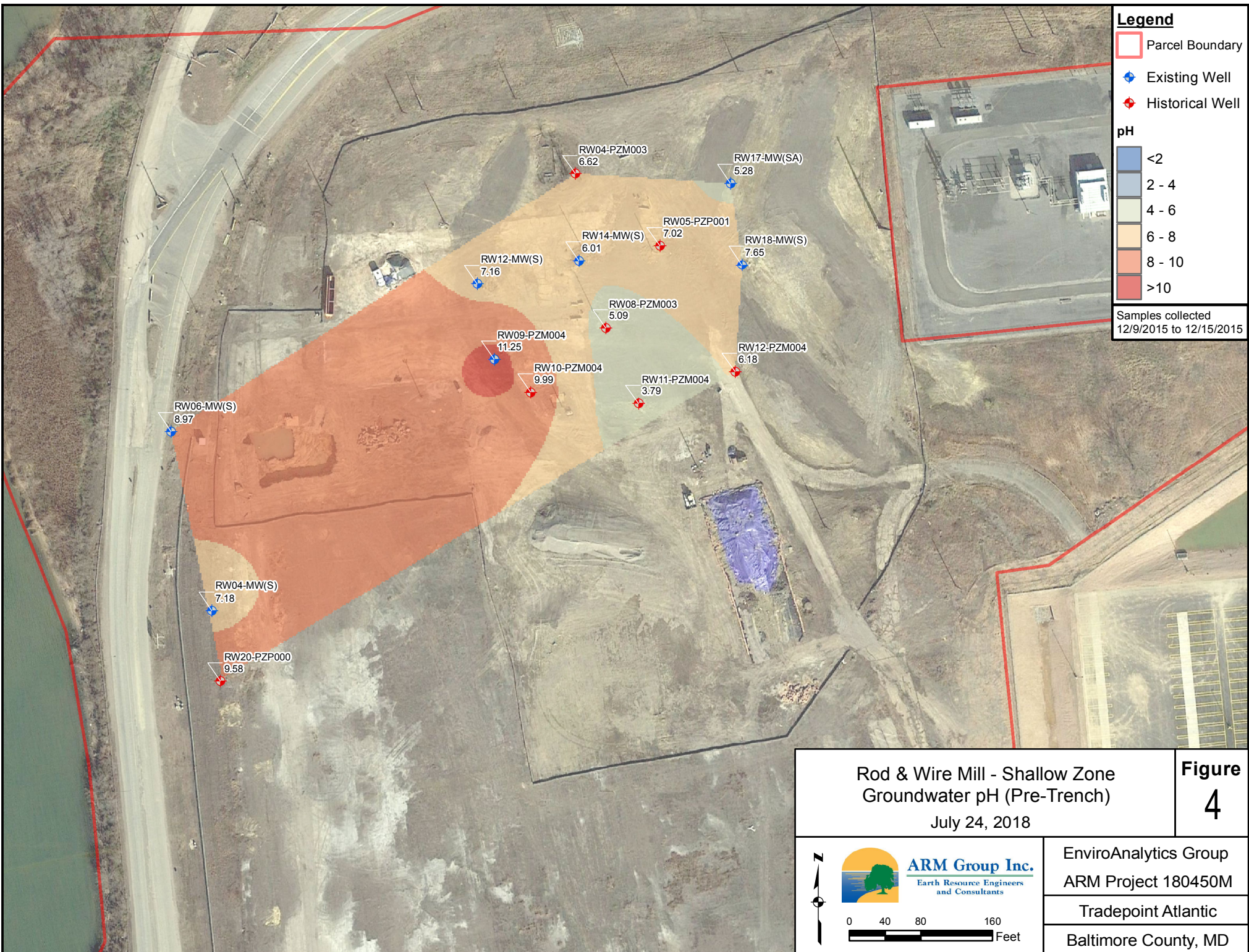
**Figure**  
**3**



**ARM Group Inc.**  
 Earth Resource Engineers  
 and Consultants

0 40 80 160 Feet

EnviroAnalytics Group  
 ARM Project 180450M  
 Tradepoint Atlantic  
 Baltimore County, MD





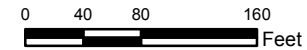
Rod & Wire Mill - Shallow Zone  
Groundwater pH (Pre-Trench)

July 24, 2018

**Figure**  
**4**



**ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

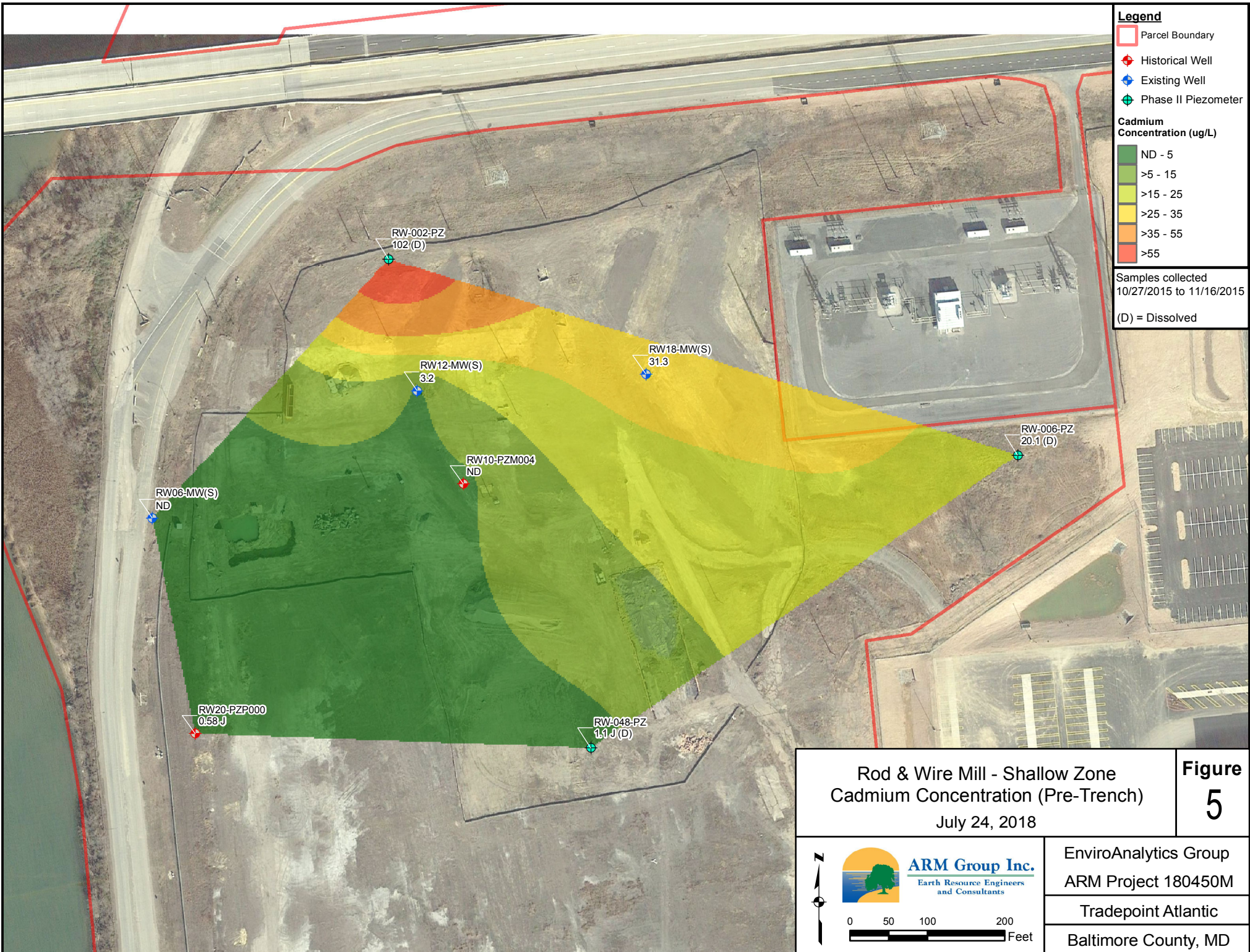


EnviroAnalytics Group  
ARM Project 180450M

Tradepoint Atlantic

Baltimore County, MD





RW-002-PZ  
102 (D)

RW12-MW(S)  
32

RW18-MW(S)  
31.3

RW-006-PZ  
20.1 (D)

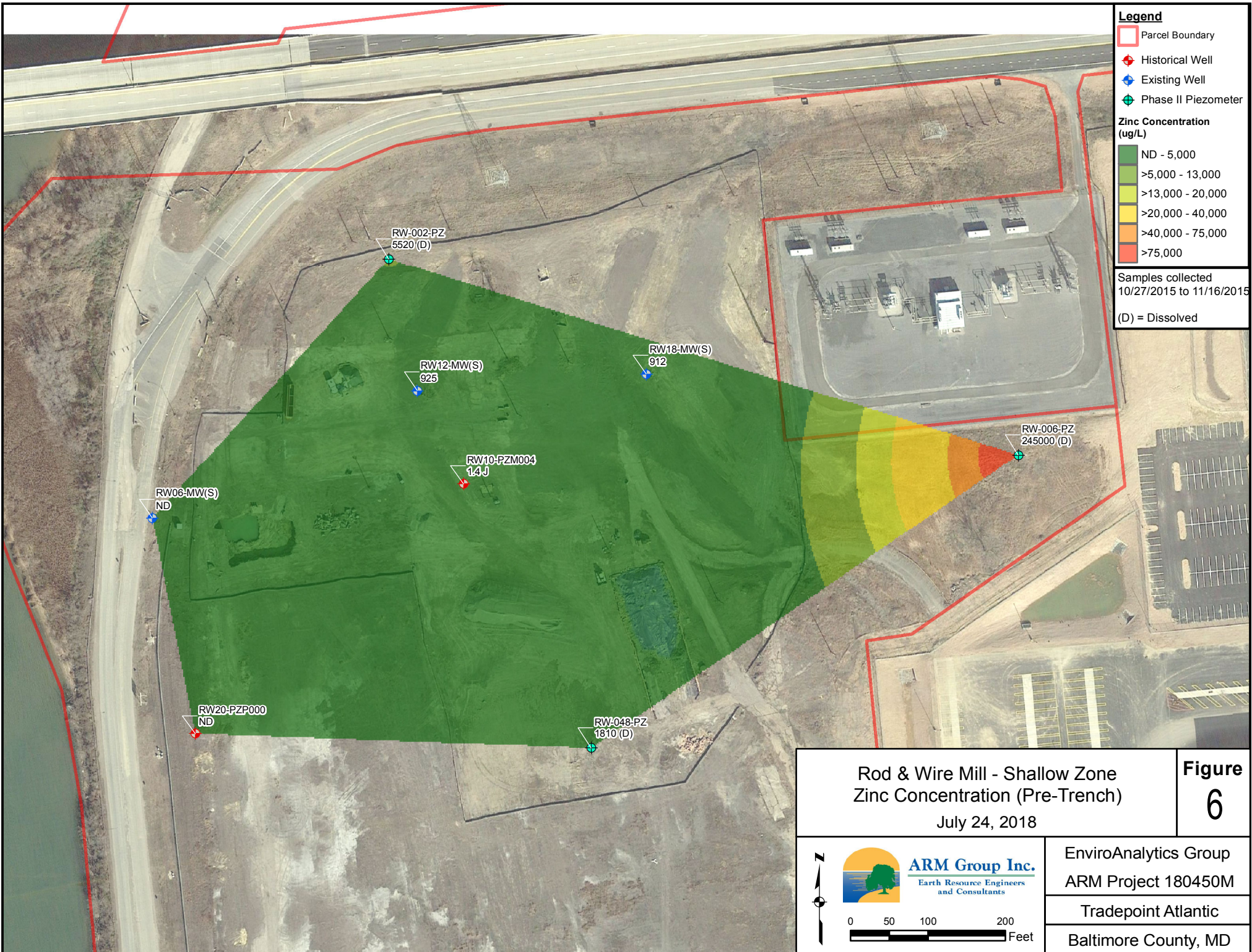
RW06-MW(S)  
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RW10-PZM004  
ND

RW20-PZP000  
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RW-048-PZ  
1.1 J(D)



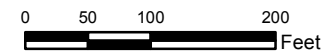


Rod & Wire Mill - Shallow Zone  
Zinc Concentration (Pre-Trench)  
July 24, 2018

Figure  
6



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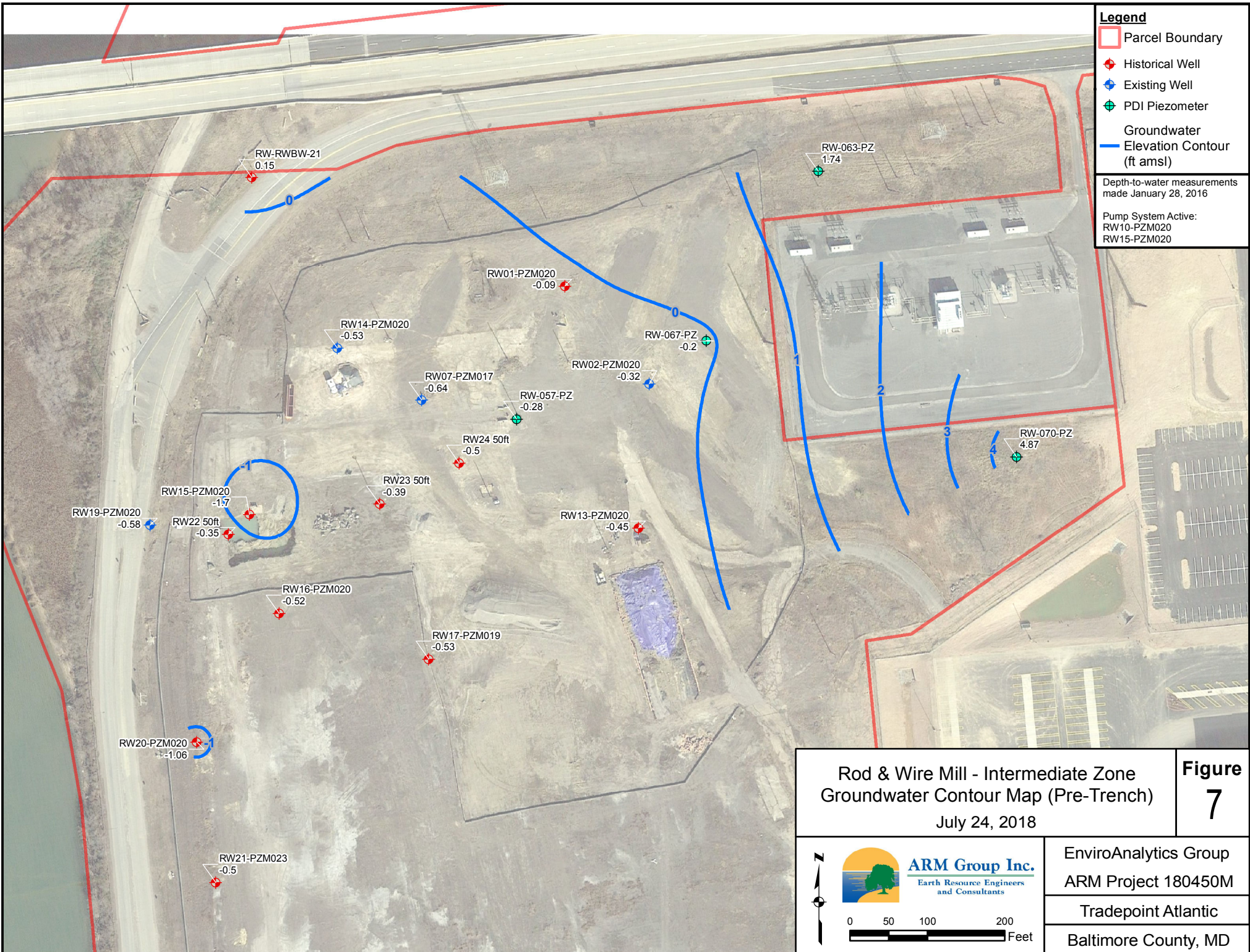


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Baltimore County, MD





Rod & Wire Mill - Intermediate Zone  
Groundwater Contour Map (Pre-Trench)  
July 24, 2018

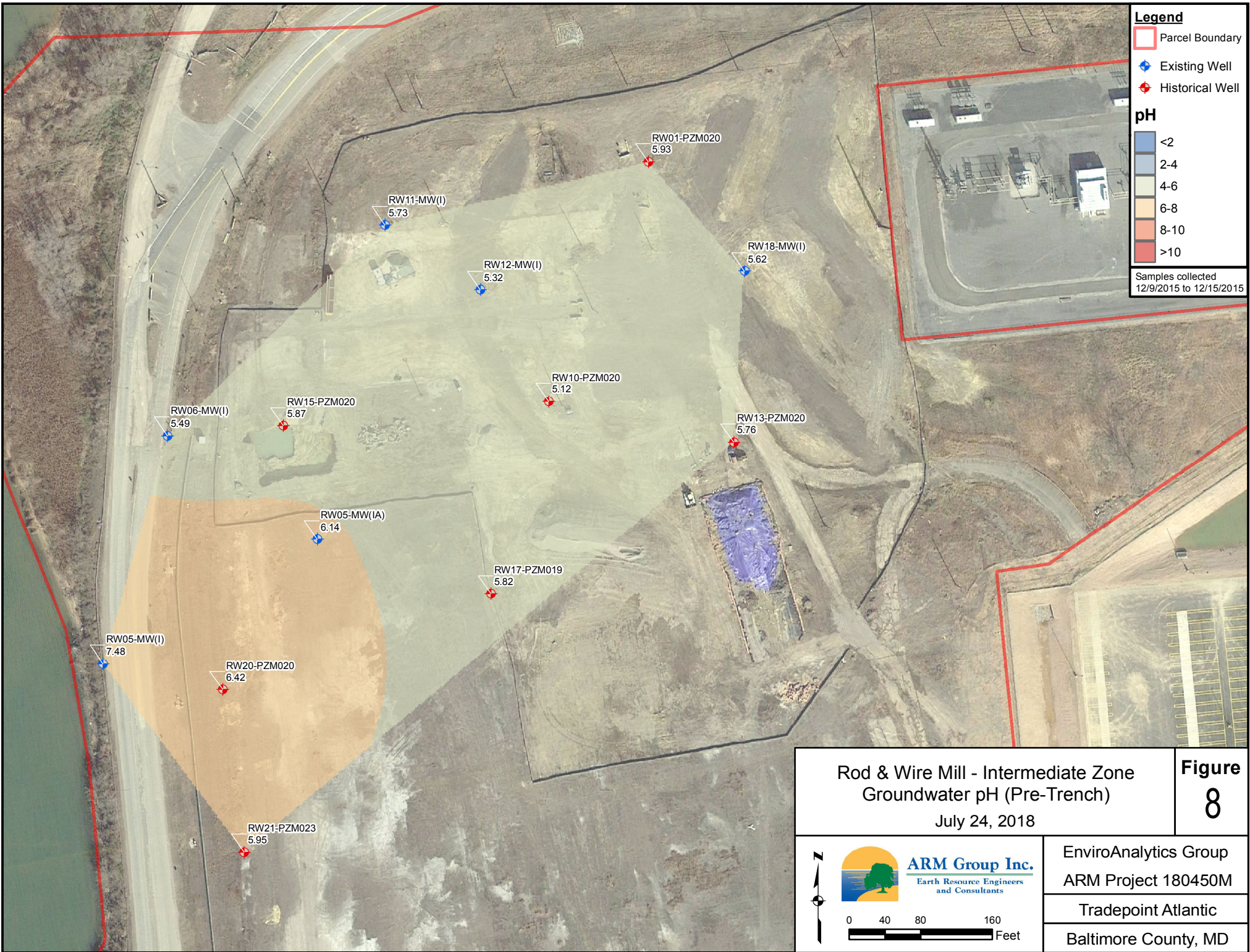
Figure  
7



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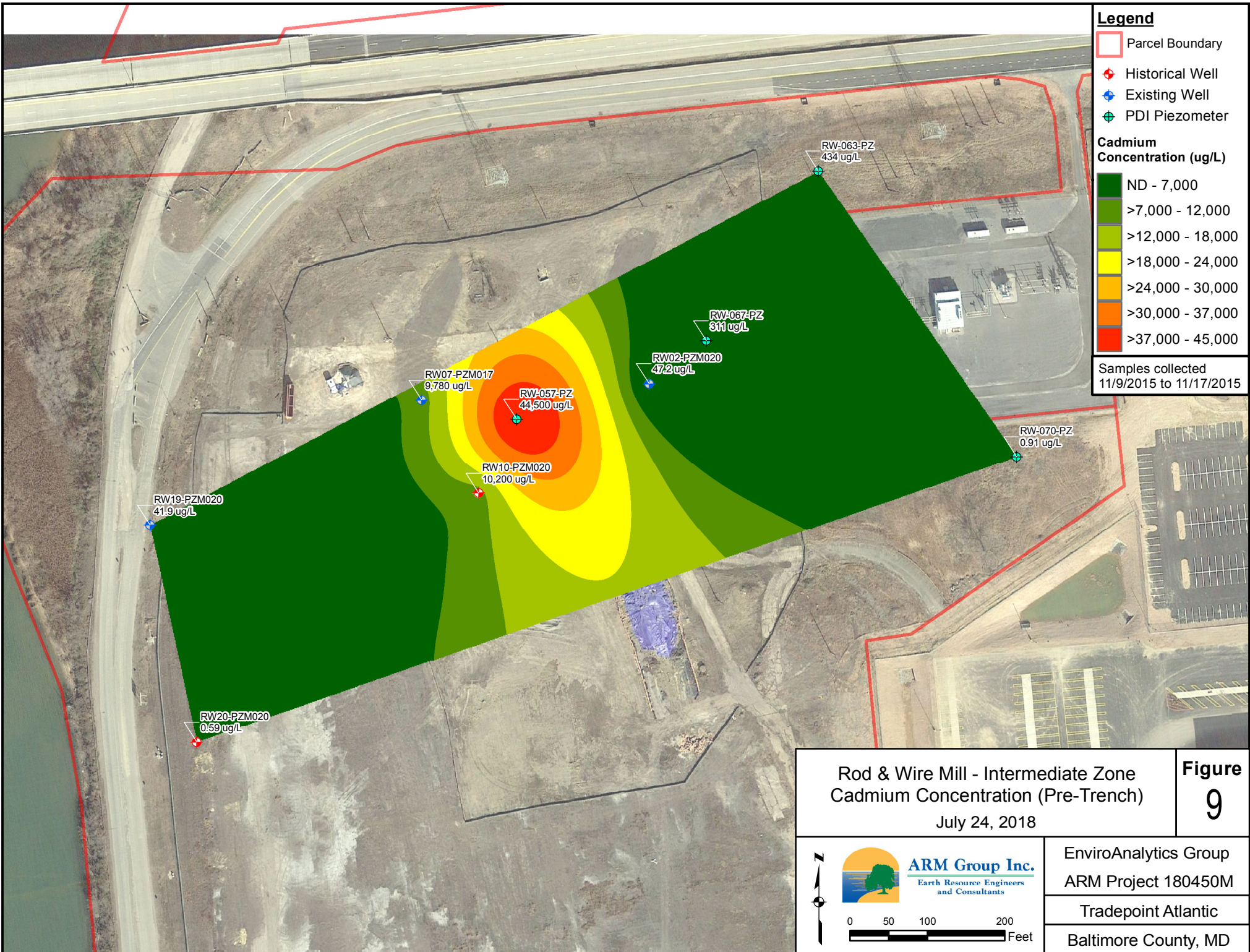
0 50 100 200 Feet

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 Baltimore County, MD

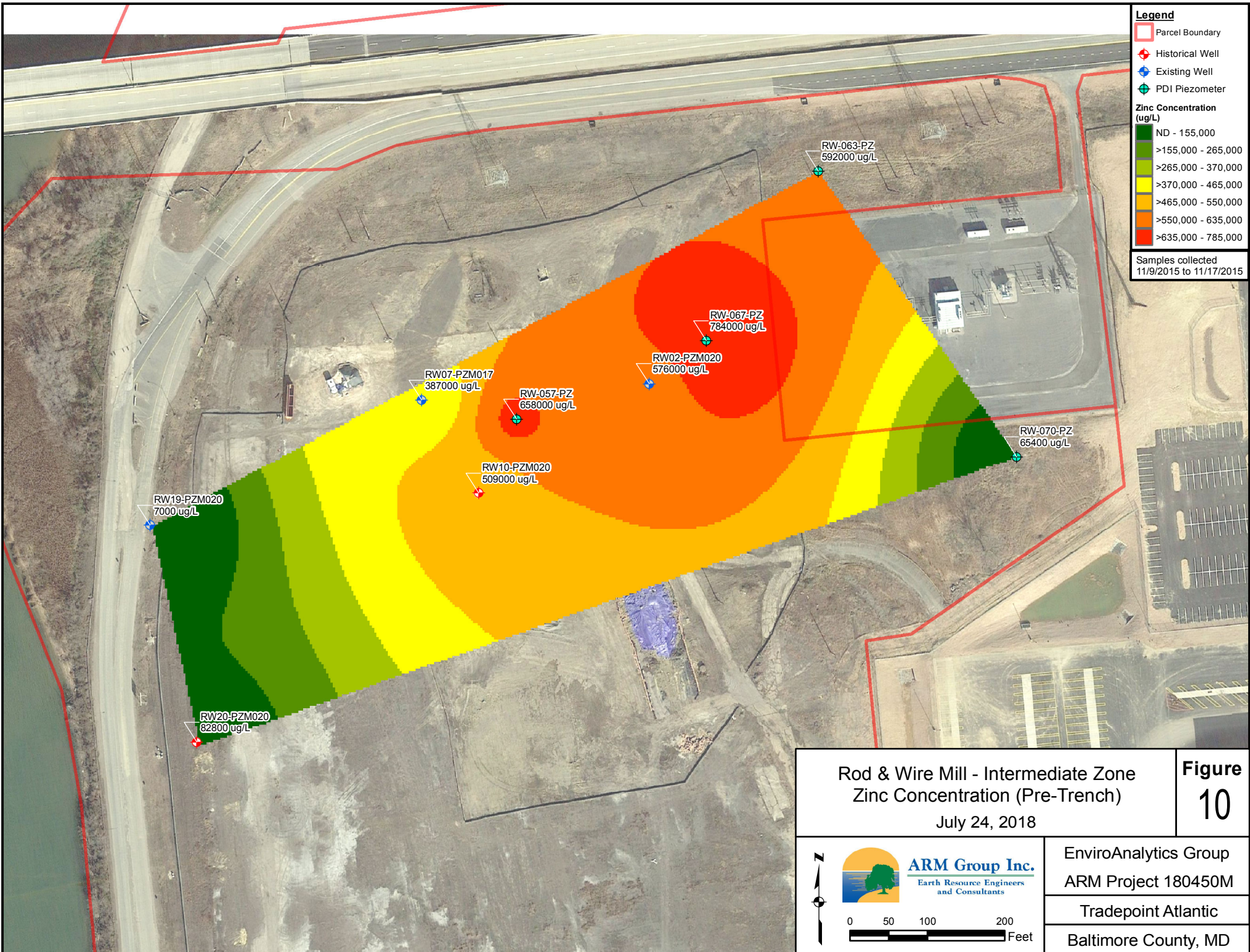














Rod & Wire Mill - Intermediate Zone  
Zinc Concentration (Pre-Trench)  
July 24, 2018

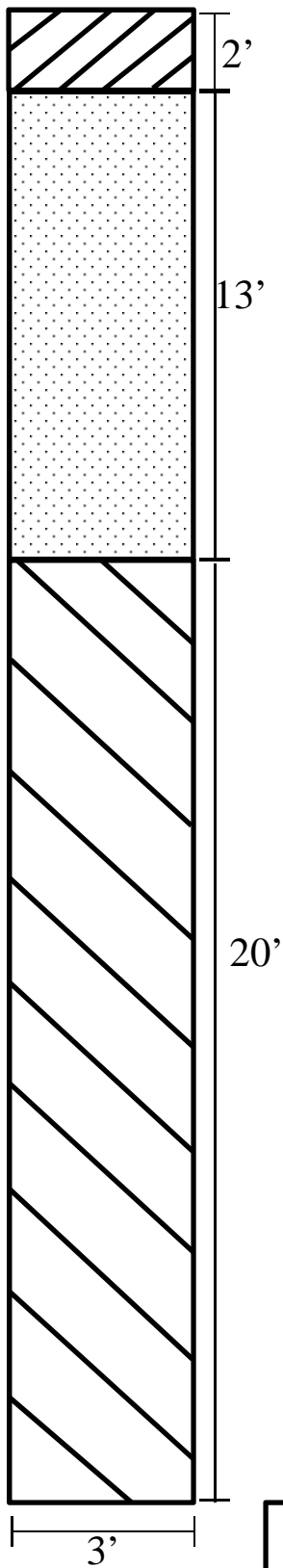
Figure  
10



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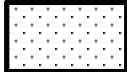

0 50 100 200 Feet

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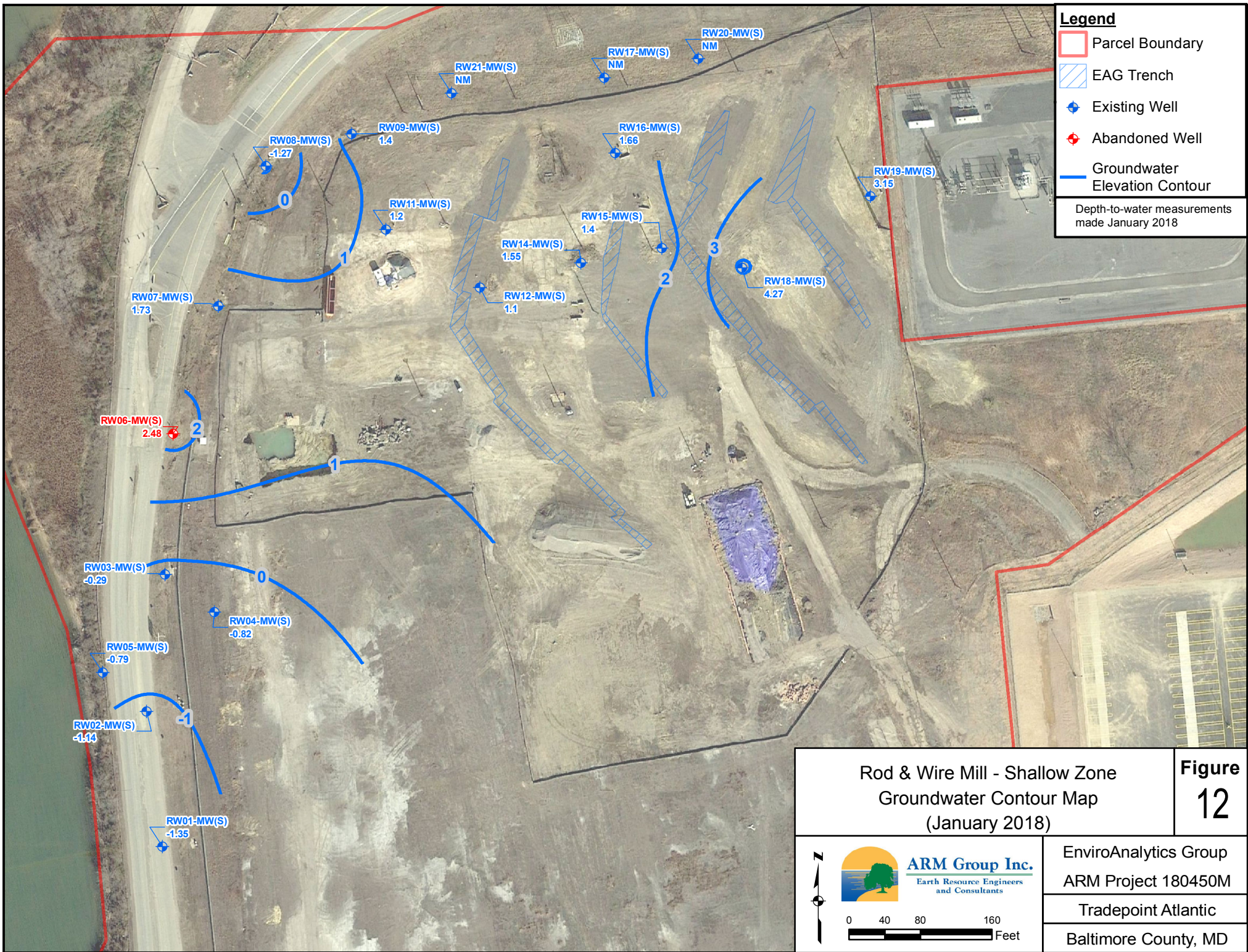


**Legend**

-  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	<b>FIGURE 11</b>





Rod & Wire Mill - Shallow Zone  
Groundwater Contour Map  
(January 2018)

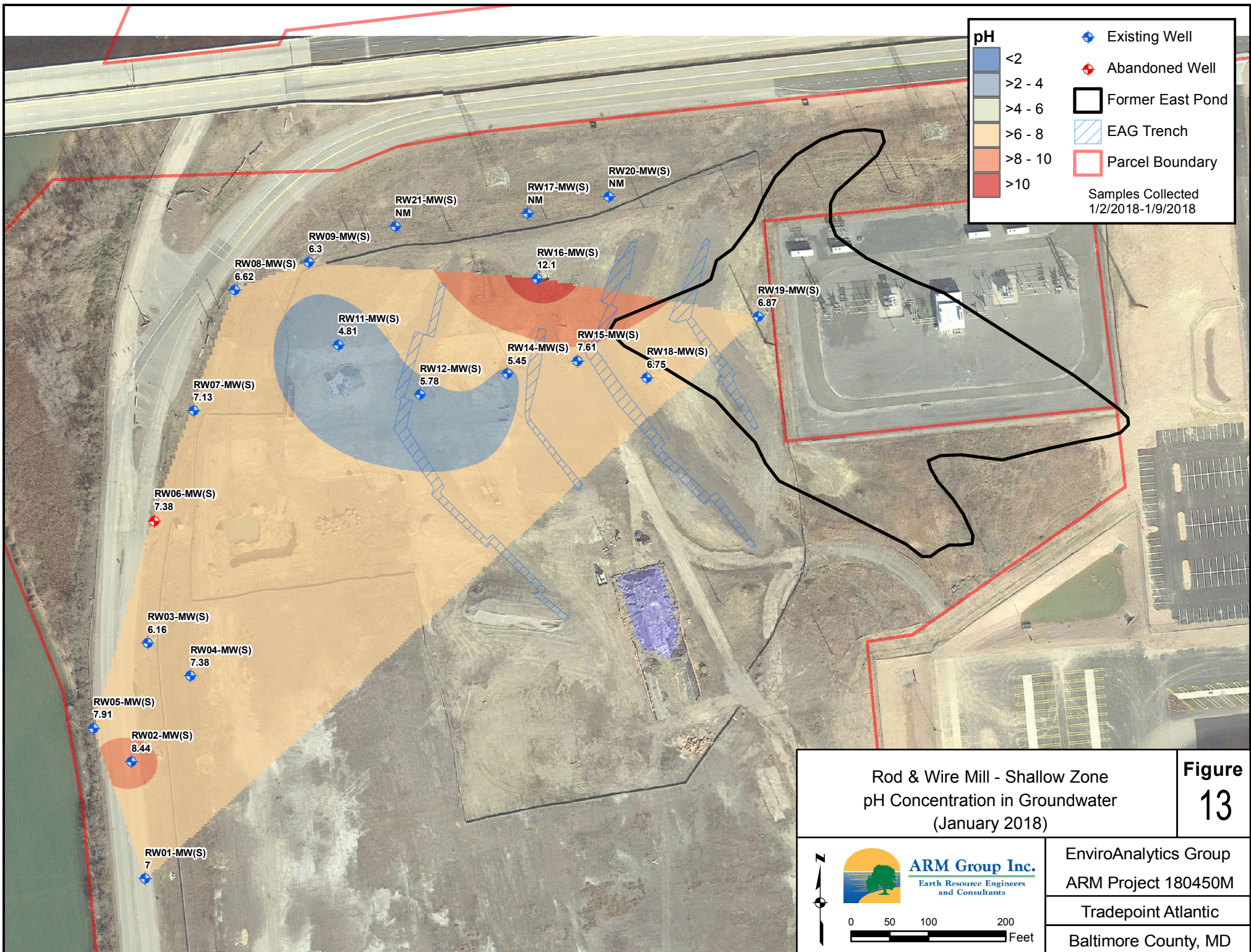
Figure  
12

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0 40 80 160 Feet

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Rod & Wire Mill - Shallow Zone  
pH Concentration in Groundwater  
(January 2018)

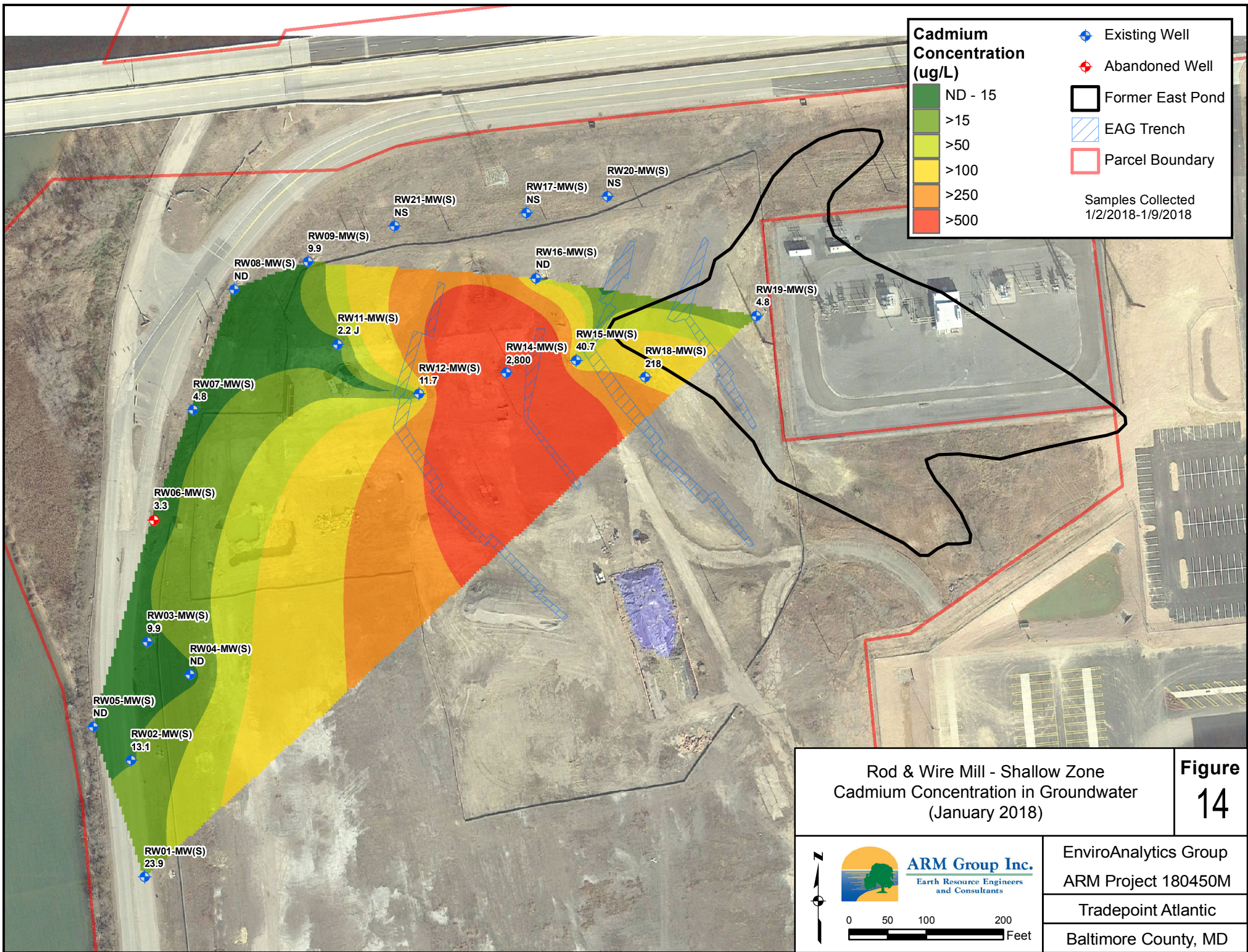
**Figure**  
**13**

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0 50 100 200 Feet



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Rod & Wire Mill - Shallow Zone  
 Cadmium Concentration in Groundwater  
 (January 2018)

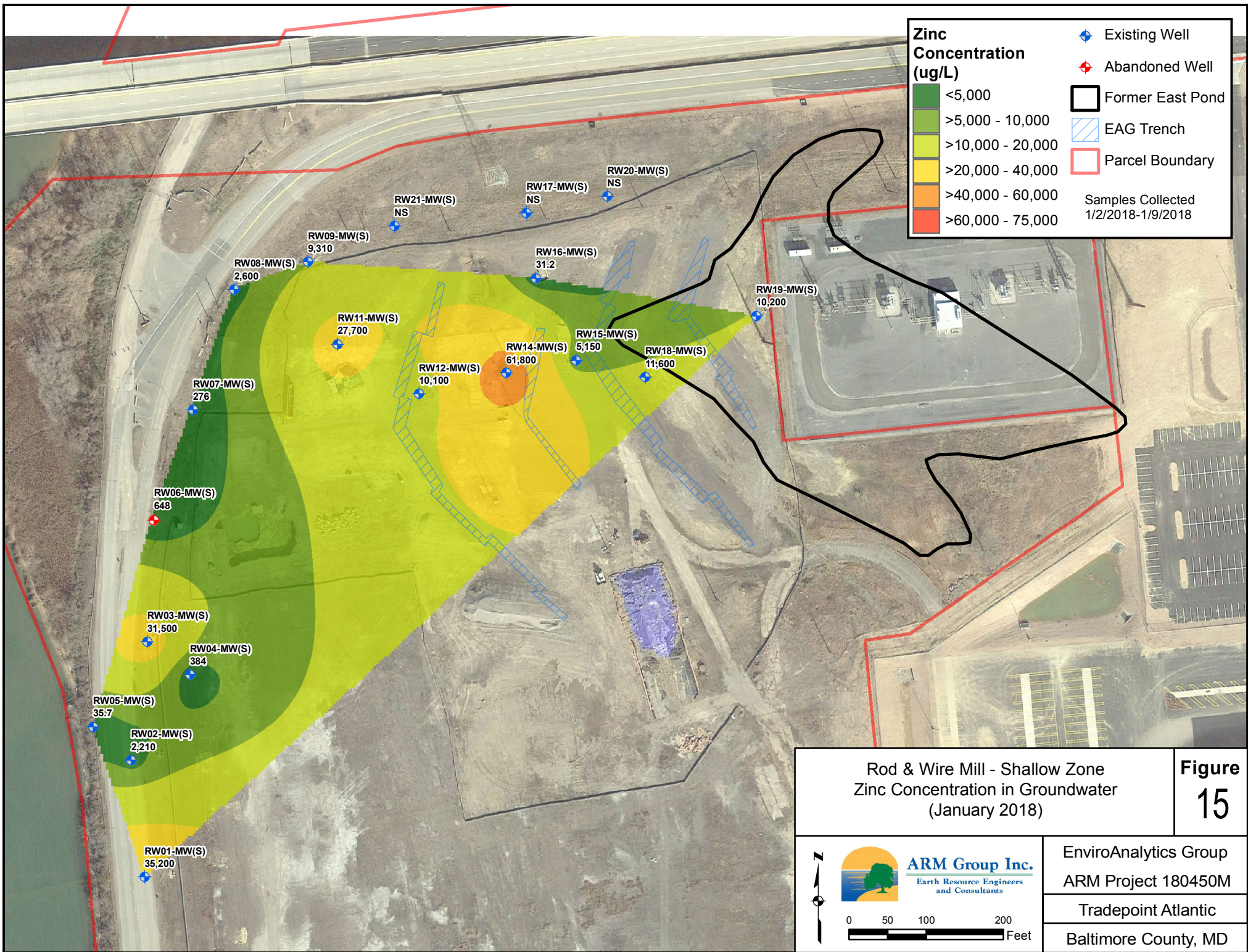
**Figure**  
**14**



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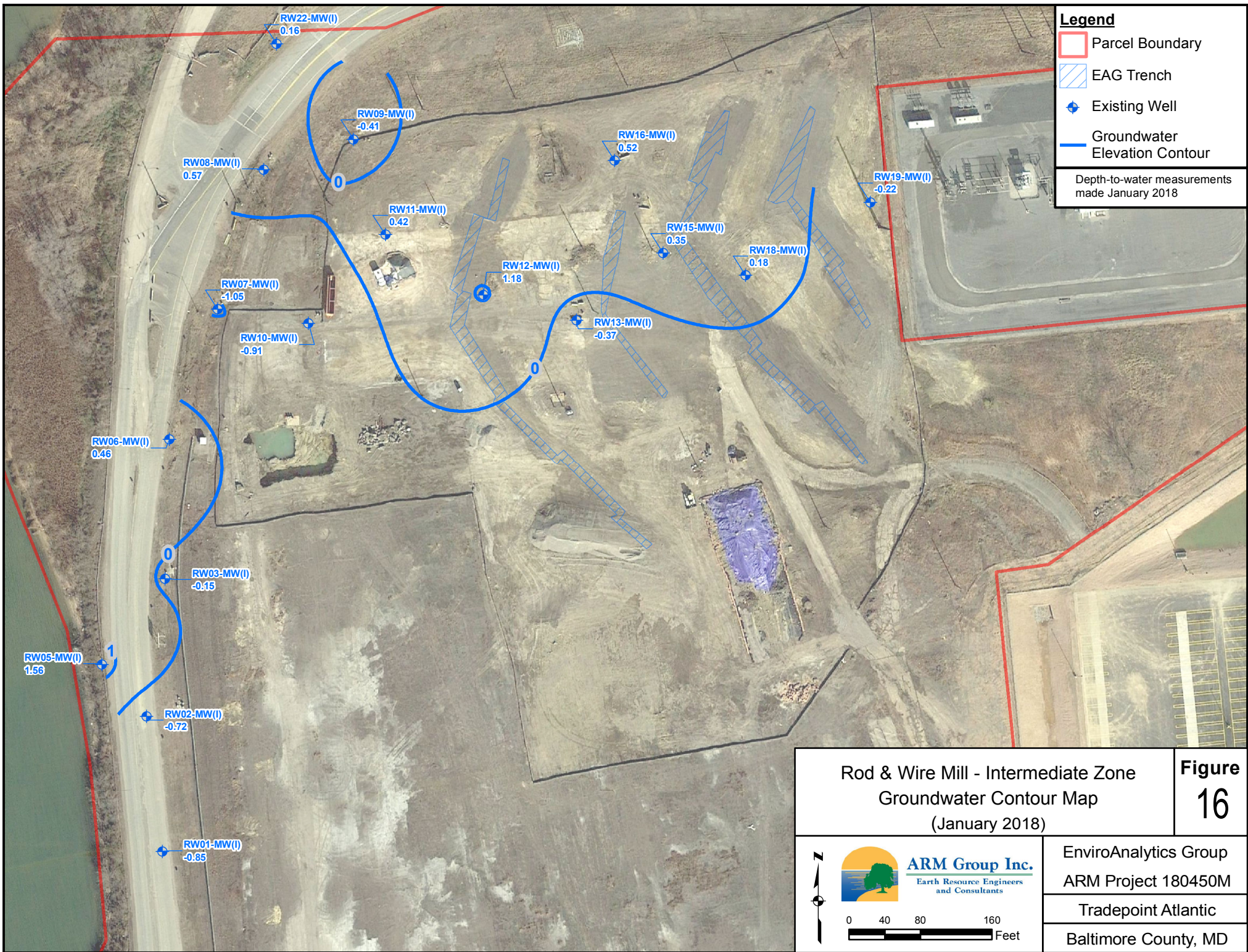
0 50 100 200 Feet

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Rod & Wire Mill - Intermediate Zone  
 Groundwater Contour Map  
 (January 2018)

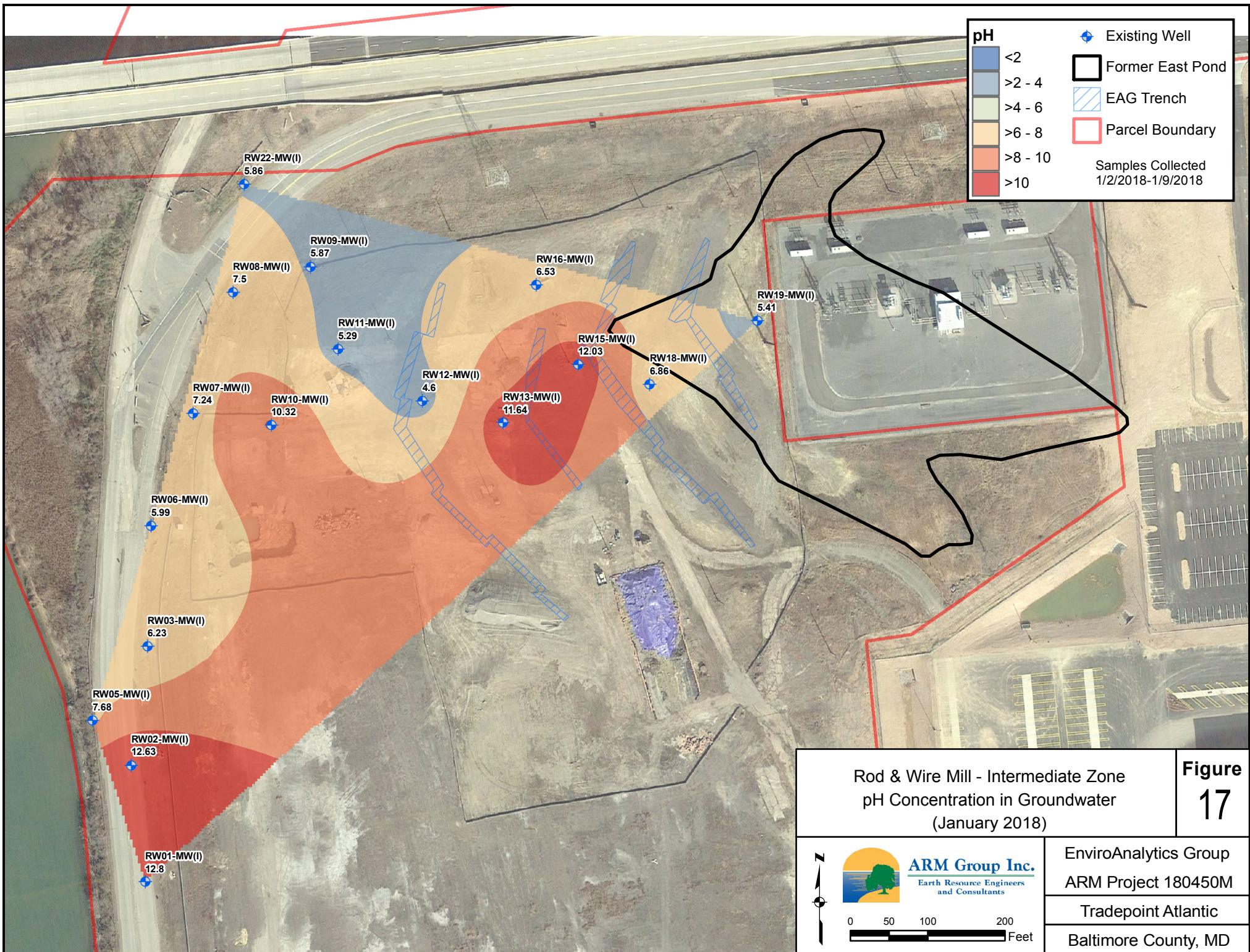
**Figure**  
**16**



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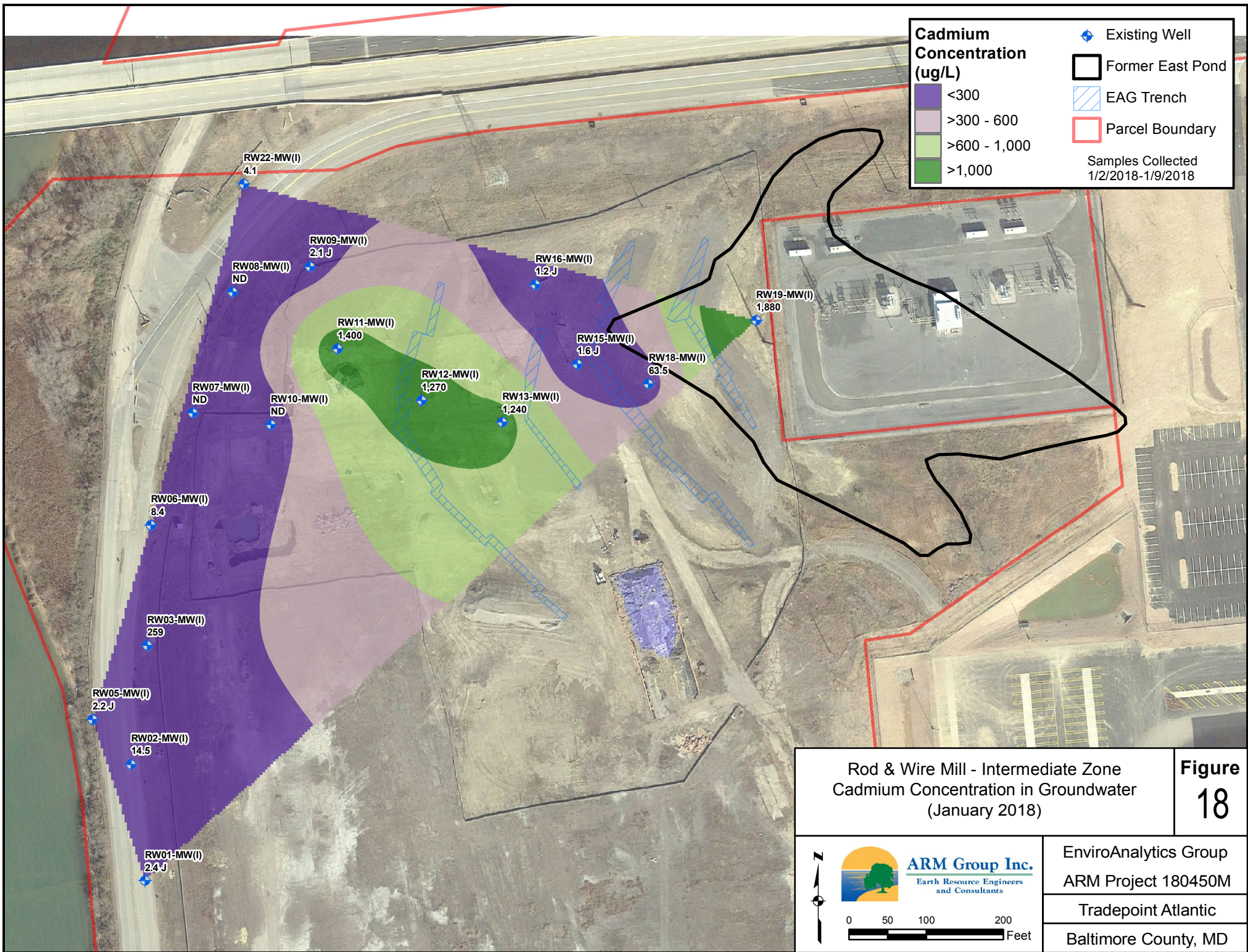
0 40 80 160 Feet

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Rod & Wire Mill - Intermediate Zone  
Cadmium Concentration in Groundwater  
(January 2018)

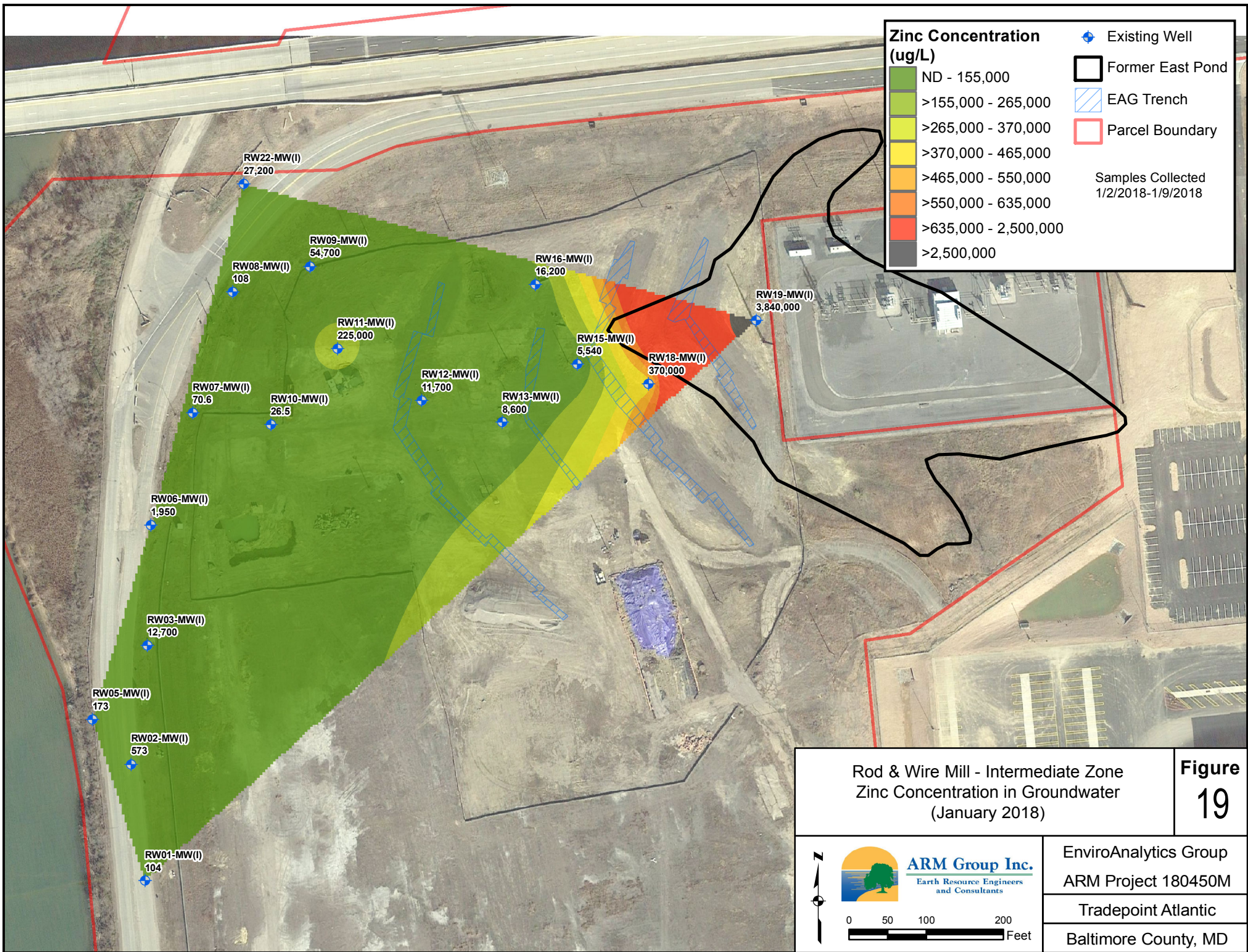
**Figure**  
**18**

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0 50 100 200 Feet

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Tradepoint Atlantic  
Baltimore County, MD



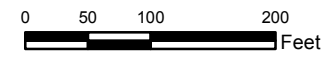


Rod & Wire Mill - Intermediate Zone  
 Zinc Concentration in Groundwater  
 (January 2018)

**Figure**  
**19**



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## **TABLES**

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

Client Sample ID	Date Collected	Result	Flag
<b>Cadmium (µg/L)</b>			
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
<b>Zinc (µg/L)</b>			
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
<b>pH</b>			
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
<b>Cadmium (µg/L)</b>			
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
<b>Zinc (µg/L)</b>			
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	
<b>pH</b>			
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 - January 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW01-MW(S)	RW01-MW(SA)	RW02-MW(S)	RW02-MW(SA)	RW03-MW(S)	RW04-MW(S)	RW05-MW(S)	RW06-MW(S)	RW07-MW(S)	RW08-MW(S)
<b>Cadmium</b>											
2/1/2017	µg/L	NA	2.4 J	NA	<b>9.8</b>	<b>7.9</b>	NS	NA	NS	1.8 J	<b>3.8</b>
3/1/2017	µg/L	NA	2.9 J	NA	<b>9.1</b>	<b>4.7</b>	NS	NA	NS	1.7 J	<b>11</b>
4/1/2017	µg/L	NA	1.7 J	NA	<b>9.8</b>	<b>3.2</b>	NS	NA	NS	1.4 J	<b>7.8</b>
5/1/2017	µg/L	NA	<b>3.2</b>	NA	<b>11.2</b>	<b>3.9</b>	NS	NA	NS	1.9 J	<b>3.2</b>
6/1/2017	µg/L	NA	2.7 J	NA	<b>11.9</b>	<b>4</b>	0.7 J	NA	3 U	2.3 J	1.7 J
7/1/2017	µg/L	NA	2.3 J	NA	<b>4.3</b>	<b>4.6</b>	1.2 J	NA	<b>3.6</b>	2.8 J	0.74 J
8/1/2017	µg/L	1.6 J	NS	<b>12</b>	NS	<b>5.1</b>	3 U	<b>4.9</b>	3 U	<b>3.1</b>	2.7 J
9/1/2017	µg/L	1.2 J	NS	<b>11.8</b>	NS	<b>8.4</b>	0.71 J	0.37 J	3 U	<b>3.6</b>	2.5 J
10/1/2017	µg/L	1.7 J	NS	<b>9.1</b>	NS	<b>11</b>	3 U	1.2 J	3 U	<b>3.2</b>	0.96 J
11/1/2017	µg/L	<b>21.7</b>	NS	<b>7.7</b>	NS	<b>8.5</b>	1.1 J	3 U	3 U	<b>5.8</b>	3 U
12/1/2017	µg/L	<b>98</b>	NS	3 U	NS	<b>11.4</b>	1.1 J	<b>8.4</b>	<b>3</b>	<b>6</b>	3 U
1/1/2018	µg/L	<b>23.9</b>	NS	<b>13.1</b>	NS	<b>9.9</b>	3 U	3 U	<b>3.3</b>	<b>4.8</b>	3 U
<b>Zinc</b>											
2/1/2017	µg/L	NA	<b>13,200</b>	NA	<b>45,200</b>	<b>6,200</b>	NS	NA	NS	<b>82</b>	<b>1,080</b>
3/1/2017	µg/L	NA	<b>10,800</b>	NA	<b>34,600</b>	<b>6,510</b>	NS	NA	NS	<b>75</b>	<b>8,710</b>
4/1/2017	µg/L	NA	<b>11,500</b>	NA	<b>47,700</b>	<b>4,860</b>	NS	NA	NS	<b>86</b>	<b>9,520</b>
5/1/2017	µg/L	NA	<b>6,120</b>	NA	<b>47,800</b>	<b>5,380</b>	NS	NA	NS	<b>102</b>	<b>2,680</b>
6/1/2017	µg/L	NA	<b>10,600</b>	NA	<b>46,900</b>	<b>5,500</b>	<b>58</b>	NA	<b>30</b>	<b>107</b>	<b>1,870</b>
7/1/2017	µg/L	NA	<b>14,800</b>	NA	<b>97,100</b>	<b>8,460</b>	<b>179</b>	NA	<b>152</b>	<b>114</b>	<b>968</b>
8/1/2017	µg/L	<b>12,200</b>	NS	<b>6,290</b>	NS	<b>7,730</b>	<b>75</b>	<b>550</b>	2 J	<b>127</b>	<b>3,190</b>
9/1/2017	µg/L	<b>5,730</b>	NS	<b>3,220</b>	NS	<b>16,300</b>	<b>163</b>	<b>184</b>	10 U	<b>165</b>	<b>4,460</b>
10/1/2017	µg/L	<b>7,730</b>	NS	<b>5,490</b>	NS	<b>32,100</b>	<b>137</b>	<b>1,410</b>	2.4 J	<b>144</b>	<b>1,950</b>
11/1/2017	µg/L	<b>25,200</b>	NS	<b>1,460</b>	NS	<b>14,100</b>	<b>123</b>	<b>503</b>	2.3 J	<b>227</b>	<b>1,600</b>
12/1/2017	µg/L	<b>7,300</b>	NS	<b>79</b>	NS	<b>46,400</b>	<b>279</b>	<b>5,440</b>	<b>156</b>	<b>216</b>	<b>1,770</b>
1/1/2018	µg/L	<b>35,200</b>	NS	<b>2,210</b>	NS	<b>31,500</b>	<b>384</b>	<b>36</b>	<b>648</b>	<b>276</b>	<b>2,600</b>
<b>pH</b>											
2/1/2017	SU	NA	<b>5.04</b>	NA	<b>5.22</b>	<b>5.57</b>	NS	NA	NS	<b>7.05</b>	<b>8.21</b>
3/1/2017	SU	NA	<b>4.97</b>	NA	<b>4.76</b>	<b>3.85</b>	NS	NA	NS	<b>5.68</b>	<b>4.66</b>
4/1/2017	SU	NA	<b>4.42</b>	NA	<b>4.75</b>	<b>5.65</b>	NS	NA	NS	<b>6.77</b>	<b>6.46</b>
5/1/2017	SU	NA	<b>5.36</b>	NA	<b>4.74</b>	<b>5.88</b>	NS	NA	NS	<b>7.16</b>	<b>7.97</b>
6/1/2017	SU	NA	<b>5.52</b>	NA	<b>4.71</b>	<b>5.89</b>	<b>6.72</b>	NA	<b>10.65</b>	<b>6.95</b>	<b>8.83</b>
7/1/2017	SU	NA	<b>5.66</b>	NA	<b>5.68</b>	<b>5.9</b>	<b>6.56</b>	NA	<b>10.74</b>	<b>6.8</b>	<b>6.79</b>
8/1/2017	SU	<b>5.73</b>	NS	<b>5.99</b>	NS	<b>5.26</b>	<b>7.05</b>	<b>10.12</b>	<b>9.25</b>	<b>7.01</b>	<b>7.1</b>
12/1/2017	SU	<b>4.86</b>	NS	<b>5.03</b>	NS	<b>5.28</b>	<b>6.73</b>	<b>6.83</b>	<b>9.57</b>	<b>6.89</b>	<b>6.76</b>
1/1/2018	SU	<b>5.16</b>	NS	<b>5.79</b>	NS	<b>5.55</b>	<b>7.2</b>	<b>7.04</b>	<b>7.26</b>	<b>6.99</b>	<b>6.57</b>

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable



**TABLE 3**  
**Shallow Groundwater Data - January 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW09-MW(S)	RW11-MW(S)	RW12-MW(S)	RW14-MW(S)	RW15-MW(S)	RW15-MW(SA)	RW16-MW(S)	RW17-MW(SA)	RW18-MW(S)	RW19-MW(S)
<b>Cadmium</b>											
2/1/2017	µg/L	<b>22.3</b>	0.78 J	NS	NS	NA	<b>44.7</b>	NS	NS	NS	<b>14.8</b>
3/1/2017	µg/L	<b>17.5</b>	1.8 J	NS	NS	NA	NS	NS	NS	NS	<b>6.9</b>
4/1/2017	µg/L	<b>16.6</b>	<b>5.3</b>	NS	NS	NA	NS	NS	NS	NS	<b>8.5</b>
5/1/2017	µg/L	<b>14.9</b>	1.8 J	NS	NS	NA	NS	NS	NS	NS	<b>3.6</b>
6/1/2017	µg/L	<b>13.9</b>	0.94 J	<b>29.7</b>	NS	NA	<b>69.4</b>	NS	NS	<b>356</b>	2.4 J
7/1/2017	µg/L	<b>13.4</b>	0.84 J	<b>12.6</b>	NS	NA	<b>94.8</b>	NS	NS	<b>240</b>	<b>9.7</b>
8/1/2017	µg/L	<b>12.5</b>	1.3 J	<b>7</b>	<b>1780</b>	<b>12.2</b>	<b>54.5</b>	NS	<b>4,760</b>	<b>34.9</b>	<b>7.2</b>
9/1/2017	µg/L	<b>12.3</b>	0.81 J	<b>5.1</b>	<b>1700</b>	<b>29.9</b>	<b>11.7</b>	3 U	<b>5870</b>	<b>156</b>	2.6 J
10/1/2017	µg/L	<b>10.6</b>	3 U	<b>11.3</b>	<b>1750</b>	<b>25.3</b>	NS	3 U	NS	<b>306</b>	<b>5.2</b>
11/1/2017	µg/L	<b>10.5</b>	2.1 J	<b>193</b>	<b>2390</b>	<b>63</b>	NS	3 U	NS	<b>208</b>	<b>4.4</b>
12/1/2017	µg/L	<b>9.2</b>	2.9 J	NS	<b>2820</b>	<b>55</b>	NS	3 U	NS	NS	<b>4.6</b>
1/1/2018	µg/L	<b>9.9</b>	2.2 J	<b>11.7</b>	<b>2800</b>	<b>40.7</b>	NS	3 U	NS	<b>218</b>	<b>4.8</b>
<b>Zinc</b>											
2/1/2017	µg/L	<b>14,500</b>	<b>8,790</b>	NS	NS	NA	<b>3,470</b>	NS	NS	NS	<b>10,100</b>
3/1/2017	µg/L	<b>12,400</b>	<b>10,500</b>	NS	NS	NA	NS	NS	NS	NS	<b>7,100</b>
4/1/2017	µg/L	<b>12,900</b>	<b>13,100</b>	NS	NS	NA	NS	NS	NS	NS	<b>6,260</b>
5/1/2017	µg/L	<b>11,900</b>	<b>12,500</b>	NS	NS	NA	NS	NS	NS	NS	<b>4,860</b>
6/1/2017	µg/L	<b>13,000</b>	<b>13,500</b>	<b>11,400</b>	NS	NA	<b>6,560</b>	NS	NS	<b>25,500</b>	<b>3,720</b>
7/1/2017	µg/L	<b>11,500</b>	<b>10,900</b>	<b>9,090</b>	NS	NA	<b>10,200</b>	NS	NS	<b>13,300</b>	<b>3,700</b>
8/1/2017	µg/L	<b>9,700</b>	<b>10,800</b>	<b>5,090</b>	<b>42,000</b>	<b>276</b>	<b>4,750</b>	NS	<b>297,000</b>	<b>964</b>	<b>3,360</b>
9/1/2017	µg/L	<b>8,750</b>	<b>10,600</b>	<b>3,980</b>	<b>43,500</b>	<b>1,080</b>	<b>444</b>	<b>26</b>	<b>330,000</b>	<b>6,160</b>	<b>2,990</b>
10/1/2017	µg/L	<b>8,310</b>	<b>9,270</b>	<b>3,790</b>	<b>28,900</b>	<b>900</b>	NS	<b>26</b>	NS	<b>14,500</b>	<b>18,700</b>
11/1/2017	µg/L	<b>9,290</b>	<b>18,300</b>	<b>235,000</b>	<b>28,100</b>	<b>8,800</b>	NS	<b>49</b>	NS	<b>10,700</b>	<b>2,730</b>
12/1/2017	µg/L	<b>8,550</b>	<b>24,000</b>	NS	<b>49,200</b>	<b>7,630</b>	NS	<b>28</b>	NS	NS	<b>3,380</b>
1/1/2018	µg/L	<b>9,310</b>	<b>27,700</b>	<b>10,100</b>	<b>61,800</b>	<b>5,150</b>	NS	<b>31</b>	NS	<b>11,600</b>	<b>10,200</b>
<b>pH</b>											
2/1/2017	SU	<b>5.87</b>	<b>6.16</b>	NS	NS	NA	<b>6.41</b>	NS	NS	<b>5.99</b>	<b>6.98</b>
3/1/2017	SU	<b>4.12</b>	<b>5.55</b>	NS	NS	NA	NS	NS	NS	NS	<b>6.45</b>
4/1/2017	SU	<b>5.51</b>	<b>5.58</b>	NS	NS	NA	NS	NS	NS	NS	<b>6.92</b>
5/1/2017	SU	<b>6.01</b>	<b>6.3</b>	NS	NS	NA	NS	NS	NS	NS	<b>7.04</b>
6/1/2017	SU	<b>5.77</b>	NS	<b>6.9</b>	NS	NA	<b>6.45</b>	NS	NS	<b>6</b>	<b>7.35</b>
7/1/2017	SU	<b>5.72</b>	<b>5.95</b>	<b>6.42</b>	NS	NA	<b>6.05</b>	NS	NS	<b>6.33</b>	<b>7.19</b>
8/1/2017	SU	<b>5.98</b>	<b>6.22</b>	<b>7.34</b>	<b>5.23</b>	<b>10.89</b>	<b>6.15</b>	NS	<b>4.5</b>	<b>7.43</b>	<b>7.31</b>
12/1/2017	SU	<b>5.99</b>	<b>5.52</b>	<b>5.52</b>	<b>5.62</b>	<b>6.9</b>	NS	<b>11.9</b>	NS	<b>5.41</b>	<b>7.43</b>
1/1/2018	SU	<b>6.09</b>	<b>4.99</b>	<b>6.48</b>	<b>5.13</b>	<b>7.13</b>	NS	<b>12.12</b>	NS	<b>6.66</b>	<b>7.07</b>

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable



**TABLE 4**  
**Intermediate Groundwater Data - January 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW01-MW(I)	RW01-MW(IA)	RW02-MW(I)	RW02-MW(IA)	RW03-MW(I)	RW05-MW(I)	RW05-MW(IA)	RW06-MW(I)	RW07-MW(I)	RW08-MW(I)	RW09-MW(I)
<b>Cadmium</b>												
2/1/2017	µg/L	NA	<b>401</b>	NA	<b>41.3</b>	<b>189</b>	NS	<b>1070</b>	<b>12.5</b>	1.2 J	0.49 J	<b>3.1</b>
3/1/2017	µg/L	NA	<b>1060</b>	NA	<b>284</b>	<b>196</b>	NS	<b>791</b>	<b>9.2</b>	<b>4.6</b>	0.39 J	<b>4</b>
4/1/2017	µg/L	NA	<b>859</b>	NA	<b>296</b>	<b>192</b>	NS	<b>1600</b>	<b>14</b>	3 U	3 U	<b>5</b>
5/1/2017	µg/L	NA	<b>526</b>	NA	<b>24.4</b>	<b>84</b>	NS	<b>397</b>	<b>20.4</b>	1.1 J	1.5 J	<b>11.1</b>
6/1/2017	µg/L	NA	<b>666</b>	NA	<b>451</b>	<b>37.4</b>	1.9 J	<b>577</b>	<b>14.3</b>	0.91 J	0.48 J	<b>8.1</b>
7/1/2017	µg/L	NA	<b>530</b>	NA	<b>421</b>	<b>138</b>	<b>17.5</b>	<b>11.9</b>	<b>10.2</b>	1.2 J	1.3 J	<b>12.9</b>
8/1/2017	µg/L	<b>194</b>	NS	<b>511</b>	NS	<b>227</b>	<b>19.3</b>	<b>11.5</b>	<b>10.1</b>	1 J	0.86 J	<b>18.5</b>
9/1/2017	µg/L	0.51 J	NS	3 J	NS	<b>214</b>	<b>3.7</b>	<b>1400</b>	<b>4.5</b>	<b>11</b>	0.77 J	<b>9.1</b>
10/1/2017	µg/L	<b>145</b>	NS	2.4 J	NS	<b>20.2</b>	<b>4.2</b>	NS	<b>4.2</b>	3 U	3 U	<b>12</b>
11/1/2017	µg/L	3 U	NS	3 U	NS	<b>25.2</b>	<b>4.9</b>	NS	<b>5.4</b>	<b>5.1</b>	0.88 J	<b>8.8</b>
12/1/2017	µg/L	<b>37.5</b>	NS	2.3 J	NS	<b>154</b>	2.7 J	NS	<b>7.1</b>	1.7 J	1.8 J	<b>7.7</b>
1/1/2018	µg/L	2.4 J	NS	<b>14.5</b>	NS	<b>259</b>	2.2 J	NS	<b>8.4</b>	3 U	3 U	2.1 J
<b>Zinc</b>												
2/1/2017	µg/L	NA	<b>12,900</b>	NA	<b>2,740</b>	<b>9,740</b>	NS	<b>22,900</b>	<b>1,900</b>	<b>944</b>	<b>178</b>	<b>51,000</b>
3/1/2017	µg/L	NA	<b>17,800</b>	NA	<b>9,110</b>	<b>9,240</b>	NS	<b>34,200</b>	<b>1,680</b>	<b>1,210</b>	<b>45</b>	<b>51,900</b>
4/1/2017	µg/L	NA	<b>17,400</b>	NA	<b>10,700</b>	<b>7,830</b>	NS	<b>25,000</b>	<b>1,420</b>	<b>364</b>	<b>85</b>	<b>57,500</b>
5/1/2017	µg/L	NA	<b>14,900</b>	NA	<b>2,520</b>	<b>2,960</b>	NS	<b>38,800</b>	<b>999</b>	<b>298</b>	<b>188</b>	<b>57,200</b>
6/1/2017	µg/L	NA	<b>16,800</b>	NA	<b>15,200</b>	<b>2,440</b>	<b>374</b>	<b>40,400</b>	<b>876</b>	<b>432</b>	<b>72</b>	<b>51,900</b>
7/1/2017	µg/L	NA	<b>16,100</b>	NA	<b>15,300</b>	<b>8,330</b>	<b>1,730</b>	<b>39,600</b>	<b>1,690</b>	<b>46</b>	<b>153</b>	<b>65,600</b>
8/1/2017	µg/L	<b>11,600</b>	NS	<b>18,200</b>	NS	<b>10,900</b>	<b>1,730</b>	<b>35,300</b>	<b>1,340</b>	<b>63</b>	<b>50</b>	<b>55,500</b>
9/1/2017	µg/L	<b>90</b>	NS	<b>203</b>	NS	<b>9,340</b>	<b>328</b>	<b>30,900</b>	<b>508</b>	<b>2,840</b>	<b>69</b>	<b>39,400</b>
10/1/2017	µg/L	<b>13,700</b>	NS	<b>290</b>	NS	<b>1,810</b>	<b>349</b>	NS	<b>615</b>	<b>23</b>	<b>17</b>	<b>49,700</b>
11/1/2017	µg/L	<b>29</b>	NS	<b>39</b>	NS	<b>1,750</b>	<b>502</b>	NS	<b>909</b>	<b>1,650</b>	<b>22</b>	<b>67,900</b>
12/1/2017	µg/L	<b>41,000</b>	NS	<b>186</b>	NS	<b>6,270</b>	<b>205</b>	NS	<b>1,360</b>	<b>40</b>	<b>21</b>	<b>44,500</b>
1/1/2018	µg/L	<b>104</b>	NS	<b>573</b>	NS	<b>12,700</b>	<b>173</b>	NS	<b>1,950</b>	<b>71</b>	<b>108</b>	<b>54,700</b>
<b>pH</b>												
2/1/2017	SU	NA	<b>6.21</b>	NA	<b>6.53</b>	<b>6.41</b>	NS	<b>6.24</b>	<b>5.85</b>	<b>6.25</b>	<b>6.06</b>	<b>6.23</b>
3/1/2017	SU	NA	<b>6.15</b>	NA	<b>6.44</b>	<b>6.04</b>	NS	<b>5.33</b>	<b>5.71</b>	<b>6</b>	<b>5.57</b>	<b>5.96</b>
4/1/2017	SU	NA	<b>5.86</b>	NA	<b>6.7</b>	<b>6.28</b>	NS	<b>6.04</b>	<b>5.94</b>	<b>6.05</b>	<b>6.21</b>	<b>5.84</b>
5/1/2017	SU	NA	<b>3.52</b>	NA	<b>3.46</b>	<b>5.97</b>	NS	<b>5.54</b>	<b>6.06</b>	<b>6.61</b>	<b>3.14</b>	<b>6</b>
6/1/2017	SU	NA	<b>6.08</b>	NA	<b>6.73</b>	<b>5.96</b>	<b>8.05</b>	<b>5.35</b>	<b>5.81</b>	<b>6.09</b>	NS	<b>5.8</b>
7/1/2017	SU	NA	<b>6.04</b>	NA	<b>6.68</b>	<b>6.21</b>	<b>7.97</b>	<b>5.15</b>	<b>6.08</b>	<b>6.18</b>	<b>3.88</b>	<b>5.67</b>
8/1/2017	SU	<b>6.68</b>	NS	<b>6.73</b>	NS	<b>6.02</b>	<b>8.71</b>	<b>5.2</b>	<b>5.7</b>	<b>6.54</b>	<b>6.31</b>	<b>5.93</b>
12/1/2017	SU	<b>6.74</b>	NS	<b>11.4</b>	NS	<b>5.68</b>	<b>8.01</b>	NS	<b>6</b>	<b>6.6</b>	<b>6.21</b>	<b>5.96</b>
1/1/2018	SU	<b>13.17</b>	NS	<b>12.87</b>	NS	<b>6.4</b>	<b>8.31</b>	NS	<b>5.92</b>	<b>7.11</b>	<b>6.3</b>	<b>5.98</b>

**Bold** indicates detection above the reporting limit  
 NS indicates not sampled  
 NA indicates not applicable



**TABLE 4**  
**Intermediate Groundwater Data - January 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW10-MW(I)	RW11-MW(I)	RW12-MW(I)	RW13-MW(I)	RW15-MW(I)	RW15-MW(IA)	RW16-MW(I)	RW18-MW(I)	RW19-MW(I)	RW22-MW(I)
<b>Cadmium</b>											
2/1/2017	µg/L	<b>446</b>	<b>1690</b>	<b>4740</b>	NS	NA	<b>103</b>	NS	<b>70.3</b>	<b>3760</b>	NS
3/1/2017	µg/L	<b>3</b>	<b>1490</b>	<b>3530</b>	NS	NA	<b>74.1</b>	NS	<b>63.8</b>	<b>3450</b>	NS
4/1/2017	µg/L	<b>198</b>	<b>1800</b>	<b>2730</b>	NS	NA	<b>109</b>	NS	<b>119</b>	<b>3380</b>	NS
5/1/2017	µg/L	<b>2.5</b>	<b>2600</b>	<b>3820</b>	NS	NA	<b>91.1</b>	NS	<b>92</b>	<b>2770</b>	NS
6/1/2017	µg/L	<b>27.2</b>	<b>218</b>	<b>2260</b>	NS	NA	NS	NS	<b>65.1</b>	<b>2280</b>	0.35 J
7/1/2017	µg/L	<b>16.3</b>	<b>518</b>	<b>2730</b>	NS	NA	NS	NS	<b>61.7</b>	<b>2550</b>	3 U
8/1/2017	µg/L	3 U	<b>163</b>	<b>2220</b>	<b>31800</b>	<b>10.1</b>	<b>17.7</b>	NS	<b>74.4</b>	<b>1670</b>	NS
9/1/2017	µg/L	<b>17.7</b>	<b>274</b>	<b>1820</b>	<b>66</b>	3 U	<b>21.3</b>	1.7 J	<b>72.2</b>	<b>1320</b>	2.3 J
10/1/2017	µg/L	<b>24.6</b>	<b>125</b>	<b>1510</b>	<b>28700</b>	3 U	NS	3 U	<b>43.7</b>	<b>1710</b>	3 U
11/1/2017	µg/L	<b>63.7</b>	<b>1460</b>	<b>1380</b>	<b>24500</b>	3 U	NS	3 U	<b>66.6</b>	<b>1770</b>	<b>3.8</b>
12/1/2017	µg/L	3 U	<b>1380</b>	NS	<b>44.2</b>	0.97 J	NS	1.9 J	NS	<b>1710</b>	<b>15.2</b>
1/1/2018	µg/L	3 U	<b>1400</b>	<b>1270</b>	<b>1240</b>	1.6 J	NS	1.2 J	<b>63.5</b>	<b>1880</b>	<b>4.1</b>
<b>Zinc</b>											
2/1/2017	µg/L	<b>104,000</b>	<b>368,000</b>	<b>249,000</b>	NS	NA	<b>92,600</b>	NS	<b>728,000</b>	<b>5,900,000</b>	NS
3/1/2017	µg/L	<b>20</b>	<b>301,000</b>	<b>216,000</b>	NS	NA	<b>95,600</b>	NS	<b>592,000</b>	<b>4,650,000</b>	NS
4/1/2017	µg/L	<b>75,800</b>	<b>288,000</b>	<b>188,000</b>	NS	NA	<b>122,000</b>	NS	<b>633,000</b>	<b>7,010,000</b>	NS
5/1/2017	µg/L	<b>1,150</b>	<b>336,000</b>	<b>232,000</b>	NS	NA	<b>100,000</b>	NS	<b>246,000</b>	<b>5,370,000</b>	NS
6/1/2017	µg/L	<b>34,600</b>	<b>201,000</b>	<b>226,000</b>	NS	NA	NS	NS	<b>694,000</b>	<b>6,720,000</b>	<b>303</b>
7/1/2017	µg/L	<b>25,900</b>	<b>192,000</b>	<b>219,000</b>	NS	NA	NS	NS	<b>575,000</b>	<b>5,330,000</b>	<b>103</b>
8/1/2017	µg/L	<b>80</b>	<b>147,000</b>	<b>156,000</b>	<b>308,000</b>	<b>3,210</b>	<b>43,900</b>	NS	<b>290,000</b>	<b>3,360,000</b>	NS
9/1/2017	µg/L	<b>8,220</b>	<b>134,000</b>	<b>156,000</b>	<b>1,160</b>	<b>71</b>	<b>43,000</b>	<b>20,200</b>	<b>382,000</b>	<b>2,500,000</b>	<b>43,000</b>
10/1/2017	µg/L	<b>31,000</b>	<b>111,000</b>	<b>150,000</b>	<b>204,000</b>	<b>295</b>	NS	<b>2,000</b>	<b>393,000</b>	<b>3,670,000</b>	<b>16,100</b>
11/1/2017	µg/L	<b>39,000</b>	<b>207,000</b>	<b>140,000</b>	<b>172,000</b>	<b>825</b>	NS	<b>441</b>	<b>323,000</b>	<b>3,400,000</b>	<b>3,700</b>
12/1/2017	µg/L	<b>158</b>	<b>197,000</b>	NS	<b>237</b>	<b>1,070</b>	NS	<b>19,200</b>	NS	<b>3,970,000</b>	<b>19,500</b>
1/1/2018	µg/L	<b>27</b>	<b>225,000</b>	<b>117,000</b>	<b>8,600</b>	<b>5,540</b>	NS	<b>16,200</b>	<b>370,000</b>	<b>3,840,000</b>	<b>27,200</b>
<b>pH</b>											
2/1/2017	SU	<b>6.86</b>	<b>6.05</b>	<b>5.27</b>	NS	NA	<b>6.02</b>	NS	<b>5.64</b>	<b>5.5</b>	NS
3/1/2017	SU	<b>9.93</b>	<b>5.93</b>	<b>5.26</b>	NS	NA	<b>2.77</b>	NS	<b>5.33</b>	<b>5.35</b>	NS
4/1/2017	SU	<b>7.03</b>	<b>5.35</b>	<b>5.34</b>	NS	NA	<b>5.77</b>	NS	<b>5.39</b>	<b>5.28</b>	NS
5/1/2017	SU	<b>8.7</b>	<b>6.11</b>	<b>4.18</b>	NS	NA	<b>3.64</b>	NS	<b>3.43</b>	<b>5.41</b>	NS
6/1/2017	SU	<b>7.15</b>	<b>5.5</b>	<b>5.39</b>	NS	NA	NS	NS	<b>5.38</b>	<b>5.32</b>	<b>12.97</b>
7/1/2017	SU	<b>6.58</b>	<b>5.66</b>	<b>4.2</b>	NS	NA	NS	NS	<b>5.25</b>	<b>5.15</b>	<b>12.75</b>
8/1/2017	SU	<b>10.92</b>	<b>5.81</b>	<b>4.71</b>	<b>6.72</b>	<b>11.6</b>	<b>6.19</b>	NS	<b>5.45</b>	<b>5.58</b>	NS
12/1/2017	SU	<b>11.21</b>	<b>6.16</b>	<b>6.06</b>	<b>7.67</b>	<b>11.69</b>	NS	<b>6.47</b>	<b>5.62</b>	<b>5.52</b>	<b>5.68</b>
1/1/2018	SU	NS	<b>5.61</b>	<b>4.46</b>	<b>11.44</b>	<b>12.13</b>	NS	<b>6.37</b>	<b>5.56</b>	<b>5.41</b>	<b>5.85</b>

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable

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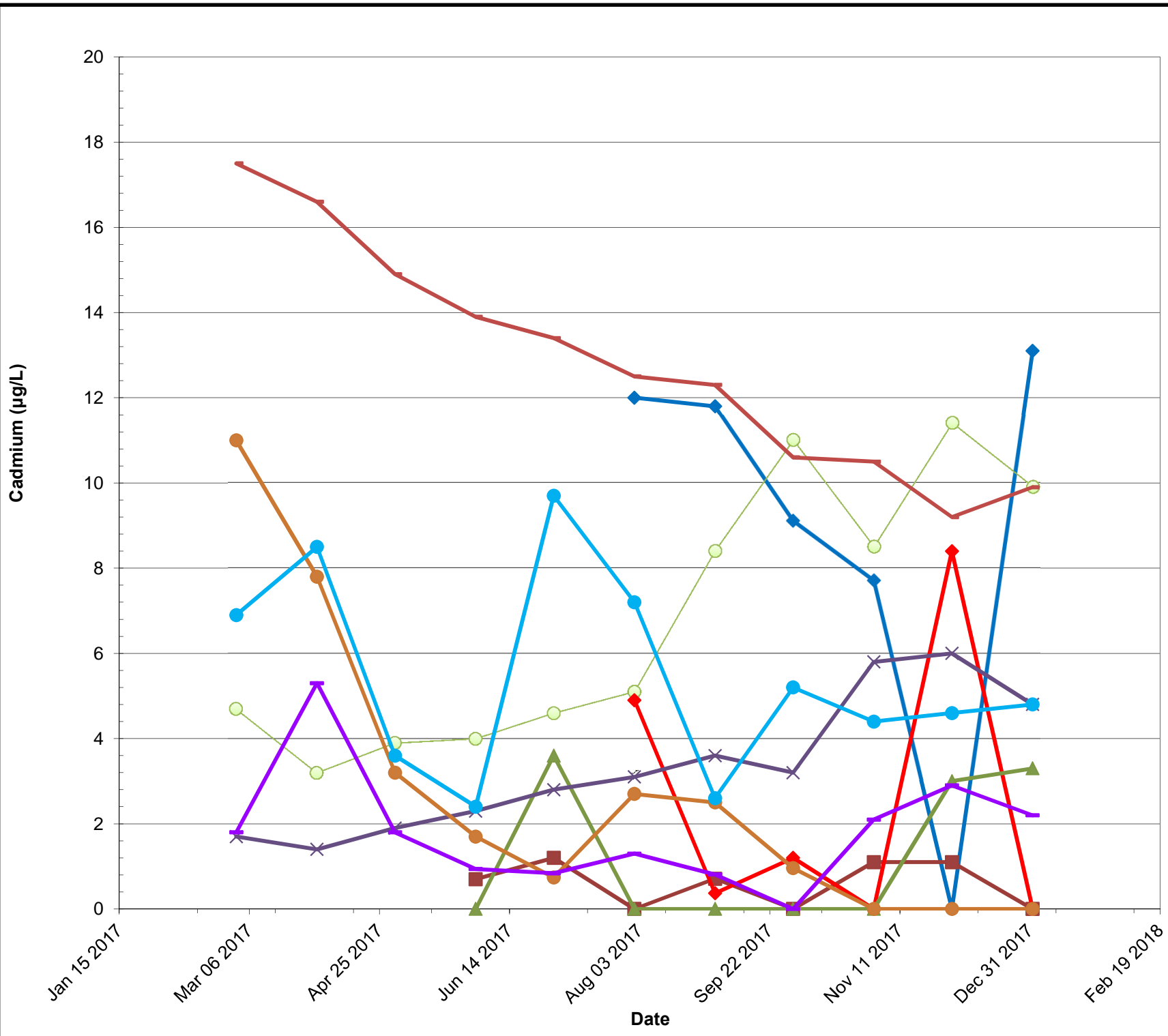
**APPENDIX A**

**Shallow Groundwater Time-Series Graphs**

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**LEGEND**

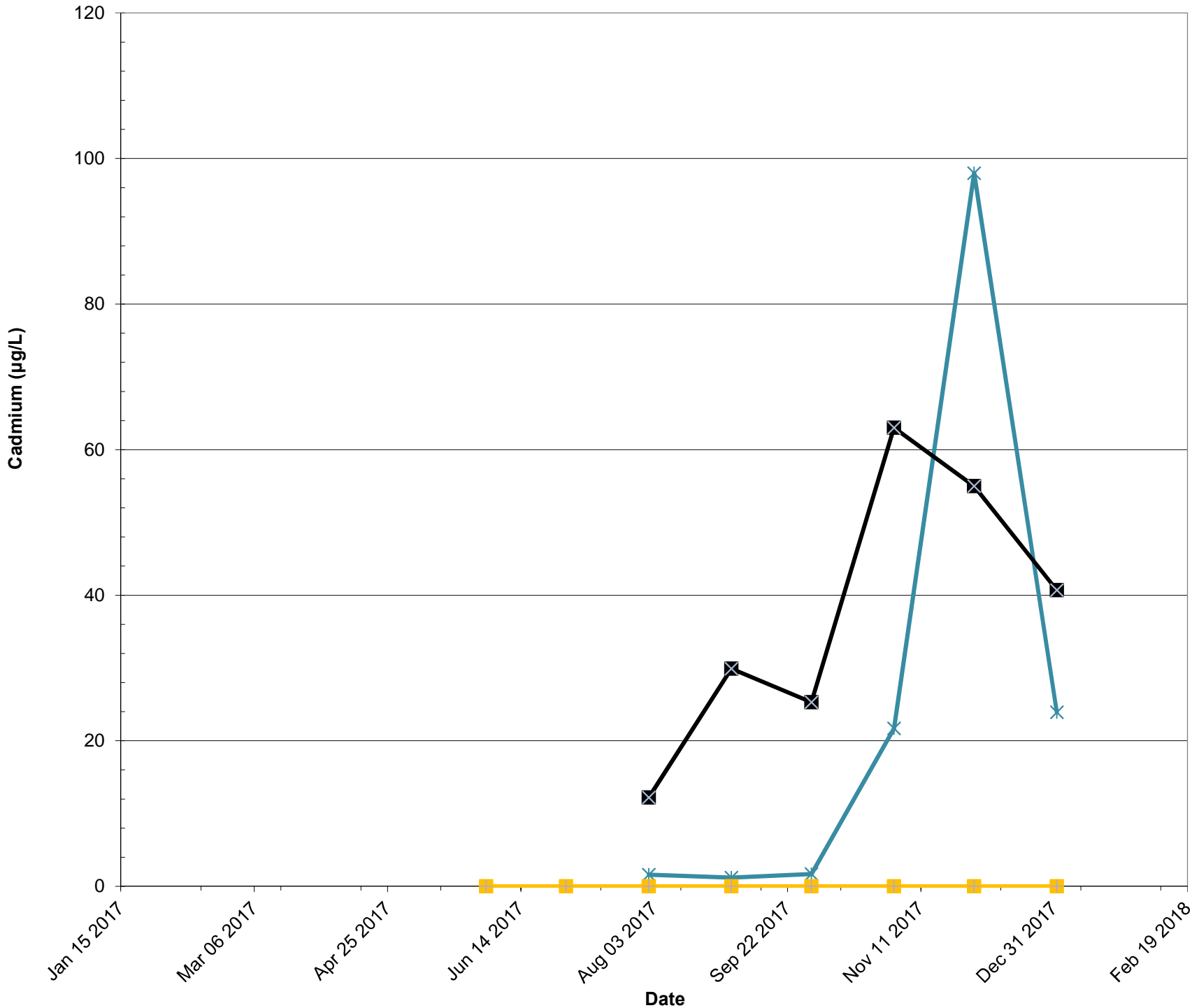
- RW02-MW(S)
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- RW04-MW(S)
- RW05-MW(S)
- RW06-MW(S)
- RW07-MW(S)
- RW08-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- RW19-MW(S)

**EnviroAnalytics**  
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Project  
Tradeport Atlantic  
Baltimore, Maryland

SHALLOW GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASUREMENT  
PROGRESS REPORT

Date	Figure
August 15, 2018	A1
PE/RG	PM
DR	



**LEGEND**

- ✖ RW01-MW(S)
- ✖ RW15-MW(S)
- RW16-MW(S)



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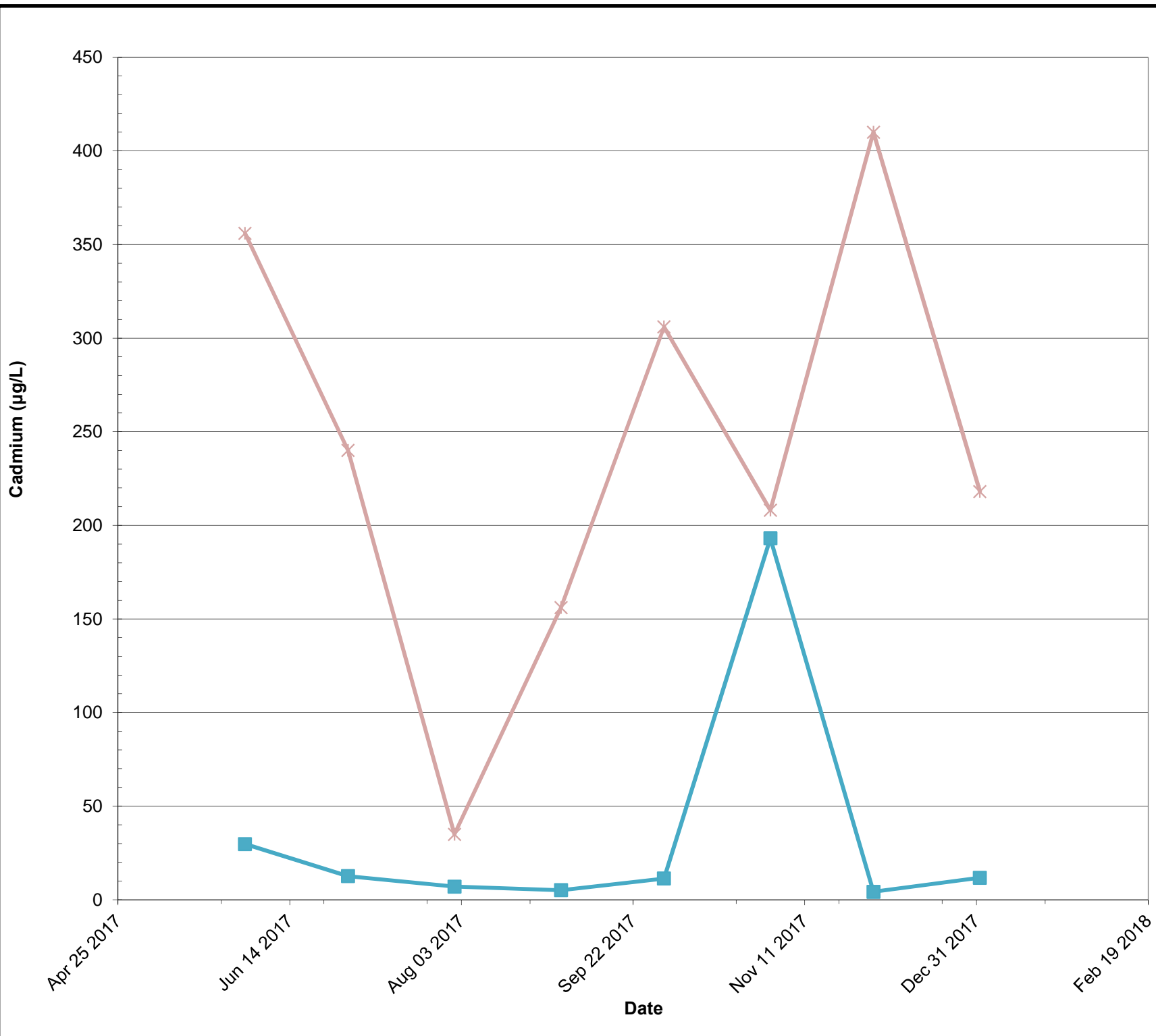
SHALLOW GROUNDWATER  
 CADMIUM CONCENTRATION  
 RWM INTERIM MEASUREMENT  
 PROGRESS REPORT

Date  
 August 15, 2018

Figure  
 A2

PE/RG PM DR





**LEGEND**

- RW12-MW(S)
- RW18-MW(S)

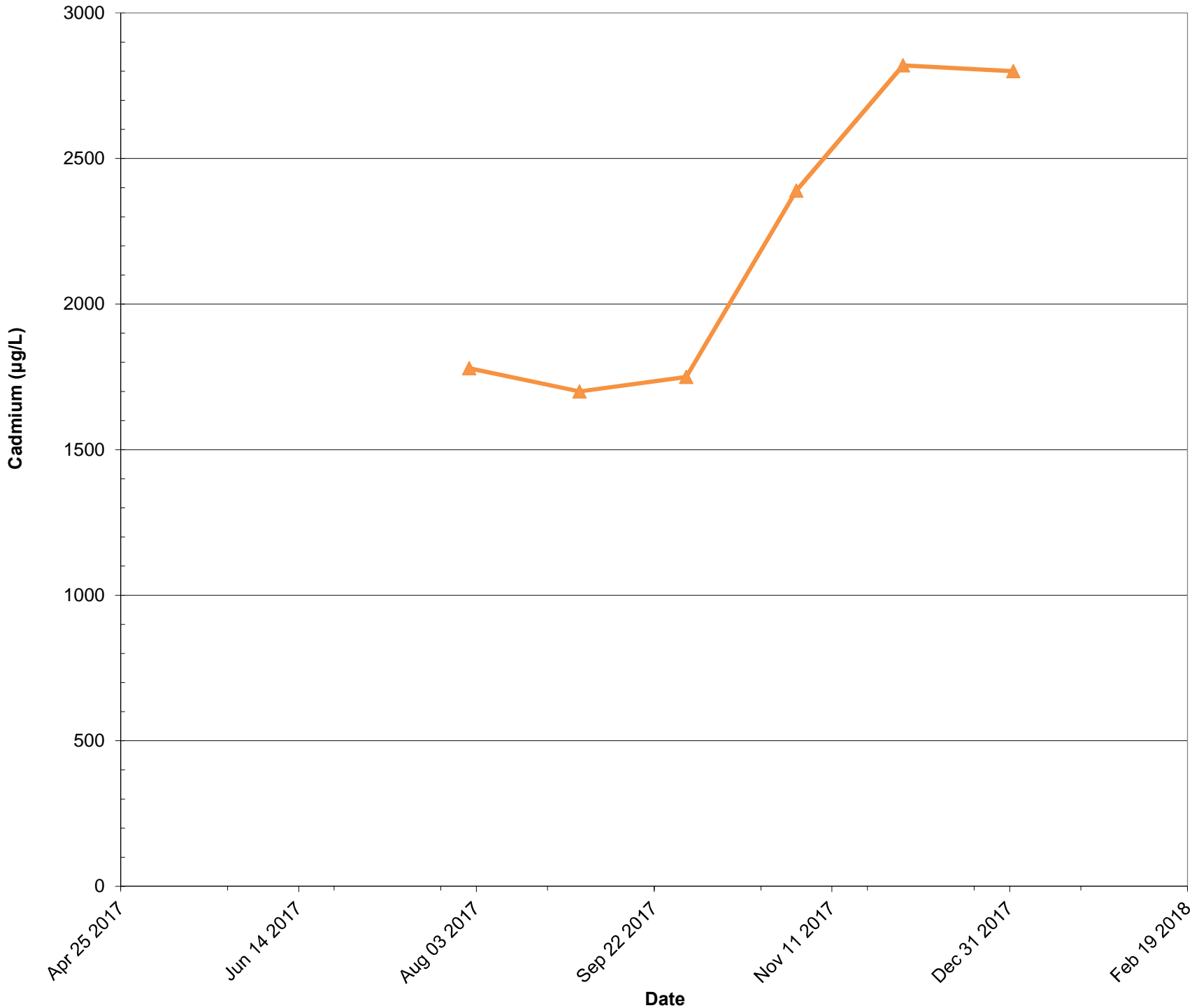


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SHALLOW GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASUREMENT  
PROGRESS REPORT

Date	Figure
August 15, 2018	A3
PE/RG	PM
DR	



**LEGEND**

▲ RW14-MW(S)



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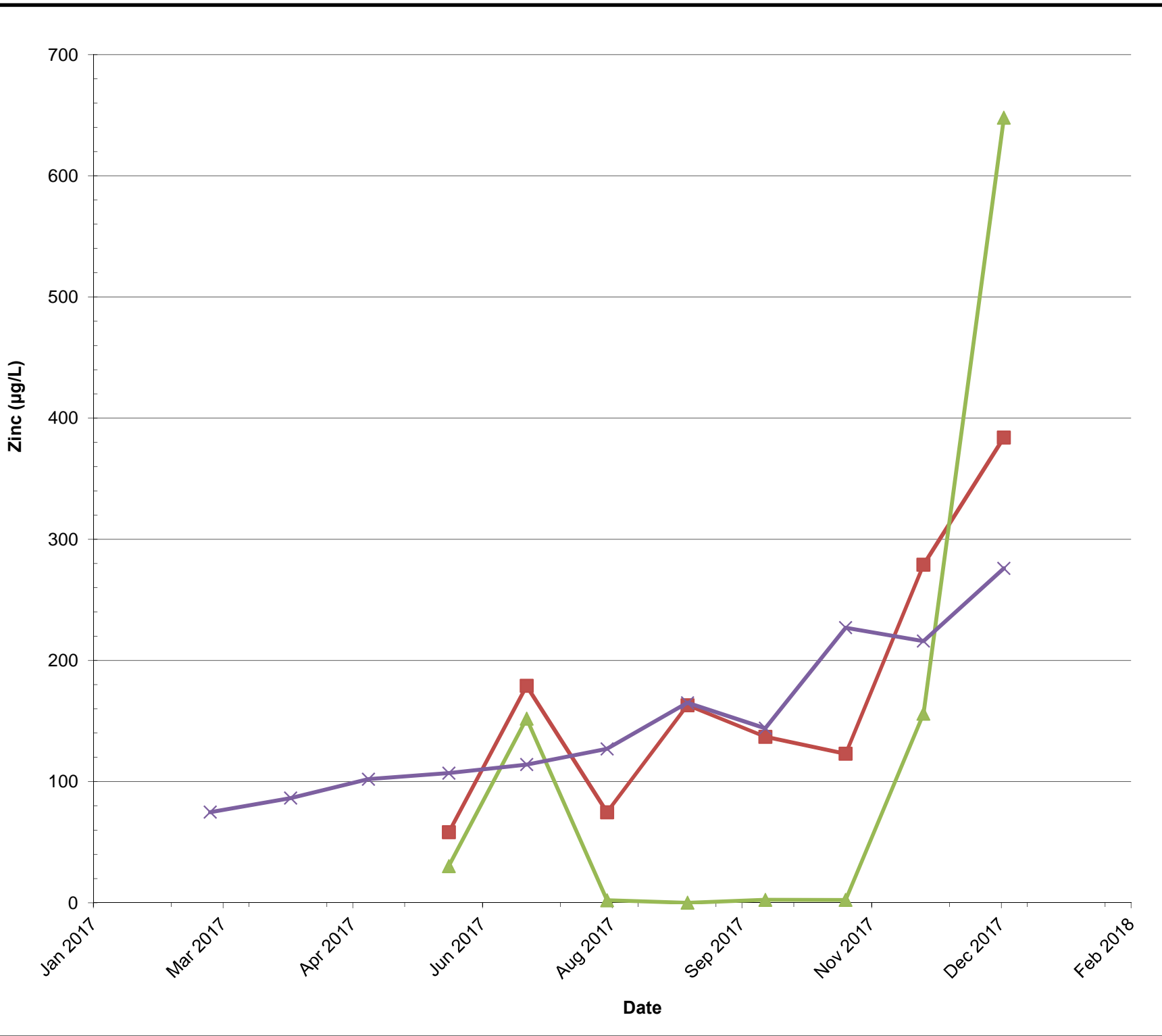
SHALLOW GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASUREMENT  
PROGRESS REPORT

Date  
August 15, 2018

Figure  
A4

PE/RG PM DR





**LEGEND**

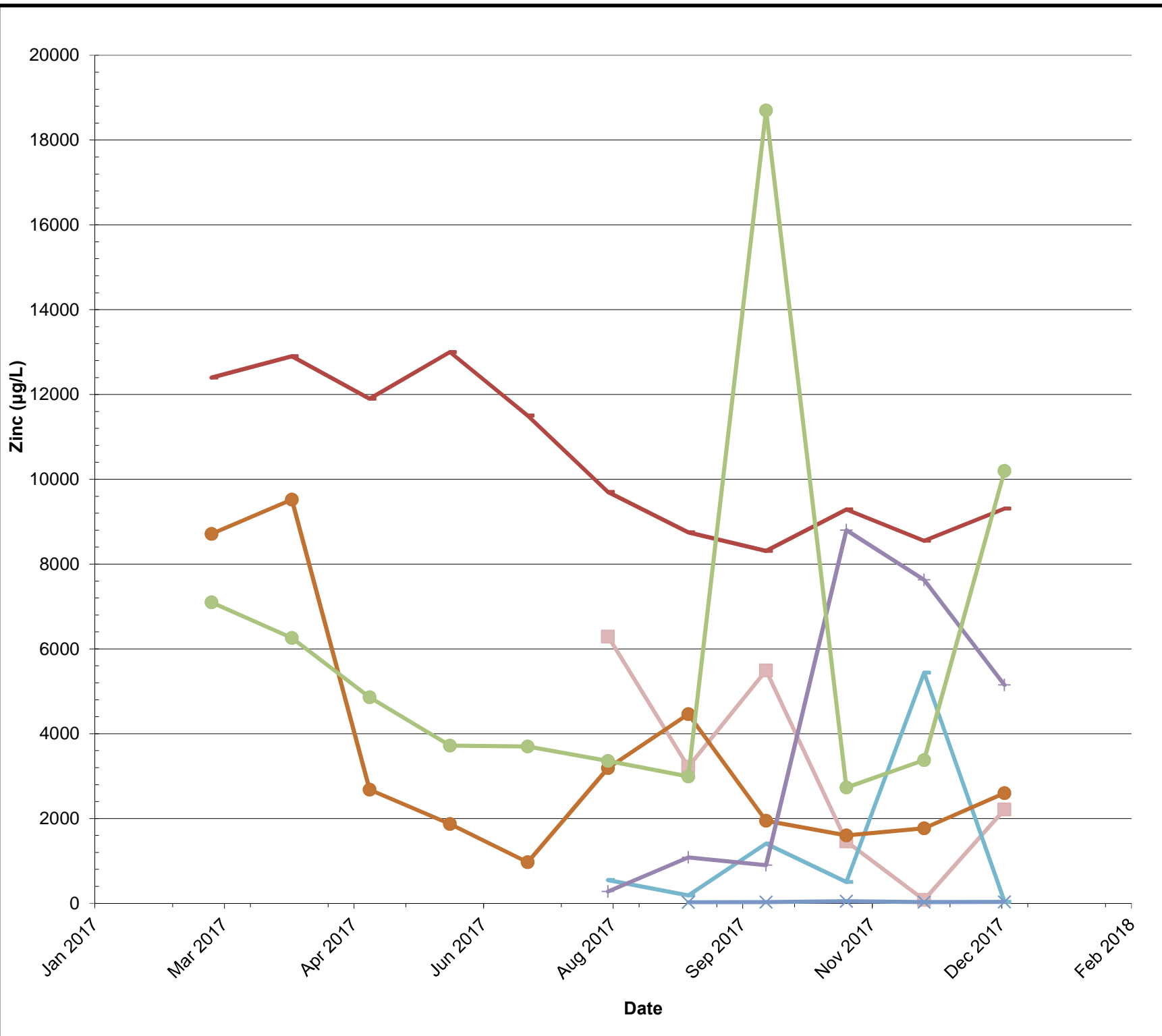
- RW04-MW(S)
- RW06-MW(S)
- RW07-MW(S)

**EnviroAnalytics**  
Group  
Environmental Engineers

Project  
Tradepoint Atlantic  
Baltimore, Maryland

SHALLOW GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date	Figure
August 15, 2018	A5
PE/RG	PM
DR	



- LEGEND**
- RW02-MW(S)
  - RW05-MW(S)
  - RW08-MW(S)
  - RW09-MW(S)
  - RW15-MW(S)
  - RW16-MW(S)
  - RW19-MW(S)

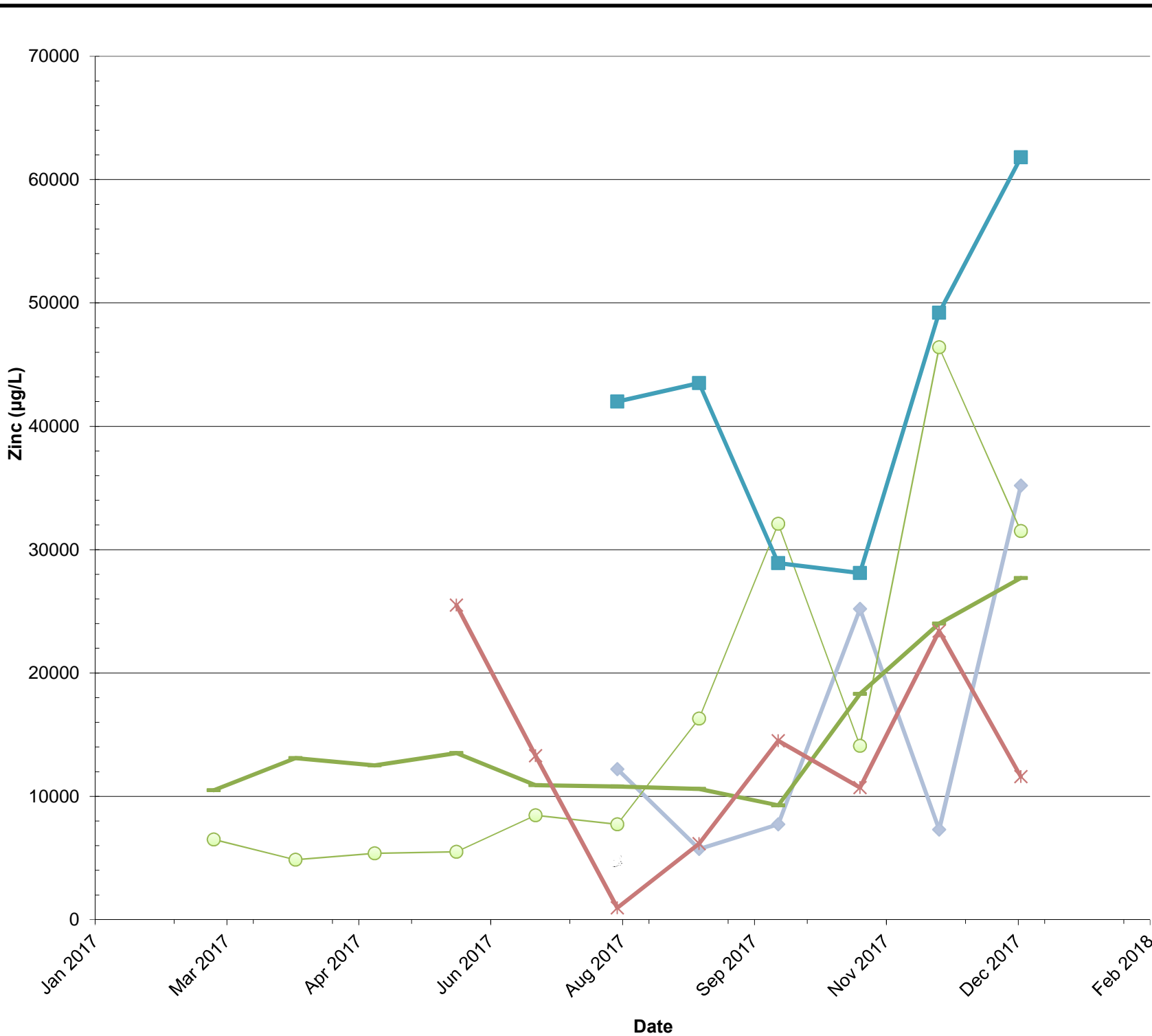


Project  
Tradepoint Atlantic  
Baltimore, Maryland

SHALLOW GROUNDWATER  
ZINC CONCENTRATION  
RWM: INTERIM MEASURES  
PROGRESS REPORT

Date	Figure
July 30, 2018	A6
PE/RG	PM
DR	





**LEGEND**

- ◆ RW01-MW(S)
- RW03-MW(S)
- RW11-MW(S)
- RW14-MW(S)
- \* RW18-MW(S)



Environmental Engineers

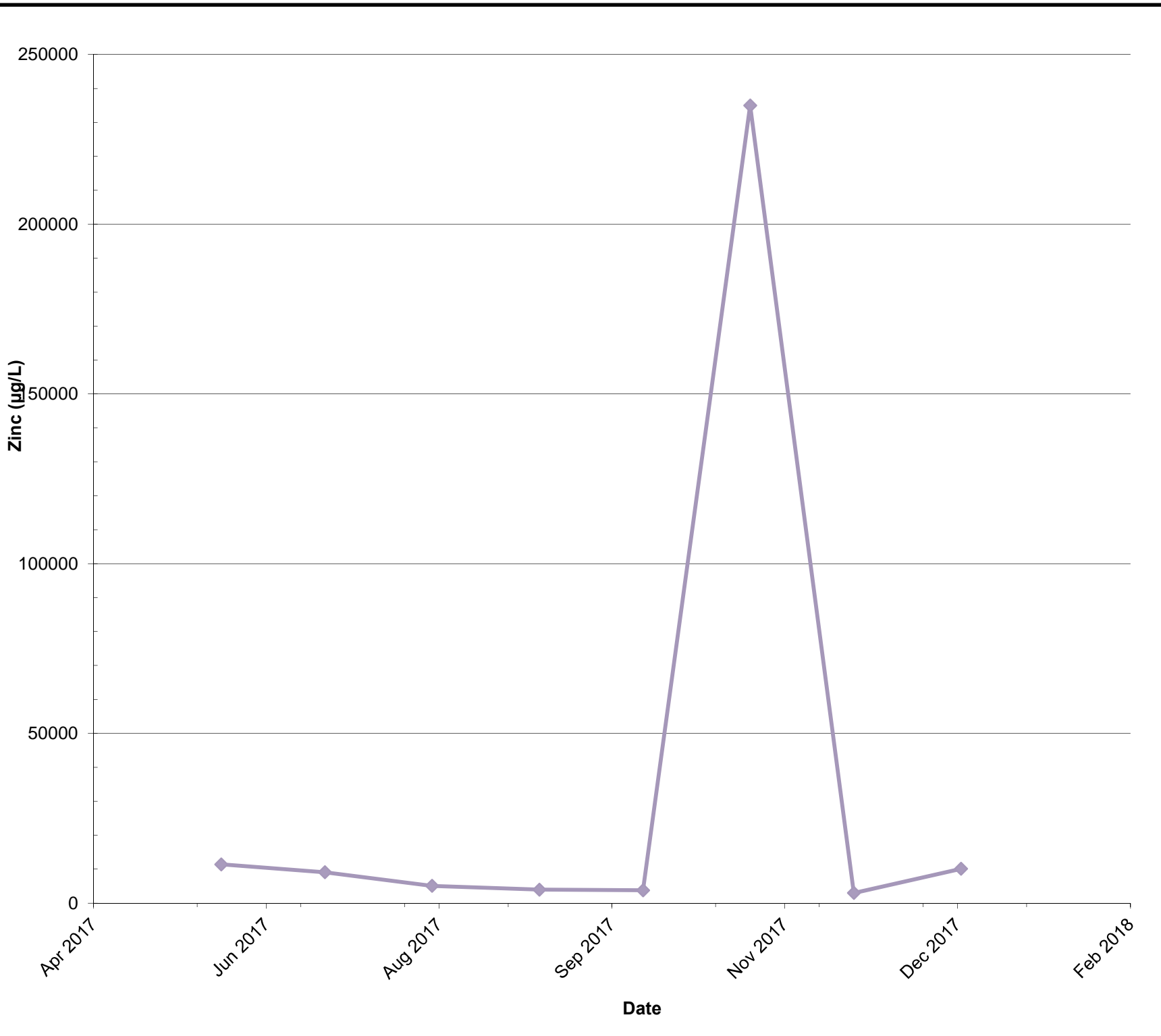
Project  
Tradepoint Atlantic  
Baltimore, Maryland

SHALLOW GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 15, 2018

Figure  
A7

PE/RC PM DR



**LEGEND**

◆ RW12-MW(S)

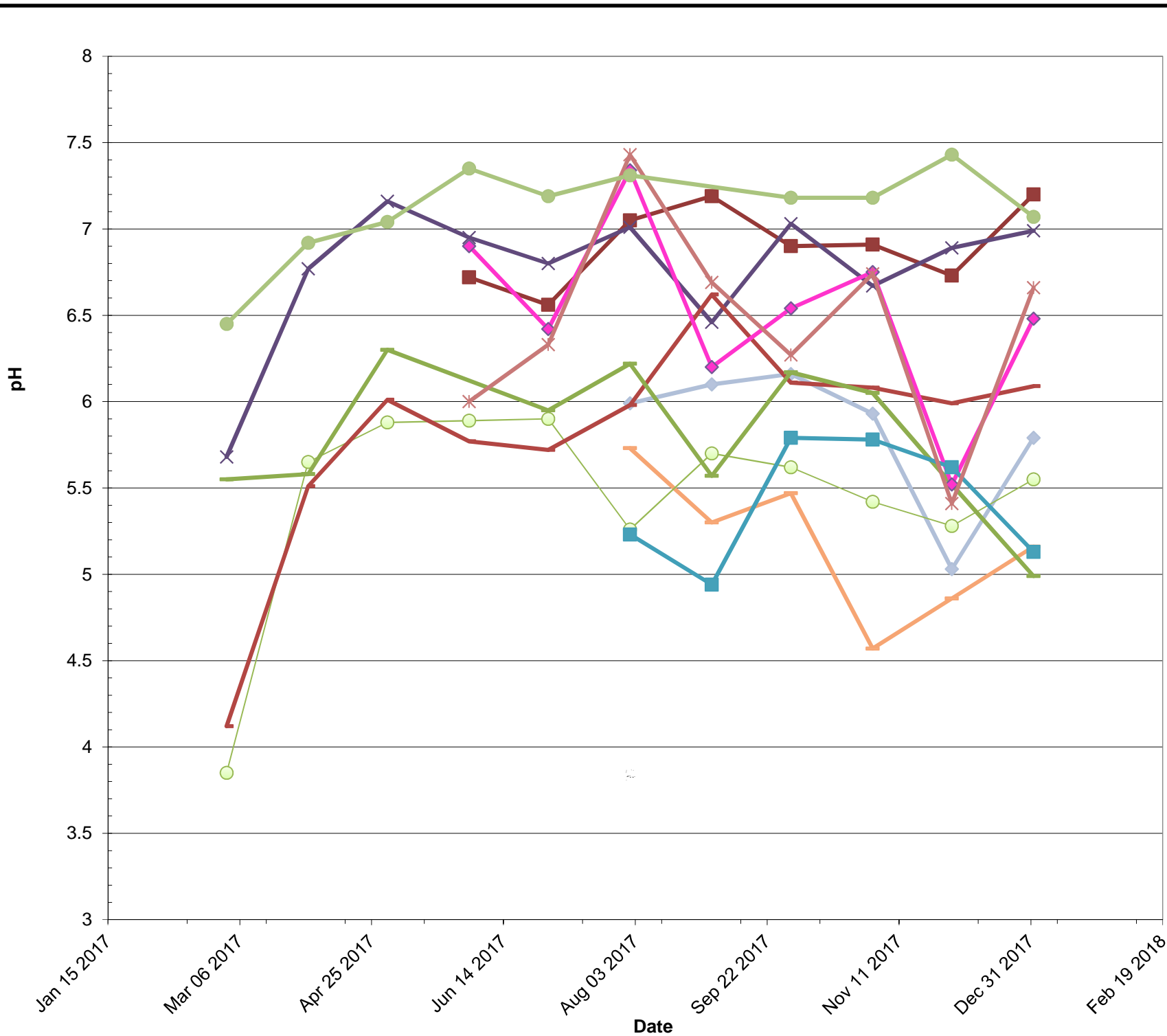
Environmental Engineers

Project  
 Tradepoint Atlantic  
 Baltimore, Maryland

SHALLOW GROUNDWATER  
 ZINC CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT

Date	Figure
August 15, 2018	A8
PE/RG	PM
DR	





**LEGEND**

- RW01-MW(S)
- RW02-MW(S)
- RW03-MW(S)
- RW04-MW(S)
- RW07-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- RW12-MW(S)
- RW14-MW(S)
- RW18-MW(S)
- RW19-MW(S)

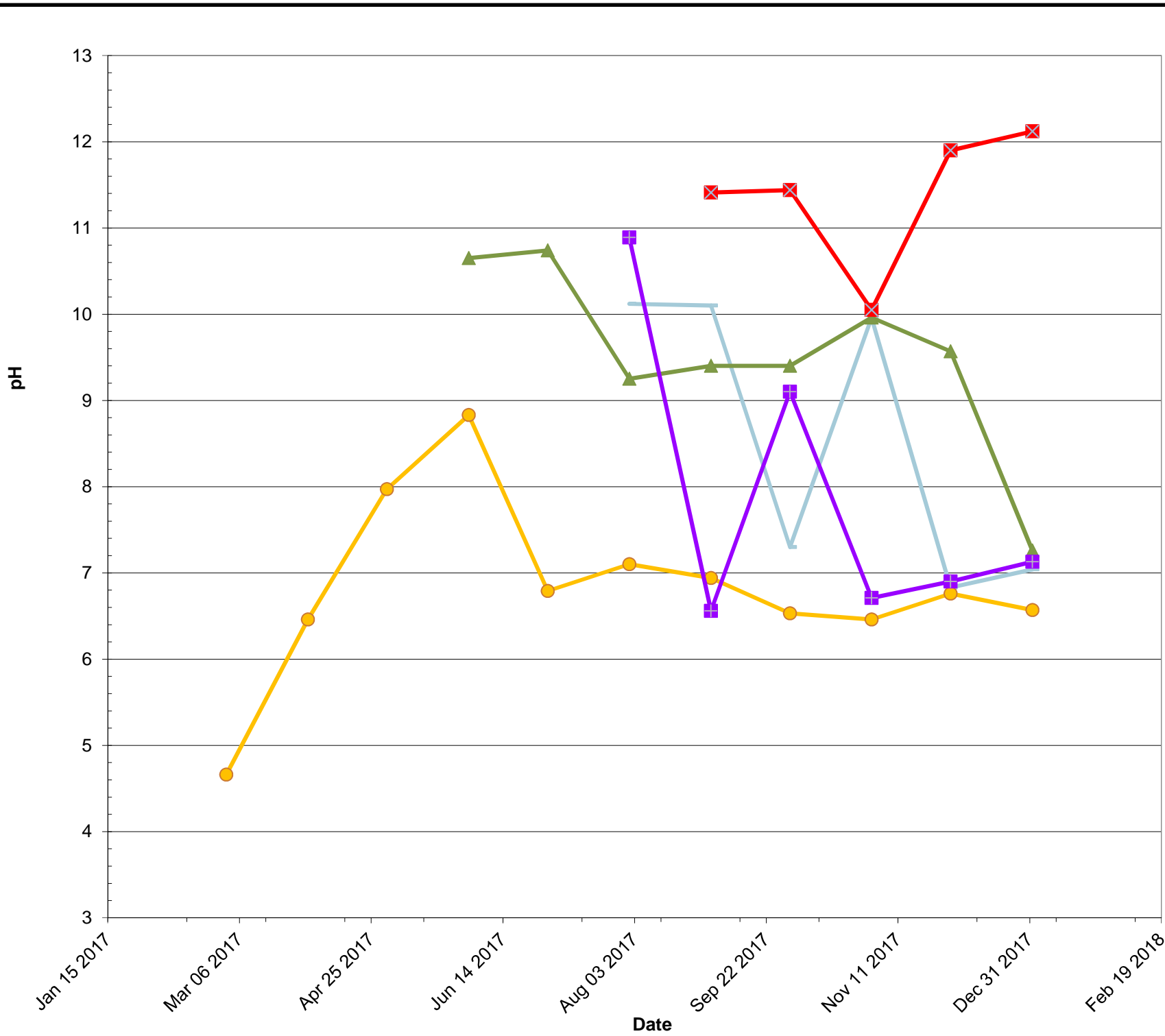


Environmental Engineers

Project  
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 Baltimore, Maryland

SHALLOW GROUNDWATER  
 pH CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT

Date August 15, 2018			Figure <b>A9</b>
PE/RG	PM	DR	



**LEGEND**

- RW05-MW(S)
- ▲— RW06-MW(S)
- RW08-MW(S)
- RW15-MW(S)
- ×— RW16-MW(S)



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 Tradepoint Atlantic  
 Baltimore, Maryland

SHALLOW GROUNDWATER  
 pH CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT

Date  
 August 15, 2018

Figure  
 A10

PE/RG	PM	DR
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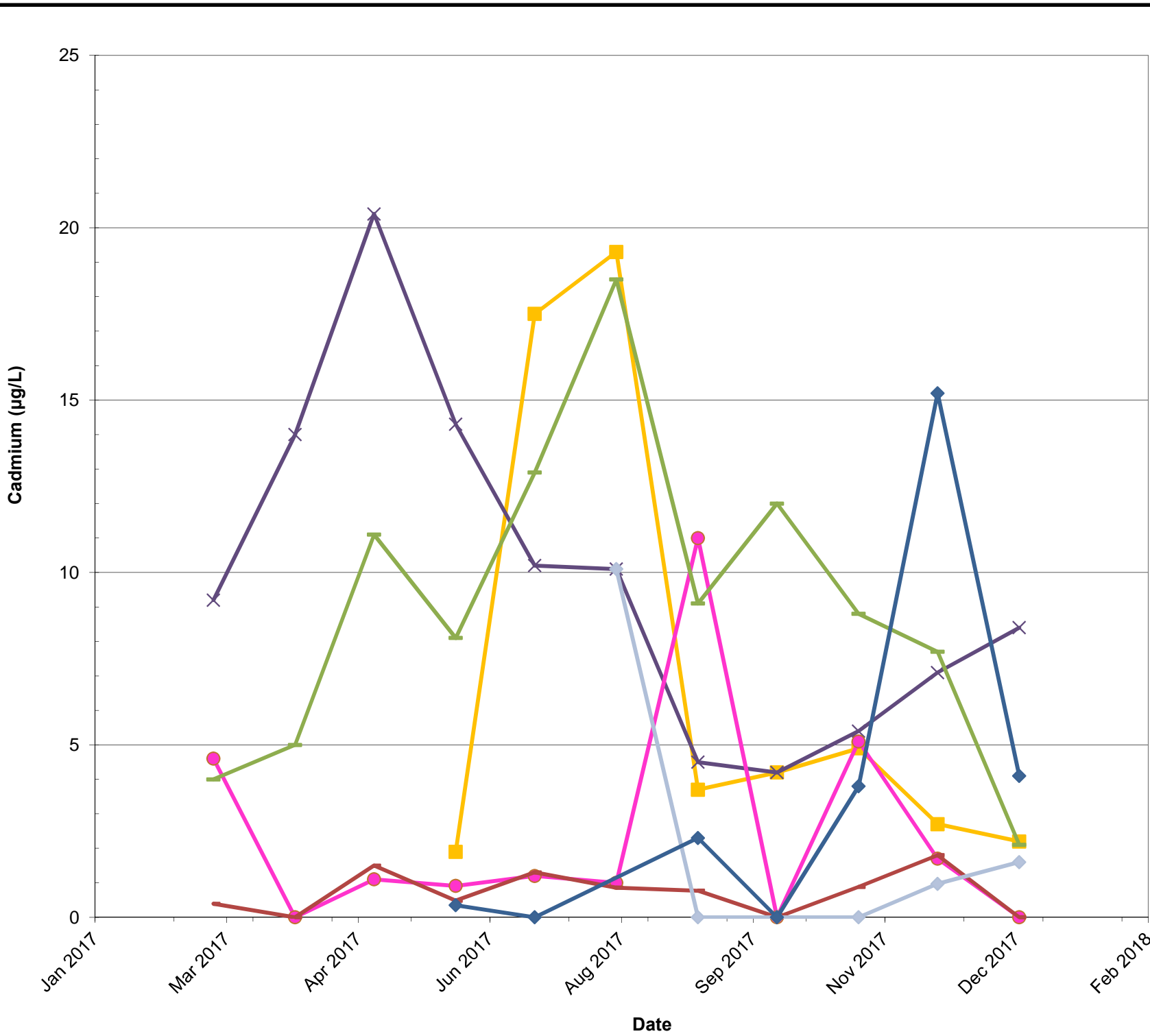
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## **APPENDIX B**

### **Intermediate Groundwater Time-Series Graphs**

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**LEGEND**

- RW05-MW(I)
- × RW06-MW(I)
- RW07-MW(I)
- RW08-MW(I)
- RW09-MW(I)
- ◆ RW15-MW(I)
- ◆ RW22-MW(I)

---

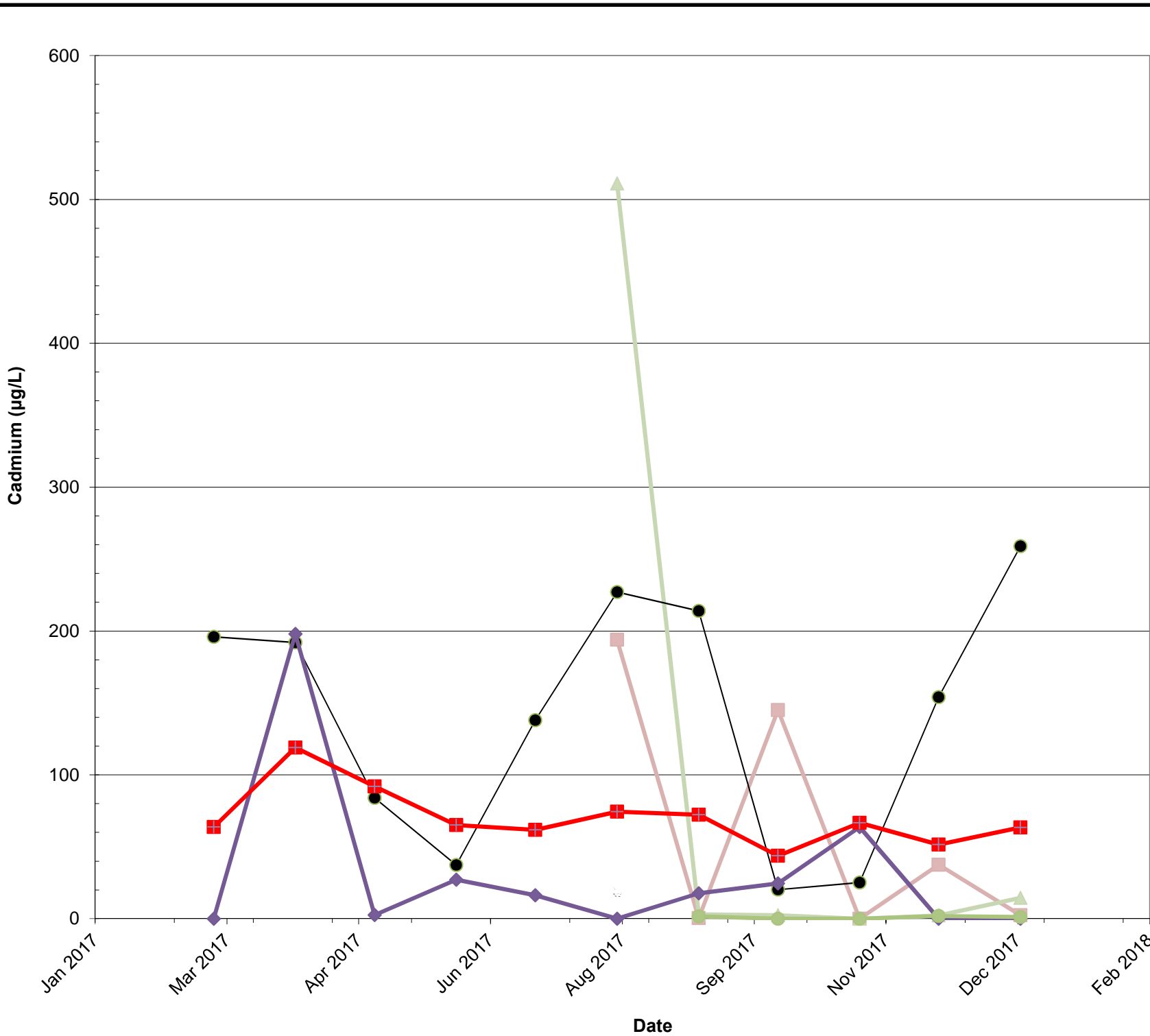
**EnviroAnalytics**  
Group  
Environmental Engineers

Project  
Tradepoint Atlantic  
Baltimore, Maryland

**INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date	Figure
August 15, 2018	B1
PE/RG	PM
DR	





**LEGEND**

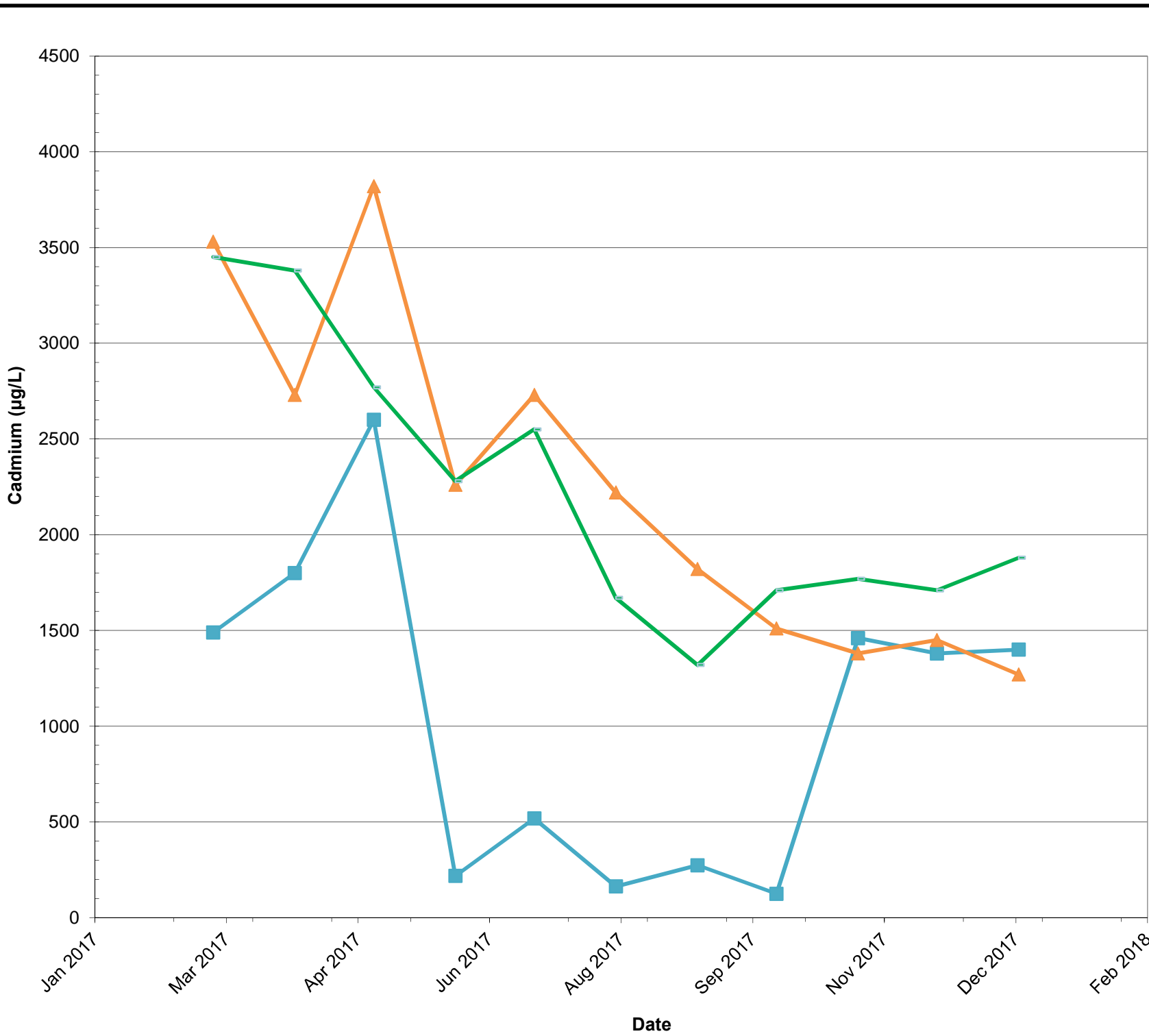
- RW01-MW(I)
- ▲— RW02-MW(I)
- RW03-MW(I)
- ◆— RW10-MW(I)
- RW16-MW(I)
- RW18-MW(I)



Project  
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Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date	August 15, 2018	Figure	B2
PE/RG	PM	DR	



**LEGEND**

- RW11-MW(I)
- ▲ RW12-MW(I)
- RW19-MW(I)



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Baltimore, Maryland

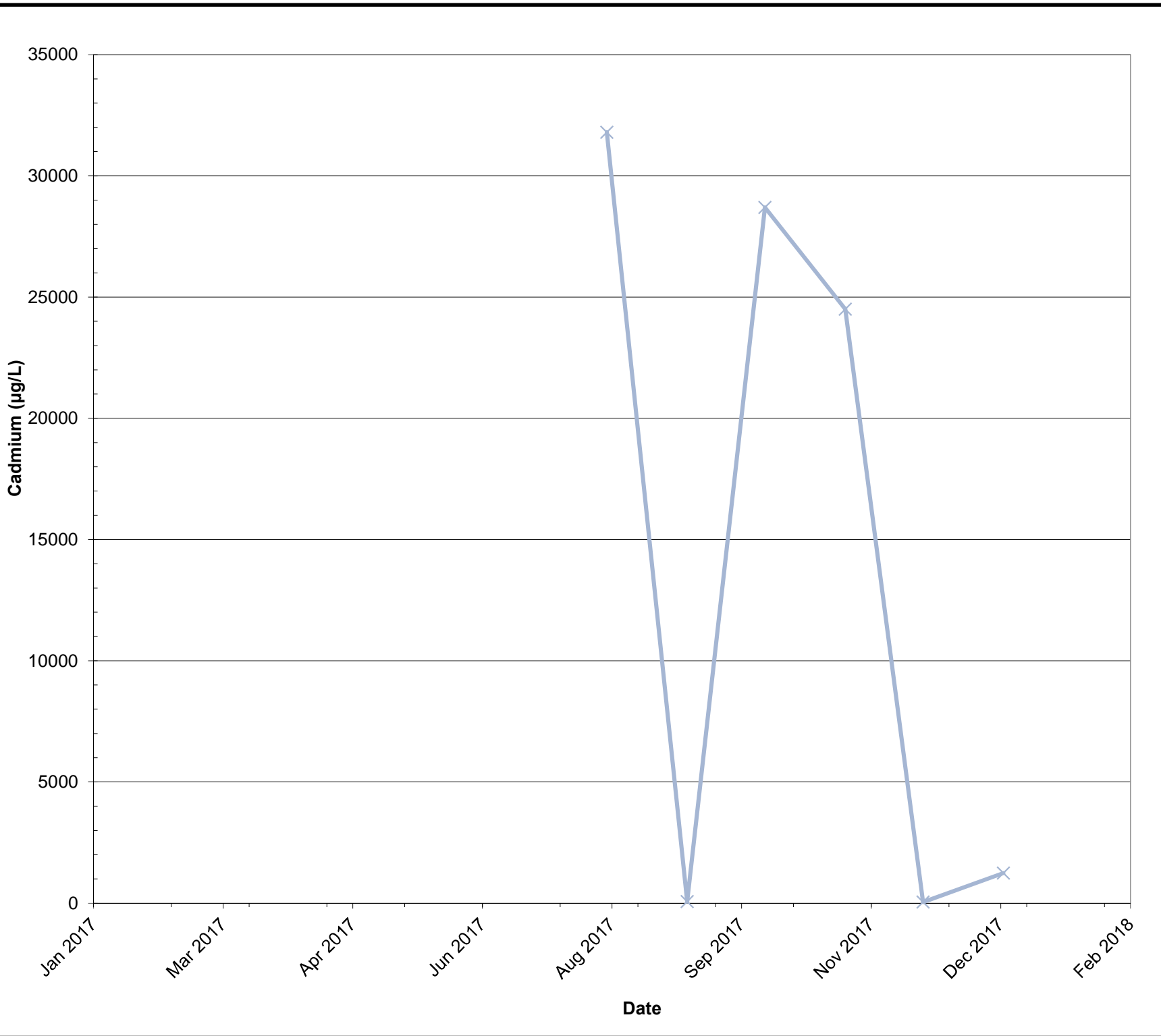
**INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date  
August 16, 2018

Figure  
**B3**

PE/RG PM DR





**LEGEND**

—x— RW13-MW(I)



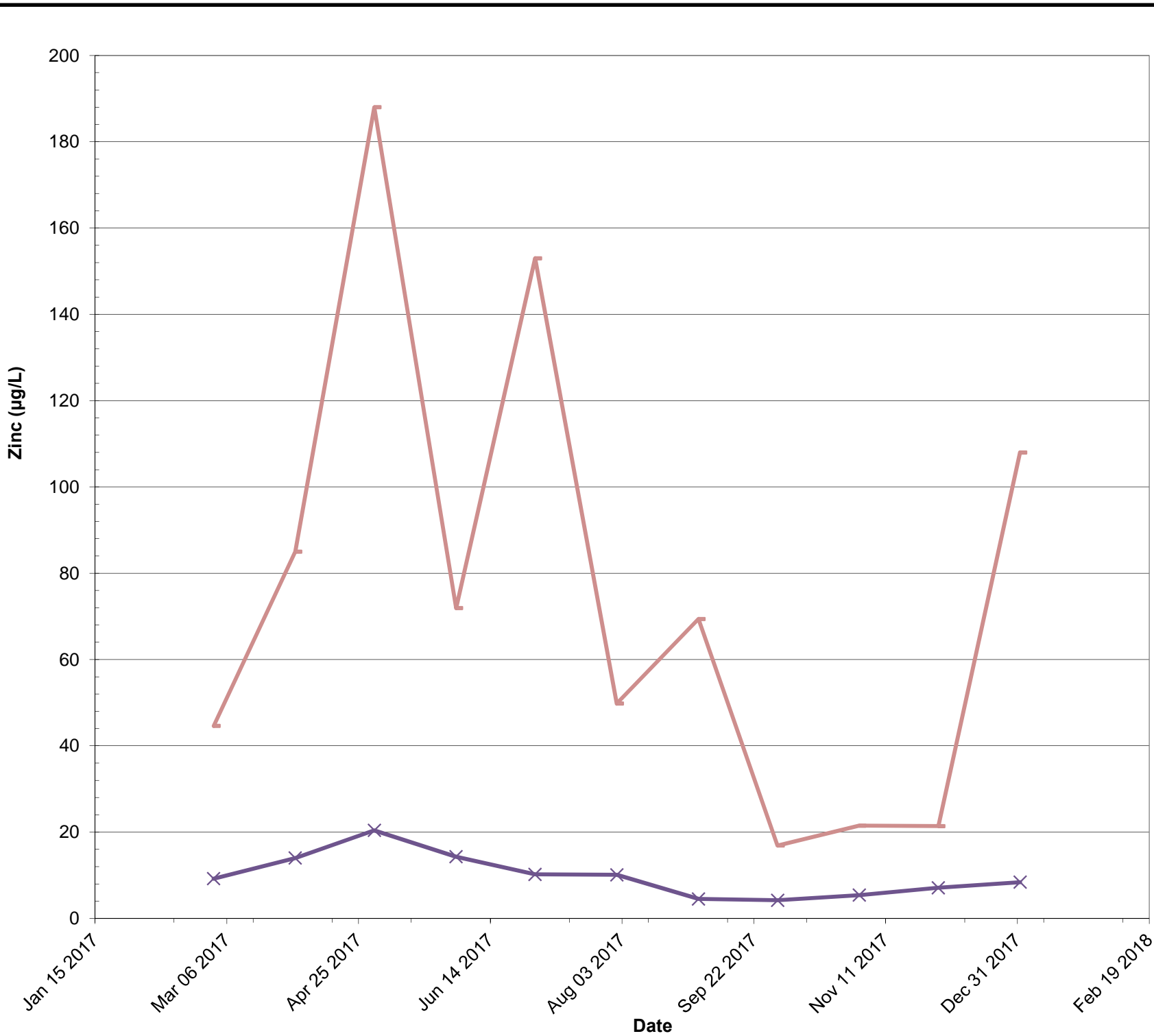
Environmental Engineers

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Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date	Figure
August 16, 2018	B4

PE/RG	PM	DR
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**LEGEND**

- x RW06-MW(I)
- RW08-MW(I)



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Baltimore, Maryland

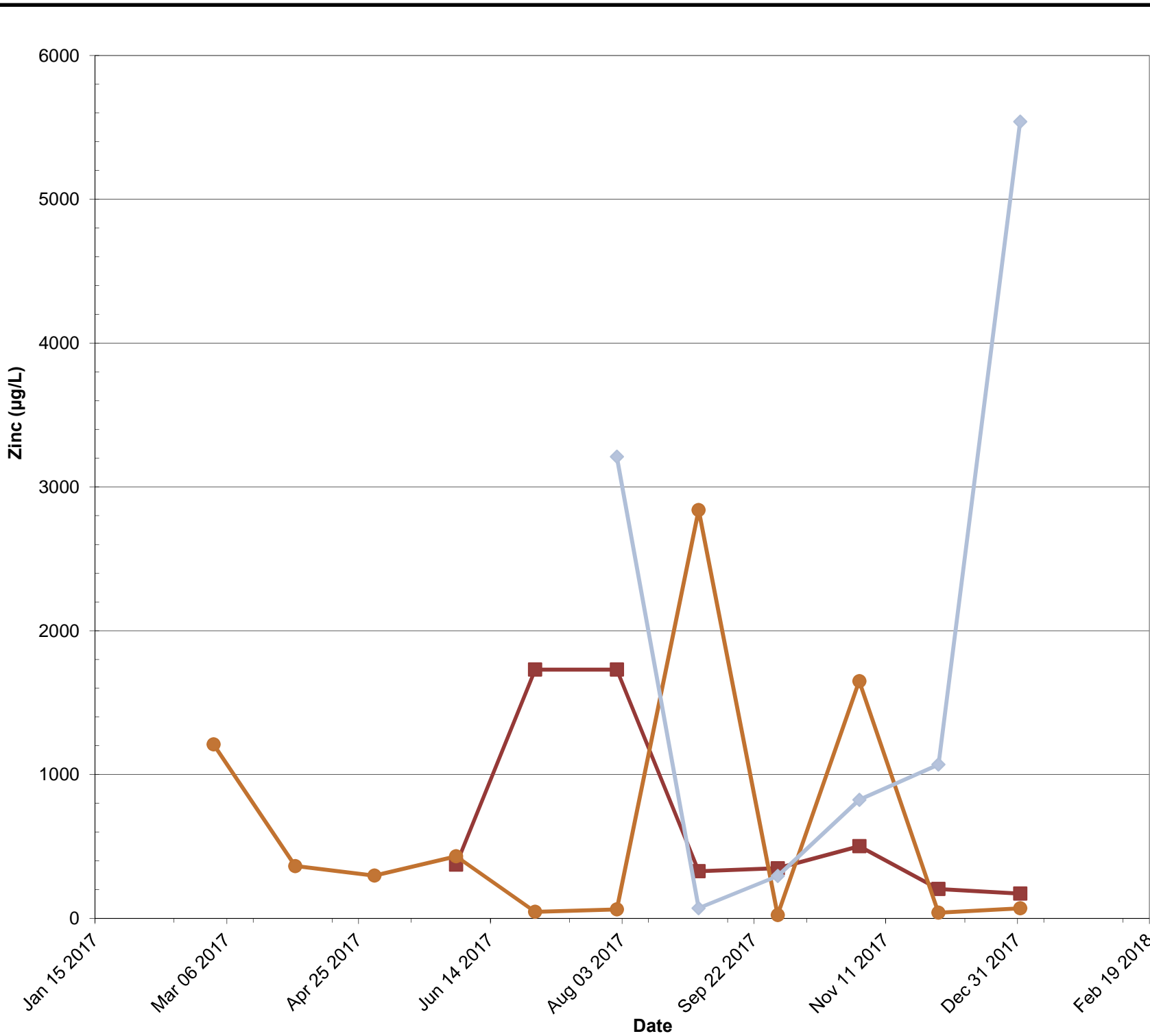
**INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date  
August 16, 2018

Figure  
B5

PE/RG	PM	DR
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**LEGEND**

- RW05-MW(I)
- RW07-MW(I)
- ◆ RW15-MW(I)

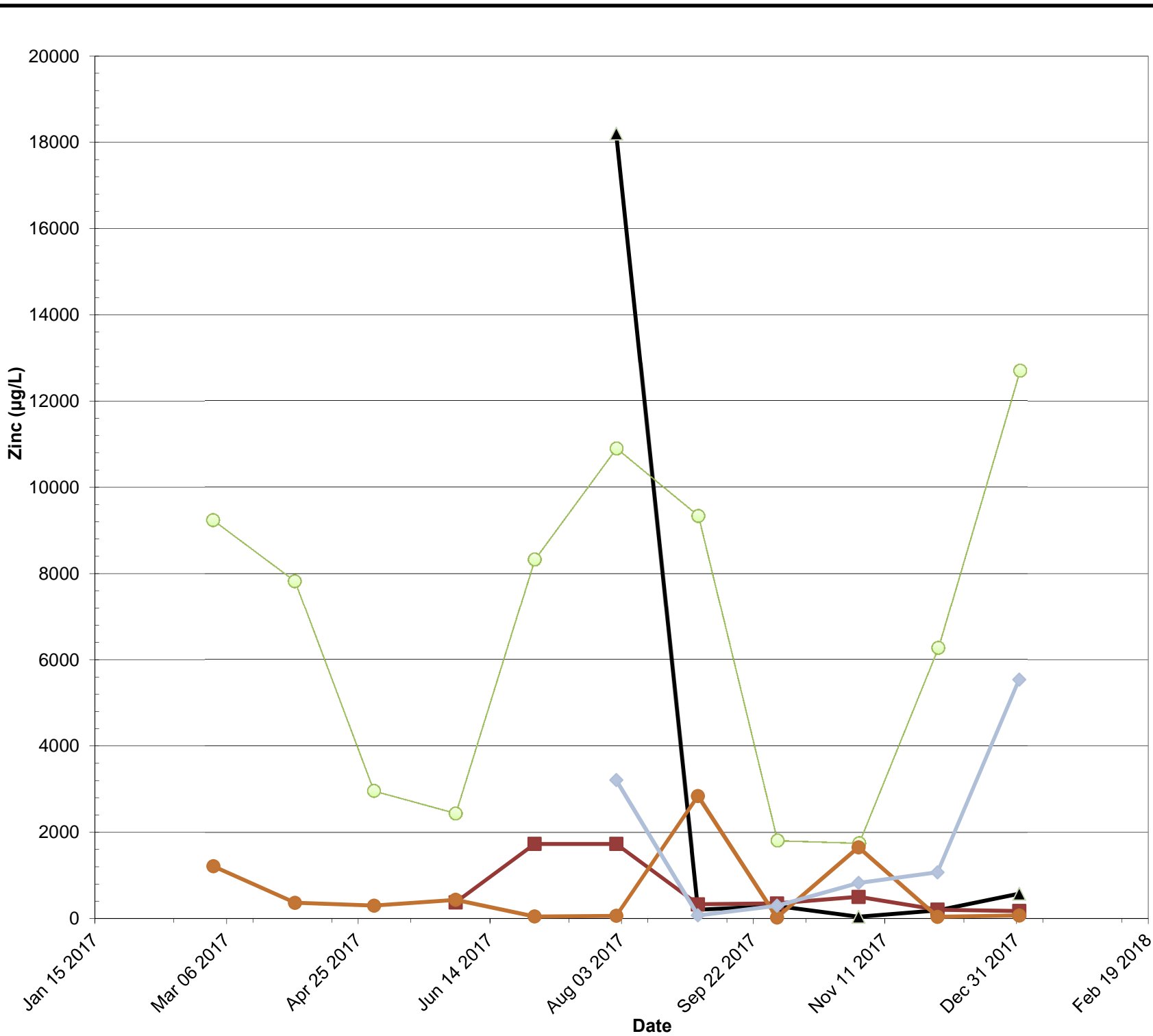


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Baltimore, Maryland

**INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date		Figure	
August 16, 2018		B6	
PE/RG	PM	DR	



**LEGEND**

- ▲ RW02-MW(I)
- RW03-MW(I)
- RW05-MW(I)
- RW07-MW(I)
- ◆ RW15-MW(I)



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Baltimore, Maryland

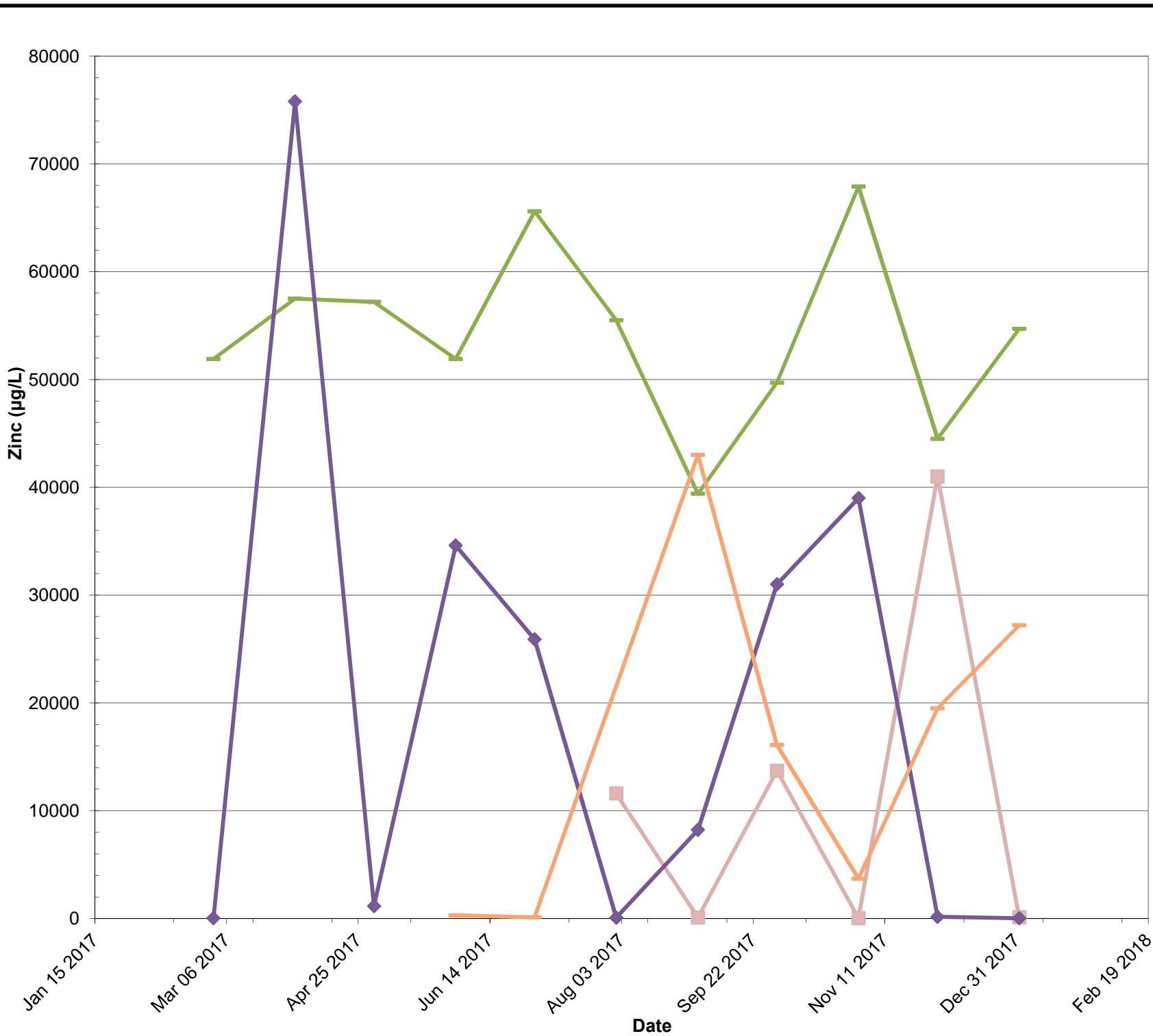
INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 16, 2018

Figure  
B7

PE/RG PM DR





**LEGEND**

- RW01-MW(I)
- RW09-MW(I)
- ◆— RW10-MW(I)
- RW22-MW(I)



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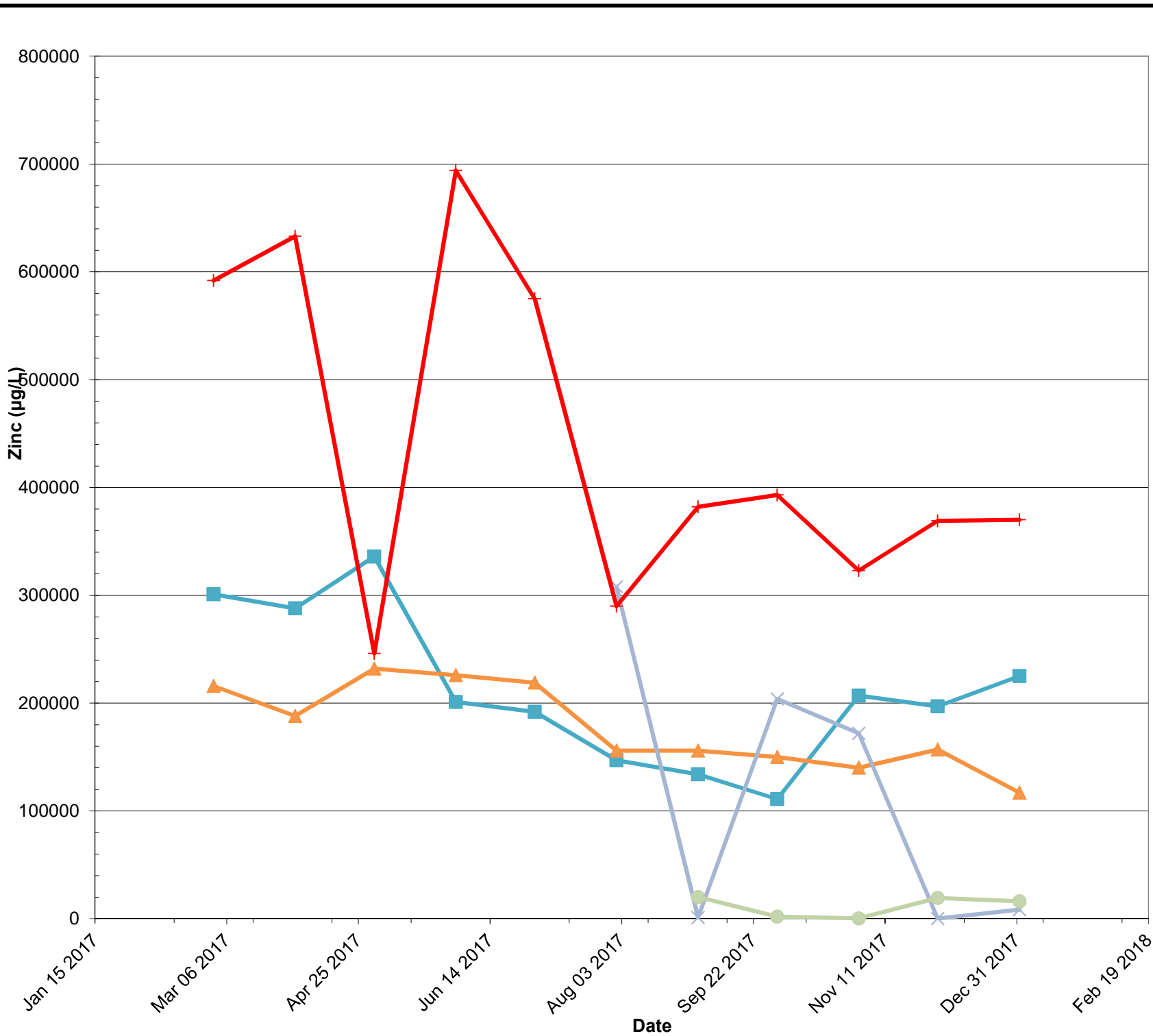
Project  
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 Baltimore, Maryland

**INTERMEDIATE GROUNDWATER  
 ZINC CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT**

Date  
 August 16, 2018

Figure  
 B8

PE/RG PM DR



**LEGEND**

- RW11-MW(I)
- ▲ RW12-MW(I)
- × RW13-MW(I)
- RW16-MW(I)
- + RW18-MW(I)



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 Baltimore, Maryland

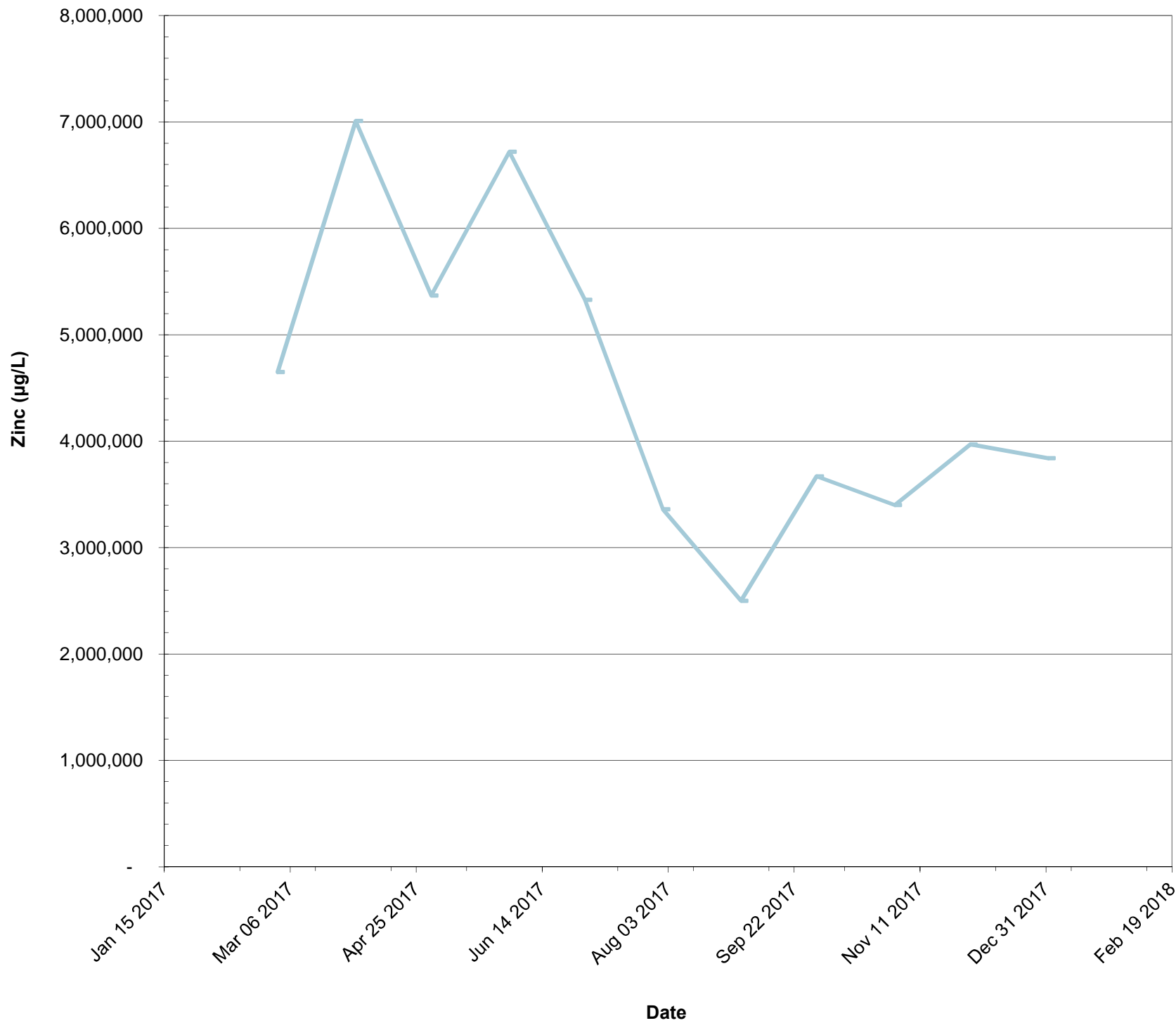
INTERMEDIATE GROUNDWATER  
 ZINC CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT

Date  
 August 16, 2018

Figure  
 B9

PE/RG PM DR





**LEGEND**

— RW19-MW(I)



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Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date

August 16, 2018

Figure

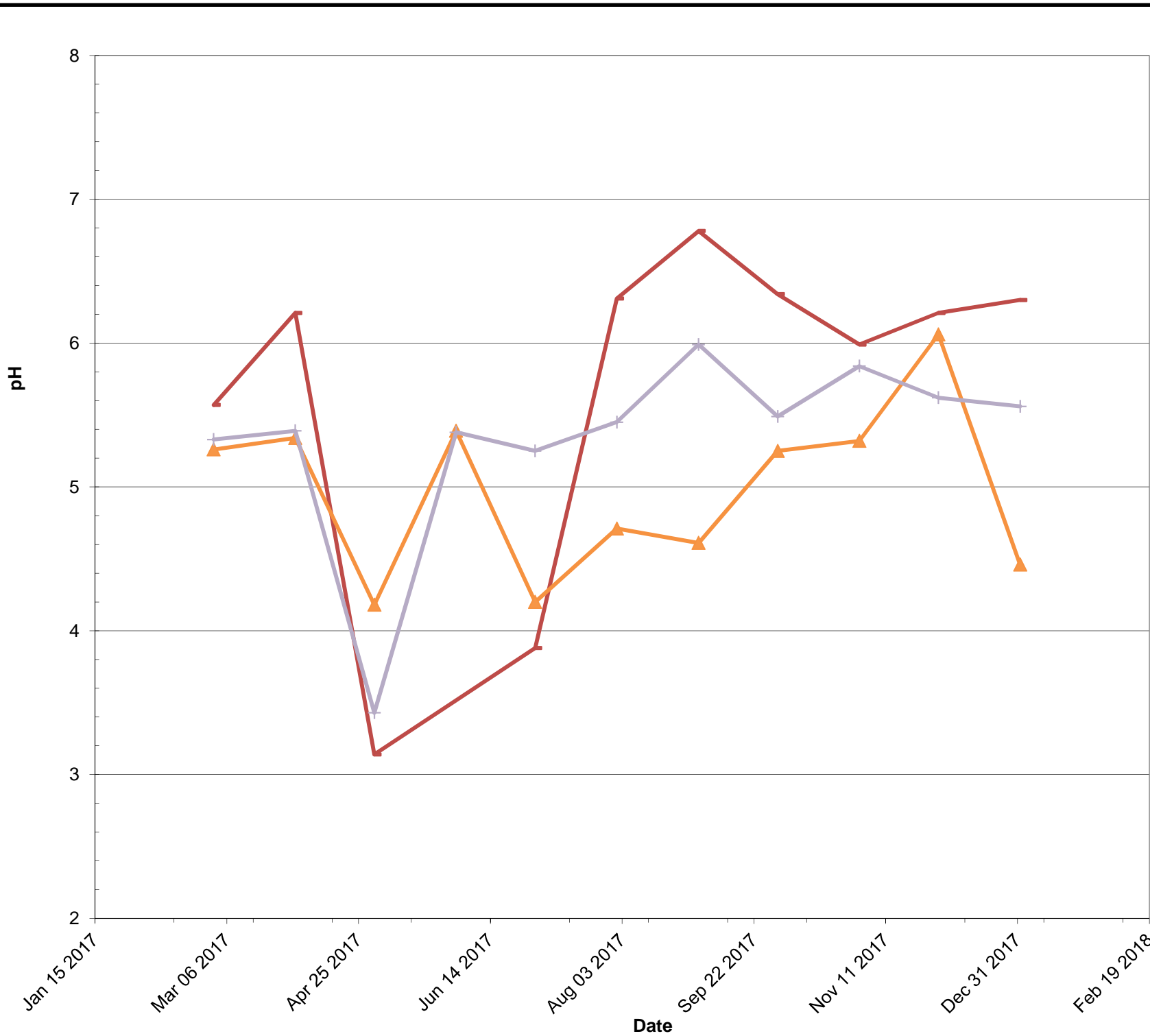
B10

PE/RG

PM

DR

Date



**LEGEND**

- RW08-MW(I)
- ▲— RW12-MW(I)
- +— RW18-MW(I)



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 Tradepoint Atlantic  
 Baltimore, Maryland

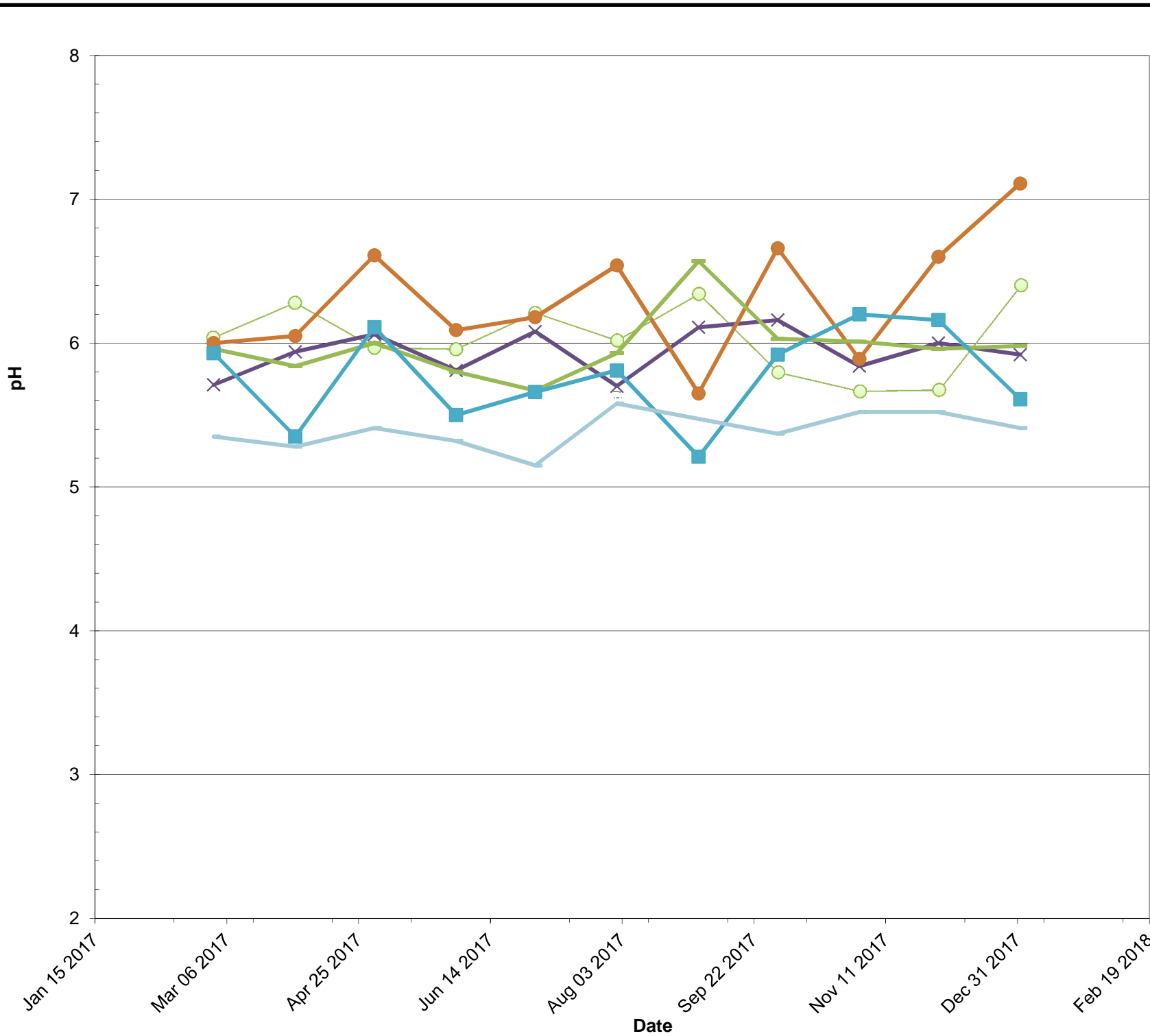
**INTERMEDIATE GROUNDWATER  
 pH CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT**

Date  
 August 16, 2018

Figure  
 B11

PE/RG	PM	DR
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**LEGEND**

- RW03-MW(I)
- × RW06-MW(I)
- RW07-MW(I)
- RW09-MW(I)
- RW11-MW(I)
- RW19-MW(I)

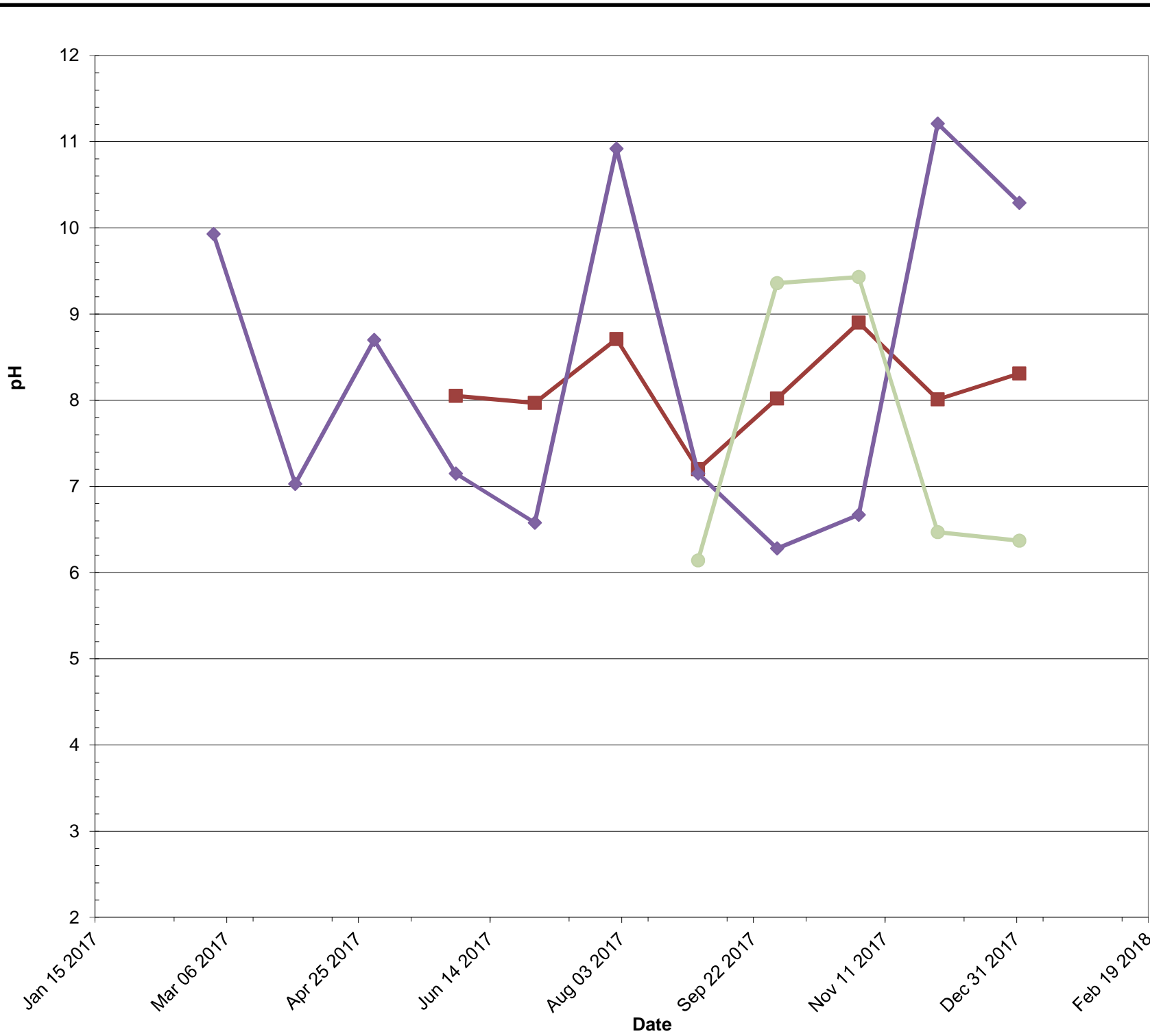


Environmental Engineers

Project  
 Tradepoint Atlantic  
 Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
 pH CONCENTRATION  
 RWM INTERIM MEASURES  
 PROGRESS REPORT

Date	August 18, 2018	Figure	B12
PE/RG	PM	DR	



**LEGEND**

- RW05-MW(I)
- ◆ RW10-MW(I)
- RW16-MW(I)



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Baltimore, Maryland

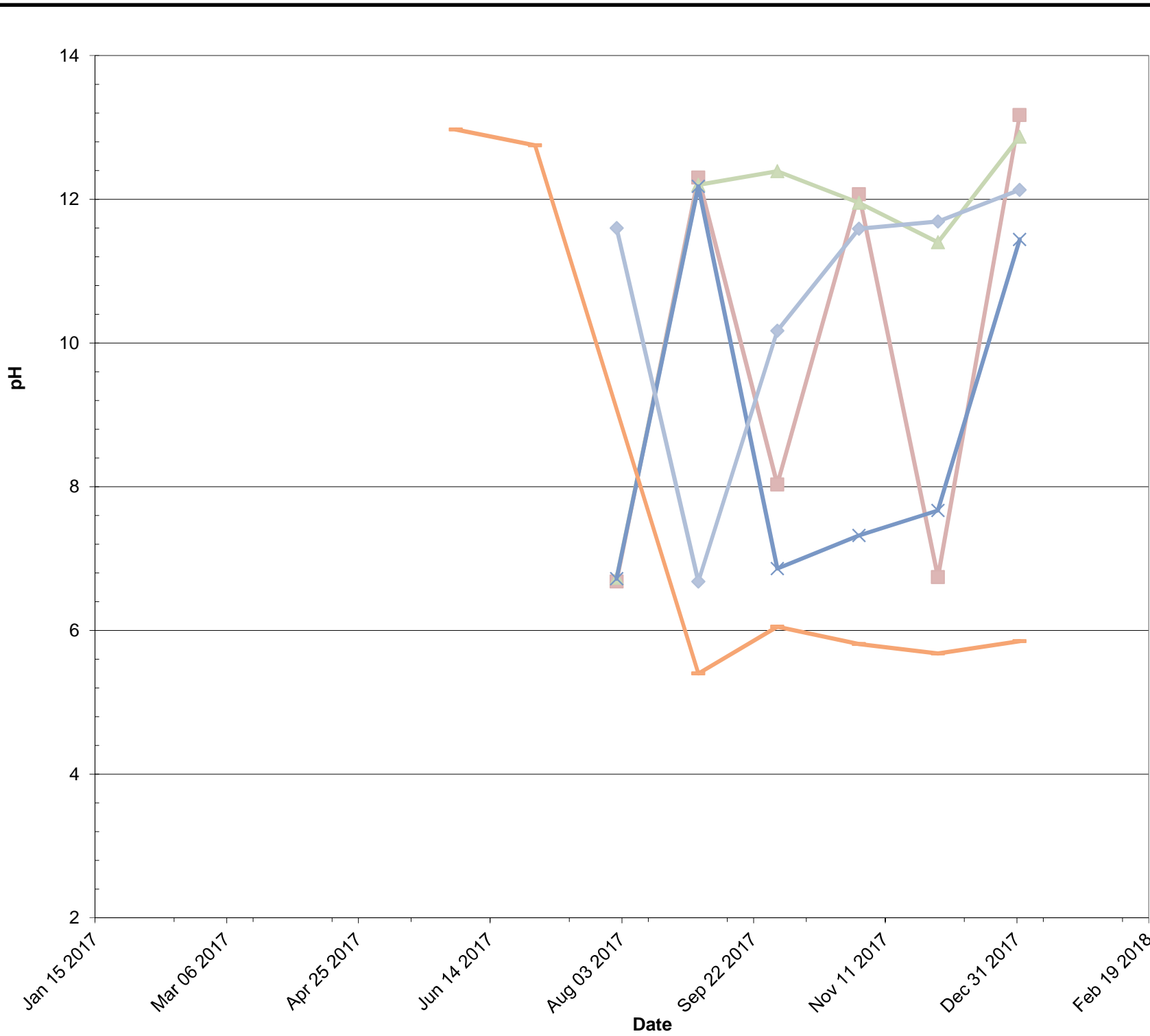
INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 18, 2018

Figure

PE/RG PM DR

B13



**LEGEND**

- RW01-MW(I)
- ▲ RW02-MW(I)
- × RW13-MW(I)
- ◆ RW15-MW(I)
- RW22-MW(I)



Environmental Engineers

Project

Tradepoint Atlantic  
Baltimore, Maryland

**INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date  
August 18, 2018

Figure  
B14

PE/RG	PM	DR
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## **APPENDIX C**

### **Laboratory Data from Recent Sampling**

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## Appendix C 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

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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

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## PROJECT NARRATIVE

Project: Area A Parcel A3

Pace Project No.: 30210492

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**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

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

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>401</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:36	7440-43-9	
Zinc	<b>12900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.8</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:53	7440-43-9	
Zinc	<b>45200</b>	ug/L	1000	108	100	02/16/17 08:33	02/17/17 01:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>41.3</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:56	7440-43-9	
Zinc	<b>2740</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:56	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.9</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:58	7440-43-9	
Zinc	<b>6200</b>	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

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

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## QUALIFIERS

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

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### 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.

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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

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Sample Condition Upon Receipt Pittsburgh



Client Name: SPAWNS

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

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### 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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## 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

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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

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**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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:09	7440-43-9		
Zinc	<b>81.6</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:09	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
<b>Sample: RW 07-MW(I)</b>									
<b>Lab ID: 30210609002</b>									
Collected: 02/13/17 10:20    Received: 02/13/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:11	7440-43-9	
Zinc	<b>944</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.8</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/16/17 23:55	7440-43-9	
Zinc	<b>1080</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/16/17 23:55	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

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

Sample: Duplicate		Lab ID: 30210609004		Collected: 02/13/17 00:01	Received: 02/13/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:19	7440-43-9	
Zinc	<b>86.2</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.49J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:22	7440-43-9	
Zinc	<b>178</b>	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

Sample: RW 09-MW(S)		Lab ID: 30210609006	Collected: 02/13/17 13:40	Received: 02/13/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>22.3</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:24	7440-43-9	
Zinc	<b>14500</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.1</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:26	7440-43-9	
Zinc	<b>51000</b>	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

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

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

## REPORT OF LABORATORY ANALYSIS

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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

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### 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.

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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

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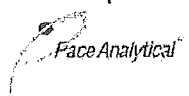




097A

Sample Condition Upon Receipt Pittsburgh

30210609



Client Name: EnviroArd 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

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### 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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## 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

### REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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:**

## REPORT OF LABORATORY ANALYSIS

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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

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**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:**

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

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**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.

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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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>22.9</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:45	7440-43-9	1c
Zinc	<b>3370</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>12.1</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:47	7440-43-9	1c
Zinc	<b>86300</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>103</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:50	7440-43-9	1c
Zinc	<b>92600</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>44.7</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:52	7440-43-9	1c
Zinc	<b>3470</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>14.8</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:54	7440-43-9	1c
Zinc	<b>10100</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3760</b>	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 19:15	7440-43-9	1c
Zinc	<b>5900000</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>70.3</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 19:00	7440-43-9	1c
Zinc	<b>728000</b>	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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Aluminum	<b>80.7</b>	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 17:01	7429-90-5	1c
Antimony	<b>6.0 U</b>	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 17:01	7440-36-0	1c
Arsenic	<b>15.0</b>	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7440-38-2	1c
Barium	<b>98.1</b>	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-39-3	1c
Beryllium	<b>1.0 U</b>	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 17:01	7440-41-7	1c
Cadmium	<b>446</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 17:01	7440-43-9	1c
Chromium	<b>5.0 U</b>	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-47-3	1c
Cobalt	<b>57.4</b>	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 17:01	7440-48-4	1c
Copper	<b>5.0 U</b>	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 17:01	7440-50-8	1c
Iron	<b>148000</b>	ug/L	7000	984	100	02/20/17 11:01	02/21/17 21:21	7439-89-6	1c
Lead	<b>5.0 U</b>	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7439-92-1	1c
Manganese	<b>10300</b>	ug/L	500	70.7	100	02/20/17 11:01	02/21/17 21:21	7439-96-5	1c
Nickel	<b>33.3</b>	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 17:01	7440-02-0	1c
Selenium	<b>8.0 U</b>	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 17:01	7782-49-2	1c
Silver	<b>1.5J</b>	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 17:01	7440-22-4	1c
Thallium	<b>10.0 U</b>	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 17:01	7440-28-0	1c
Vanadium	<b>5.0 U</b>	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 17:01	7440-62-2	1c
Zinc	<b>104000</b>	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:21	7440-66-6	1c
<b>6010C MET ICP,Dissolved</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Iron, Dissolved	<b>164000</b>	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:34	7439-89-6	2c
Manganese, Dissolved	<b>11100</b>	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:34	7439-96-5	2c
Zinc, Dissolved	<b>111000</b>	ug/L	1000	108	100	02/20/17 08:25	02/20/17 23:34	7440-66-6	2c
Aluminum, Dissolved	<b>50.0 U</b>	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:41	7429-90-5	2c
Antimony, Dissolved	<b>6.0 U</b>	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:41	7440-36-0	2c
Arsenic, Dissolved	<b>13.9</b>	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7440-38-2	2c
Barium, Dissolved	<b>98.3</b>	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-39-3	2c
Beryllium, Dissolved	<b>1.0 U</b>	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:41	7440-41-7	2c
Cadmium, Dissolved	<b>455</b>	ug/L	3.0	0.34	1	02/20/17 08:25	02/20/17 22:41	7440-43-9	2c
Chromium, Dissolved	<b>5.0 U</b>	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-47-3	2c
Cobalt, Dissolved	<b>59.3</b>	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:41	7440-48-4	2c
Copper, Dissolved	<b>5.0 U</b>	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:41	7440-50-8	2c
Lead, Dissolved	<b>5.0 U</b>	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7439-92-1	2c
Nickel, Dissolved	<b>37.0</b>	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:41	7440-02-0	2c
Selenium, Dissolved	<b>8.0 U</b>	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:41	7782-49-2	2c
Silver, Dissolved	<b>2.4J</b>	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:41	7440-22-4	2c
Thallium, Dissolved	<b>10.0 U</b>	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:41	7440-28-0	2c
Vanadium, Dissolved	<b>5.0 U</b>	ug/L	5.0	0.27	1	02/20/17 08:25	02/20/17 22:41	7440-62-2	2c
<b>7470 Mercury</b> Analytical Method: EPA 7470A      Preparation Method: EPA 7470A									
Mercury	<b>0.20 U</b>	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:56	7439-97-6	
<b>7470 Mercury, Dissolved</b> Analytical Method: EPA 7470A      Preparation Method: EPA 7470A									
Mercury, Dissolved	<b>0.20 U</b>	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				
<b>8270D MSSV PAH by SIM</b>									
Analytical Method: EPA 8270D by SIM					Preparation Method: EPA 3510C				
Acenaphthene	<b>0.10 U</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	83-32-9	
Acenaphthylene	<b>0.10 U</b>	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 21:34	208-96-8	
Anthracene	<b>0.030J</b>	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	120-12-7	
Benzo(a)anthracene	<b>0.10 U</b>	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 21:34	56-55-3	
Benzo(a)pyrene	<b>0.10 U</b>	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 21:34	50-32-8	
Benzo(b)fluoranthene	<b>0.10 U</b>	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	<b>0.10 U</b>	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 21:34	191-24-2	
Benzo(k)fluoranthene	<b>0.10 U</b>	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	207-08-9	
Chrysene	<b>0.10 U</b>	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 21:34	218-01-9	
Dibenz(a,h)anthracene	<b>0.10 U</b>	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)	<b>1.0</b>	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 19:36	123-91-1	
Fluoranthene	<b>0.018J</b>	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	206-44-0	
Fluorene	<b>0.019J</b>	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	<b>0.10 U</b>	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:34	193-39-5	
2-Methylnaphthalene	<b>0.11</b>	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 21:34	91-57-6	
Naphthalene	<b>5.5</b>	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 21:34	91-20-3	
Phenanthrene	<b>0.023J</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	85-01-8	
Pyrene	<b>0.10 U</b>	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	129-00-0	
<b>Surrogates</b>									
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	
<b>8270D MSSV Organics</b>									
Analytical Method: EPA 8270D					Preparation Method: EPA 3510C				
Acenaphthene	<b>0.56J</b>	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:34	83-32-9	
Acenaphthylene	<b>0.91J</b>	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	208-96-8	
Acetophenone	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	98-86-2	
Anthracene	<b>1.0 U</b>	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 18:34	120-12-7	
Benzaldehyde	<b>1.0 U</b>	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 18:34	100-52-7	
Benzo(a)anthracene	<b>1.0 U</b>	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	56-55-3	
Benzo(a)pyrene	<b>1.0 U</b>	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	50-32-8	
Benzo(b)fluoranthene	<b>1.0 U</b>	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	<b>1.0 U</b>	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 18:34	191-24-2	
Benzo(k)fluoranthene	<b>1.0 U</b>	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	207-08-9	
Biphenyl (Diphenyl)	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	92-52-4	
Caprolactam	<b>1.1J</b>	ug/L	2.5	0.14	1	02/20/17 08:38	02/20/17 18:34	105-60-2	
Carbazole	<b>3.4</b>	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:34	86-74-8	
4-Chloroaniline	<b>1.0 U</b>	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 18:34	106-47-8	
bis(2-Chloroethoxy)methane	<b>1.0 U</b>	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	111-91-1	
bis(2-Chloroethyl) ether	<b>1.0 U</b>	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 18:34	111-44-4	
bis(2-Chloroisopropyl) ether	<b>1.0 U</b>	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	108-60-1	
2-Chloronaphthalene	<b>1.0 U</b>	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	91-58-7	
2-Chlorophenol	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	95-57-8	
Chrysene	<b>1.0 U</b>	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	218-01-9	
Dibenz(a,h)anthracene	<b>1.0 U</b>	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:34	53-70-3	
3,3'-Dichlorobenzidine	<b>1.0 U</b>	ug/L	1.0	0.59	1	02/20/17 08:38	02/20/17 18:34	91-94-1	
2,4-Dichlorophenol	<b>1.0 U</b>	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 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 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	

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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				
<b>8260B MSV</b> 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

<b>Sample: RW10-MW(I)</b>									
<b>Lab ID: 30210854008</b>									
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
<b>8260B MSV</b>									
Analytical Method: EPA 8260B									
o-Xylene	<b>2.0</b>	ug/L	1.0	0.19	1		02/17/17 00:34	95-47-6	
<b>Surrogates</b>									
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	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A									
Chromium, Hexavalent	<b>10.0 U</b>	ug/L	10.0	1.7	1		02/15/17 23:01	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B Preparation Method: EPA 9012B									
Cyanide	<b>0.010 U</b>	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				
<b>6010C MET ICP</b> 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

<b>6010C MET ICP, Dissolved</b> 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

<b>7470 Mercury</b> 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 perform MS/MSD for 1,4-Dioxane due to limited sample volume.

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

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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				
<b>8270D MSSV Organics</b>									
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	
<b>Surrogates</b>									
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
<b>8260B MSV</b> 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
<b>8260B MSV</b>									
Analytical Method: EPA 8260B									
Trichlorofluoromethane	<b>1.0 U</b>	ug/L	1.0	0.31	1		02/17/17 01:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	<b>50.0 U</b>	ug/L	50.0	0.39	1		02/17/17 01:00	76-13-1	
Vinyl chloride	<b>0.52J</b>	ug/L	1.0	0.33	1		02/17/17 01:00	75-01-4	
Xylene (Total)	<b>3.0 U</b>	ug/L	3.0	0.47	1		02/17/17 01:00	1330-20-7	
m&p-Xylene	<b>2.0 U</b>	ug/L	2.0	0.28	1		02/17/17 01:00	179601-23-1	
o-Xylene	<b>1.0 U</b>	ug/L	1.0	0.19	1		02/17/17 01:00	95-47-6	
<b>Surrogates</b>									
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	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A									
Chromium, Hexavalent	<b>23000J</b>	ug/L	100000	16900	10000		02/16/17 00:06	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B      Preparation Method: EPA 9012B									
Cyanide	<b>0.010 U</b>	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
<b>6010C MET ICP</b> 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
<b>6010C MET ICP,Dissolved</b> 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
<b>7470 Mercury</b> 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	
<b>7470 Mercury, Dissolved</b> 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	

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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 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	
<b>Surrogates</b>									
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	

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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
<b>8260B MSV</b>		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	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

<b>Sample: Duplicate</b>		<b>Lab ID: 30210854010</b>		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	
<b>8260B MSV</b>		Analytical Method: EPA 8260B								
o-Xylene	<b>2.1</b>	ug/L	1.0	0.19	1		02/17/17 01:26	95-47-6		
<b>Surrogates</b>										
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		
<b>7196 Chromium, Hexavalent</b>		Analytical Method: EPA 7196A								
Chromium, Hexavalent	<b>10.0 U</b>	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9		
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B								
Cyanide	<b>0.010 U</b>	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				
<b>8260B MSV</b> 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	

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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
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
1,1,2-Trichlorotrifluoroethane	<b>50.0 U</b>	ug/L	50.0	0.39	1		02/16/17 23:43	76-13-1	
Vinyl chloride	<b>1.0 U</b>	ug/L	1.0	0.33	1		02/16/17 23:43	75-01-4	
Xylene (Total)	<b>3.0 U</b>	ug/L	3.0	0.47	1		02/16/17 23:43	1330-20-7	
m&p-Xylene	<b>2.0 U</b>	ug/L	2.0	0.28	1		02/16/17 23:43	179601-23-1	
o-Xylene	<b>1.0 U</b>	ug/L	1.0	0.19	1		02/16/17 23:43	95-47-6	
<b>Surrogates</b>									
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	

## 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
<b>6010C MET ICP</b> 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
<b>7470 Mercury</b> 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	
<b>8270D MSSV PAH by SIM</b> 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	
<b>Surrogates</b>									
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				
<b>8270D MSSV Organics</b>									
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	

### 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				
<b>8270D MSSV Organics</b> 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	
<b>Surrogates</b>									
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	
<b>8260B MSV</b> 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	

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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
<b>8260B MSV</b> 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	
<b>Surrogates</b>									
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	
<b>7196 Chromium, Hexavalent</b> Analytical Method: EPA 7196A									
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9	
<b>9012B Cyanide, Total</b> 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	

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4740</b>	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 21:31	7440-43-9	1c
Zinc	<b>249000</b>	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		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
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

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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

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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		30210854013	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% 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	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
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	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
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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### 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		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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**REPORT OF LABORATORY ANALYSIS**

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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.									
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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### 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		MSD		MSD		% Rec		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
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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### 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		

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: 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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### REPORT OF LABORATORY ANALYSIS

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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

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### 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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**REVISED**  
SMB 2/10/17

**CHAIN-OF-CUSTODY / Analytical Request Document**

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

Page: 1 of 2

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

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 <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	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/7471A 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 2/10/17 012				

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.							

<b>SAMPLER NAME AND SIGNATURE</b>	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Lisa Perron				
SIGNATURE of SAMPLER: <i>Lisa Perron</i>				





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 &amp; 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

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## 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

## REPORT OF LABORATORY ANALYSIS

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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

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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

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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

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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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1690</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:32	7440-43-9	1c,2c
Zinc	<b>368000</b>	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
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>12.5</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:47	7440-43-9	1c,2c
Zinc	<b>1900</b>	ug/L	10.0	1.1	1	02/20/17 11:04	02/21/17 01:47	7440-66-6	1c,2c

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1070</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:50	7440-43-9	1c,2c
Zinc	<b>22900</b>	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: <b>RW21-PZM 023</b>		Lab ID: <b>30211148004</b>		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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1170</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:07	7440-43-9	1c,2c	
Zinc	<b>12300</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:00	7440-66-6	1c,2c	

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

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**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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>7.2</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:09	7440-43-9	1c,2c
Zinc	<b>5250</b>	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: <b>RW17-PZM 019</b>		Lab ID: <b>30211148006</b>		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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7580</b>	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:05	7440-43-9	1c,2c
Zinc	<b>198000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:05	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: <b>RW01-PZM 020</b>		Lab ID: <b>30211148007</b>		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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>91.5</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:14	7440-43-9	1c,2c
Zinc	<b>113000</b>	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

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**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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>115</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:16	7440-43-9	1c,2c
Zinc	<b>44300</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:14	7440-66-6	1c,2c

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### ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

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**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			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>23600</b>	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:17	7440-43-9	1c,2c
Zinc	<b>561000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3410</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:21	7440-43-9	1c,2c
Zinc	<b>176000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:19	7440-66-6	1c,2c

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### ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: <b>RW10-PZM 020</b>		Lab ID: <b>30211148011</b>		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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>71.6</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:24	7440-43-9	1c,2c	
Zinc	<b>150000</b>	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.

### REPORT OF LABORATORY ANALYSIS

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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

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### 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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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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

---

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

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

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

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>Method</b>	<b>Analysts</b>	<b>Analytes Reported</b>
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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW13-MWI      Lab ID: 30212070001      Collected: 02/28/17 11:24      Received: 02/28/17 22:10      Matrix: Water</b>									
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM      Preparation Method: EPA 3510C									
1,4-Dioxane (p-Dioxane)	<b>0.65</b>	ug/L	0.10	0.030	1	03/03/17 09:06	03/03/17 17:29	123-91-1	
<b>Surrogates</b>									
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

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### 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

---

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

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### REPORT OF LABORATORY ANALYSIS

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ely.

WO#: 30212070

CHAIN-C  
The Chain-of-Cu



**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: 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	Custody Sealed	Samples Intact	
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DI Water						Methanol
1	RW13-MWI				WT6		44									
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
ADDITIONAL COMMENTS																
Data Package Required? (Y/N):		David Halligan 2/28/17 16:22 David Halligan 2/28/17 17:05														
Data Validation Required? (Y/N):		David Halligan 2/28/17 19:05 Tamara 2/28/17 2:00														
If data package is required, attach data package checklist.		Tamara 2/28/17 10:10 Tamara 2/28/17 20:10 1.0 Y N Y														
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Lisa Davis SIGNATURE of SAMPLER: <i>[Signature]</i> 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

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## 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1060</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:42	7440-43-9	
Zinc	<b>17800</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.9J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:56	7440-43-9	
Zinc	<b>10800</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:33	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

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

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.1</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:07	7440-43-9	
Zinc	<b>34600</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:38	7440-66-6	

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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				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>196</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:09	7440-43-9	
Zinc	<b>9240</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:41	7440-66-6	

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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.

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## QUALIFIERS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

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### 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

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# 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

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### 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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## 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

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### SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline  
Pace Project No.: 30214454

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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

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**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.

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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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.7</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:12	7440-43-9	
Zinc	<b>6510</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:49	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**Sample: RW06-MWI**      **Lab ID: 30214454002**      Collected: 03/28/17 11:08      Received: 03/28/17 23:30      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>9.2</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:14	7440-43-9	
Zinc	<b>1680</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**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				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>4.6</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:16	7440-43-9	
Zinc	<b>1210</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:16	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**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				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:19	7440-43-9	
Zinc	<b>74.8</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**Sample: RW08-MWI**      **Lab ID: 30214454005**      Collected: 03/28/17 14:46      Received: 03/28/17 23:30      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>0.39J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:21	7440-43-9	
Zinc	<b>44.6</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>11.0</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:24	7440-43-9	
Zinc	<b>8710</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.5</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:36	7440-43-9	
Zinc	<b>12400</b>	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

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### 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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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

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### 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 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

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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

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**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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW09-MWI</b>									
<b>Lab ID: 30214572001</b>									
Collected: 03/29/17 08:51    Received: 03/29/17 22:40    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>4.0</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:38	7440-43-9	
Zinc	<b>51900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:40	7440-43-9	
Zinc	<b>10500</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1490</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:43	7440-43-9	
Zinc	<b>301000</b>	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:06	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3530</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:45	7440-43-9	
Zinc	<b>216000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>28.6</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:48	7440-43-9	
Zinc	<b>90300</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW16-MWS      Lab ID: 30214572006      Collected: 03/29/17 14:17      Received: 03/29/17 22:40      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>13.5</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:50	7440-43-9	
Zinc	<b>4320</b>	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline  
Pace Project No.: 30214572

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW19-MWI      Lab ID: 30214572007      Collected: 03/29/17 15:15      Received: 03/29/17 22:40      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3450</b>	ug/L	300	34.4	100	03/31/17 08:28	04/01/17 00:21	7440-43-9	
Zinc	<b>4650000</b>	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

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**Sample: RW19-MWS**      **Lab ID: 30214572008**      Collected: 03/29/17 16:00      Received: 03/29/17 22:40      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>6.9</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:55	7440-43-9	
Zinc	<b>7100</b>	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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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 6 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

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## 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>791</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:34	7440-43-9	1c
Zinc	<b>34200</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>74.1</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:47	7440-43-9	1c
Zinc	<b>95600</b>	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
<b>Sample: RW18-MWI</b>									
<b>Lab ID: 30214700003</b>									
Collected: 03/30/17 12:22    Received: 03/30/17 23:15    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>63.8</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:50	7440-43-9	1c
Zinc	<b>592000</b>	ug/L	10000	1080	1000	04/04/17 11:12	04/05/17 02:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>633</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:00	7440-43-9	1c
Zinc	<b>58200</b>	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

Sample: RW10-MWI		Lab ID: 30214700005		Collected: 03/30/17 14:35		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:03	7440-43-9	1c
Zinc	<b>20.4</b>	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

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### 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

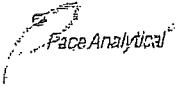
### REPORT OF LABORATORY ANALYSIS

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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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## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.8</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:23	7440-43-9	1c
Zinc	<b>9520</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.0</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:37	7440-43-9	1c
Zinc	<b>1420</b>	ug/L	10.0	1.1	1	04/27/17 08:06	04/27/17 22:37	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

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**Sample: RW08-MWI**      **Lab ID: 30217069003**      Collected: 04/25/17 09:58      Received: 04/25/17 23:15      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:39	7440-43-9	1c
Zinc	<b>85.0</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:47	7440-43-9	1c
Zinc	<b>4860</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>192</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:49	7440-43-9	1c
Zinc	<b>7830</b>	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

Sample: <b>RW02-MWS</b>		Lab ID: <b>30217069006</b>		Collected: 04/25/17 13:09	Received: 04/25/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>9.8</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:52	7440-43-9	1c	
Zinc	<b>47700</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:37	7440-66-6	1c	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:54	7440-43-9	1c
Zinc	<b>11500</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:39	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>296</b>	ug/L	15.0	1.7	5	04/27/17 08:06	04/27/17 23:19	7440-43-9	1c
Zinc	<b>10700</b>	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

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### 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

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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.

<b>Section A</b> 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		<b>Section B</b> Required Project Information: Report To: James Calenda Copy To: PO Number: Awaiting PO # Project Name: Area A-Parcel 1A3 Baseline Project Number: 170206M		<b>Section C</b> 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 #:	
<b>Section D</b> Required Client Information: Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOLID OIL WIFE WP OTHER AR TISSUE OT 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		Residue		Pace Project No. / Lab I.D. WO#: 30217069 	

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 <sub>2</sub> SO <sub>4</sub>	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 <sub>2</sub> O <sub>3</sub>	X			004
5	RW03-MWI	WT6		1137			Unpreserved	X			005
6	RW02-MWS	WT6		1207			HNO <sub>3</sub>	X			006
7	RW01-MWS	WT6		1309			H <sub>2</sub> SO <sub>4</sub>	X			007
8	RW02-MWI	WT6		1556			Other	X			008
9				1358			Methanol				
10											
11											
12											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N)	<i>James Calenda</i>	4/25/17	1600	<i>James Calenda</i>	4/25/17	1630	
Data Validation Required? (Y/N)	<i>James Calenda</i>	4/25/17	1900	<i>James Calenda</i>	4/25/17	1955	
If data package is required, attach data package checklist.	<i>James Calenda</i>	4/25/17	2305	<i>James Calenda</i>	4/25/17	2315	Y N Y

Temp in °C	Received on Ice (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: <i>Lisa Perrin</i>	DATE Signed (MM/DD/YY): <i>4/25/17</i>
SIGNATURE of SAMPLER: <i>Lisa Perrin</i>	

\*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

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

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### 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 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

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>859</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:11	7440-43-9	1c
Zinc	<b>17400</b>	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

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**Sample: RW07-MWS**      **Lab ID: 30217178002**      Collected: 04/26/17 12:18      Received: 04/26/17 23:50      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1.4J</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:25	7440-43-9	1c
Zinc	<b>86.4</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

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**Sample: RW07-MWI**      **Lab ID: 30217178003**      Collected: 04/26/17 13:07      Received: 04/26/17 23:50      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:27	7440-43-9	1c
Zinc	<b>364</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:27	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>16.6</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:37	7440-43-9	1c
Zinc	<b>12900</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:38	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>Sample: RW09-MWI      Lab ID: 30217178005      Collected: 04/26/17 14:17      Received: 04/26/17 23:50      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>5.0</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:40	7440-43-9	1c
Zinc	<b>57500</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:45	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2730</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:42	7440-43-9	1c
Zinc	<b>188000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:48	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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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.

### REPORT OF LABORATORY ANALYSIS

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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

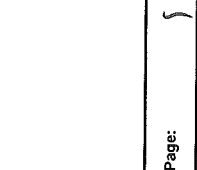
### REPORT OF LABORATORY ANALYSIS

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**CHAI**  
The Chain

**WO#: 30217178**

Page:    of   



**Pace Analytical**  
www.pacelabs.com

**Section A**  
Required Client Information:  
Company: **EnviroAnalytics Group**  
Address: **1430 Sparrows Point Blvd**  
**Sparrows Point, MD 21219**  
Email To: **lcalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3056** Fax:  
Requested Due Date/TAT: **5-day 5/2/17**

**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:  
Pace Profile #:

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 #:

PO Number: **Awaiting PO#**  
Project Name: **Area at Sparrows Baseline**  
Project Number: **MD2017**

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
Site Location: **MD**  
STATE: **MD**

ITEM #	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOLID OIL WIPE AIR OTHER TISSUE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.																																
			DATE	TIME																																					
1	RW01-MWI	WT G	4/26/17	1130		1			001																																
2	RW07-MWS	WT G	4/26/17	1218		1			002																																
3	RW07-MWI	WT G	4/26/17	1307		1			003																																
4	RW09-MWS	WT G	4/26/17	1350		1			004																																
5	RW09-MWI	WT G	4/26/17	1417		1			005																																
6	RW12-MWI	WT G	4/26/17	1528		1			006																																
7																																									
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<table border="1"> <thead> <tr> <th>ADDITIONAL COMMENTS</th> <th>RELINQUISHED BY / AFFILIATION</th> <th>DATE</th> <th>TIME</th> <th>ACCEPTED BY / AFFILIATION</th> <th>DATE</th> <th>TIME</th> <th>SAMPLE CONDITIONS</th> </tr> </thead> <tbody> <tr> <td>Data Package Required? (Y/N)</td> <td><i>James Calenda</i></td> <td>4/26/17</td> <td>1026</td> <td><i>David J. Hillier</i></td> <td>4/26/17</td> <td>1205</td> <td></td> </tr> <tr> <td>Data Validation Required? (Y/N)</td> <td><i>David J. Hillier</i></td> <td>4/26/17</td> <td>1940</td> <td><i>Michael Smith</i></td> <td>4/26/17</td> <td>1940</td> <td></td> </tr> <tr> <td>If data package is required, attach data package checklist.</td> <td><i>Michael Smith</i></td> <td>4/26/17</td> <td>2350</td> <td><i>John King</i></td> <td>4/26/17</td> <td>2350</td> <td>Y N Y</td> </tr> </tbody> </table>										ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Data Package Required? (Y/N)	<i>James Calenda</i>	4/26/17	1026	<i>David J. Hillier</i>	4/26/17	1205		Data Validation Required? (Y/N)	<i>David J. Hillier</i>	4/26/17	1940	<i>Michael Smith</i>	4/26/17	1940		If data package is required, attach data package checklist.	<i>Michael Smith</i>	4/26/17	2350	<i>John King</i>	4/26/17	2350	Y N Y
ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS																																		
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If data package is required, attach data package checklist.	<i>Michael Smith</i>	4/26/17	2350	<i>John King</i>	4/26/17	2350	Y N Y																																		
<p><b>SAMPLER NAME AND SIGNATURE</b></p> <p>PRINT Name of SAMPLER: <i>Lisa Peron</i></p> <p>SIGNATURE of SAMPLER: <i>Lisa Peron</i></p> <p>DATE Signed (MM/DD/YY): <i>4/26/17</i></p>								Temp in °C	Received on Ice (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)																														

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

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### 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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## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 GW Baseline  
Pace Project No.: 30217316

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**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

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1800</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:45	7440-43-9	1c
Zinc	<b>288000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:50	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW11-MWS		Lab ID: 30217316002		Collected: 04/27/17 10:05		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.3</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:47	7440-43-9	1c
Zinc	<b>13100</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:53	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>Sample: RW18-MWI</b>									
<b>Lab ID: 30217316003</b>									
Collected: 04/27/17 11:15    Received: 04/27/17 23:20    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>119</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:49	7440-43-9	1c
Zinc	<b>633000</b>	ug/L	10000	1080	1000	05/02/17 08:25	05/03/17 02:32	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-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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.5</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:52	7440-43-9	1c
Zinc	<b>6260</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW19-MWI</b>									
<b>Lab ID: 30217316005</b>									
Collected: 04/27/17 12:17    Received: 04/27/17 23:20    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3380</b>	ug/L	300	34.4	100	05/02/17 08:25	05/03/17 02:00	7440-43-9	1c,MH
Zinc	<b>7010000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:15	7440-43-9	1c
Zinc	<b>3350</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 23:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>194</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:18	7440-43-9	1c
Zinc	<b>314000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:07	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW15-MWI		Lab ID: 30217316008		Collected: 04/27/17 15:20		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>109</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:20	7440-43-9	1c
Zinc	<b>122000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:22	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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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

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### 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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## 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

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW  
Pace Project No.: 30217500

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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

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**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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1600</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:23	7440-43-9	1c
Zinc	<b>25000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:25	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>198</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:25	7440-43-9	1c
Zinc	<b>75800</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:27	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1370</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:28	7440-43-9	1c
Zinc	<b>70500</b>	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

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### 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.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: EnviroAnalytics Group	Report To: James Calenda	Report To: James Calenda	Company Name: EnviroAnalytics Group	Attention: Laura Sargent	WO#: 30217500
Address: 1430 Sparrows Point Blvd	Copy To:	Copy To:	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131		Page: 1 of 1
Sparrows Point, MD 21219	PO Number: <i>AWAITING</i>	PO Number: <i>AWAITING</i>	Pace Quote Reference:		
Email To: jcalenda@enviroanalyticsgroup.com	Project Name: <i>Area A Parcel A3 GW</i>	Project Name: <i>Area A Parcel A3 GW</i>	Pace Project Manager:		
Phone: 314-620-3056	Requested Due Date/TAT: <i>5-day 5/4/17</i>	Requested Due Date/TAT: <i>5-day 5/4/17</i>	Pace Profile #:		
REGULATORY AGENCY		REGULATORY AGENCY		REGULATORY AGENCY	
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER		<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"/> UST <input type="checkbox"/> RCRA		<input type="checkbox"/> UST <input type="checkbox"/> RCRA	
Site Location		Site Location		Site Location	
STATE: MD		STATE: MD		STATE: MD	

ITEM #	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOLID WIRE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB						
1	RW05-MWI	WTG	G	DATE: 4/28/17	TIME: 11:00		1		Y	001	
2	RW10-MWI	WTG	G	DATE: 4/28/17	TIME: 11:00		1		Y	002	
3	RW13-MWI	WTG	G	DATE: 4/28/17	TIME: 11:00		1		Y	003	
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)		<i>James Calenda</i>	4/28/17	1400	<i>David Sargent</i>	4/28/17	1725	Y N Y		
Data Validation Required? (Y/N)		<i>David Sargent</i>	4/28/17	1900	<i>David Sargent</i>	4/28/17	1730	Y N Y		
If data package is required, attach data package checklist.		<i>David Sargent</i>	4/28/17	2245	<i>David Sargent</i>	4/28/17	2245	Y N Y		
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER: <i>Lisa Perera</i>		DATE Signed (MM/DD/YY): <i>4/28/17</i>		Temp in °C		Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER: <i>James Calenda</i>		SIGNATURE of SAMPLER: <i>James Calenda</i>		DATE Signed (MM/DD/YY): <i>4/28/17</i>		Temp in °C		Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)

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

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### 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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## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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

## 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

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

<b>Sample: RW-19-MW(I)</b>		<b>Lab ID: 30219509002</b>		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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2770</b>	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 02:44	7440-43-9	1c,2c
Zinc	<b>5370000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:33	7440-43-9	1c,2c
Zinc	<b>4860</b>	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			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>92.0</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:36	7440-43-9	1c,2c
Zinc	<b>246000</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW-15-MW(I)</b>									
<b>Lab ID: 30219509005</b>									
Collected: 05/22/17 10:39    Received: 05/22/17 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>91.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:48	7440-43-9	1c,2c
Zinc	<b>100000</b>	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

<b>Sample: RW-16-MW(I)</b>		<b>Lab ID: 30219509006</b>	Collected: 05/22/17 11:18	Received: 05/22/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>73.9</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:50	7440-43-9	1c,2c
Zinc	<b>207000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>64.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:53	7440-43-9	1c,2c
Zinc	<b>15800</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5370</b>	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 03:16	7440-43-9	1c,2c
Zinc	<b>163000</b>	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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3820</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:58	7440-43-9	1c,2c
Zinc	<b>232000</b>	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
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2600</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:00	7440-43-9	1c,2c
Zinc	<b>336000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:20	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(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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:03	7440-43-9	1c,2c
Zinc	<b>12500</b>	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

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**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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2.5J</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:05	7440-43-9	1c,2c
Zinc	<b>1150</b>	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

<b>Sample: RW-05-MW(I)</b>		<b>Lab ID: 30219509013</b>		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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>397</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:18	7440-43-9	1c,2c	
Zinc	<b>38800</b>	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.

### REPORT OF LABORATORY ANALYSIS

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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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# CHAIN-OF-CUSTODY / Analytical Request Document

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

<b>Section A</b> Required Client Information: Company: <b>EnviroAnalytics Group</b> Address: <b>1430 Sparrows Point Blvd</b> <b>Sparrows Point, MD 21219</b> Email To: <b>icalenda@enviroanalyticsgroup.com</b> Phone: <b>314-620-3056</b> Fax: Requested Due Date/TAT: <b>3 days</b>		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b> Copy To: PO Number: Project Name: <b>Flow Gas Sampling AS</b> Project Number: <b>140323207</b>		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b> Company Name: <b>EnviroAnalytics Group</b> Address: <b>1650 Des Peres Road, Suite 303 St. Louis, MO 63131</b> Pace Quote Reference: Pace Project Manager: <b>Samantha Bayura</b> Pace Profile #:	
<b>Section D</b> Required Client Information <b>SAMPLE ID</b> (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE <b>RW05-MW1</b>		<b>REGULATORY AGENCY</b> <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: <b>MD</b> STATE:		Page: <b>2</b> of <b>2</b>	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOLIDS 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)	Pace Project No. / Lab I.D.
		COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME		
1				G	55 G	1			Y	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 Burke	5/22/17	1645	David S. Williams	5/22/17	1645	
Data Validation Required? (Y/N)	David S. Williams	5/22/17	1900	David S. Williams	5/22/17	2000	
If data package is required, attach data package checklist.	David S. Williams	5/22/17	2250	Robert Burke	5/22/17	2250	Received on Ice (Y/N) <input checked="" type="checkbox"/> N Cooler (Y/N) <input checked="" type="checkbox"/> N Samples Intact (Y/N) <input checked="" type="checkbox"/> Y

<b>SAMPLER NAME AND SIGNATURE</b> PRINT Name of SAMPLER: <b>Robert Burke</b> SIGNATURE of SAMPLER: <i>Robert Burke</i> DATE Signed (MM/DD/YYYY): <b>05/22/17</b>		Temp in °C	Received on Ice (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
---	--	------------	-----------------------	--------------	----------------------

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: Wet 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

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### 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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## REPORT OF LABORATORY ANALYSIS

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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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>									
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				
<b>8260B MSV</b>									
Analytical Method: EPA 8260B									
Trichlorofluoromethane	<b>1.0 U</b>	ug/L	1.0	0.32	1		05/25/17 11:59	75-69-4	M5
1,1,2-Trichlorotrifluoroethane	<b>50.0 U</b>	ug/L	50.0	1.4	1		05/25/17 11:59	76-13-1	M5
Vinyl chloride	<b>1.0 U</b>	ug/L	1.0	0.21	1		05/25/17 11:59	75-01-4	M5
Xylene (Total)	<b>3.0 U</b>	ug/L	3.0	1.1	1		05/25/17 11:59	1330-20-7	M5
m&p-Xylene	<b>2.0 U</b>	ug/L	2.0	0.70	1		05/25/17 11:59	179601-23-1	M5
o-Xylene	<b>1.0 U</b>	ug/L	1.0	0.37	1		05/25/17 11:59	95-47-6	M5
<b>Surrogates</b>									
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

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>526</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 22:53	7440-43-9	1c
Zinc	<b>14900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:07	7440-43-9	1c
Zinc	<b>6120</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW02-MW-(I)</b>									
<b>Lab ID: 30219635004</b>									
Collected: 05/23/17 10:06 Received: 05/23/17 23:15 Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>24.4</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:10	7440-43-9	1c
Zinc	<b>2520</b>	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

Sample: RW02-MW-(S)      Lab ID: 30219635005      Collected: 05/23/17 11:00      Received: 05/23/17 23:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>84.0</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:19	7440-43-9	1c
Zinc	<b>2960</b>	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

Sample: RW03-MW-(S)      Lab ID: 30219635007      Collected: 05/23/17 12:38      Received: 05/23/17 23:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.9</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:22	7440-43-9	1c
Zinc	<b>5380</b>	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

Sample: RW06-MW-(I)		Lab ID: 30219635008	Collected: 05/23/17 13:27	Received: 05/23/17 23:15	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>20.4</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:24	7440-43-9	1c	
Zinc	<b>999</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW-(I)</b>									
<b>Lab ID: 30219635009</b>									
Collected: 05/23/17 14:13    Received: 05/23/17 23:15    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.1J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:26	7440-43-9	1c
Zinc	<b>298</b>	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 Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.9J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:29	7440-43-9	1c
Zinc	<b>102</b>	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

Sample: RW08-MW-(I)		Lab ID: 30219635011		Collected: 05/23/17 15:50	Received: 05/23/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1.5J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:31	7440-43-9	1c	
Zinc	<b>188</b>	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

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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

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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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## QUALIFIERS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

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### 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		

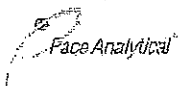
### REPORT OF LABORATORY ANALYSIS

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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

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### 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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## 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

## REPORT OF LABORATORY ANALYSIS

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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

## 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

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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:21	7440-43-9	1c,2c
Zinc	<b>2680</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:23	7440-43-9	1c,2c
Zinc	<b>57200</b>	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

<b>Sample: RW09-MW(S)</b>		<b>Lab ID: 30219768004</b>	Collected: 05/24/17 10:20	Received: 05/25/17 00:20	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.9</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:26	7440-43-9	1c,2c
Zinc	<b>11900</b>	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

### 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.

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](mailto: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: \_\_\_\_\_  
 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 <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol DI Water	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
1		Trip Blank 1			W/G		1			
2		R-208 - mwt (S)		5/24/17	W/G		1	X		
3		R-209 - mwt (I)		5/24/17	W/G		1	X		
4		R-209 - mwt (S)		10/20	W/G		1	X		
5										
6										
7										
8										
9										
10										
11										
12										

WO#: 30219768

30219768

**ADDITIONAL COMMENTS**  
 Relinquished by / Affiliation: Robert Barte  
 Date: 5/24/17  
 Time: 10:20

**ACCEPTED BY / AFFILIATION**  
 Date: 5/24/17  
 Time: 10:20

**RELINQUISHED BY / AFFILIATION**  
 Date: 5/24/17  
 Time: 10:20

**DATE SIGNED (MM/DD/YYYY):** 05/24/17

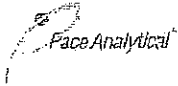
**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: Robert Barte  
 SIGNATURE of SAMPLER: [Signature]

**TEMP IN °C**  
 Received on Ice (Y/N)  
 Custody Sealed (Y/N)  
 Samples Intact (Y/N)

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: <input checked="" type="radio"/> VOA 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

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## 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

## REPORT OF LABORATORY ANALYSIS

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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

Sample: RW01-MW(I)		Lab ID: 30220708001		Collected: 06/05/17 11:01	Received: 06/05/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>666</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:38	7440-43-9	1c	
Zinc	<b>16800</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:08	7440-66-6	1c,MH	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.7J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:52	7440-43-9	1c
Zinc	<b>10600</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:23	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: 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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>451</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:55	7440-43-9	1c	
Zinc	<b>15200</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:25	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: 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:03	7440-43-9	1c
Zinc	<b>46900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>37.4</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:05	7440-43-9	1c
Zinc	<b>2440</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.0</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:08	7440-43-9	1c
Zinc	<b>5500</b>	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

### REPORT OF LABORATORY ANALYSIS

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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

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### 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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## 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

## REPORT OF LABORATORY ANALYSIS

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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

### 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

**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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:10	7440-43-9	1c
Zinc	<b>30.2</b>	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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>14.3</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:12	7440-43-9	1c	
Zinc	<b>876</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:12	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 (D)		Lab ID: 30220820003		Collected: 06/06/17 11:17		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:15	7440-43-9	1c
Zinc	<b>58.0</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:15	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: 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.48J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:20	7440-43-9	1c
Zinc	<b>71.9</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:20	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: 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:17	7440-43-9	1c
Zinc	<b>1870</b>	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

Sample: RW07-MW (I)		Lab ID: 30220820006		Collected: 06/06/17 14:58		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.91J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:38	7440-43-9	1c
Zinc	<b>432</b>	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: <b>RW07-MW (S)</b>		Lab ID: <b>30220820007</b>		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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:41	7440-43-9	1c
Zinc	<b>107</b>	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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# CHAIN-OF-CUSTODY / Analytical Request Docu

W# : 30220820

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



<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> 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	Company Name: EnviroAnalytics Group	Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/>
Sparrows Point, MD 21219	Purchase Order No.:	Pace Quote Reference:	Pace Project Manager:	Site Location	STATE: MD
icalenda@enviroanalyticsgroup.com	Project Name: Rod and Wire Mill GW Sampling	Samantha Bayura			
Phone: 314-620-3056	Requested Due Date/TAT: 5 Day	Project Number: 175384-1-1			

ITEM #	Valid Matrix Codes	Required Client Information	MATRIX CODE (see valid codes to left)	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)		WT G	G	DATE: 6/6/17	TIME: 0953	1	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Total Cadmium 6010 Total Zinc 6010	Y	001
2	RW06-MW(I)		WT G	G	DATE: 6/6/17	TIME: 1042	1				002
3	RW06-MW(D)		WT G	G	DATE: 6/6/17	TIME: 1117	1				003
4	RW08-MW(I)		WT G	G	DATE: 6/6/17	TIME: 1332	1				004
5	RW08-MW(S)		WT G	G	DATE: 6/6/17	TIME: 1321	1				005
6	RW07-MW(I)		WT G	G	DATE: 6/6/17	TIME: 1458	1				006
7	RW07-MW(S)		WT G	G	DATE: 6/6/17	TIME: 1547	1				007

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Bob Bentz	David R. Halligan	6/6/17	1602	David R. Halligan	6/6/17	1908	Received on Ice (Y/N) <input type="checkbox"/>
	David R. Halligan	6/6/17	1908	David R. Halligan	6/6/17	1953	Custody Sealed (Y/N) <input type="checkbox"/>
	David R. Halligan	6/6/17	2250	David R. Halligan	6/6/17	2230	Temp in °C
	David R. Halligan	6/6/17	2250	David R. Halligan	6/6/17	2230	Residual Chlorine (Y/N)

Temp in °C

Received on Ice (Y/N)

Custody Sealed (Y/N)

Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Bob Bentz

SIGNATURE of SAMPLER: *Bob Bentz*

DATE Signed (MM/DD/YYYY): 06/06/17

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

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 type="checkbox"/>	<input checked="" 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

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## 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

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

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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

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**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

## 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

- 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>577</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:30	7440-43-9	1c,2c
Zinc	<b>40400</b>	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

Sample: RW04-MW(S)		Lab ID: 30220937002		Collected: 06/07/17 09:57	Received: 06/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>0.70J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:44	7440-43-9	1c,2c	
Zinc	<b>58.2</b>	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 22:44	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(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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.1</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:47	7440-43-9	1c,2c
Zinc	<b>51900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.9</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:54	7440-43-9	1c,2c
Zinc	<b>13000</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:10	7440-66-6	1c,2c

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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
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1.9J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:57	7440-43-9	1c,2c
Zinc	<b>374</b>	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

Sample: RW11-MW(S)		Lab ID: 30220937006		Collected: 06/07/17 14:17		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.94J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:59	7440-43-9	1c,2c
Zinc	<b>13500</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>218</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:01	7440-43-9	1c,2c
Zinc	<b>201000</b>	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

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**Sample: RW10-MW(I)**      **Lab ID: 30220937008**      Collected: 06/07/17 16:35      Received: 06/07/17 22:50      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>27.2</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:04	7440-43-9	1c,2c
Zinc	<b>34600</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:22	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.: 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.

### REPORT OF LABORATORY ANALYSIS

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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.

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220937

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### 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

### REPORT OF LABORATORY ANALYSIS

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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: 9/18/17 KBH

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.
-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 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 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>KBH</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 checked="" type="checkbox"/>	<input 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.

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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## REPORT OF LABORATORY ANALYSIS

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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

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2260</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:06	7440-43-9	1c,2c
Zinc	<b>226000</b>	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

<b>Sample: RW12-MW(S)</b>		<b>Lab ID: 30221073002</b>		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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>29.7</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:09	7440-43-9	1c,2c
Zinc	<b>11400</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:27	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30221073

<b>Sample: RW14-MW(S)</b>		<b>Lab ID: 30221073003</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1520</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:11	7440-43-9	1c,2c
Zinc	<b>12200</b>	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

Sample: RW15-MW(S)		Lab ID: 30221073004		Collected: 06/08/17 11:52		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>69.4</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:23	7440-43-9	1c,2c
Zinc	<b>6560</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>65.1</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:25	7440-43-9	1c,2c
Zinc	<b>694000</b>	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

<b>Sample: RW18-MW(S)</b>		<b>Lab ID: 30221073006</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>356</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:28	7440-43-9	1c,2c
Zinc	<b>25500</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2280</b>	ug/L	30.0	3.4	10	06/13/17 08:19	06/14/17 00:44	7440-43-9	1c,2c
Zinc	<b>6720000</b>	ug/L	100000	10800	10000	06/13/17 08:19	06/14/17 02:06	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

<b>Sample: RW19-MW(S)</b>		<b>Lab ID: 30221073008</b>		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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>2.4J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:33	7440-43-9	1c,2c	
Zinc	<b>3720</b>	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

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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 6/29/17

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:	/			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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Date Received</b>
30221240001	RW21 - MW (D)	Water	06/09/17 08:38	06/09/17 22:25

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>Method</b>	<b>Analysts</b>	<b>Analytes Reported</b>
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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>0.35J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:36	7440-43-9	1c,2c
Zinc	<b>303</b>	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

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### 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.: 30221240

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<b>Lab ID</b>	<b>Sample ID</b>	<b>QC Batch Method</b>	<b>QC Batch</b>	<b>Analytical Method</b>	<b>Analytical Batch</b>
30221240001	RW21 - MW (D)	EPA 3005A	261633	EPA 6010C	261736

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### REPORT OF LABORATORY ANALYSIS

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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: _____

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

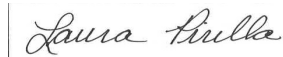
RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223716

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

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### 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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## REPORT OF LABORATORY ANALYSIS

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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

## REPORT OF LABORATORY ANALYSIS

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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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>530</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:28	7440-43-9	1c	
Zinc	<b>16100</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:20	7440-66-6	1c,MH	

## REPORT OF LABORATORY ANALYSIS

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:42	7440-43-9	1c
Zinc	<b>14800</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>421</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:45	7440-43-9	1c
Zinc	<b>15300</b>	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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>4.3</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:52	7440-43-9	1c	
Zinc	<b>97100</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MW(I)</b>									
<b>Lab ID: 30223716006</b>									
Collected: 07/10/17 13:12    Received: 07/10/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>138</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:54	7440-43-9	1c
Zinc	<b>8330</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:42	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: 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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>4.6</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:57	7440-43-9	1c	
Zinc	<b>8460</b>	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

Sample: RW06-MW(I)		Lab ID: 30223716008		Collected: 07/10/17 15:07	Received: 07/10/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>10.2</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:59	7440-43-9	1c	
Zinc	<b>1690</b>	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

Sample: RW06-MW(D)		Lab ID: 30223716009		Collected: 07/10/17 15:55		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.52J</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:02	7440-43-9	1c
Zinc	<b>9.8J</b>	ug/L	10.0	1.1	1	07/12/17 08:12	07/13/17 00:02	7440-66-6	1c

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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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:04	7440-43-9	1c	
Zinc	<b>152</b>	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

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### 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.

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: 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:  
 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 OL WIPE WIP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
1	Trip Blank			7/10/17		WT G	2			001
2	Rw101 - MWI			0937		WT G	1	X	X	002
3	Rw101 - MW(S)			1044		WT G	1	X	X	003
4	Rw102 - MWI			1135		WT G	1	X	X	004
5	Rw102 - MW(S)			1217		WT G	1	X	X	005
6	Rw103 - MWI			1316		WT G	1	X	X	006
7	Rw103 - MW(S)			1405		WT G	1	X	X	007
8	Rw106 - MWI			1507		WT G	1	X	X	008
9	Rw106 - MW(S)			1555		WT G	1	X	X	009
10	Rw106 - MW(S)			1645		WT G	1	X	X	010
11										
12										



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: [Signature]

DATE Signed (MM/DD/YYYY): 07/10/17

Temp in °C: \_\_\_\_\_  
 Received on: \_\_\_\_\_  
 Custody Sealed: \_\_\_\_\_  
 Cooler (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.

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 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 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

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### 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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## 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

## REPORT OF LABORATORY ANALYSIS

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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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW(I)</b>									
<b>Lab ID: 30223801002</b>									
Collected: 07/11/17 07:37    Received: 07/11/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 21:57	7440-43-9	1c,2c
Zinc	<b>45.7</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 21:57	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW(S)</b>									
<b>Lab ID: 30223801003</b>									
Collected: 07/11/17 08:25    Received: 07/11/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2.8J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:11	7440-43-9	1c,2c
Zinc	<b>114</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:11	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

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**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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.3J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:14	7440-43-9	1c,2c
Zinc	<b>153</b>	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	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>0.74J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:21	7440-43-9	1c,2c	
Zinc	<b>968</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.9</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:24	7440-43-9	1c,2c
Zinc	<b>65600</b>	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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW09-MW(S)</b>									
<b>Lab ID: 30223801007</b>									
Collected: 07/11/17 11:57    Received: 07/11/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>13.4</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:26	7440-43-9	1c,2c
Zinc	<b>11500</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:41	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: 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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>518</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:28	7440-43-9	1c,2c
Zinc	<b>192000</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.84J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:31	7440-43-9	1c,2c
Zinc	<b>10900</b>	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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>16.3</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:33	7440-43-9	1c,2c
Zinc	<b>25900</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:53	7440-66-6	1c,2c

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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
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:36	7440-43-9	1c,2c
Zinc	<b>179</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:36	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.: 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.

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

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### 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.

## REPORT OF LABORATORY ANALYSIS

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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

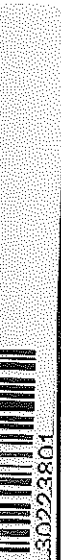
### REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY # : 30223801

The Chain-of-Custody is a LEI

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: **kalenda@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:

**Section C**  
**Required Agency Information:**  
 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**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  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	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Unpreserved	Preservatives								Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
		COMPOSITE START	COMPOSITE END/GRAB					DATE	TIME	H2SO4	HNO3	HCl	NaOH	Na2SO3	Methanol				
1	Trip Blank 1			WT G		2											001		
2	Rw07 - MW(I)			WT G	7/11/17	1		X									002		
3	Rw07 - MW(S)			WT G	0737	1		X									003		
4	Rw08 - MW(I)			WT G	0805	1		X									004		
5	Rw08 - MW(S)			WT G	0925	1		X									005		
6	Rw09 - MW(I)			WT G	1015	1		X									006		
7	Rw09 - MW(S)			WT G	1113	1		X									007		
8	Rw11 - MW(I)			WT G	1157	1		X									008		
9	Rw11 - MW(S)			WT G	1257	1		X									009		
10	Rw10 - MW(I)			WT G	1345	1		X									010		
11	Rw04 - MW(I)			WT G	1445	1		X									011		
12	Rw04 - MW(S)			WT G	1555	1		X											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Bentz	7/11/17	1607	Dariusz Killebraun Pace	7/11/17	1618	Received on Ice (Y/N) <input type="checkbox"/> Cooled (Y/N) <input type="checkbox"/> Samples Intact (Y/N) <input type="checkbox"/>
	Dariusz Killebraun Pace	7/11/17	1825	Bob Bentz	7/11/17	1938	
	Bob Bentz	7/11/17	2330	Bob Bentz	7/11/17	2330	Temp in °C <input type="checkbox"/> Received on Ice (Y/N) <input type="checkbox"/> Cooled (Y/N) <input type="checkbox"/> Samples Intact (Y/N) <input type="checkbox"/>

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: **Bob Bentz**  
 SIGNATURE of SAMPLER: *[Signature]*  
 DATE Signed (MM/DD/YYYY): **07/11/17**

**Section D**  
**Required Client Information**  
**SAMPLE ID**  
 (A-Z, 0-9 / -)  
 Sample IDs MUST BE UNIQUE

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:  
PC 7-11-17

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>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

## 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

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

## 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

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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:26	7440-43-9	1c
Zinc	<b>39600</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2730</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:40	7440-43-9	1c
Zinc	<b>219000</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>12.6</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:43	7440-43-9	1c
Zinc	<b>9090</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>94.8</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:50	7440-43-9	1c
Zinc	<b>10200</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>61.7</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:53	7440-43-9	1c
Zinc	<b>575000</b>	ug/L	10000	1080	1000	07/14/17 10:59	07/14/17 22:59	7440-66-6	1c

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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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>240</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:55	7440-43-9	1c
Zinc	<b>13300</b>	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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2550</b>	ug/L	300	34.4	100	07/14/17 10:59	07/14/17 22:56	7440-43-9	1c
Zinc	<b>5330000</b>	ug/L	100000	10800	10000	07/14/17 10:59	07/14/17 23:01	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: 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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>9.7</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:00	7440-43-9	1c
Zinc	<b>3700</b>	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:00	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: 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
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:03	7440-43-9	1c
Zinc	<b>103</b>	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.

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223943

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### 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
Email To:	jcalenda@enviroanalyticalgroup.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 References:	
Requested Due Date/TAT:	5 Day	Project Number:		Pace Project Manager:	Samantha Bayura

ITEM #	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	Matrix Code (see valid codes to left)	Sample Type (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test ↑	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME					
1	<del>FW</del> BB	WTG	G	7/12/17	0800	1	X	X	X	001
2	RW105 - MW(T)	WTG	G		0905	1	X	X	X	002
3	RW12 - MW(T)	WTG	G		0950	1	X	X	X	003
4	RW12 - MW(S)	WTG	G			1	X	X	X	004
5	RW14 - MW(S)	WTG	G			1	X	X	X	005
6	RW15 - MW(S)	WTG	G		1107	1	X	X	X	006
7	RW18 - MW(S)	WTG	G		1215	1	X	X	X	007
8	RW18 - MW(S)	WTG	G		1507	1	X	X	X	008
9	RW19 - MW(T)	WTG	G		1410	1	X	X	X	009
10	RW19 - MW(S)	WTG	G		1500	1	X	X	X	000
11	RW21 - MW(D)	WTG	G		1600	1	X	X	X	

WO#: 30223943

30223943

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Bob Bantz	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.

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: -Includes date/time/ID Matrix: <u>WT</u>	X			5. Outer packaging of samples 001-008 labeled, 009 bottle is labeled
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: -Pace Containers Used:	X			10.
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. All containers needing preservation are found to be in compliance with EPA recommendation.	X			15. Sample 009 is basic did not try to preserve
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

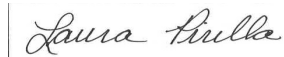
RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30224060

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

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## 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

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30224060

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>Method</b>	<b>Analysts</b>	<b>Analytes Reported</b>
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

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**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

Sample: RW22-MW(I)		Lab ID: 30224060001		Collected: 07/13/17 07:45		Received: 07/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.5</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:05	7440-43-9	1c
Zinc	<b>1730</b>	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

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>QC Batch Method</b>	<b>QC Batch</b>	<b>Analytical Method</b>	<b>Analytical Batch</b>
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

<b>Section A</b> Required Client Information: Company: <b>EnviroAnalytics Group</b> Address: <b>1600 Sparrows Point Blvd, Suite B2</b> Sparrows Point, MD 21219 Email To: <a href="mailto:jalenda@enviroanalyticsgroup.com">jalenda@enviroanalyticsgroup.com</a> Phone: <b>314-620-3056</b> Fax: _____ Requested Due Date/TAT: _____ 5 Day		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b> Copy To: <b>Stewart Kabis</b> Purchase Order No.: _____ Project Name: <b>Rod and Wire Mill GW Sampling</b> Project Number: _____		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b> Company Name: <b>EnviroAnalytics Group</b> Address: <b>1650 Des Peres Road, Suite 303 St. Louis, MO 63131</b> Pace Quote Reference: _____ Site Location: <b>MD</b> Pace Project Manager: <b>Samantha Bayura</b> Pace Profile #: _____		<b>REGULATORY AGENCY</b> <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: _____	
---	--	---	--	---	--	---	--

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 <b>SAMPLE ID</b> (A-Z, 0-9 / / -) Sample IDs MUST BE UNIQUE <b>RW22-MW(E)</b>	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) <b>WG</b>	COMPOSITE START <b>7/15/07</b>	COMPOSITE END/GRAB <b>07:15</b>	DATE <b>7/15/07</b>	TIME <b>07:15</b>	DATE <b>7/13/07</b>	TIME <b>17:15</b>	ACCEPTED BY / AFFILIATION <b>Bob Bente</b>	DATE <b>7/13/07</b>	TIME <b>17:15</b>	SAMPLE CONDITIONS <b>Y</b>
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

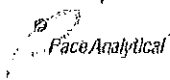
<b>Section D</b> Requested Analysis: Filtered (Y/N)		Total Zinc 6010 <b>XX</b> Total Cadmium 6010 <b>XX</b> Analysis Test!		Preservatives H <sub>2</sub> SO <sub>4</sub> <b>X</b> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other		# OF CONTAINERS <b>1</b>		SAMPLE TEMP AT COLLECTION <b>7/15/07 07:15</b>		RELINQUISHED BY / AFFILIATION <b>Bob Bente</b>		DATE <b>7/13/07</b>		TIME <b>17:15</b>	
ADDITIONAL COMMENTS <b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>		<b>Temp in °C</b> <b>Received on</b> <b>Ice (Y/N)</b> <b>Cooler (Y/N)</b> <b>Custody Sealed</b> <b>Samples Intact</b>	

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: **Bob Bente** DATE Signed (MM/DD/YYYY): **07/13/07**  
 SIGNATURE of SAMPLER: *[Signature]*

\*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

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.
-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: _____

Outer packaging labeled

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.

August 18, 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.: 30226486

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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.

Revision 1: This report replaces the August 11, 2017 report. This report was reissued on August 18, 2017 to correct the MS/MSD data for 6010 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.: 30226486

---

### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226486001	RW03-MW(I)	Water	08/07/17 08:40	08/07/17 22:50
30226486002	RW03-MW(S)	Water	08/07/17 09:14	08/07/17 22:50
30226486003	RW04-MW(S)	Water	08/07/17 09:43	08/07/17 22:50
30226486004	RW06-MW(I)	Water	08/07/17 10:40	08/07/17 22:50
30226486005	RW06-MW(S)	Water	08/07/17 11:23	08/07/17 22:50
30226486006	RW06-MW(D)	Water	08/07/17 11:50	08/07/17 22:50
30226486007	RW20-MW(S)	Water	08/07/17 12:55	08/07/17 22:50
30226486008	RW20-MW(I)	Water	08/07/17 13:42	08/07/17 22:50
30226486009	RW15-MW(S)	Water	08/07/17 14:22	08/07/17 22:50
30226486010	RW15-MW(I)	Water	08/07/17 14:55	08/07/17 22:50
30226486011	Duplicate	Water	08/07/17 00:01	08/07/17 22:50

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226486001	RW03-MW(I)	EPA 6010C	PJD	2
30226486002	RW03-MW(S)	EPA 6010C	PJD	2
30226486003	RW04-MW(S)	EPA 6010C	PJD	2
30226486004	RW06-MW(I)	EPA 6010C	PJD	2
30226486005	RW06-MW(S)	EPA 6010C	PJD	2
30226486006	RW06-MW(D)	EPA 6010C	PJD	2
30226486007	RW20-MW(S)	EPA 6010C	PJD	2
30226486008	RW20-MW(I)	EPA 6010C	PJD	2
30226486009	RW15-MW(S)	EPA 6010C	PJD	2
30226486010	RW15-MW(I)	EPA 6010C	PJD	2
30226486011	Duplicate	EPA 6010C	PJD	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 18, 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.

QC Batch: 267762

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226486009,30226486010

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

- MS (Lab ID: 1317954)
  - Zinc
- MSD (Lab ID: 1317957)
  - Zinc

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

- MS (Lab ID: 1317956)
  - Zinc

### 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: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: RW03-MW(I)		Lab ID: 30226486001	Collected: 08/07/17 08:40	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>227</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:12	7440-43-9	
Zinc	<b>10900</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:13	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MW(S)</b>									
<b>Lab ID: 30226486002</b>									
Collected: 08/07/17 09:14    Received: 08/07/17 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>5.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:15	7440-43-9	
Zinc	<b>7730</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:15	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: RW04-MW(S)		Lab ID: 30226486003	Collected: 08/07/17 09:43	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:29	7440-43-9	
Zinc	<b>74.7</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:29	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: RW06-MW(I)		Lab ID: 30226486004		Collected: 08/07/17 10:40		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:32	7440-43-9	
Zinc	<b>1340</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:32	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

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**Sample: RW06-MW(S)**      **Lab ID: 30226486005**      Collected: 08/07/17 11:23      Received: 08/07/17 22:50      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:34	7440-43-9	
Zinc	<b>2.0J</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:34	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: RW06-MW(D)		Lab ID: 30226486006	Collected: 08/07/17 11:50	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.36J</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:37	7440-43-9	
Zinc	<b>9.6J</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:37	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: RW20-MW(S)		Lab ID: 30226486007		Collected: 08/07/17 12:55		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.2</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:39	7440-43-9	
Zinc	<b>276</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:39	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: RW20-MW(I)      Lab ID: 30226486008      Collected: 08/07/17 13:42      Received: 08/07/17 22:50      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>10.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:41	7440-43-9	
Zinc	<b>3210</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:41	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: RW15-MW(S)		Lab ID: 30226486009		Collected: 08/07/17 14:22		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>54.5</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:46	7440-43-9	
Zinc	<b>4750</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:18	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: RW15-MW(I)		Lab ID: 30226486010		Collected: 08/07/17 14:55		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.7</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/09/17 23:58	7440-43-9	
Zinc	<b>43900</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 00:58	7440-66-6	MH,ML

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Sample: Duplicate		Lab ID: 30226486011	Collected: 08/07/17 00:01	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.4</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:44	7440-43-9	
Zinc	<b>1330</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:44	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

QC Batch: 267762 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30226486001, 30226486002, 30226486003, 30226486004, 30226486005, 30226486006, 30226486007, 30226486008, 30226486009, 30226486010, 30226486011

METHOD BLANK: 1317951 Matrix: Water  
Associated Lab Samples: 30226486001, 30226486002, 30226486003, 30226486004, 30226486005, 30226486006, 30226486007, 30226486008, 30226486009, 30226486010, 30226486011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/09/17 23:54	
Zinc	ug/L	10.0 U	10.0	1.1	08/09/17 23:54	

LABORATORY CONTROL SAMPLE: 1317952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE SAMPLE: 1317954

Parameter	Units	30226486009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	54.5	500	574	104	75-125	
Zinc	ug/L	4750	500	5380	126	75-125 MH	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1317956 1317957

Parameter	Units	30226486010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	17.7	500	500	516	555	100	107	75-125	7	20	
Zinc	ug/L	43900	500	500	44200	47600	54	728	75-125	7	20 MH,ML	

SAMPLE DUPLICATE: 1317953

Parameter	Units	30226486009 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	54.5	54.7	0	20	
Zinc	ug/L	4750	4760	0	20	

SAMPLE DUPLICATE: 1317955

Parameter	Units	30226486010 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	17.7	18.0	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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### QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

SAMPLE DUPLICATE: 1317955

Parameter	Units	30226486010 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	43900	44000	0	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: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

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### 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.

### ANALYTE QUALIFIERS

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 & Wire Mill GW Sampling

Pace Project No.: 30226486

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226486001	RW03-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486002	RW03-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486003	RW04-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486004	RW06-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486005	RW06-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486006	RW06-MW(D)	EPA 3005A	267762	EPA 6010C	267891
30226486007	RW20-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486008	RW20-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486009	RW15-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486010	RW15-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486011	Duplicate	EPA 3005A	267762	EPA 6010C	267891

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Pittsburgh



Client Name: Enviro Ana.

Project # 30 2 2 6 4 8 6

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>CDC</u>
LIMS Login	<u>BVM</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 3.1 °C      Correction Factor: 10.0 °C      Final Temp: 3.1 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: AMC

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>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.

August 11, 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.: 30226608

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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 and Wire Mill GW Sampling  
Pace Project No.: 30226608

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226608001	RW05-MW(I)	Water	08/08/17 08:34	08/08/17 21:50
30226608002	RW07-MW(S)	Water	08/08/17 09:18	08/08/17 21:50
30226608003	RW07-MW(I)	Water	08/08/17 10:01	08/08/17 21:50
30226608004	RW09-MW(S)	Water	08/08/17 10:39	08/08/17 21:50
30226608005	RW09-MW(I)	Water	08/08/17 11:02	08/08/17 21:50
30226608006	RW08-MW(S)	Water	08/08/17 11:55	08/08/17 21:50
30226608007	RW08-MW(I)	Water	08/08/17 12:17	08/08/17 21:50
30226608008	RW11-MW(S)	Water	08/08/17 13:23	08/08/17 21:50
30226608009	RW11-MW(I)	Water	08/08/17 13:45	08/08/17 21:50
30226608010	Field Blank	Water	08/08/17 13:50	08/08/17 21:50
30226608011	RW12-MW(S)	Water	08/08/17 14:20	08/08/17 21:50
30226608012	RW12-MW(I)	Water	08/08/17 14:43	08/08/17 21:50

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226608001	RW05-MW(I)	EPA 6010C	PJD	2
30226608002	RW07-MW(S)	EPA 6010C	PJD	2
30226608003	RW07-MW(I)	EPA 6010C	PJD	2
30226608004	RW09-MW(S)	EPA 6010C	PJD	2
30226608005	RW09-MW(I)	EPA 6010C	PJD	2
30226608006	RW08-MW(S)	EPA 6010C	PJD	2
30226608007	RW08-MW(I)	EPA 6010C	PJD	2
30226608008	RW11-MW(S)	EPA 6010C	PJD	2
30226608009	RW11-MW(I)	EPA 6010C	PJD	2
30226608010	Field Blank	EPA 6010C	PJD	2
30226608011	RW12-MW(S)	EPA 6010C	PJD	2
30226608012	RW12-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.: 30226608

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 11, 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.

QC Batch: 267930

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226608001,30226608011

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

- MS (Lab ID: 1318559)
  - Zinc
- MSD (Lab ID: 1318560)
  - Zinc

**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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Sample: RW05-MW(I)		Lab ID: 30226608001		Collected: 08/08/17 08:34		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:42	7440-43-9	
Zinc	<b>35300</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 00:53	7440-66-6	MH

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Sample: RW07-MW(S)		Lab ID: 30226608002		Collected: 08/08/17 09:18	Received: 08/08/17 21:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>3.1</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:56	7440-43-9		
Zinc	<b>127</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/10/17 23:56	7440-66-6		

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW(I)</b>									
<b>Lab ID: 30226608003</b>									
Collected: 08/08/17 10:01    Received: 08/08/17 21:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.0J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:58	7440-43-9	
Zinc	<b>62.7</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/10/17 23:58	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Sample: RW09-MW(S)		Lab ID: 30226608004		Collected: 08/08/17 10:39		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:06	7440-43-9	
Zinc	<b>9700</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:07	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW09-MW(I)		Lab ID: 30226608005		Collected: 08/08/17 11:02		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>18.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:08	7440-43-9	
Zinc	<b>55500</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:10	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW08-MW(S)		Lab ID: 30226608006		Collected: 08/08/17 11:55	Received: 08/08/17 21:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>2.7J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:11	7440-43-9		
Zinc	<b>3190</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:11	7440-66-6		

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

**Sample: RW08-MW(I)**      **Lab ID: 30226608007**      Collected: 08/08/17 12:17      Received: 08/08/17 21:50      Matrix: Water

Comments: • Sample ID on containers does not match COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>0.86J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:14	7440-43-9	
Zinc	<b>49.8</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Sample: RW11-MW(S)		Lab ID: 30226608008	Collected: 08/08/17 13:23	Received: 08/08/17 21:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.3J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:16	7440-43-9	
Zinc	<b>10800</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW11-MW(l)		Lab ID: 30226608009		Collected: 08/08/17 13:45	Received: 08/08/17 21:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>163</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:19	7440-43-9		
Zinc	<b>147000</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:14	7440-66-6		

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: Field Blank</b>									
<b>Lab ID: 30226608010</b>									
Collected: 08/08/17 13:50    Received: 08/08/17 21:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:21	7440-43-9	
Zinc	<b>35.6</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:21	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW12-MW(S)</b>									
<b>Lab ID: 30226608011</b>									
Collected: 08/08/17 14:20    Received: 08/08/17 21:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>7.0</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:24	7440-43-9	
Zinc	<b>5090</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Sample: RW12-MW(I)		Lab ID: 30226608012		Collected: 08/08/17 14:43		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2220</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:36	7440-43-9	
Zinc	<b>156000</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:29	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

QC Batch: 267930 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30226608001, 30226608002, 30226608003, 30226608004, 30226608005, 30226608006, 30226608007, 30226608008, 30226608009, 30226608010, 30226608011, 30226608012

METHOD BLANK: 1318556 Matrix: Water  
Associated Lab Samples: 30226608001, 30226608002, 30226608003, 30226608004, 30226608005, 30226608006, 30226608007, 30226608008, 30226608009, 30226608010, 30226608011, 30226608012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/10/17 23:37	
Zinc	ug/L	10.0 U	10.0	1.1	08/10/17 23:37	

LABORATORY CONTROL SAMPLE: 1318557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	500	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1318559 1318560

Parameter	Units	30226608001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.5	500	500	515	527	101	103	75-125	2	20	
Zinc	ug/L	35300	500	500	37500	37600	438	454	75-125	0	20 MH	

MATRIX SPIKE SAMPLE: 1318562

Parameter	Units	30226608011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	7.0	500	529	104	75-125	
Zinc	ug/L	5090	500	5630	107	75-125	

SAMPLE DUPLICATE: 1318558

Parameter	Units	30226608001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.5	11.7	2	20	
Zinc	ug/L	35300	37500	6	20	

SAMPLE DUPLICATE: 1318561

Parameter	Units	30226608011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	7.0	7.3	4	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.

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

SAMPLE DUPLICATE: 1318561

Parameter	Units	30226608011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	5090	5330	5	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.

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

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### 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.

### 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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226608001	RW05-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608002	RW07-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608003	RW07-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608004	RW09-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608005	RW09-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608006	RW08-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608007	RW08-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608008	RW11-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608009	RW11-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608010	Field Blank	EPA 3005A	267930	EPA 6010C	268014
30226608011	RW12-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608012	RW12-MW(I)	EPA 3005A	267930	EPA 6010C	268014

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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.

<b>Section A</b> Required Client Information: Company: <b>EnviroAnalytics Group</b>		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b>		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b>		Page: <u>1</u> of <u>1</u>	
Address: <b>1600 Sparrows Point Blvd, Suite B2</b> <b>Sparrows Point, MD 21219</b>		Copy To: <b>Stewart Kabis</b>		Company Name: <b>EnviroAnalytics Group</b>		<b>REGULATORY AGENCY</b> <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: <b>lcalenda@enviroanalyticsgroup.com</b>		Purchase Order No.:		Address: <b>1660 Des Peres Road, Suite 303 St. Louis, MO 63131</b>		Site Location: <b>MD</b>	
Phone: <b>314-620-3056</b> Fax:		Project Name: <b>Rod and Wire Mill GW Sampling</b>		Pace Quote Reference:		State: <b>MD</b>	
Requested Due Date/TAT: <b>5 Day</b>		Project Number: <b>170384M-1</b>		Pace Project Manager: <b>Samantha Bayura</b>			

ITEM #	Valid Matrix Codes	MATRIX CODE	MIXTURE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residue	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB						
1	DRINKING WATER	DW	10/16	08/17/08	10:34	1	1	Unpreserved	Y	Total Zinc 6010	001
2	WASTE WATER	WW	10/16	1918	1	1	1	Unpreserved	Y	Total Cadmium 6010	002
3	WASTE WATER PRODUCT	WP	10/16	10:34	1	1	1	Unpreserved	Y	Analysis Test	003
4	SOIL/SOLID	SL	10/16	11:07	1	1	1	Unpreserved	Y		004
5	OIL	OL	10/16	11:50	1	1	1	Unpreserved	Y		005
6	WASTE WATER	WW	10/16	12:17	1	1	1	Unpreserved	Y		006
7	WASTE WATER	WW	10/16	13:33	1	1	1	Unpreserved	Y		007
8	WASTE WATER	WW	10/16	13:40	1	1	1	Unpreserved	Y		008
9	WASTE WATER	WW	10/16	13:50	1	1	1	Unpreserved	Y		009
10	FIELD Blank	FB	10/16	14:20	1	1	1	Unpreserved	Y		010
11	WASTE WATER	WW	10/16	14:20	1	1	1	Unpreserved	Y		011
12	WASTE WATER	WW	10/16	14:43	1	1	1	Unpreserved	Y		012

**WO# : 30226608**

30226608

ADDITIONAL COMMENTS	REINQUIRED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package	David S. Williams	08/17	15:45	David S. Williams	08/17	18:20	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Temp in °C <input type="checkbox"/>
Data Val	David S. Williams	08/17	18:20	David S. Williams	08/17	18:20	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Temp in °C <input type="checkbox"/>
	David S. Williams	08/17	21:50	David S. Williams	08/17	21:50	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Temp in °C <input type="checkbox"/>

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: **Laura M. Calenda**  
 SIGNATURE of SAMPLER: *Laura M. Calenda*  
 DATE Signed (MM/DD/YY): **08/18/17**

\*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



Client Name: Enviro Ana. Project # 30226608

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Face 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 8    Type of Ice:  Wat  Blue  None  
 Cooler Temperature    Observed Temp 2.0 °C    Correction Factor: +0.0 °C    Final Temp: 2.0 °C  
 Temp should be above freezing to 6°C

Date and initials of person examining contents: AML 8-7-17

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: -Includes date/time/ID    Matrix: <u>WT</u>		X		6. Sample 007 ID on bottle is <u>RW09-mw(I)</u> but date/time match
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: -Pace Containers Used:	X			10.
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>AML</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.

August 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.: 30226710

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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.: 30226710

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226710001	RW14-MW(S)	Water	08/09/17 09:45	08/09/17 22:30
30226710002	RW13-MW(I)	Water	08/09/17 10:23	08/09/17 22:30
30226710003	RW18-MW(S)	Water	08/09/17 11:04	08/09/17 22:30
30226710004	RW18-MW(I)	Water	08/09/17 11:40	08/09/17 22:30
30226710005	RW17-MW(S)	Water	08/09/17 12:25	08/09/17 22:30
30226710006	RW19-MW(S)	Water	08/09/17 13:50	08/09/17 22:30
30226710007	Duplicate	Water	08/09/17 00:01	08/09/17 22:30
30226710008	RW19-MW(I)	Water	08/09/17 14:11	08/09/17 22:30
30226710009	Field Blank	Water	08/09/17 14:20	08/09/17 22:30
30226710010	RW10-MW(I)	Water	08/09/17 14:45	08/09/17 22:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226710001	RW14-MW(S)	EPA 6010C	PJD	2
30226710002	RW13-MW(I)	EPA 6010C	PJD	2
30226710003	RW18-MW(S)	EPA 6010C	PJD	2
30226710004	RW18-MW(I)	EPA 6010C	PJD	2
30226710005	RW17-MW(S)	EPA 6010C	PJD	2
30226710006	RW19-MW(S)	EPA 6010C	PJD	2
30226710007	Duplicate	EPA 6010C	PJD	2
30226710008	RW19-MW(I)	EPA 6010C	PJD	2
30226710009	Field Blank	EPA 6010C	PJD	2
30226710010	RW10-MW(I)	EPA 6010C	PJD	2

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 14, 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.

QC Batch: 268069

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226710005

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

- MS (Lab ID: 1319589)
  - Cadmium
  - Zinc

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

- MSD (Lab ID: 1319590)
  - Cadmium
  - Zinc

### 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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW14-MW(S)</b>									
<b>Lab ID: 30226710001</b>									
Collected: 08/09/17 09:45    Received: 08/09/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1780</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 22:54	7440-43-9	
Zinc	<b>42000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW13-MW(I)</b>									
<b>Lab ID: 30226710002</b>									
Collected: 08/09/17 10:23    Received: 08/09/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>31800</b>	ug/L	300	34.4	100	08/11/17 08:14	08/12/17 00:24	7440-43-9	
Zinc	<b>308000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:24	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW18-MW(S)		Lab ID: 30226710003		Collected: 08/09/17 11:04		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>34.9</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:22	7440-43-9	
Zinc	<b>964</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/11/17 23:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW18-MW(I)		Lab ID: 30226710004		Collected: 08/09/17 11:40		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>74.4</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:24	7440-43-9	
Zinc	<b>290000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:27	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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**Sample: RW17-MW(S)**      **Lab ID: 30226710005**      Collected: 08/09/17 12:25      Received: 08/09/17 22:30      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>4760</b>	ug/L	300	34.4	100	08/11/17 08:14	08/12/17 00:07	7440-43-9	MH,ML
Zinc	<b>297000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:07	7440-66-6	MH,ML

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW19-MW(S)		Lab ID: 30226710006		Collected: 08/09/17 13:50		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	7.2	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:27	7440-43-9	
Zinc	3360	ug/L	10.0	1.1	1	08/11/17 08:14	08/11/17 23:27	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: Duplicate</b>									
<b>Lab ID: 30226710007</b>									
Collected: 08/09/17 00:01    Received: 08/09/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1840</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:30	7440-43-9	
Zinc	<b>45500</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:29	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW19-MW(I)		Lab ID: 30226710008		Collected: 08/09/17 14:11	Received: 08/09/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1670</b>	ug/L	30.0	3.4	10	08/11/17 08:14	08/12/17 00:42	7440-43-9		
Zinc	<b>3360000</b>	ug/L	100000	10800	10000	08/11/17 08:14	08/12/17 00:53	7440-66-6		

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: Field Blank		Lab ID: 30226710009	Collected: 08/09/17 14:20	Received: 08/09/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.71J</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:35	7440-43-9	
Zinc	<b>10.0 U</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/12/17 00:55	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW10-MW(I)</b>									
<b>Lab ID: 30226710010</b>									
Collected: 08/09/17 14:45    Received: 08/09/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:37	7440-43-9	
Zinc	<b>79.7</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/12/17 00:50	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

QC Batch: 268069 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30226710001, 30226710002, 30226710003, 30226710004, 30226710005, 30226710006, 30226710007, 30226710008, 30226710009, 30226710010

METHOD BLANK: 1319583 Matrix: Water  
Associated Lab Samples: 30226710001, 30226710002, 30226710003, 30226710004, 30226710005, 30226710006, 30226710007, 30226710008, 30226710009, 30226710010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/11/17 22:34	
Zinc	ug/L	10.0 U	10.0	1.1	08/11/17 22:34	

LABORATORY CONTROL SAMPLE: 1319584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	534	107	80-120	
Zinc	ug/L	500	527	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1319589 1319590

Parameter	Units	30226710005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	4760	500	500	5600	5050	166	57	75-125	10	20	MH,ML
Zinc	ug/L	297000	500	500	308000	275000	2180	-4400	75-125	11	20	MH,ML

SAMPLE DUPLICATE: 1319588

Parameter	Units	30226710005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	4760	4600	4	20	
Zinc	ug/L	297000	284000	4	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: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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### 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.

### ANALYTE QUALIFIERS

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.: 30226710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226710001	RW14-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710002	RW13-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710003	RW18-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710004	RW18-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710005	RW17-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710006	RW19-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710007	Duplicate	EPA 3005A	268069	EPA 6010C	268166
30226710008	RW19-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710009	Field Blank	EPA 3005A	268069	EPA 6010C	268166
30226710010	RW10-MW(I)	EPA 3005A	268069	EPA 6010C	268166

### 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: **icalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3056** Fax:  
Requested Due Date/TAT: **5 Day**

Report To: **James Calenda**  
Copy To: **Stewart Kabis**  
Purchase Order No.:  
Project Name: **Rod and Wire Mill GW Sampling**  
Project Number: **170384M-1**

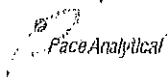
Attention: **Laura Sargent**  
Company Name: **EnviroAnalytics Group**  
Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**  
Reference:  
Pace Project Manager: **Samantha Bayura**  
Pace Profile #:  
REGULATORY AGENCY:  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
Site Location: **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 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)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DATE	TIME	DATE	TIME	DATE				TIME
1	RW14-MWS				WT G		1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	X	X	001
2	RW13-MWT						1									X	X	002
3	RW18-MWS						1									X	X	003
4	RW18-MWT						1									X	X	004
5	RW17-MWS						3									X	X	005
6	RW19-MWS						1									X	X	006
7	Duplicate						1									X	X	007
8	RW19-MWT						1									X	X	008
9	Field Blank						1									X	X	009
10	RW10-MWT						1									X	X	010
11																		
12																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package	David St. Clair	8/19/17	1535	David St. Clair	8/17/17	1605	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Cooler (Y/N) <input type="checkbox"/> Samples Intact (Y/N) <input type="checkbox"/>
Data Val	David St. Clair	8/17/17	1810	David St. Clair	8/17/17	1630	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Cooler (Y/N) <input type="checkbox"/> Samples Intact (Y/N) <input type="checkbox"/>
	John Leonard	8/17/17	2235	John Leonard	8/17/17	2230	Received on Ice (Y/N) <input type="checkbox"/> Custody Sealed (Y/N) <input type="checkbox"/> Cooler (Y/N) <input type="checkbox"/> Samples Intact (Y/N) <input type="checkbox"/>

SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: **Laura M. Calenda**  
SIGNATURE of SAMPLER: *[Signature]*  
DATE Signed (MM/DD/YY): **08/09/17**

Sample Condition Upon Receipt Pittsburgh



Client Name: Enviro Ana

Project # 30226710

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Face Other \_\_\_\_\_

Label	<u>AMC</u>
LIMS Login	<u>PAM</u>

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 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: AMC 8-10-17

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: VOA, 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 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.



August 15, 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.: 30226816

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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,



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.: 30226816

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226816

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226816001	RW01-MW(S)	Water	08/10/17 11:41	08/10/17 23:05
30226816002	RW01-MW(I)	Water	08/10/17 12:15	08/10/17 23:05
30226816003	RW22-MW(S)	Water	08/10/17 13:12	08/10/17 23:05
30226816004	RW22-MW(I)	Water	08/10/17 13:55	08/10/17 23:05
30226816005	RW02-MW(S)	Water	08/10/17 14:30	08/10/17 23:05
30226816006	RW02-MW(I)	Water	08/10/17 15:02	08/10/17 23:05

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226816001	RW01-MW(S)	EPA 6010C	PJD	2
30226816002	RW01-MW(I)	EPA 6010C	PJD	2
30226816003	RW22-MW(S)	EPA 6010C	PJD	2
30226816004	RW22-MW(I)	EPA 6010C	PJD	2
30226816005	RW02-MW(S)	EPA 6010C	PJD	2
30226816006	RW02-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.: 30226816

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** August 15, 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.

QC Batch: 268258

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226816001

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

- MS (Lab ID: 1320658)
- Zinc

### 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Sample: RW01-MW(S)		Lab ID: 30226816001	Collected: 08/10/17 11:41	Received: 08/10/17 23:05	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.6J</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:27	7440-43-9	
Zinc	<b>12200</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 21:59	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Sample: RW01-MW(I)		Lab ID: 30226816002		Collected: 08/10/17 12:15	Received: 08/10/17 23:05	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>194</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:41	7440-43-9	
Zinc	<b>11600</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:14	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226816

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW22-MW(S)</b>									
<b>Lab ID: 30226816003</b>									
Collected: 08/10/17 13:12    Received: 08/10/17 23:05    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>4.9</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:43	7440-43-9	
Zinc	<b>550</b>	ug/L	10.0	1.1	1	08/14/17 10:50	08/14/17 21:43	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

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**Sample: RW22-MW(I)**      **Lab ID: 30226816004**      Collected: 08/10/17 13:55      Received: 08/10/17 23:05      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>19.3</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:51	7440-43-9	
Zinc	<b>1730</b>	ug/L	10.0	1.1	1	08/14/17 10:50	08/14/17 21:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

<b>Sample: RW02-MW(S)</b>		<b>Lab ID: 30226816005</b>		Collected: 08/10/17 14:30	Received: 08/10/17 23:05	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.0</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:53	7440-43-9	
Zinc	<b>6290</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:26	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW02-MW(I)</b>									
<b>Lab ID: 30226816006</b>									
Collected: 08/10/17 15:02    Received: 08/10/17 23:05    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>511</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:56	7440-43-9	
Zinc	<b>18200</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:28	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

QC Batch: 268258

Analysis Method: EPA 6010C

QC Batch Method: EPA 3005A

Analysis Description: 6010C MET

Associated Lab Samples: 30226816001, 30226816002, 30226816003, 30226816004, 30226816005, 30226816006

METHOD BLANK: 1320655

Matrix: Water

Associated Lab Samples: 30226816001, 30226816002, 30226816003, 30226816004, 30226816005, 30226816006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/14/17 21:22	
Zinc	ug/L	10.0 U	10.0	1.1	08/14/17 21:22	

LABORATORY CONTROL SAMPLE: 1320656

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	501	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1320658 1320659

Parameter	Units	30226816001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Cadmium	ug/L	1.6J	500	513	512	512	102	102	75-125	0	20	
Zinc	ug/L	12200	500	12900	12900	12900	130	122	75-125	0	20 MH	

SAMPLE DUPLICATE: 1320657

Parameter	Units	30226816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.6J	1.3J		20	
Zinc	ug/L	12200	11600	6	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: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

---

### 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.

### 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226816001	RW01-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816002	RW01-MW(I)	EPA 3005A	268258	EPA 6010C	268316
30226816003	RW22-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816004	RW22-MW(I)	EPA 3005A	268258	EPA 6010C	268316
30226816005	RW02-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816006	RW02-MW(I)	EPA 3005A	268258	EPA 6010C	268316

### 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.

<b>Section A</b> Required Client Information: Company: <b>EnviroAnalytics Group</b>		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b>		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b>	
Address: <b>1600 Sparrows Point Blvd, Suite B2</b> <b>Sparrows Point, MD 21219</b>		Copy To: <b>Stewart Kabis</b>		Company Name: <b>EnviroAnalytics Group</b>	
Email To: <b>jcalenda@enviroanalyticsgroup.com</b>		Purchase Order No.:		Address: <b>1650 Des Peres Road, Suite 303 St. Louis, MO 63131</b>	
Phone: <b>314-620-3056</b> Fax:		Project Name: <b>Rod and Wire Mill GW Sampling</b>		Pace Quote Reference:	
Requested Due Date/TAT: <b>5 Day</b>		Project Number: <b>170354147</b>		Pace Project Manager: <b>Samantha Bayura</b>	
				Site Location: <b>MD</b> STATE:	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID S 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 Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Y/N Analysis Test ↑ Total Cadmium 6010 Total Zinc 6010	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
		COMPOSITE START	COMPOSITE END/GRAB							
1	RW01-MWS			WQ		1				001
2	RW01-MWP					1				002
3	RW02-MUG					1				003
4	RW02-MUP					1				004
5	RW02-MUS					1				005
6	RW02-MUG					1				006
7										
8										
9										
10										
11										
12										

WO#: 30226816

30226816

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
data package	<i>[Signature]</i>	8/10/17	1615	<i>[Signature]</i>	8/10/17	1625	
data New	<i>[Signature]</i>	8/10/17	1345	<i>[Signature]</i>	8/10/17	1845	
	<i>[Signature]</i>	8/17/17	2305	<i>[Signature]</i>	8/17/17	2015	Y

Temp In °C

Received on Ice (Y/N)

Custody Sealed (Y/N)

Cooler (Y/N)

Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: *[Signature]*

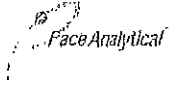
SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YYYY): 08/10/17

\*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

30226816



Client Name: EnviroAqua Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Face Other \_\_\_\_\_

Label	<u>ATM</u>
LIMS Login	<u>BLM</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 2.0 °C Correction Factor: 10.0 °C Final Temp: 2.0 °C  
 Temp should be above freezing to 6°C

Date and initials of person examining contents: ATM 8-11-17

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.
-Face 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>ATM</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.



December 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 04, 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.: 30237587

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237587001	RW12-MW(I)	Water	12/04/17 12:15	12/04/17 23:00
30237587002	RW12-MW(S)	Water	12/04/17 12:50	12/04/17 23:00
30237587003	RW18-MW(S)	Water	12/04/17 14:00	12/04/17 23:00
30237587004	RW18-MW(I)	Water	12/04/17 14:30	12/04/17 23:00

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### SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237587001	RW12-MW(I)	EPA 6010C	KAS	2
30237587002	RW12-MW(S)	EPA 6010C	KAS	2
30237587003	RW18-MW(S)	EPA 6010C	KAS	2
30237587004	RW18-MW(I)	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** December 08, 2017

### General Information:

4 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: 281220

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30237587001

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

- MS (Lab ID: 1380294)
  - Zinc
- MSD (Lab ID: 1380295)
  - Zinc

### 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: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Sample: RW12-MW(I)		Lab ID: 30237587001		Collected: 12/04/17 12:15	Received: 12/04/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1450</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:05	7440-43-9	
Zinc	<b>157000</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:35	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW12-MW(S)</b>									
<b>Lab ID: 30237587002</b>									
Collected: 12/04/17 12:50    Received: 12/04/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:20	7440-43-9	
Zinc	<b>2980</b>	ug/L	10.0	1.0	1	12/05/17 15:15	12/07/17 16:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Sample: RW18-MW(S)		Lab ID: 30237587003		Collected: 12/04/17 14:00		Received: 12/04/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>410</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:22	7440-43-9	
Zinc	<b>23400</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW18-MW(I)</b>									
<b>Lab ID: 30237587004</b>									
Collected: 12/04/17 14:30    Received: 12/04/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>51.5</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:30	7440-43-9	
Zinc	<b>369000</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:52	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

QC Batch: 281220 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30237587001, 30237587002, 30237587003, 30237587004

METHOD BLANK: 1380291 Matrix: Water  
Associated Lab Samples: 30237587001, 30237587002, 30237587003, 30237587004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/07/17 16:00	
Zinc	ug/L	10.0 U	10.0	1.0	12/07/17 16:00	

LABORATORY CONTROL SAMPLE: 1380292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	504	101	80-120	
Zinc	ug/L	500	497	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1380294 1380295

Parameter	Units	30237587001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1450	500	500	1920	1920	95	94	75-125	0	20	
Zinc	ug/L	157000	500	500	154000	154000	-540	-660	75-125	0	20 ML	

SAMPLE DUPLICATE: 1380293

Parameter	Units	30237587001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1450	1440	0	20	
Zinc	ug/L	157000	154000	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: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

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### 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.

### ANALYTE QUALIFIERS

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 & Wire Mill GW Sampling  
Pace Project No.: 30237587

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237587001	RW12-MW(I)	EPA 3005A	281220	EPA 6010C	281283
30237587002	RW12-MW(S)	EPA 3005A	281220	EPA 6010C	281283
30237587003	RW18-MW(S)	EPA 3005A	281220	EPA 6010C	281283
30237587004	RW18-MW(I)	EPA 3005A	281220	EPA 6010C	281283

### REPORT OF LABORATORY ANALYSIS

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**CHAIN-O**  
The Chain-of-Cut  
**WO# : 30237587**

Page: \_\_\_\_\_ of \_\_\_\_\_

**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: 5 days

**Section B**  
Required Project Information:  
Report To: James Calenda  
Copy To: Stuart Kebab  
Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
Attention: Laura Sargent  
Site Location: MD  
STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes	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 Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
					COMPOSITE START	COMPOSITE END/DUR									
1	RW12 - MW (I)	DRINKING WATER	DW WT	WTG	12-40	12:15	1	1	Unpreserved	X					
2	RW12 - MW (S)	WASTE WATER	WW	WTG		12:50	1	1	Unpreserved	X					
3	RW18 - MW (S)	WASTE WATER PRODUCT	P	WTG		14:00	1	1	Unpreserved	X					
4	RW18 - MW (I)	SOL/SOLID	SL	WTG		14:30	1	1	Unpreserved	X					
5		WASTE WATER	WW												
6		WASTE WATER PRODUCT	P												
7		WASTE WATER PRODUCT SOL/SOLID	SL												
8		WASTE WATER PRODUCT SOL/SOLID	SL												
9		WASTE WATER PRODUCT SOL/SOLID	SL												
10		WASTE WATER PRODUCT SOL/SOLID	SL												
11		WASTE WATER PRODUCT SOL/SOLID	SL												
12		WASTE WATER PRODUCT SOL/SOLID	SL												

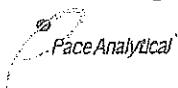
**ADDITIONAL COMMENTS**  
Data Package Required? (Y/N):  
Data Validation Required? (Y/N):  
If data package is required, attach data package checklist.

**RELINQUISHED BY / AFFILIATION**  
DATE: 12-4-12  
TIME: 15:00  
Signature: David Hollander

**ACCEPTED BY / AFFILIATION**  
DATE: 12-4-17  
TIME: 2:00  
Signature: B.M. Minton

**DATE SIGNED (MM/DD/YYYY):** 12/4/17

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Sparrows

Project # 30237587

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label BLM  
LIMS Login BLM

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 2.6 °C Correction Factor: 0.0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BLM 12-5-17

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. ID on sample 004 is RW12-MWI
-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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/	/		16.
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):			/	17.
Trip Blank Present:			/	18.
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.

December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 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 & Wire Mill GW Sampling

Pace Project No.: 30237714

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### 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.: 30237714

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237714001	<del>RW20-MWI</del> RW15-MW(I)	Water	12/05/17 09:00	12/05/17 23:00
30237714002	<del>RW20-MWS</del> RW15-MW(S)	Water	12/05/17 09:20	12/05/17 23:00
30237714003	RW14-MWS	Water	12/05/17 09:50	12/05/17 23:00
30237714004	RW16-MWI	Water	12/05/17 10:17	12/05/17 23:00
30237714005	RW16-MWS	Water	12/05/17 10:46	12/05/17 23:00
30237714006	RW19-MWS	Water	12/05/17 11:17	12/05/17 23:00
30237714007	RW19-MWI	Water	12/05/17 11:42	12/05/17 23:00
30237714008	RW13-MWI	Water	12/05/17 12:21	12/05/17 23:00
30237714009	RW11-MWI	Water	12/05/17 13:36	12/05/17 23:00
30237714010	RW11-MWS	Water	12/05/17 14:00	12/05/17 23:00
30237714011	RW10-MWI	Water	12/05/17 14:50	12/05/17 23:00

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### SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237714001	RW20-MWI	EPA 6010C	KAS	2
30237714002	RW20-MWS	EPA 6010C	KAS	2
30237714003	RW14-MWS	EPA 6010C	KAS	2
30237714004	RW16-MWI	EPA 6010C	KAS	2
30237714005	RW16-MWS	EPA 6010C	KAS	2
30237714006	RW19-MWS	EPA 6010C	KAS	2
30237714007	RW19-MWI	EPA 6010C	KAS	2
30237714008	RW13-MWI	EPA 6010C	KAS	2
30237714009	RW11-MWI	EPA 6010C	KAS	2
30237714010	RW11-MWS	EPA 6010C	KAS	2
30237714011	RW10-MWI	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 12, 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:**

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.: 30237714

Sample: RW20-MWI		Lab ID: 30237714001		Collected: 12/05/17 09:00		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.97J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:36	7440-43-9	
Zinc	<b>1070</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 14:36	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW20-MWS</b>									
<b>Lab ID: 30237714002</b>									
Collected: 12/05/17 09:20    Received: 12/05/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>55.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:51	7440-43-9	
Zinc	<b>7630</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Sample: RW14-MWS		Lab ID: 30237714003		Collected: 12/05/17 09:50	Received: 12/05/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2820</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:53	7440-43-9	
Zinc	<b>49200</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:16	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW16-MWI		Lab ID: 30237714004		Collected: 12/05/17 10:17		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.9J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:01	7440-43-9	
Zinc	<b>19200</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW16-MWS		Lab ID: 30237714005		Collected: 12/05/17 10:46		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:03	7440-43-9	
Zinc	<b>27.7</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:03	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW19-MWS		Lab ID: 30237714006		Collected: 12/05/17 11:17		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.6</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:06	7440-43-9	
Zinc	<b>3380</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:06	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW19-MWI		Lab ID: 30237714007		Collected: 12/05/17 11:42		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1710</b>	ug/L	300	87.0	100	12/08/17 17:00	12/11/17 16:21	7440-43-9	
Zinc	<b>3970000</b>	ug/L	10000	1040	1000	12/08/17 17:00	12/11/17 16:48	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW13-MWI</b>									
<b>Lab ID: 30237714008</b>									
Collected: 12/05/17 12:21    Received: 12/05/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>44.2</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:52	7440-43-9	
Zinc	<b>237</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:52	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Sample: RW11-MWI		Lab ID: 30237714009		Collected: 12/05/17 13:36	Received: 12/05/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1380</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:13	7440-43-9	
Zinc	<b>197000</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:50	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW11-MWS      Lab ID: 30237714010      Collected: 12/05/17 14:00      Received: 12/05/17 23:00      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2.9J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:16	7440-43-9	
Zinc	<b>24000</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:26	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW10-MWI</b>									
<b>Lab ID: 30237714011</b>									
Collected: 12/05/17 14:50									
Received: 12/05/17 23:00									
Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:18	7440-43-9	
Zinc	<b>158</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

QC Batch: 281745 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30237714001, 30237714002, 30237714003, 30237714004, 30237714005, 30237714006, 30237714007, 30237714008, 30237714009, 30237714010, 30237714011

METHOD BLANK: 1382890 Matrix: Water  
Associated Lab Samples: 30237714001, 30237714002, 30237714003, 30237714004, 30237714005, 30237714006, 30237714007, 30237714008, 30237714009, 30237714010, 30237714011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 14:31	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 14:31	

LABORATORY CONTROL SAMPLE: 1382891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	966	97	80-120	
Zinc	ug/L	1000	977	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1382893 1382894

Parameter	Units	30237714001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	0.97J	1000	1000	991	1000	99	100	75-125	1	20	
Zinc	ug/L	1070	1000	1000	2020	2050	95	98	75-125	1	20	

MATRIX SPIKE SAMPLE: 1382896

Parameter	Units	30237714011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	1000	981	98	75-125	
Zinc	ug/L	158	1000	1140	98	75-125	

SAMPLE DUPLICATE: 1382892

Parameter	Units	30237714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.97J	0.89J		20	
Zinc	ug/L	1070	1070	0	20	

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		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.

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**QUALITY CONTROL DATA**

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	158	145	8	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.

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237714001	RW20-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714002	RW20-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714003	RW14-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714004	RW16-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714005	RW16-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714006	RW19-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714007	RW19-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714008	RW13-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714009	RW11-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714010	RW11-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714011	RW10-MWI	EPA 3005A	281745	EPA 6010C	281763

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CHAIN-OF-CUSTODY NO#: 30237714

The Chain-of-Custody



Page: \_\_\_\_\_ of \_\_\_\_\_

**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: 5 day

**Section B**  
Required Project Information:

Report To: James Calenda  
 Copy To: Shwartz Katois  
 Attention: Laura Sargent  
 Company Name: EnviroAnalytics Group  
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
 PO Number:  
 Project Name: Robert Wood Mill (as per project)  
 Project Number: 1703BYM-101  
 Site Location: MD  
 State: MD

REGULATORY AGENCY  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

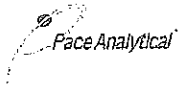
ITEM #	Valid Matrix Codes MATRIX DRINKING WATER WASTE WATER PRODUCT SOLIDS OIL WIFE AIR OTHER TISSUE	Valid Matrix Codes CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE ENIGRAB									
1	RW20 - MWI		WT G	G		12-5-11	1400		1						001
2	RW20 - MWS		WT G	G		12-5-11	1420		1						002
3	RW14 - MWS		WT G	G		12-5-11	1450		1						003
4	RW16 - MWI		WT G	G		12-5-11	1417		1						004
5	RW16 - MWS		WT G	G		12-5-11	1440		1						005
6	RW14 - MWS		WT G	G		12-5-11	1417		1						006
7	RW14 - MWI		WT G	G		12-5-11	1442		1						007
8	RW13 - MWI		WT G	G		12-5-11	1421		1						008
9	RW11 - MWI		WT G	G		12-5-11	1336		1						009
10	RW11 - MWS		WT G	G		12-5-11	1400		1						010
11	RW10 - MWI		WT G	G		12-5-11	1450		1						011
12															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N):	James Calenda	12-5-11	1530	Lisa Ann	12-5-11	1530	1600
Data Validation Required? (Y/N):	Roneda Sargent	12-5-11	1915	Roneda Sargent	12-5-11	1905	
If data package is required, attach data package checklist.	Roneda Sargent	12-5-11	2300	Melissa J. H.	12-5-11	2300	Y N Y

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: Lisa Ann  
 SIGNATURE OF SAMPLER: [Signature]  
 DATE Signed (MM/DD/YY): 12-5-11

Pittsburgh Lab Sample Condition Upon Receipt

30 237714



Client Name: Enviro Analytics Group Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>34</u>
LIMS Login	<u>BIM</u>

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 4.3 °C Correction Factor: 0.0 °C Final Temp: 4.3 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents:	<u>ML 12-6-17</u>
---	-------------------

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>ML</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 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&Wire Mill GW Sampling  
Pace Project No.: 30237862

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237862001	RW09-MWI	Water	12/06/17 10:23	12/06/17 23:00
30237862002	RW09-MWS	Water	12/06/17 10:50	12/06/17 23:00
30237862003	RW07-MWS	Water	12/06/17 11:28	12/06/17 23:00
30237862004	RW07-MWI	Water	12/06/17 11:56	12/06/17 23:00
30237862005	RW08-MWI	Water	12/06/17 12:29	12/06/17 23:00
30237862006	RW08-MWS	Water	12/06/17 13:00	12/06/17 23:00
30237862007	RW06-MWD	Water	12/06/17 13:53	12/06/17 23:00
30237862008	RW06-MWS	Water	12/06/17 14:25	12/06/17 23:00
30237862009	RW06-MWI	Water	12/06/17 14:48	12/06/17 23:00

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### SAMPLE ANALYTE COUNT

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237862001	RW09-MWI	EPA 6010C	KAS	2
30237862002	RW09-MWS	EPA 6010C	KAS	2
30237862003	RW07-MWS	EPA 6010C	KAS	2
30237862004	RW07-MWI	EPA 6010C	KAS	2
30237862005	RW08-MWI	EPA 6010C	KAS	2
30237862006	RW08-MWS	EPA 6010C	KAS	2
30237862007	RW06-MWD	EPA 6010C	KAS	2
30237862008	RW06-MWS	EPA 6010C	KAS	2
30237862009	RW06-MWI	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 12, 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: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30237862001</b>	Collected: 12/06/17 10:23	Received: 12/06/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.7</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:31	7440-43-9	
Zinc	<b>44500</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:29	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW09-MWS      Lab ID: 30237862002      Collected: 12/06/17 10:50      Received: 12/06/17 23:00      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>9.2</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:33	7440-43-9	
Zinc	<b>8550</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:31	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MWS      Lab ID: 30237862003      Collected: 12/06/17 11:28      Received: 12/06/17 23:00      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>6.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:36	7440-43-9	
Zinc	<b>216</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:36	7440-66-6	

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### ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

**Sample: RW07-MWI**      **Lab ID: 30237862004**      Collected: 12/06/17 11:56      Received: 12/06/17 23:00      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1.7J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:38	7440-43-9	
Zinc	<b>39.8</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:38	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW08-MWI		Lab ID: 30237862005		Collected: 12/06/17 12:29		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:40	7440-43-9	
Zinc	<b>21.4</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:40	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW08-MWS		Lab ID: 30237862006		Collected: 12/06/17 13:00		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:43	7440-43-9	
Zinc	<b>1770</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:43	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Sample: RW06-MWD		Lab ID: 30237862007		Collected: 12/06/17 13:53		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.4J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:45	7440-43-9	
Zinc	<b>30.6</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:45	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW06-MWS		Lab ID: 30237862008		Collected: 12/06/17 14:25	Received: 12/06/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:48	7440-43-9	
Zinc	<b>156</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:48	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30237862009</b>		Collected: 12/06/17 14:48	Received: 12/06/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.1</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:50	7440-43-9	
Zinc	<b>1360</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:50	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

QC Batch: 281745 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30237862001, 30237862002, 30237862003, 30237862004, 30237862005, 30237862006, 30237862007, 30237862008, 30237862009

METHOD BLANK: 1382890 Matrix: Water  
Associated Lab Samples: 30237862001, 30237862002, 30237862003, 30237862004, 30237862005, 30237862006, 30237862007, 30237862008, 30237862009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 14:31	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 14:31	

LABORATORY CONTROL SAMPLE: 1382891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	966	97	80-120	
Zinc	ug/L	1000	977	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1382893 1382894

Parameter	Units	30237714001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	0.97J	1000	1000	991	1000	99	100	75-125	1	20	
Zinc	ug/L	1070	1000	1000	2020	2050	95	98	75-125	1	20	

MATRIX SPIKE SAMPLE: 1382896

Parameter	Units	30237714011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	1000	981	98	75-125	
Zinc	ug/L	158	1000	1140	98	75-125	

SAMPLE DUPLICATE: 1382892

Parameter	Units	30237714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.97J	0.89J		20	
Zinc	ug/L	1070	1070	0	20	

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		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: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	158	145	8	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.

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## QUALIFIERS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

---

### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237862001	RW09-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862002	RW09-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862003	RW07-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862004	RW07-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862005	RW08-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862006	RW08-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862007	RW06-MWD	EPA 3005A	281745	EPA 6010C	281763
30237862008	RW06-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862009	RW06-MWI	EPA 3005A	281745	EPA 6010C	281763

### REPORT OF LABORATORY ANALYSIS

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Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Envirom

Project # 30237862

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label \_\_\_\_\_  
LIMS Login BLM

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 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: 12-7-17 CAC

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>CAC</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
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.



December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 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&Wire Mill GW Sampling  
Pace Project No.: 30238010

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### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30238010001	RW04-MWS	Water	12/07/17 10:30	12/07/17 23:10
30238010002	RW03-MWS	Water	12/07/17 11:03	12/07/17 23:10
30238010003	RW03-MWI	Water	12/07/17 11:25	12/07/17 23:10
30238010004	<del>RW21-MWI</del> RW22-MWI	Water	12/07/17 11:58	12/07/17 23:10
30238010005	<del>RW22-MWI</del> RW05-MWI	Water	12/07/17 12:58	12/07/17 23:10
30238010006	RW01-MWI	Water	12/07/17 14:22	12/07/17 23:10
30238010007	RW01-MWS	Water	12/07/17 14:45	12/07/17 23:10

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30238010001	RW04-MWS	EPA 6010C	CTS	2
30238010002	RW03-MWS	EPA 6010C	CTS	2
30238010003	RW03-MWI	EPA 6010C	CTS	2
30238010004	RW21-MWI	EPA 6010C	CTS	2
30238010005	RW22-MWI	EPA 6010C	CTS	2
30238010006	RW01-MWI	EPA 6010C	CTS	2
30238010007	RW01-MWS	EPA 6010C	CTS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** December 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:**

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.: 30238010

Sample: RW04-MWS		Lab ID: 30238010001		Collected: 12/07/17 10:30	Received: 12/07/17 23:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:40	7440-43-9	
Zinc	<b>279</b>	ug/L	10.0	1.0	1	12/08/17 17:02	12/11/17 12:40	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MWS      Lab ID: 30238010002      Collected: 12/07/17 11:03      Received: 12/07/17 23:10      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>11.4</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:54	7440-43-9	
Zinc	<b>46400</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:34	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Sample: RW03-MWI		Lab ID: 30238010003		Collected: 12/07/17 11:25		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>154</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:56	7440-43-9	
Zinc	<b>6270</b>	ug/L	100	10.4	10	12/08/17 17:02	12/11/17 13:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

<b>Sample: RW21-MWI</b>		<b>Lab ID: 30238010004</b>		Collected: 12/07/17 11:58	Received: 12/07/17 23:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>15.2</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:03	7440-43-9	
Zinc	<b>19500</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:39	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

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**Sample: RW22-MWI**      **Lab ID: 30238010005**      Collected: 12/07/17 12:58      Received: 12/07/17 23:10      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2.7J</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:06	7440-43-9	
Zinc	<b>205</b>	ug/L	10.0	1.0	1	12/08/17 17:02	12/11/17 13:06	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30238010006</b>	Collected: 12/07/17 14:22	Received: 12/07/17 23:10	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>37.5</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:08	7440-43-9	
Zinc	<b>41000</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:41	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

<b>Sample: RW01-MWS</b>		<b>Lab ID: 30238010007</b>		Collected: 12/07/17 14:45	Received: 12/07/17 23:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>98.0</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:11	7440-43-9	
Zinc	<b>7300</b>	ug/L	100	10.4	10	12/08/17 17:02	12/11/17 13:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

QC Batch: 281746 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30238010001, 30238010002, 30238010003, 30238010004, 30238010005, 30238010006, 30238010007

METHOD BLANK: 1382897 Matrix: Water  
Associated Lab Samples: 30238010001, 30238010002, 30238010003, 30238010004, 30238010005, 30238010006, 30238010007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 12:35	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 12:35	

LABORATORY CONTROL SAMPLE: 1382898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	972	97	80-120	
Zinc	ug/L	1000	981	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1382900 1382901

Parameter	Units	30238010001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Cadmium	ug/L	1.1J	1000	1000	1000	990	100	99	75-125	2	20	
Zinc	ug/L	279	1000	1000	1260	1250	98	97	75-125	1	20	

SAMPLE DUPLICATE: 1382899

Parameter	Units	30238010001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.1J	0.89J		20	
Zinc	ug/L	279	276	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: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30238010001	RW04-MWS	EPA 3005A	281746	EPA 6010C	281764
30238010002	RW03-MWS	EPA 3005A	281746	EPA 6010C	281764
30238010003	RW03-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010004	RW21-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010005	RW22-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010006	RW01-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010007	RW01-MWS	EPA 3005A	281746	EPA 6010C	281764

### REPORT OF LABORATORY ANALYSIS

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The Chain-of-Custody is a LEC



Section B  
Required Project Information:

Report To: James Calenda  
Copy To: SKW Kaban

Section A  
Required Client Information:

Company: EnviroAnalytics Group  
Address: 1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com  
Phone: 314-620-3066  
Requested Due Date/TAT: 5 days

Project Number: 1703840-1-1  
Project Name: Radium with 60 Samples

Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Attention: Laura Sargent  
Pace Quote Reference: Samantha Bucura

Pace Project Manager: Samantha Bucura

Pace Profile #: 1703840-1-1

REGULATORY AGENCY  
NPDES  GROUND WATER  DRINKING WATER   
UST  RCRA  OTHER

Site Location: MD  
STATE: MD

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 SIGNED (MM/DD/YY)

SIGNATURE OF SAMPLER

PRINT NAME OF SAMPLER

SAMPLER NAME AND SIGNATURE

DATE SIGNED (MM/DD/YY)

SIGNATURE OF SAMPLER

PRINT NAME OF SAMPLER

SAMPLER NAME AND SIGNATURE

DATE SIGNED (MM/DD/YY)

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SAMPLER NAME AND SIGNATURE

DATE SIGNED (MM/DD/YY)

SIGNATURE OF SAMPLER

PRINT NAME OF SAMPLER

SAMPLER NAME AND SIGNATURE

DATE SIGNED (MM/DD/YY)

SIGNATURE OF SAMPLER

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WASTE WATER WW PRODUCT P SOLID S OIL OL 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.	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)		
				COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>									HCl	NaOH
1	RW04-MWS	WT G	G	12/17	1030	1	1									001							
2	RW03-MWS	WT G	G	12/17	1103	1	1									002							
3	RW03-MWF	WT G	G	12/17	1125	1	1									003							
4	RW 21-MWF	WT G	G	12/17	1158	1	1									004							
5	RW 22-MWF	WT G	G	12/17	1258	1	1									005							
6	RW01-MWF	WT G	G	12/17	1422	1	1									006							
7	RW01-MWS	WT G	G	12/17	1445	1	1									007							
8																							
9																							
10																							
11																							
12																							
Data Package Required? (Y/N):		Y		12/17 1550		1		Quint of 15 samples Pace 12/17/13						Y		1550		Y		Y			
Data Validation Required? (Y/N):		Y		12/17 1935		1		Total Coliform 6010						Y		1935		Y		Y		Y	
If data package is required, attach data package checklist.		Y		12/17 2310		1		Total Coliform 6010						Y		2310		Y		Y		Y	



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Sparrows

Project # 30238010

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>BLM</u>
LIMS Login	<u>BLM</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 0.4 °C      Correction Factor: 0.0 °C      Final Temp: 0.4 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BLM 12-8-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
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):			/	17.
Trip Blank Present:			/	18.
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.

December 15, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 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

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

---

### 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.: 30238235

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30238235001	RW02-MWS	Water	12/08/17 10:12	12/08/17 23:00
30238235002	RW02-MWI	Water	12/08/17 10:37	12/08/17 23:00
30238235003	<del>RW22-MWS</del>	Water	12/08/17 11:35	12/08/17 23:00
	<b>RW05-MWS</b>			

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30238235001	RW02-MWS	EPA 6010C	KAS	2
30238235002	RW02-MWI	EPA 6010C	KAS	2
30238235003	RW22-MWS	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** December 15, 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:**

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.: 30238235

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW02-MWS</b>									
<b>Lab ID: 30238235001</b>									
Collected: 12/08/17 10:12    Received: 12/08/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:34	7440-43-9	
Zinc	<b>79.3</b>	ug/L	10.0	1.0	1	12/13/17 16:16	12/14/17 17:34	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

Sample: RW02-MWI		Lab ID: 30238235002		Collected: 12/08/17 10:37		Received: 12/08/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:48	7440-43-9	
Zinc	<b>186</b>	ug/L	10.0	1.0	1	12/13/17 16:16	12/14/17 17:48	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW22-MWS      Lab ID: 30238235003      Collected: 12/08/17 11:35      Received: 12/08/17 23:00      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>8.4</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:51	7440-43-9	
Zinc	<b>5440</b>	ug/L	100	10.4	10	12/13/17 16:16	12/14/17 18:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

QC Batch: 282274 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30238235001, 30238235002, 30238235003

METHOD BLANK: 1385464 Matrix: Water

Associated Lab Samples: 30238235001, 30238235002, 30238235003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/14/17 17:29	
Zinc	ug/L	10.0 U	10.0	1.0	12/14/17 17:29	

LABORATORY CONTROL SAMPLE: 1385465

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	507	101	80-120	
Zinc	ug/L	500	504	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385467 1385468

Parameter	Units	30238235001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Cadmium	ug/L	3.0 U	500	511	503	102	101	75-125	1	20		
Zinc	ug/L	79.3	500	577	570	100	98	75-125	1	20		

SAMPLE DUPLICATE: 1385466

Parameter	Units	30238235001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	79.3	78.4	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: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

---

### 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.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30238235001	RW02-MWS	EPA 3005A	282274	EPA 6010C	282312
30238235002	RW02-MWI	EPA 3005A	282274	EPA 6010C	282312
30238235003	RW22-MWS	EPA 3005A	282274	EPA 6010C	282312

**REPORT OF LABORATORY ANALYSIS**

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www.paceanals.com

# CHAIN-OF-CUSTODY / Analytical Request Document

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

30238235

<b>Section A</b> Requested Client Information: Company: <b>EnviroAnalytics Group</b> Address: <b>1430 Sparrows Point Blvd</b> Sparrows Point, MD 21219 Email To: <b>icelanda@enviroanalyticsgroup.com</b> Phone: <b>314-620-3056</b> Fax: Requested Due Date/TAT: <b>5-day</b>		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b> Copy To: <b>stew kabis</b> PO Number: Project Name: <b>add more mill on swamp</b> Project Number: <b>1203001-1-1</b>		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b> Company Name: <b>EnviroAnalytics Group</b> Address: <b>1650 Des Peres Road, Suite 303 St. Louis, MO 63131</b> Price Quote Reference: Price Project Manager: Price Profile #: 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 STATE: <b>MD</b>	
---	--	---	--	--	--

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WP WIFE AR AIR OT OTHER TS TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB						
1		WT G	G	DATE: 10/16/10	TIME: 1022		1			001	
2		WT G	G	DATE: 10/16/10	TIME: 1037		1			002	
3		WT G	G	DATE: 10/16/10	TIME: 1135		1			003	
4											
5											
6											
7											
8											
9											
10											
11											
12											

WO#: 30238235

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N):	<i>James Calenda</i>	10/16/10	1022	<i>David J. Halligan</i>	10/16/10	1022	
Data Validation Required? (Y/N):	<i>David J. Halligan</i>	10/16/10	1037	<i>David J. Halligan</i>	10/16/10	1037	
If data package is required, attach data package checklist.	<i>Laura Sargent</i>	10/16/10	1135	<i>Laura Sargent</i>	10/16/10	1135	

Temp in °C \_\_\_\_\_

Received on Ice (Y/N) \_\_\_\_\_

Cooler Sealed (Y/N) \_\_\_\_\_

Samples Intact (Y/N) \_\_\_\_\_

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: *Laura Sargent*

SIGNATURE of SAMPLER: *Laura Sargent*

DATE Signed (MM/DD/YY): *10-18-10*



Client Name: SPAWANS Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label APM  
LIMS Login APM

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 1.7 °C Correction Factor: +0.0 °C Final Temp: 1.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: APM 12/19/17

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>WJ</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>APM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
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.

January 05, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30239965

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 02, 2018. 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: RWM Jam 2018 GW  
Pace Project No.: 30239965

---

### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30239965001	RW02-MWI	Water	01/02/18 10:30	01/02/18 22:50
30239965002	RW02-MWS	Water	01/02/18 11:10	01/02/18 22:50
30239965003	RW01-MWI	Water	01/02/18 11:52	01/02/18 22:50
30239965004	RW01-MWS	Water	01/02/18 12:28	01/02/18 22:50
30239965005	<del>RW22-MWI</del> RW05-MW(I)	Water	01/02/18 13:32	01/02/18 22:50
30239965006	<del>RW22-MWS</del> RW05-MW(S)	Water	01/02/18 14:01	01/02/18 22:50
30239965007	<del>RW21-MWI</del> RW22-MW(I)	Water	01/02/18 14:41	01/02/18 22:50

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30239965001	RW02-MWI	EPA 6010C	CTS	2
30239965002	RW02-MWS	EPA 6010C	CTS	2
30239965003	RW01-MWI	EPA 6010C	CTS	2
30239965004	RW01-MWS	EPA 6010C	CTS	2
30239965005	RW22-MWI	EPA 6010C	CTS	2
30239965006	RW22-MWS	EPA 6010C	CTS	2
30239965007	RW21-MWI	EPA 6010C	CTS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** January 05, 2018

**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: RWM Jam 2018 GW

Pace Project No.: 30239965

---

**Sample: RW02-MWI**      **Lab ID: 30239965001**      Collected: 01/02/18 10:30      Received: 01/02/18 22:50      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>14.5</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:42	7440-43-9	
Zinc	<b>573</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:42	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Sample: RW02-MWS		Lab ID: 30239965002		Collected: 01/02/18 11:10		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.1</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:57	7440-43-9	
Zinc	<b>2210</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:57	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW01-MWI</b>									
<b>Lab ID: 30239965003</b>									
Collected: 01/02/18 11:52    Received: 01/02/18 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2.4J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:59	7440-43-9	
Zinc	<b>104</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:59	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW01-MWS      Lab ID: 30239965004      Collected: 01/02/18 12:28      Received: 01/02/18 22:50      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>23.9</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:07	7440-43-9	
Zinc	<b>35200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:53	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

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**Sample: RW22-MWI**      **Lab ID: 30239965005**      Collected: 01/02/18 13:32      Received: 01/02/18 22:50      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2.2J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:09	7440-43-9	
Zinc	<b>173</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

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**Sample: RW22-MWS**      **Lab ID: 30239965006**      Collected: 01/02/18 14:01      Received: 01/02/18 22:50      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:12	7440-43-9	
Zinc	<b>35.7</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW21-MWI</b>									
<b>Lab ID: 30239965007</b>									
Collected: 01/02/18 14:41    Received: 01/02/18 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>4.1</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:55	7440-43-9	
Zinc	<b>27200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:14	7440-66-6	

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### QUALITY CONTROL DATA

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

QC Batch: 284087 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30239965001, 30239965002, 30239965003, 30239965004, 30239965005, 30239965006, 30239965007

METHOD BLANK: 1394194 Matrix: Water  
Associated Lab Samples: 30239965001, 30239965002, 30239965003, 30239965004, 30239965005, 30239965006, 30239965007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/05/18 10:37	
Zinc	ug/L	10.0 U	10.0	1.0	01/05/18 10:37	

LABORATORY CONTROL SAMPLE: 1394195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394197 1394198

Parameter	Units	30239965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	14.5	500	500	540	538	105	105	75-125	0	20	
Zinc	ug/L	573	500	500	1050	1040	95	94	75-125	0	20	

MATRIX SPIKE SAMPLE: 1394200

Parameter	Units	30240053004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	40.7	500	561	104	75-125	
Zinc	ug/L	5150	500	5700	111	75-125	

SAMPLE DUPLICATE: 1394196

Parameter	Units	30239965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	14.5	13.8	5	20	
Zinc	ug/L	573	564	2	20	

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	40.7	43.2	6	20	
Zinc	ug/L	5150	5220	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.

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## QUALIFIERS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

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### 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.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30239965001	RW02-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965002	RW02-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965003	RW01-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965004	RW01-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965005	RW22-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965006	RW22-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965007	RW21-MWI	EPA 3005A	284087	EPA 6010C	284121

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**CHAIN-OF-CUSTODY**  
The Chain-of-Custody

**WO# : 30239965**

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: 5-day

**Section B**  
Required Project Information:  
Report To: James Calenda  
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 Baygura  
Pace Profile #:  
Project Name: Rwm Jan 2018 SW  
Project Number: 170384M

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
 Site Location: MD  
 STATE: MD

ITEM #	Section D Required Client Information  SAMPLE ID (A-Z, 0-9 / - / ) Sample IDs MUST BE UNIQUE	Valid Matrix Codes CODE DW WT WW P SL OL WP AR OT TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES		Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME			
1	RW02-MWI				WTG	1					001
2	RW02-MWI				WTG	1					002
3	RW01-MWI				WTG	1					003
4	RW01-MWI				WTG	1					004
5	RW22-MWI				WTG	1					005
6	RW22-MWI				WTG	1					006
7	RW21-MWI				WTG	1					007
8											
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**  
Date: 1-2-18 Time: 1555  
Signature: [Signature]

**ACCEPTED BY / AFFILIATION**  
Date: 1-2-18 Time: 1557  
Signature: [Signature]

**Temp in °C**  
Received on Ice (Y/N)  
Custody Sealed (Y/N)  
Samples Intact (Y/N)

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: Lisa Perrin  
SIGNATURE of SAMPLER: [Signature]  
DATE Signed (MM/DD/YY): 1-2-18



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30239965

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>AM</u>

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 0.7 °C    Correction Factor: 10.0 °C    Final Temp: 0.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-3-18

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

January 05, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2018. 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: RWM Jan 2018 GW  
Pace Project No.: 30240053

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### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240053001	RW12-MWI	Water	01/03/18 09:42	01/03/18 22:55
30240053002	RW12-MWS	Water	01/03/18 10:17	01/03/18 22:55
30240053003	<del>RW20-MWI</del> RW15-MW(I)	Water	01/03/18 10:48	01/03/18 22:55
30240053004	<del>RW20-MWS</del> RW15-MW(S)	Water	01/03/18 11:19	01/03/18 22:55
30240053005	RW16-MWI	Water	01/03/18 11:45	01/03/18 22:55
30240053006	RW16-MWS	Water	01/03/18 12:20	01/03/18 22:55
30240053007	RW18-MWI	Water	01/03/18 13:58	01/03/18 22:55
30240053008	RW18-MWS	Water	01/03/18 14:31	01/03/18 22:55
30240053009	RW14-MWS	Water	01/03/18 14:57	01/03/18 22:55

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### SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240053001	RW12-MWI	EPA 6010C	CTS	2
30240053002	RW12-MWS	EPA 6010C	CTS	2
30240053003	RW20-MWI	EPA 6010C	CTS	2
30240053004	RW20-MWS	EPA 6010C	CTS	2
30240053005	RW16-MWI	EPA 6010C	CTS	2
30240053006	RW16-MWS	EPA 6010C	CTS	2
30240053007	RW18-MWI	EPA 6010C	CTS	2
30240053008	RW18-MWS	EPA 6010C	CTS	2
30240053009	RW14-MWS	EPA 6010C	CTS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** January 05, 2018

**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: RWM Jan 2018 GW  
Pace Project No.: 30240053

Sample: RW12-MWI		Lab ID: 30240053001		Collected: 01/03/18 09:42		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1270</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:16	7440-43-9	
Zinc	<b>117000</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:58	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

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**Sample: RW12-MWS**      **Lab ID: 30240053002**      Collected: 01/03/18 10:17      Received: 01/03/18 22:55      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>11.7</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:19	7440-43-9	
Zinc	<b>10100</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW20-MWI</b>									
<b>Lab ID: 30240053003</b>									
Collected: 01/03/18 10:48    Received: 01/03/18 22:55    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.6J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:21	7440-43-9	
Zinc	<b>5540</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:03	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW20-MWS</b>									
<b>Lab ID: 30240053004</b>									
Collected: 01/03/18 11:19    Received: 01/03/18 22:55    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>40.7</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:24	7440-43-9	
Zinc	<b>5150</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30240053005</b>		Collected: 01/03/18 11:45	Received: 01/03/18 22:55	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:36	7440-43-9	
Zinc	<b>16200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:19	7440-66-6	

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### ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW16-MWS		Lab ID: 30240053006	Collected: 01/03/18 12:20	Received: 01/03/18 22:55	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:38	7440-43-9	
Zinc	<b>31.2</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:38	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW18-MWI		Lab ID: 30240053007		Collected: 01/03/18 13:58		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>63.5</b>	ug/L	30.0	8.7	10	01/04/18 15:21	01/05/18 11:41	7440-43-9	
Zinc	<b>370000</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW18-MWS		Lab ID: 30240053008		Collected: 01/03/18 14:31		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>218</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:43	7440-43-9	
Zinc	<b>11600</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:24	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW14-MWS		Lab ID: 30240053009		Collected: 01/03/18 14:57		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2800</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:45	7440-43-9	
Zinc	<b>61800</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

QC Batch: 284087 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240053001, 30240053002, 30240053003, 30240053004, 30240053005, 30240053006, 30240053007, 30240053008, 30240053009

METHOD BLANK: 1394194 Matrix: Water  
Associated Lab Samples: 30240053001, 30240053002, 30240053003, 30240053004, 30240053005, 30240053006, 30240053007, 30240053008, 30240053009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/05/18 10:37	
Zinc	ug/L	10.0 U	10.0	1.0	01/05/18 10:37	

LABORATORY CONTROL SAMPLE: 1394195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394197 1394198

Parameter	Units	30239965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	14.5	500	500	540	538	105	105	75-125	0	20	
Zinc	ug/L	573	500	500	1050	1040	95	94	75-125	0	20	

MATRIX SPIKE SAMPLE: 1394200

Parameter	Units	30240053004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	40.7	500	561	104	75-125	
Zinc	ug/L	5150	500	5700	111	75-125	

SAMPLE DUPLICATE: 1394196

Parameter	Units	30239965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	14.5	13.8	5	20	
Zinc	ug/L	573	564	2	20	

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	40.7	43.2	6	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.

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### QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	5150	5220	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.

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## QUALIFIERS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240053001	RW12-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053002	RW12-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053003	RW20-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053004	RW20-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053005	RW16-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053006	RW16-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053007	RW18-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053008	RW18-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053009	RW14-MWS	EPA 3005A	284087	EPA 6010C	284121

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**CHAIN-OF-CUSTODY**  
 The Chain-of-Custody is a LEI

**WO# : 30240053**



Page: ( of )

**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

**Section B**  
 Required Project Information:  
 Report To: James Calenda  
 Copy To: Steve Kabas  
 Project Name: RUM Jan 2018 GW  
 Project Number: 170384M

**Section C**  
 Sectic Invoice  
 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 Bayard  
 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 DW WT WATER WASTE WATER PRODUCT SOL/SOLID OIL WPE AIR OTHER TISSUE	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB					
1			RW12-MWI	DATE	TIME					
2			RW12-MWS	13-18	1417					001
3			RW20-MWI		1048					003
4			RW20-MWS		1119					004
5			RW16-MWI		1145					005
6			RW16-MWS		1220					006
7			RW18-MWI		1358					007
8			RW18-MWS		1431					008
9			RW14-MWS		1457					004
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  
 1-3-18 1547 David S. Hillman Pace  
 1-3-18 1835 Samantha Bayard  
 1-3-18 2255 Samantha Bayard

**ACCEPTED BY / AFFILIATION**  
 DATE TIME  
 1-3-18 1623  
 1-3-18 1858  
 1-3-18 2255

**Residual Chlorine (Y/N)**

**Temp in °C**

**Received on Ice (Y/N)**

**Cooler Sealed (Y/N)**

**Samples Intact (Y/N)**

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: Lisa Perina  
 SIGNATURE of SAMPLER: Lisa Perina  
 DATE Signed (MM/DD/YY): 1-3-18



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30240053

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label AM  
LIMS Login BLM

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 1.2 °C Correction Factor: -0.1 °C Final Temp: 1.1 °C  
Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-4-18

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

January 11, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 04, 2018. 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: RWM Jan 2018 GW  
Pace Project No.: 30240127

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### 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: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240127001	RW11-MWI	Water	01/04/18 10:41	01/04/18 22:45
30240127002	RW11-MWS	Water	01/04/18 11:05	01/04/18 22:45
30240127003	RW13-MWI	Water	01/04/18 11:44	01/04/18 22:45
30240127004	RW10-MWI	Water	01/04/18 12:20	01/04/18 22:45
30240127005	RW08-MWI	Water	01/04/18 13:30	01/04/18 22:45
30240127006	RW07-MWI	Water	01/04/18 14:19	01/04/18 22:45
30240127007	RW07-MWS	Water	01/04/18 15:02	01/04/18 22:45
30240127008	RW04-MWS	Water	01/04/18 15:30	01/04/18 22:45

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### SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240127001	RW11-MWI	EPA 6010C	KAS	2
30240127002	RW11-MWS	EPA 6010C	KAS	2
30240127003	RW13-MWI	EPA 6010C	KAS	2
30240127004	RW10-MWI	EPA 6010C	KAS	2
30240127005	RW08-MWI	EPA 6010C	KAS	2
30240127006	RW07-MWI	EPA 6010C	KAS	2
30240127007	RW07-MWS	EPA 6010C	KAS	2
30240127008	RW04-MWS	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** January 11, 2018

**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.

QC Batch: 284436

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30240127001,30240302003

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

- MS (Lab ID: 1395466)
  - Zinc
- MS (Lab ID: 1395469)
  - Zinc
- MSD (Lab ID: 1395467)
  - Zinc

**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: RWM Jan 2018 GW

Pace Project No.: 30240127

Sample: RW11-MWI		Lab ID: 30240127001		Collected: 01/04/18 10:41	Received: 01/04/18 22:45	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1400</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:36	7440-43-9		
Zinc	<b>225000</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 16:59	7440-66-6	ML	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Sample: RW11-MWS		Lab ID: 30240127002		Collected: 01/04/18 11:05		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.2J</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:50	7440-43-9	
Zinc	<b>27700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW13-MWI</b>									
<b>Lab ID: 30240127003</b>									
Collected: 01/04/18 11:44    Received: 01/04/18 22:45    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1240</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:53	7440-43-9	
Zinc	<b>8600</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:16	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW10-MWI</b>									
<b>Lab ID: 30240127004</b>									
Collected: 01/04/18 12:20    Received: 01/04/18 22:45    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:02	7440-43-9	
Zinc	<b>26.5</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:02	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW08-MWI</b>									
<b>Lab ID: 30240127005</b>									
Collected: 01/04/18 13:30    Received: 01/04/18 22:45    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:04	7440-43-9	
Zinc	<b>108</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:04	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MWI</b>									
<b>Lab ID: 30240127006</b>									
Collected: 01/04/18 14:19    Received: 01/04/18 22:45    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:07	7440-43-9	
Zinc	<b>70.6</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:07	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

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**Sample: RW07-MWS**      **Lab ID: 30240127007**      Collected: 01/04/18 15:02      Received: 01/04/18 22:45      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>4.8</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:09	7440-43-9	
Zinc	<b>276</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Sample: RW04-MWS		Lab ID: 30240127008		Collected: 01/04/18 15:30		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:11	7440-43-9	
Zinc	<b>384</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:11	7440-66-6	

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### QUALITY CONTROL DATA

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

QC Batch: 284436 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240127001, 30240127002, 30240127003, 30240127004, 30240127005, 30240127006, 30240127007, 30240127008

METHOD BLANK: 1395463 Matrix: Water  
Associated Lab Samples: 30240127001, 30240127002, 30240127003, 30240127004, 30240127005, 30240127006, 30240127007, 30240127008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/10/18 15:31	
Zinc	ug/L	10.0 U	10.0	1.0	01/10/18 15:31	

LABORATORY CONTROL SAMPLE: 1395464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	498	100	80-120	
Zinc	ug/L	500	532	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395466 1395467

Parameter	Units	30240127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1930	1880	105	96	75-125	2	20	
Zinc	ug/L	225000	500	500	225000	220000	-40	-1060	75-125	2	20 ML	

MATRIX SPIKE SAMPLE: 1395469

Parameter	Units	30240302003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1880	500	2470	120	75-125	
Zinc	ug/L	3840000	500	3650000	-37600	75-125 ML	

SAMPLE DUPLICATE: 1395465

Parameter	Units	30240127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1400	0	20	
Zinc	ug/L	225000	226000	0	20	

SAMPLE DUPLICATE: 1395468

Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1880	1870	0	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.

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**QUALITY CONTROL DATA**

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

SAMPLE DUPLICATE: 1395468

Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	3840000	3740000	3	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: RWM Jan 2018 GW  
Pace Project No.: 30240127

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### 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.

### ANALYTE QUALIFIERS

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: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240127001	RW11-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127002	RW11-MWS	EPA 3005A	284436	EPA 6010C	284470
30240127003	RW13-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127004	RW10-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127005	RW08-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127006	RW07-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127007	RW07-MWS	EPA 3005A	284436	EPA 6010C	284470
30240127008	RW04-MWS	EPA 3005A	284436	EPA 6010C	284470

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**CHAIN-OF-CUS**  
The Chain-of-Custody is a LE

**WO# : 30240127**



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

Section B Required Project Information:  
 Report To: James Calenda  
 Copy To: *Stew Kwois*  
 Project Name: *RWM Jan 2018 GW*  
 Project Number: *170384M-1-1*

Section C Required Agency Information:  
 Company Name: EnviroAnalytics Group  
 Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
 Regulatory Agency:  NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Section D Required Client Information:  
 Site Location: MD  
 State: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOL/SOLID OIL WPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# 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						
				DATE	TIME	DATE	TIME				
1				1-4-18	1041			Total Cadmium 6.010			001
2					1105			Total Zinc 6.010			002
3					1149						003
4					1220						004
5					1330						005
6					1419						006
7					1502						007
8					1530						008
9											
10											
11											
12											

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: *James Calenda* DATE: 1-4-18 TIME: 1600

ACCEPTED BY / AFFILIATION: *Daniel J. Williams* DATE: 1-4-18 TIME: 1600

RELINQUISHED BY / AFFILIATION: *Daniel J. Williams* DATE: 1-4-18 TIME: 1901

ACCEPTED BY / AFFILIATION: *Michael S. Williams* DATE: 1-4-18 TIME: 1908

RELINQUISHED BY / AFFILIATION: *Daniel J. Williams* DATE: 1-4-18 TIME: 2045

ACCEPTED BY / AFFILIATION: *Daniel J. Williams* DATE: 1-4-18 TIME: 2045

Temp In °C: *15*

Received on Ice (Y/N): *Y*

Cooler Sealed (Y/N): *Y*

Samples Intact (Y/N): *Y*

SAMPLER NAME AND SIGNATURE: *Lisa Perrin*

PRINT Name of SAMPLER: *Lisa Perrin*

SIGNATURE of SAMPLER: *Lisa Perrin*

DATE Signed (MM/DD/YY): *1-4-18*



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAmd.

Project # 30240127

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label AMC  
LIMS Login BLM

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 1.6 °C Correction Factor: -0.1 °C Final Temp: 1.5 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMC 1-5-18

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AMC</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

January 12, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 08, 2018. 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: RWM Jan 2018 GW  
Pace Project No.: 30240302

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### 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: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240302001	RW09-MWI	Water	01/08/18 10:15	01/08/18 22:50
30240302002	RW09-MWS	Water	01/08/18 10:45	01/08/18 22:50
30240302003	RW19-MWI	Water	01/08/18 11:40	01/08/18 22:50
30240302004	RW19-MWS	Water	01/08/18 12:25	01/08/18 22:50
30240302005	RW03-MWI	Water	01/08/18 13:40	01/08/18 22:50
30240302006	RW03-MWS	Water	01/08/18 14:30	01/08/18 22:50

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### SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240302001	RW09-MWI	EPA 6010C	KAS	2
30240302002	RW09-MWS	EPA 6010C	KAS	2
30240302003	RW19-MWI	EPA 6010C	KAS	2
30240302004	RW19-MWS	EPA 6010C	KAS	2
30240302005	RW03-MWI	EPA 6010C	KAS	2
30240302006	RW03-MWS	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** January 12, 2018

### 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.

QC Batch: 284436

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30240127001,30240302003

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

- MS (Lab ID: 1395466)
  - Zinc
- MS (Lab ID: 1395469)
  - Zinc
- MSD (Lab ID: 1395467)
  - Zinc

### 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: RWM Jan 2018 GW

Pace Project No.: 30240302

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW09-MWI</b>									
<b>Lab ID: 30240302001</b>									
Collected: 01/08/18 10:15    Received: 01/08/18 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2.1J</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:14	7440-43-9	
Zinc	<b>54700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:18	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW09-MWS      Lab ID: 30240302002      Collected: 01/08/18 10:45      Received: 01/08/18 22:50      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>9.9</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:16	7440-43-9	
Zinc	<b>9310</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:21	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Sample: RW19-MWI		Lab ID: 30240302003		Collected: 01/08/18 11:40		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1880</b>	ug/L	300	87.0	100	01/09/18 14:48	01/10/18 17:29	7440-43-9	
Zinc	<b>3840000</b>	ug/L	100000	10400	10000	01/09/18 14:48	01/10/18 17:44	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Sample: RW19-MWS		Lab ID: 30240302004		Collected: 01/08/18 12:25		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.8</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:35	7440-43-9	
Zinc	<b>10200</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

**Sample: RW03-MWI**      **Lab ID: 30240302005**      Collected: 01/08/18 13:40      Received: 01/08/18 22:50      Matrix: Water

Comments: • Sample ID on container does not match COC. Time and date do match.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>259</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:37	7440-43-9	
Zinc	<b>12700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:39	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MWS</b>									
<b>Lab ID: 30240302006</b>									
Collected: 01/08/18 14:30    Received: 01/08/18 22:50    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>9.9</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:40	7440-43-9	
Zinc	<b>31500</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:41	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

QC Batch: 284436 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240302001, 30240302002, 30240302003, 30240302004, 30240302005, 30240302006

METHOD BLANK: 1395463 Matrix: Water  
Associated Lab Samples: 30240302001, 30240302002, 30240302003, 30240302004, 30240302005, 30240302006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/10/18 15:31	
Zinc	ug/L	10.0 U	10.0	1.0	01/10/18 15:31	

LABORATORY CONTROL SAMPLE: 1395464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	498	100	80-120	
Zinc	ug/L	500	532	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395466 1395467

Parameter	Units	30240127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1930	1880	105	96	75-125	2	20	
Zinc	ug/L	225000	500	500	225000	220000	-40	-1060	75-125	2	20 ML	

MATRIX SPIKE SAMPLE: 1395469

Parameter	Units	30240302003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1880	500	2470	120	75-125	
Zinc	ug/L	3840000	500	3650000	-37600	75-125 ML	

SAMPLE DUPLICATE: 1395465

Parameter	Units	30240127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1400	0	20	
Zinc	ug/L	225000	226000	0	20	

SAMPLE DUPLICATE: 1395468

Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1880	1870	0	20	
Zinc	ug/L	3840000	3740000	3	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: RWM Jan 2018 GW

Pace Project No.: 30240302

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### 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.

### ANALYTE QUALIFIERS

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: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240302001	RW09-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302002	RW09-MWS	EPA 3005A	284436	EPA 6010C	284470
30240302003	RW19-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302004	RW19-MWS	EPA 3005A	284436	EPA 6010C	284470
30240302005	RW03-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302006	RW03-MWS	EPA 3005A	284436	EPA 6010C	284470

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Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30240302

30240302

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>ANU</u>
LIMS Login	<u>ANU</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 2.5 °C Correction Factor: -0.1 °C Final Temp: 2.4 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-9-18

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>ID on bottle for sample 005 is RW03-MWS but time matches to ID RW03-MWI</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

January 16, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240369

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2018. 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: RWM Jan 2018 GW

Pace Project No.: 30240369

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240369001	RW06-MWI	Water	01/09/18 09:58	01/09/18 22:35
30240369002	RW06-MWD	Water	01/09/18 11:24	01/09/18 22:35
30240369003	RW06-MWS	Water	01/09/18 11:55	01/09/18 22:35
30240369004	RW08-MWS	Water	01/09/18 13:05	01/09/18 22:35

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### SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240369001	RW06-MWI	EPA 6010C	KAS	2
30240369002	RW06-MWD	EPA 6010C	KAS	2
30240369003	RW06-MWS	EPA 6010C	KAS	2
30240369004	RW08-MWS	EPA 6010C	KAS	2

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** January 16, 2018

**General Information:**

4 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: RWM Jan 2018 GW

Pace Project No.: 30240369

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**Sample: RW06-MWI**      **Lab ID: 30240369001**      Collected: 01/09/18 09:58      Received: 01/09/18 22:35      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>8.4</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:01	7440-43-9	
Zinc	<b>1950</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:01	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

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**Sample: RW06-MWD**      **Lab ID: 30240369002**      Collected: 01/09/18 11:24      Received: 01/09/18 22:35      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2.6J</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:15	7440-43-9	
Zinc	<b>212</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:15	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW06-MWS</b>									
<b>Lab ID: 30240369003</b>									
Collected: 01/09/18 11:55    Received: 01/09/18 22:35    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.3</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:17	7440-43-9	
Zinc	<b>648</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:17	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

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**Sample: RW08-MWS**      **Lab ID: 30240369004**      Collected: 01/09/18 13:05      Received: 01/09/18 22:35      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:25	7440-43-9	
Zinc	<b>2600</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: RWM Jan 2018 GW  
Pace Project No.: 30240369

QC Batch: 284761 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240369001, 30240369002, 30240369003, 30240369004

METHOD BLANK: 1397030 Matrix: Water  
Associated Lab Samples: 30240369001, 30240369002, 30240369003, 30240369004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/15/18 19:56	
Zinc	ug/L	10.0 U	10.0	1.0	01/15/18 19:56	

LABORATORY CONTROL SAMPLE: 1397031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	493	99	80-120	
Zinc	ug/L	500	495	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397033 1397034

Parameter	Units	30240369001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	8.4	500	500	502	507	99	100	75-125	1	20	
Zinc	ug/L	1950	500	500	2400	2430	91	97	75-125	1	20	

SAMPLE DUPLICATE: 1397032

Parameter	Units	30240369001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	8.4	8.2	3	20	
Zinc	ug/L	1950	1950	0	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: RWM Jan 2018 GW  
Pace Project No.: 30240369

---

### 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.

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TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240369001	RW06-MWI	EPA 3005A	284761	EPA 6010C	284788
30240369002	RW06-MWD	EPA 3005A	284761	EPA 6010C	284788
30240369003	RW06-MWS	EPA 3005A	284761	EPA 6010C	284788
30240369004	RW08-MWS	EPA 3005A	284761	EPA 6010C	284788

### 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:	1430 Sparrows Point Blvd Sparrows Point, MD 21219	Copy To:	STEW KABIS	Company Name:	EnviroAnalytics Group
Email To:	icalenda@enviroanalyticsgroup.com	PO Number:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Phone:	314-620-3056	Project Name:	Rwm Jan 2018 6W	Face Quote Reference:	
Requested Due Date/TAT:	5-day	Project Number:	170284m-1-1	Face Project Manager:	Samantha Baylora
				Face Profile #:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX	SAMPLE CODE (see valid codes to left)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				COMPOSITE START	COMPOSITE END/GRAB							
1	Rw06-mwI	DW WT WV P	WT 6	DATE	TIME		1	Unpreserved		1-9-18	958	
2	Rw06-mwD	DRINKING WATER WASTE WATER PRODUCT SOLID	WT 6	DATE	TIME		1	H <sub>2</sub> SO <sub>4</sub>		1-9-18	1124	
3	Rw06-mwS	WASTE WATER PRODUCT SOLID	WT 6	DATE	TIME		1	HNO <sub>3</sub>		1-9-18	1155	
4	Rw08-mwS	WASTE WATER PRODUCT SOLID	WT 6	DATE	TIME		1	HCl		1-9-18	1305	
5								NaOH				
6								Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				
7								Methanol				
8								Other				
9												
10												
11												
12												

Requested Analysis Filtered (Y/N)	Y	N	N
Analysis Test ↑	Total zinc 6010	Total cadmium 6010	Residual
WFO#: 30240369	Barcode		
WFO#: 30240369	Barcode		
Pace Project No./ Lab I.D.	001	002	003
	004		
Temp in C			
Received on Ice (Y/N)			
Custody Sealed (Y/N)			
Samples Intact (Y/N)			



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30240369

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>ANU</u>
LIMS Login	<u>ANU</u>

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 1.1 °C Correction Factor: 10.0 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-10-18

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.
-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 type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
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: \_\_\_\_\_

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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.

November 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 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.: 30235076

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### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235076001	RW12-MW(S)	Water	11/03/17 08:53	11/03/17 22:30
30235076002	RW12-MW(I)	Water	11/03/17 09:19	11/03/17 22:30
30235076003	RW14-MW(S)	Water	11/03/17 09:51	11/03/17 22:30
30235076004	RW20-MW(S) <b>Changed to RW15-MW(S)</b>		11/03/17 10:35	11/03/17 22:30
30235076005	RW20-MW(I) <b>Changed to RW15-MW(I)</b>		11/03/17 11:14	11/03/17 22:30
30235076006	RW18-MW(S)	Water	11/03/17 12:05	11/03/17 22:30
30235076007	RW18-MW(I)	Water	11/03/17 12:41	11/03/17 22:30
30235076008	RW13-MW(I)	Water	11/03/17 14:09	11/03/17 22:30
30235076009	RW10-MW(I)	Water	11/03/17 14:45	11/03/17 22:30

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235076001	RW12-MW(S)	EPA 6010C	PJD	2
30235076002	RW12-MW(I)	EPA 6010C	PJD	2
30235076003	RW14-MW(S)	EPA 6010C	PJD	2
30235076004	RW20-MW(S) <span style="border: 1px solid red; padding: 2px;">Changed to RW15-MW(S)</span>	EPA 6010C	PJD	2
30235076005	RW20-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW15-MW(I)</span>	EPA 6010C	PJD	2
30235076006	RW18-MW(S)	EPA 6010C	PJD	2
30235076007	RW18-MW(I)	EPA 6010C	PJD	2
30235076008	RW13-MW(I)	EPA 6010C	PJD	2
30235076009	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.: 30235076

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 08, 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: 278180

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30235076001

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

- MS (Lab ID: 1366600)
  - Zinc
- MSD (Lab ID: 1366601)
  - Zinc

### 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW12-MW(S)		Lab ID: 30235076001		Collected: 11/03/17 08:53		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>193</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 21:52	7440-43-9	
Zinc	<b>235000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:32	7440-66-6	ML

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Sample: RW12-MW(I)		Lab ID: 30235076002		Collected: 11/03/17 09:19	Received: 11/03/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1380</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:07	7440-43-9		
Zinc	<b>140000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:57	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW14-MW(S)		Lab ID: 30235076003	Collected: 11/03/17 09:51	Received: 11/03/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2390</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:10	7440-43-9	
Zinc	<b>28100</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:59	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: **RW20-MW(S)** Changed to RW15-MW(S) 4 Collected: 11/03/17 10:35 Received: 11/03/17 22:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>63.0</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:17	7440-43-9	
Zinc	<b>8800</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:02	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW20-MW(I) **Changed to RW15-MW(I)** 5 Collected: 11/03/17 11:14 Received: 11/03/17 22:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:20	7440-43-9	
Zinc	<b>825</b>	ug/L	10.0	1.0	1	11/07/17 09:32	11/07/17 22:20	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW18-MW(S)</b>									
<b>Lab ID: 30235076006</b>									
Collected: 11/03/17 12:05    Received: 11/03/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>208</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:22	7440-43-9	
Zinc	<b>10700</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:04	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW18-MW(I)</b>									
<b>Lab ID: 30235076007</b>									
Collected: 11/03/17 12:41    Received: 11/03/17 22:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>66.6</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:25	7440-43-9	
Zinc	<b>323000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:07	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Sample: RW13-MW(I)		Lab ID: 30235076008		Collected: 11/03/17 14:09	Received: 11/03/17 22:30	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>24500</b>	ug/L	300	87.0	100	11/07/17 09:32	11/07/17 23:09	7440-43-9	
Zinc	<b>172000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Sample: RW10-MW(I)		Lab ID: 30235076009	Collected: 11/03/17 14:45	Received: 11/03/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>63.7</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:30	7440-43-9	
Zinc	<b>39000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:12	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

QC Batch: 278180 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235076001, 30235076002, 30235076003, 30235076004, 30235076005, 30235076006, 30235076007, 30235076008, 30235076009

METHOD BLANK: 1366597 Matrix: Water  
Associated Lab Samples: 30235076001, 30235076002, 30235076003, 30235076004, 30235076005, 30235076006, 30235076007, 30235076008, 30235076009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/07/17 21:47	
Zinc	ug/L	10.0 U	10.0	1.0	11/07/17 21:47	

LABORATORY CONTROL SAMPLE: 1366598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	
Zinc	ug/L	500	541	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1366600 1366601

Parameter	Units	30235076001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	193	500	500	694	697	100	101	75-125	1	20	
Zinc	ug/L	235000	500	500	232000	230000	-580	-960	75-125	1	20 ML	

SAMPLE DUPLICATE: 1366599

Parameter	Units	30235076001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	193	198	2	20	
Zinc	ug/L	235000	238000	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

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### 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.

### ANALYTE QUALIFIERS

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.: 30235076

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235076001	RW12-MW(S)	EPA 3005A	278180	EPA 6010C	278273
30235076002	RW12-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076003	RW14-MW(S)	EPA 3005A	278180	EPA 6010C	278273
30235076004	RW20-MW(S)	Changed to RW15-MW(S)	278180	EPA 6010C	278273
30235076005	RW20-MW(I)	Changed to RW15-MW(I)	278180	EPA 6010C	278273
30235076006	RW18-MW(S)	EPA 3005A	278180	EPA 6010C	278273
30235076007	RW18-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076008	RW13-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076009	RW10-MW(I)	EPA 3005A	278180	EPA 6010C	278273

### 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: **kalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3066** 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: **170384M**

**Section C**  
Invoice Information:  
Attention: **Laura Sargent**  
Company Name: **EnviroAnalytics Group**  
Address: **1850 Das 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 STATE: **MD**

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER PRODUCT P SOIL/SOLID SL OIL CL WIFE AR AIR OT OTHER TS TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	PRESERVATIVES	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GWAB					
1	RW12-MW(E)	WT6			11/3/17	0853				001
2	RW12-MW(E)				0919					002
3	RW14-MW(S)				0951					003
4	RW20-MW(S)				1035					004
5	RW20-MW(E)				1114					005
6	RW18-MW(S)				1205					006
7	RW18-MW(E)				1241					007
8	RW13-MW(E)				1409					008
9	RW10-MW(E)				1445					009
10										
11										
12										

**WO# : 30235076**

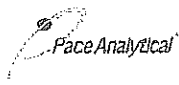
ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	<i>Kalenda Calenda Pace</i>	11/3/17	1545	<i>Daniel F. Hallegans Pace</i>	11/17/17	1617	
	<i>Daniel F. Hallegans Pace</i>	11/17/17	1723	<i>Laura Sargent Pace</i>	11/30/17	1924	
	<i>Laura Sargent Pace</i>	11/17/17	2055	<i>Alymar Muckney Pace</i>	11/17/23	1100	Y

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: *Laura M. Gilman*  
SIGNATURE of SAMPLER: *Laura M. Gilman*  
DATE Signed (MM/DD/YY): *1/03/19*

Temp in °C \_\_\_\_\_  
Received on \_\_\_\_\_  
Cooler (Y/N) \_\_\_\_\_  
Custody Sealed \_\_\_\_\_  
Samples Intact (Y/N) \_\_\_\_\_

Pittsburgh Lab Sample Condition Upon Receipt

30235076



Client Name: SPARROWS Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>JRM</u>
LIMS Login	<u>JRM</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 1.0 °C Correction Factor: 10.0 °C Final Temp: 1.0 °C  
 Temp should be above freezing to 6°C

Date and Initials of person examining contents: JRM 4/11/17

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.
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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
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):			/	17.
Trip Blank Present:			/	18.
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.

November 10, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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.: 30235212

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235212001	RW16-MW(I)	Water	11/06/17 09:14	11/06/17 22:05
30235212002	RW16-MW(S)	Water	11/06/17 10:03	11/06/17 22:05
30235212003	RW11-MW(S)	Water	11/06/17 11:22	11/06/17 22:05
30235212004	RW11-MW(I)	Water	11/06/17 11:57	11/06/17 22:05
30235212005	RW09-MW(S)	Water	11/06/17 12:36	11/06/17 22:05
30235212006	RW09-MW(I)	Water	11/06/17 13:13	11/06/17 22:05

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235212001	RW16-MW(I)	EPA 6010C	PJD	2
30235212002	RW16-MW(S)	EPA 6010C	PJD	2
30235212003	RW11-MW(S)	EPA 6010C	PJD	2
30235212004	RW11-MW(I)	EPA 6010C	PJD	2
30235212005	RW09-MW(S)	EPA 6010C	PJD	2
30235212006	RW09-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.: 30235212

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 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.

QC Batch: 278387

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

- DUP (Lab ID: 1367407)
- Zinc

**Additional Comments:**

Batch Comments:

Cadmiun failed on the PDS.

- QC Batch: 278453

Analyte Comments:

QC Batch: 278387

1c: Cadmiun failed on the PDS.

- BLANK (Lab ID: 1367402)
- Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 2017

Analyte Comments:

QC Batch: 278387

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1367402)
  - Zinc
- DUP (Lab ID: 1367404)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1367407)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1367403)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367405)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367408)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1367406)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30235212006)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30235212005)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30235212004)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30235212003)
  - Cadmium
  - Zinc
- RW16-MW(I) (Lab ID: 30235212001)
  - Cadmium
  - Zinc
- RW16-MW(S) (Lab ID: 30235212002)
  - 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.: 30235212

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW16-MW(I)</b>									
<b>Lab ID: 30235212001</b>									
Collected: 11/06/17 09:14    Received: 11/06/17 22:05    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:39	7440-43-9	1c
Zinc	<b>441</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 21:39	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW16-MW(S)</b>									
<b>Lab ID: 30235212002</b>									
Collected: 11/06/17 10:03    Received: 11/06/17 22:05    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:53	7440-43-9	1c
Zinc	<b>48.6</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 21:53	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW11-MW(S)		Lab ID: 30235212003		Collected: 11/06/17 11:22		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.1J</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:56	7440-43-9	1c
Zinc	<b>18300</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:37	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

Sample: RW11-MW(I)		Lab ID: 30235212004		Collected: 11/06/17 11:57		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1460</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:03	7440-43-9	1c
Zinc	<b>207000</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:40	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW09-MW(S)		Lab ID: 30235212005		Collected: 11/06/17 12:36		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.5</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:06	7440-43-9	1c
Zinc	<b>9290</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:42	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW09-MW(I)		Lab ID: 30235212006		Collected: 11/06/17 13:13		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.8</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:08	7440-43-9	1c
Zinc	<b>67900</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:45	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.: 30235212

QC Batch: 278387 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235212001, 30235212002, 30235212003, 30235212004, 30235212005, 30235212006

METHOD BLANK: 1367402 Matrix: Water  
Associated Lab Samples: 30235212001, 30235212002, 30235212003, 30235212004, 30235212005, 30235212006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/09/17 21:34	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/09/17 21:34	1c

LABORATORY CONTROL SAMPLE: 1367403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	500	100	80-120	1c
Zinc	ug/L	500	506	101	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1367405 1367406

Parameter	Units	30235212001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	512	484	102	97	75-125	6	20	1c
Zinc	ug/L	441	500	500	931	912	98	94	75-125	2	20	1c

MATRIX SPIKE SAMPLE: 1367408

Parameter	Units	30235330005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	512	102	75-125	1c
Zinc	ug/L	38.7	500	553	103	75-125	1c

SAMPLE DUPLICATE: 1367404

Parameter	Units	30235212001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	441	442	0	20	1c

SAMPLE DUPLICATE: 1367407

Parameter	Units	30235330005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	0.90J		20	1c
Zinc	ug/L	38.7	49.4	24	20	1c, D6

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.: 30235212

---

### 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: 278453

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235212001	RW16-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235212002	RW16-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212003	RW11-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212004	RW11-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235212005	RW09-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212006	RW09-MW(I)	EPA 3005A	278387	EPA 6010C	278453

### REPORT OF LABORATORY ANALYSIS

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Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30235212

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>AML</u>
LIMS Login	<u>BLM</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 3.0 °C    Correction Factor: 10.0 °C    Final Temp: 3.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 11-7-17

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>WI</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AML</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.



November 10, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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.: 30235330

---

### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235330001	RW08-MW(S)	Water	11/07/17 09:20	11/07/17 23:31
30235330002	RW08-MW(I)	Water	11/07/17 09:48	11/07/17 23:31
30235330003	RW07-MW(S)	Water	11/07/17 10:42	11/07/17 23:31
30235330004	RW07-MW(I)	Water	11/07/17 11:27	11/07/17 23:31
30235330005	RW06-MW(D)	Water	11/07/17 12:31	11/07/17 23:31
30235330006	RW06-MW(I)	Water	11/07/17 13:03	11/07/17 23:31
30235330007	RW06-MW(S)	Water	11/07/17 14:04	11/07/17 23:31

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235330001	RW08-MW(S)	EPA 6010C	PJD	2
30235330002	RW08-MW(I)	EPA 6010C	PJD	2
30235330003	RW07-MW(S)	EPA 6010C	PJD	2
30235330004	RW07-MW(I)	EPA 6010C	PJD	2
30235330005	RW06-MW(D)	EPA 6010C	PJD	2
30235330006	RW06-MW(I)	EPA 6010C	PJD	2
30235330007	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.: 30235330

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 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.

QC Batch: 278387

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

- DUP (Lab ID: 1367407)
- Zinc

**Additional Comments:**

Batch Comments:

Cadmiun failed on the PDS.

- QC Batch: 278453

Analyte Comments:

QC Batch: 278387

1c: Cadmiun failed on the PDS.

- BLANK (Lab ID: 1367402)
- Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 2017

Analyte Comments:

QC Batch: 278387

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1367402)
  - Zinc
- DUP (Lab ID: 1367404)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1367407)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1367403)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367405)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367408)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1367406)
  - Cadmium
  - Zinc
- RW06-MW(D) (Lab ID: 30235330005)
  - Cadmium
  - Zinc
- RW06-MW(I) (Lab ID: 30235330006)
  - Cadmium
  - Zinc
- RW06-MW(S) (Lab ID: 30235330007)
  - Cadmium
  - Zinc
- RW07-MW(I) (Lab ID: 30235330004)
  - Cadmium
  - Zinc
- RW07-MW(S) (Lab ID: 30235330003)
  - Cadmium
  - Zinc
- RW08-MW(I) (Lab ID: 30235330002)
  - Cadmium
  - Zinc
- RW08-MW(S) (Lab ID: 30235330001)
  - 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.: 30235330

Sample: RW08-MW(S)		Lab ID: 30235330001		Collected: 11/07/17 09:20		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:11	7440-43-9	1c
Zinc	<b>1600</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:11	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW08-MW(I)		Lab ID: 30235330002		Collected: 11/07/17 09:48		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.88J</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:13	7440-43-9	1c
Zinc	<b>21.5</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:13	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW(S)</b>									
<b>Lab ID: 30235330003</b>									
Collected: 11/07/17 10:42    Received: 11/07/17 23:31    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>5.8</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:15	7440-43-9	1c
Zinc	<b>227</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Sample: RW07-MW(I)		Lab ID: 30235330004		Collected: 11/07/17 11:27		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.1</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:18	7440-43-9	1c
Zinc	<b>1650</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:18	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW06-MW(D)</b>									
<b>Lab ID: 30235330005</b>									
Collected: 11/07/17 12:31    Received: 11/07/17 23:31    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:20	7440-43-9	1c
Zinc	<b>38.7</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:20	7440-66-6	1c,D6

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW06-MW(I)</b>									
<b>Lab ID: 30235330006</b>									
Collected: 11/07/17 13:03    Received: 11/07/17 23:31    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>5.4</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:32	7440-43-9	1c
Zinc	<b>909</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:32	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW06-MW(S)</b>									
<b>Lab ID: 30235330007</b>									
Collected: 11/07/17 14:04    Received: 11/07/17 23:31    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:35	7440-43-9	1c
Zinc	<b>2.3J</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:35	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.: 30235330

QC Batch: 278387 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235330001, 30235330002, 30235330003, 30235330004, 30235330005, 30235330006, 30235330007

METHOD BLANK: 1367402 Matrix: Water  
Associated Lab Samples: 30235330001, 30235330002, 30235330003, 30235330004, 30235330005, 30235330006, 30235330007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/09/17 21:34	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/09/17 21:34	1c

LABORATORY CONTROL SAMPLE: 1367403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	500	100	80-120	1c
Zinc	ug/L	500	506	101	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1367405 1367406

Parameter	Units	30235212001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	512	484	102	97	75-125	6	20	1c
Zinc	ug/L	441	500	500	931	912	98	94	75-125	2	20	1c

MATRIX SPIKE SAMPLE: 1367408

Parameter	Units	30235330005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	512	102	75-125	1c
Zinc	ug/L	38.7	500	553	103	75-125	1c

SAMPLE DUPLICATE: 1367404

Parameter	Units	30235212001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	441	442	0	20	1c

SAMPLE DUPLICATE: 1367407

Parameter	Units	30235330005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	0.90J		20	1c
Zinc	ug/L	38.7	49.4	24	20	1c, D6

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.: 30235330

---

### 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: 278453

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235330001	RW08-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235330002	RW08-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330003	RW07-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235330004	RW07-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330005	RW06-MW(D)	EPA 3005A	278387	EPA 6010C	278453
30235330006	RW06-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330007	RW06-MW(S)	EPA 3005A	278387	EPA 6010C	278453

### 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     

Section A  
Required Client Information:

Company: **EnviroAnalytics Group**  
 Address: **1600 Sparrows Point Blvd, Suite B2**  
**Sparrows Point, MD 21219**  
 Email To: **kalenda@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: **170384M**

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 Bayara**  
 Pace Profile #:

REGULATORY AGENCY

NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Site Location  
 STATE: **MD**

Requested Analysis Filtered (Y/N)

**WO#: 30235330**  
  
**30235330**

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WATER WW PRODUCT P SOLID S OIL OL WIFE VP 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	Y/N	Analysis Test	Total Cadmium 6010	Total Zinc 6010	Residual	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB									
1	RW08-MW(S)		WT G		11/7/17	0920		1	H <sub>2</sub> SO <sub>4</sub>		X	X		001	
2	RW08-MW(D)				11/7/17	0948		1	HCl		X	X		002	
3	RW07-MW(S)				10/9/17	1040		1	HNO <sub>3</sub>		X	X		003	
4	RW07-MW(D)				11/27/17	1627		1	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		X	X		004	
5	RW06-MW(D)				12/31/17	1231		1	NaOH		X	X		005	
6	RW06-MW(S)				12/31/17	1233		1	H <sub>2</sub> SO <sub>4</sub>		X	X		006	
7	RW06-MW(S)				11/27/17	1704		1	Unpreserved		X	X		007	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	David L. Hillborn	11/7/17	1530	David L. Hillborn	11/27/17	1630	
	David L. Hillborn	11/27/17	0005	David L. Hillborn	11/27/17	0800	
	David L. Hillborn	11/27/17	0331	David L. Hillborn	11/27/17	0331	

Temp in °C  
 Received on  
 Custody Sealed  
 Cooler (Y/N)  
 Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: **James M. Blum**  
 SIGNATURE of SAMPLER: *James M. Blum*  
 DATE Signed (MM/DD/YY): **11/27/17**

\*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.

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Enviro Ana

Project # 30235330

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	_____
LIMS Login	<u>ORU</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 25 °C    Correction Factor: 100 °C    Final Temp: 25 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMC 11-8-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AMC</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

November 13, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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.: 30235591

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### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235591001	RW02-MW(I)	Water	11/09/17 09:17	11/09/17 23:20
30235591002	RW02-MW(S)	Water	11/09/17 09:57	11/09/17 23:20
30235591003	RW01-MW(S)	Water	11/09/17 10:51	11/09/17 23:20
30235591004	RW01-MW(I)	Water	11/09/17 11:19	11/09/17 23:20
30235591005	RW03-MW(S)	Water	11/09/17 12:28	11/09/17 23:20
30235591006	RW03-MW(I)	Water	11/09/17 13:11	11/09/17 23:20
30235591007	RW04-MW(S)	Water	11/09/17 13:52	11/09/17 23:20
30235591008	RW21-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW22-MW(I)</span>	Water	11/09/17 14:39	11/09/17 23:20

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235591001	RW02-MW(I)	EPA 6010C	PJD	2
30235591002	RW02-MW(S)	EPA 6010C	PJD	2
30235591003	RW01-MW(S)	EPA 6010C	PJD	2
30235591004	RW01-MW(I)	EPA 6010C	PJD	2
30235591005	RW03-MW(S)	EPA 6010C	PJD	2
30235591006	RW03-MW(I)	EPA 6010C	PJD	2
30235591007	RW04-MW(S)	EPA 6010C	PJD	2
30235591008	RW21-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW22-MW(I)</span>	EPA 6010C	PJD	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 13, 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW02-MW(I)		Lab ID: 30235591001		Collected: 11/09/17 09:17	Received: 11/09/17 23:20	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:27	7440-43-9		
Zinc	<b>38.6</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:27	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW02-MW(S)		Lab ID: 30235591002		Collected: 11/09/17 09:57	Received: 11/09/17 23:20	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	7.7	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:42	7440-43-9		
Zinc	1460	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:42	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Sample: RW01-MW(S)		Lab ID: 30235591003		Collected: 11/09/17 10:51	Received: 11/09/17 23:20	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>21.7</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:44	7440-43-9		
Zinc	<b>25200</b>	ug/L	1000	104	100	11/10/17 11:55	11/10/17 21:06	7440-66-6		

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW01-MW(I)</b>									
<b>Lab ID: 30235591004</b>									
Collected: 11/09/17 11:19    Received: 11/09/17 23:20    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:52	7440-43-9	
Zinc	<b>29.0</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:52	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Sample: RW03-MW(S)		Lab ID: 30235591005		Collected: 11/09/17 12:28		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.5</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:55	7440-43-9	
Zinc	<b>14100</b>	ug/L	1000	104	100	11/10/17 11:55	11/10/17 21:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MW(I)</b>									
<b>Lab ID: 30235591006</b>									
Collected: 11/09/17 13:11    Received: 11/09/17 23:20    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>25.2</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:57	7440-43-9	
Zinc	<b>1750</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:57	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW04-MW(S)</b>									
<b>Lab ID: 30235591007</b>									
Collected: 11/09/17 13:52    Received: 11/09/17 23:20    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.1J</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 21:00	7440-43-9	
Zinc	<b>123</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 21:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: **RW21-MW(I)** Changed to RW22-MW(I) **08** Collected: 11/09/17 14:39 Received: 11/09/17 23:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.8</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 21:02	7440-43-9	
Zinc	<b>3700</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 21:02	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

QC Batch: 278700 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235591001, 30235591002, 30235591003, 30235591004, 30235591005, 30235591006, 30235591007, 30235591008

METHOD BLANK: 1368723 Matrix: Water  
Associated Lab Samples: 30235591001, 30235591002, 30235591003, 30235591004, 30235591005, 30235591006, 30235591007, 30235591008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/10/17 20:22	
Zinc	ug/L	10.0 U	10.0	1.0	11/10/17 20:22	

LABORATORY CONTROL SAMPLE: 1368724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	505	101	80-120	
Zinc	ug/L	500	508	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368726 1368727

Parameter	Units	30235591001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	507	506	101	101	75-125	0	20	
Zinc	ug/L	38.6	500	500	534	532	99	99	75-125	0	20	

SAMPLE DUPLICATE: 1368725

Parameter	Units	30235591001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	38.6	39.1	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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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235591001	RW02-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591002	RW02-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591003	RW01-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591004	RW01-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591005	RW03-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591006	RW03-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591007	RW04-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591008	RW21-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW22-MW(I)</span>	EPA 3005A	278700	EPA 6010C	278756

### REPORT OF LABORATORY ANALYSIS

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**CHAIN**  
The Chain™  
**WO# : 30235591**

Document  
accurately.

**Section A**  
Required Client Information:  
Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
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: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 170384M

**Section C**  
Invoice Information:  
Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1850 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

**Section D**  
REGULATORY AGENCY  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
Site Location: MD  
STATE:

ITEM #	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 Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
		COMPOSITE START	COMPOSITE END/GRAB						
1	RW02-MWG			4	WT	1			001
2	RW02-MWG			1		1		X	002
3	RW01-MWG			1		1		X	003
4	RW01-MWT			1		1		X	004
5	RW03-MWG			1		1		X	005
6	RW03-MWT			1		1		X	006
7	RW04-MWG			1		1		X	007
8	RW04-MWT			1		1		X	008
9									
10									
11									
12									

**Section E**  
ADDITIONAL COMMENTS

**Section F**  
RELINQUISHED BY / AFFILIATION DATE TIME  
Stewart Kabis 11/9/17 1530  
David Sargent 11/17/17 1530  
Samantha Bayura 11/17/17 1530

**Section G**  
ACCEPTED BY / AFFILIATION DATE TIME  
David Sargent 11/17/17 1644  
Samantha Bayura 11/17/17 1845  
Samantha Bayura 11/17/17 2330

**Section H**  
SAMPLE CONDITIONS  
Received on Ice (Y/N) Received on Temp in °C  
Custody Sealed (Y/N) Cooler (Y/N) Samples Intact (Y/N)

**Section I**  
SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: Leandra M Blum  
SIGNATURE of SAMPLER: Leandra Blum  
DATE Signed (MM/DD/YY): 11/09/17

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30235591

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label AM  
LIMS Login BLM

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 2.2 °C Correction Factor: 10.0 °C Final Temp: 22 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 11-10-17

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>W</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

November 16, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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  
(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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without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

---

### 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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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235926001	RW22-MW(S) <span style="border: 1px solid red; padding: 2px;">Changed to RW05-MW(S)</span>		11/13/17 20:20	11/13/17 22:50
30235926002	RW22-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW05-MW(I)</span>		11/13/17 48	11/13/17 22:50
30235926003	RW19-MW(S)	Water	11/13/17 09:55	11/13/17 22:50
30235926004	RW19-MW(I)	Water	11/13/17 10:15	11/13/17 22:50

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235926001	RW22-MW(S)	Changed to RW05-MW(S)	CTS	2
30235926002	RW22-MW(I)	Changed to RW05-MW(I)	CTS	2
30235926003	RW19-MW(S)	EPA 6010C	CTS	2
30235926004	RW19-MW(I)	EPA 6010C	CTS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 16, 2017

**General Information:**

4 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:

SD for 30235926-001 failed for Zn.

- QC Batch: 279206

Analyte Comments:

QC Batch: 279112

1c: SD for 30235926-001 failed for Zn.

- BLANK (Lab ID: 1370679)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1370681)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 16, 2017

Analyte Comments:

QC Batch: 279112

1c: SD for 30235926-001 failed for Zn.

- LCS (Lab ID: 1370680)
  - Cadmium
  - Zinc
- MS (Lab ID: 1370682)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1370683)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30235926004)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30235926003)
  - Cadmium
  - Zinc
- RW22-MW(I) (Lab ID: 30235926002)
  - Cadmium
  - Zinc
- RW22-MW(S) (Lab ID: 30235926001)
  - 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.: 30235926

Sample: **RW22-MW(S)** Changed to RW05-MW(S) 3/17 10:20 Received: 11/13/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 12:52	7440-43-9	1c
Zinc	<b>503</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 12:52	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW22-MW(I) Changed to RW05-MW(I) 11/13/17 10:48 Received: 11/13/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>4.9</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 13:06	7440-43-9	1c
Zinc	<b>502</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 13:06	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW19-MW(S)		Lab ID: 30235926003		Collected: 11/13/17 09:55	Received: 11/13/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>4.4</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 13:08	7440-43-9	1c	
Zinc	<b>2730</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 13:08	7440-66-6	1c	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW19-MW(I)		Lab ID: 30235926004		Collected: 11/13/17 10:15	Received: 11/13/17 22:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1770</b>	ug/L	300	87.0	100	11/15/17 07:47	11/16/17 13:22	7440-43-9	1c
Zinc	<b>3400000</b>	ug/L	100000	10400	10000	11/15/17 07:47	11/16/17 13:27	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.: 30235926

QC Batch: 279112 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235926001, 30235926002, 30235926003, 30235926004

METHOD BLANK: 1370679 Matrix: Water  
Associated Lab Samples: 30235926001, 30235926002, 30235926003, 30235926004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/16/17 12:47	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/16/17 12:47	1c

LABORATORY CONTROL SAMPLE: 1370680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	495	99	80-120	1c
Zinc	ug/L	500	495	99	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1370682 1370683

Parameter	Units	30235926001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	501	503	100	100	75-125	0	20	1c
Zinc	ug/L	503	500	500	978	989	95	97	75-125	1	20	1c

SAMPLE DUPLICATE: 1370681

Parameter	Units	30235926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	503	491	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.: 30235926

---

### 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: 279206

[1] SD for 30235926-001 failed for Zn.

### ANALYTE QUALIFIERS

1c SD for 30235926-001 failed for Zn.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235926001	RW22-MW(S)	Changed to RW05-MW(S)	12	EPA 6010C	279206
30235926002	RW22-MW(I)	Changed to RW05-MW(I)	12	EPA 6010C	279206
30235926003	RW19-MW(S)	EPA 3005A	279112	EPA 6010C	279206
30235926004	RW19-MW(I)	EPA 3005A	279112	EPA 6010C	279206

### 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: jcalenda@enviroanalyticsgroup.com  
 Phone: 314-620-3056  
 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: 170384M

**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 #:  
 Regulatory Agency: NPDES  GROUND WATER  DRINKING WATER  OTHER   
 Site Location: MD  
 STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes	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							
	Section E Required Client Information	Matrix	Code	Start Date	End Date	Time							
1	RW22-MW(S)	DRINKING WATER	DW	11/13/17	10:30			1	Unpreserved	Total Cadmium 6010			001
2	RW22-MW(L)	WASTE WATER	WW	11/13/17	10:48			1	H <sub>2</sub> SO <sub>4</sub>	Total Zinc 6010			002
3	RW19-MW(S)	WASTE WATER PRODUCT	WP	11/13/17	9:55			1	HCl				003
4	RW19-MW(L)	SOIL/SOLID	SL	11/13/17	10:15			1	NaOH				004
5		OIL	OL						HNO <sub>3</sub>				
6		WIPE	WP						Other				
7		AIR	AR						Methanol				
8		OTHER	OT						Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>				
9		TISSUE	TS						Other				
10													
11													
12													

**WO# : 30235926**

30235926

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
<i>James Calenda</i>	11/13/17	10:35	<i>David F. Hill</i>	11/13/17	16:35	Temp in °C
<i>David F. Hill</i>	11/13/17	16:35	<i>Henry S. Kelly</i>	11/13/17	19:30	Received on Ice (Y/N)
<i>Henry S. Kelly</i>	11/13/17	19:30	<i>John Hampton</i>	11-13-17	22:50	Custody Sealed Cooler (Y/N)
						Samples Intact (Y/N)

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: *Leandra M Gilmac* DATE Signed: 11/13/17  
 SIGNATURE of SAMPLER: *Leandra M Gilmac*

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAqua

Project # 30235926

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label AMC  
LIMS Login AMC

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 3.5/2.9 °C    Correction Factor: 100 °C    Final Temp: 3.5/2.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMC 11-14-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AMC</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

October 09, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 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.: 30231695

---

### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231695001	RW06-MW(D)	Water	10/02/17 10:59	10/02/17 23:00
30231695002	RW06-MW(I)	Water	10/02/17 11:22	10/02/17 23:00
30231695003	RW06-MW(S)	Water	10/02/17 11:52	10/02/17 23:00
30231695004	RW03-MW(S)	Water	10/02/17 12:48	10/02/17 23:00
30231695005	RW03-MW(I)	Water	10/02/17 13:09	10/02/17 23:00
30231695006	RW04-MW(S)	Water	10/02/17 14:00	10/02/17 23:00
30231695007	RW16-MW(I)	Water	10/02/17 14:47	10/02/17 23:00

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231695001	RW06-MW(D)	EPA 6010C	KAS	2
30231695002	RW06-MW(I)	EPA 6010C	KAS	2
30231695003	RW06-MW(S)	EPA 6010C	KAS	2
30231695004	RW03-MW(S)	EPA 6010C	KAS	2
30231695005	RW03-MW(I)	EPA 6010C	KAS	2
30231695006	RW04-MW(S)	EPA 6010C	KAS	2
30231695007	RW16-MW(I)	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** October 09, 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.

QC Batch: 274448

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231695001,30231822004

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

- MS (Lab ID: 1349864)
- Zinc

### 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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW06-MW(D)</b>									
<b>Lab ID: 30231695001</b>									
Collected: 10/02/17 10:59    Received: 10/02/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:21	7440-43-9	
Zinc	<b>29.0</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:21	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW06-MW(I)		Lab ID: 30231695002		Collected: 10/02/17 11:22		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:36	7440-43-9	
Zinc	<b>615</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW06-MW(S)		Lab ID: 30231695003		Collected: 10/02/17 11:52		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:38	7440-43-9	
Zinc	<b>2.4J</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:38	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW03-MW(S)</b>									
<b>Lab ID: 30231695004</b>									
Collected: 10/02/17 12:48    Received: 10/02/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>11.0</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:46	7440-43-9	
Zinc	<b>32100</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW03-MW(I)		Lab ID: 30231695005		Collected: 10/02/17 13:09		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>20.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:48	7440-43-9	
Zinc	<b>1810</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:48	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW04-MW(S)</b> <b>Lab ID: 30231695006</b> Collected: 10/02/17 14:00      Received: 10/02/17 23:00      Matrix: Water									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:51	7440-43-9	
Zinc	<b>137</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW16-MW(I)</b>									
<b>Lab ID: 30231695007</b>									
Collected: 10/02/17 14:47    Received: 10/02/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:53	7440-43-9	
Zinc	<b>2000</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:53	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

QC Batch: 274448 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30231695001, 30231695002, 30231695003, 30231695004, 30231695005, 30231695006, 30231695007

METHOD BLANK: 1349858 Matrix: Water  
Associated Lab Samples: 30231695001, 30231695002, 30231695003, 30231695004, 30231695005, 30231695006, 30231695007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/06/17 19:17	
Zinc	ug/L	10.0 U	10.0	1.0	10/06/17 19:17	

LABORATORY CONTROL SAMPLE: 1349859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	469	94	80-120	
Zinc	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349861 1349862

Parameter	Units	30231695001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	480	474	96	95	75-125	1	20	
Zinc	ug/L	29.0	500	500	511	505	96	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1349864

Parameter	Units	30231822004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	10.6	500	475	93	75-125	
Zinc	ug/L	8310	500	8470	32	75-125 ML	

SAMPLE DUPLICATE: 1349860

Parameter	Units	30231695001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	29.0	29.1	0	20	

SAMPLE DUPLICATE: 1349863

Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	10.6	10.4	2	20	
Zinc	ug/L	8310	8350	0	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

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### 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.

### ANALYTE QUALIFIERS

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.: 30231695

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231695001	RW06-MW(D)	EPA 3005A	274448	EPA 6010C	274531
30231695002	RW06-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231695003	RW06-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695004	RW03-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695005	RW03-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231695006	RW04-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695007	RW16-MW(I)	EPA 3005A	274448	EPA 6010C	274531

### REPORT OF LABORATORY ANALYSIS

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**CHAIN-OF**  
The Chain-of-Custody

**WO#: 30231695**

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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: **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: **130384M**

Invoice Information:

Attention: **Laura Sargent**

Company Name: **EnviroAnalytics Group**

Address: **1660 Des Peres Road, Suite 303 St. Louis, MO 63131**

Reference: **Pace Project**

Manager: **Samantha Bayura**

Face Profile #:

**REGULATORY AGENCY**

NPDES  GROUND WATER  DRINKING WATER

UST  RCRA  OTHER

Site Location

STATE: **MD**

Page: **1** of **1**

**Section D**  
Required Client Information

**SAMPLE ID**  
(A-Z, 0-9 / -)  
Sample IDs MUST BE UNIQUE

**Valid Matrix Codes**

MATRIX CODE  
DW DRINKING WATER  
WT WASTE WATER  
WP WASTE PRODUCT  
SL SOILSOLID  
CL OIL  
VP WIPE  
AR AIR  
OT TISSUE  
TS

**COLLECTED**

COMPOSITE START	DATE	TIME	COMPOSITE END/GRAB	DATE	TIME
	10/6/13	1059			
		1122			
		1152			
		1248			
		1359			
		1400			
		1447			

**MATRIX CODE** (see valid codes to left)

**SAMPLE TYPE** (G=GRAB C=COMP)

**# OF CONTAINERS**

**Preservatives**

Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X

**Analysis Test**

Total Cadmium 6010	Total Zinc 6010
X	X
X	X
X	X
X	X
X	X
X	X

**Requested Analysis Filtered (Y/N)**

**Residual Chlorine (Y/N)**

**Pace Project No./ Lab I.D.**

001
002
003
004
005
006
007

ITEM #	MATRIX CODE	SAMPLE TYPE	COLLECTED	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	RW06-MWD	G	10/6/13 1059	1	X	X			001
2	RW06-MWD	G	11/22	1	X	X			002
3	RW06-MWD	G	11/52	1	X	X			003
4	RW03-MWD	G	12/48	1	X	X			004
5	RW03-MWD	G	1359	1	X	X			005
6	RW04-MWD	G	1400	1	X	X			006
7	RW16-MWD	G	1447	1	X	X			007
8									
9									
10									
11									
12									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	James Calenda	10/21/13	1515	James Calenda	10/21/13	1515	
	David Y. Hilgerson	10/21/13	1903	David Y. Hilgerson	10/21/13	1915	
	James Calenda	10/21/13	2300	James Calenda	10/21/13	2300	

TEMP IN °C	RECEIVED ON	ICE (Y/N)	CUSTOMY SEALED	COOLER (Y/N)	SAMPLES INTACT (Y/N)
	10-27-2003	Y	Y	Y	Y

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: **Leandra M. Giumac** DATE Signed: **10/20/13**

SIGNATURE of SAMPLER: *[Signature]* (MM/DD/YY): **10/20/13**

\*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.

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAqua

Project # 30231695

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>BAM</u>

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 3.7 °C Correction Factor: 10.0 °C Final Temp: 3.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 10-3-17

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>M</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

October 09, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 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.: 30231822

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231822001	RW11-MW(S)	Water	10/03/17 10:23	10/03/17 23:30
30231822002	RW11-MW(I)	Water	10/03/17 10:50	10/03/17 23:30
30231822003	RW09-MW(I)	Water	10/03/17 11:22	10/03/17 23:30
30231822004	RW09-MW(S)	Water	10/03/17 11:49	10/03/17 23:30
30231822005	RW08-MW(S)	Water	10/03/17 12:56	10/03/17 23:30
30231822006	RW08-MW(I)	Water	10/03/17 13:24	10/03/17 23:30
30231822007	RW07-MW(I)	Water	10/03/17 14:10	10/03/17 23:30
30231822008	RW07-MW(S)	Water	10/03/17 14:55	10/03/17 23:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231822001	RW11-MW(S)	EPA 6010C	KAS	2
30231822002	RW11-MW(I)	EPA 6010C	KAS	2
30231822003	RW09-MW(I)	EPA 6010C	KAS	2
30231822004	RW09-MW(S)	EPA 6010C	KAS	2
30231822005	RW08-MW(S)	EPA 6010C	KAS	2
30231822006	RW08-MW(I)	EPA 6010C	KAS	2
30231822007	RW07-MW(I)	EPA 6010C	KAS	2
30231822008	RW07-MW(S)	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** October 09, 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.

QC Batch: 274448

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231695001,30231822004

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

- MS (Lab ID: 1349864)
- Zinc

### 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW11-MW(S)</b> <b>Lab ID: 30231822001</b> Collected: 10/03/17 10:23      Received: 10/03/17 23:30      Matrix: Water									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:56	7440-43-9	
Zinc	<b>9270</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW11-MW(l)</b>									
<b>Lab ID: 30231822002</b>									
Collected: 10/03/17 10:50    Received: 10/03/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>125</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:58	7440-43-9	
Zinc	<b>111000</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:30	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW09-MW(I)		Lab ID: 30231822003		Collected: 10/03/17 11:22		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.0</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:01	7440-43-9	
Zinc	<b>49700</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:32	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Sample: <b>RW09-MW(S)</b>		Lab ID: <b>30231822004</b>		Collected: 10/03/17 11:49		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.6</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:03	7440-43-9	
Zinc	<b>8310</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:35	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Sample: RW08-MW(S)		Lab ID: 30231822005		Collected: 10/03/17 12:56		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.96J</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:15	7440-43-9	
Zinc	<b>1950</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:15	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW08-MW(I)</b>									
<b>Lab ID: 30231822006</b>									
Collected: 10/03/17 13:24    Received: 10/03/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:17	7440-43-9	
Zinc	<b>16.9</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:17	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW07-MW(I)</b>									
<b>Lab ID: 30231822007</b>									
Collected: 10/03/17 14:10    Received: 10/03/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:20	7440-43-9	
Zinc	<b>23.4</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW07-MW(S)		Lab ID: 30231822008		Collected: 10/03/17 14:55		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:22	7440-43-9	
Zinc	<b>144</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

QC Batch: 274448 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30231822001, 30231822002, 30231822003, 30231822004, 30231822005, 30231822006, 30231822007, 30231822008

METHOD BLANK: 1349858 Matrix: Water  
Associated Lab Samples: 30231822001, 30231822002, 30231822003, 30231822004, 30231822005, 30231822006, 30231822007, 30231822008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/06/17 19:17	
Zinc	ug/L	10.0 U	10.0	1.0	10/06/17 19:17	

LABORATORY CONTROL SAMPLE: 1349859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	469	94	80-120	
Zinc	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349861 1349862

Parameter	Units	30231695001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	480	474	96	95	75-125	1	20	
Zinc	ug/L	29.0	500	500	511	505	96	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1349864

Parameter	Units	30231822004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	10.6	500	475	93	75-125	
Zinc	ug/L	8310	500	8470	32	75-125 ML	

SAMPLE DUPLICATE: 1349860

Parameter	Units	30231695001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	29.0	29.1	0	20	

SAMPLE DUPLICATE: 1349863

Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	10.6	10.4	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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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

SAMPLE DUPLICATE: 1349863

Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	8310	8350	0	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

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### 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.

### ANALYTE QUALIFIERS

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.: 30231822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231822001	RW11-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822002	RW11-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822003	RW09-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822004	RW09-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822005	RW08-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822006	RW08-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822007	RW07-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822008	RW07-MW(S)	EPA 3005A	274448	EPA 6010C	274531

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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

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> 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			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Root and Wire Mill GW Sampling	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	5 Day	Project Number:	70384M	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 CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID S OIL CL 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 Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> SO <sub>3</sub> 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.
			COMPOSITE START	COMPOSITE END/GRAB								
1	RW11-MW(S)			10/3/17	1023	WT G	1	X	X			001
2	RW11-MW(G)				1050		1	X	X			002
3	RW09-MW(G)				1122		1	X	X			003
4	RW09-MW(S)				1149		1	X	X			004
5	RW08-MW(S)				1256		1	X	X			005
6	RW08-MW(G)				1324		1	X	X			006
7	RW07-MW(G)				1410		1	X	X			007
8	RW07-MW(S)				1455		1	X	X			008
9												
10												
11												
12												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	David S. Halpern / Pace	10/3/17	1530	David S. Halpern / Pace	10/17/17	1630	
	David S. Halpern / Pace	10/31/17	1950	David S. Halpern / Pace	10/17/17	1950	
	David S. Halpern / Pace	10/31/17	2330	David S. Halpern / Pace	10-31-17	2330	Y

Temp in °C: 29

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): Y

Samples Intact (Y/N): Y

**NO# : 30231822**

**30231822**

SAMPLER NAME AND SIGNATURE: Samantha M. Glumac

PRINT Name of SAMPLER: Samantha M. Glumac

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YY): 10/03/17



Client Name: EnviroAna Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>COC</u>
LIMS Login	<u>ANU</u>

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 2.9 °C Correction Factor: 10.0 °C Final Temp: 2.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 10-4-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>ANU</u> Date/time of preservation
<u>AM 10-4-17</u>				Lot # of added preservative
Headspace in VOA Vials (>6mm):		X	X	17.
Trip Blank Present:		X		18.
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.

October 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 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.: 30231962

---

### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231962001	RW19-MW(S)	Water	10/04/17 09:32	10/04/17 23:30
30231962002	RW19-MW(I)	Water	10/04/17 09:56	10/04/17 23:30
30231962003	RW21-MW(I)	Water	10/04/17 10:33	10/04/17 23:30
30231962004	RW02-MW(I)	Water	10/04/17 11:29	10/04/17 23:30
30231962005	RW02-MW(S)	Water	10/04/17 12:12	10/04/17 23:30
30231962006	RW01-MW(S)	Water	10/04/17 13:06	10/04/17 23:30
30231962007	RW01-MW(I)	Water	10/04/17 13:48	10/04/17 23:30
30231962008	RW22-MW(S)	Water	10/04/17 14:33	10/04/17 23:30
30231962009	RW22-MW(I)	Water	10/04/17 15:09	10/04/17 23:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231962001	RW19-MW(S)	EPA 6010C	KAS	2
30231962002	RW19-MW(I)	EPA 6010C	KAS	2
30231962003	RW21-MW(I)	EPA 6010C	KAS	2
30231962004	RW02-MW(I)	EPA 6010C	KAS	2
30231962005	RW02-MW(S)	EPA 6010C	KAS	2
30231962006	RW01-MW(S)	EPA 6010C	KAS	2
30231962007	RW01-MW(I)	EPA 6010C	KAS	2
30231962008	RW22-MW(S)	EPA 6010C	KAS	2
30231962009	RW22-MW(I)	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** October 11, 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: 274811

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231962001,30232321002

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

- MS (Lab ID: 1351542)
  - Zinc
- MSD (Lab ID: 1351540)
  - Zinc

### 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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW19-MW(S)</b>									
<b>Lab ID: 30231962001</b>									
Collected: 10/04/17 09:32    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>5.2</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 18:37	7440-43-9	
Zinc	<b>18700</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:00	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW19-MW(I)		Lab ID: 30231962002		Collected: 10/04/17 09:56		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1710</b>	ug/L	300	87.0	100	10/10/17 09:46	10/10/17 20:15	7440-43-9	
Zinc	<b>3670000</b>	ug/L	10000	1040	1000	10/10/17 09:46	10/10/17 21:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW21-MW(I)</b>									
<b>Lab ID: 30231962003</b>									
Collected: 10/04/17 10:33    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 18:54	7440-43-9	
Zinc	<b>16100</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:17	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW02-MW(I)</b>									
<b>Lab ID: 30231962004</b>									
Collected: 10/04/17 11:29    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>2.4J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:04	7440-43-9	
Zinc	<b>290</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:04	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW02-MW(S)</b>									
<b>Lab ID: 30231962005</b>									
Collected: 10/04/17 12:12    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>9.1</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:06	7440-43-9	
Zinc	<b>5490</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

<b>Sample: RW01-MW(S)</b>		<b>Lab ID: 30231962006</b>		Collected: 10/04/17 13:06	Received: 10/04/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1.7J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:08	7440-43-9		
Zinc	<b>7730</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:22	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW01-MW(I)</b>									
<b>Lab ID: 30231962007</b>									
Collected: 10/04/17 13:48    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>145</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:11	7440-43-9	
Zinc	<b>13700</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:30	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW22-MW(S)</b>									
<b>Lab ID: 30231962008</b>									
Collected: 10/04/17 14:33    Received: 10/04/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>1.2J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:13	7440-43-9	
Zinc	<b>1410</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW22-MW(I)		Lab ID: 30231962009		Collected: 10/04/17 15:09		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:16	7440-43-9	
Zinc	<b>349</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

QC Batch: 274811 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30231962001, 30231962002, 30231962003, 30231962004, 30231962005, 30231962006, 30231962007, 30231962008, 30231962009

METHOD BLANK: 1351536 Matrix: Water  
Associated Lab Samples: 30231962001, 30231962002, 30231962003, 30231962004, 30231962005, 30231962006, 30231962007, 30231962008, 30231962009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/10/17 18:33	
Zinc	ug/L	10.0 U	10.0	1.0	10/10/17 18:33	

LABORATORY CONTROL SAMPLE: 1351537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	521	104	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351539 1351540

Parameter	Units	30231962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	5.2	500	500	536	540	106	107	75-125	1	20	
Zinc	ug/L	18700	500	500	19200	19100	88	70	75-125	0	20 ML	

MATRIX SPIKE SAMPLE: 1351542

Parameter	Units	30232321002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1510	500	1920	83	75-125	
Zinc	ug/L	150000	500	143000	-1500	75-125 ML	

SAMPLE DUPLICATE: 1351538

Parameter	Units	30231962001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	5.2	5.8	11	20	
Zinc	ug/L	18700	19000	2	20	

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1510	1480	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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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	150000	147000	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: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

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### 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.

### ANALYTE QUALIFIERS

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.: 30231962

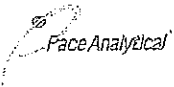
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231962001	RW19-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962002	RW19-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962003	RW21-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962004	RW02-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962005	RW02-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962006	RW01-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962007	RW01-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962008	RW22-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962009	RW22-MW(I)	EPA 3005A	274811	EPA 6010C	274905

### REPORT OF LABORATORY ANALYSIS

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Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna. Project # 30231962

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label 76  
LIMS Login BUM

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 3.9 °C Correction Factor: 10.0 °C Final Temp: 3.9 °C  
Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMM 10-5-17

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>VT</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AMM</u> Date/time of preservation: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

October 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 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.: 30232321

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30232321001	RW12-MW(S)	Water	10/06/17 09:28	10/06/17 23:00
30232321002	RW12-MW(I)	Water	10/06/17 10:05	10/06/17 23:00
30232321003	RW18-MW(S)	Water	10/06/17 10:58	10/06/17 23:00
30232321004	RW18-MW(I)	Water	10/06/17 11:30	10/06/17 23:00
30232321005	RW16-MW(S)	Water	10/06/17 12:05	10/06/17 23:00
30232321006	RW10-MW(I)	Water	10/06/17 13:22	10/06/17 23:00
30232321007	RW13-MW(I)	Water	10/06/17 14:12	10/06/17 23:00
30232321008	RW14-MW(S)	Water	10/06/17 14:58	10/06/17 23:00

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30232321001	RW12-MW(S)	EPA 6010C	KAS	2
30232321002	RW12-MW(I)	EPA 6010C	KAS	2
30232321003	RW18-MW(S)	EPA 6010C	KAS	2
30232321004	RW18-MW(I)	EPA 6010C	KAS	2
30232321005	RW16-MW(S)	EPA 6010C	KAS	2
30232321006	RW10-MW(I)	EPA 6010C	KAS	2
30232321007	RW13-MW(I)	EPA 6010C	KAS	2
30232321008	RW14-MW(S)	EPA 6010C	KAS	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** October 11, 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.

QC Batch: 274811

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231962001,30232321002

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

- MS (Lab ID: 1351542)
  - Zinc
- MSD (Lab ID: 1351540)
  - Zinc

**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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW12-MW(S)</b>									
<b>Lab ID: 30232321001</b>									
Collected: 10/06/17 09:28    Received: 10/06/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>11.3</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:18	7440-43-9	
Zinc	<b>3790</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW12-MW(I)      Lab ID: 30232321002      Collected: 10/06/17 10:05      Received: 10/06/17 23:00      Matrix: Water</b>									
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>1510</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:21	7440-43-9	
Zinc	<b>150000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:32	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW18-MW(S)</b>									
<b>Lab ID: 30232321003</b>									
Collected: 10/06/17 10:58    Received: 10/06/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>306</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:36	7440-43-9	
Zinc	<b>14500</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:40	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Sample: RW18-MW(I)		Lab ID: 30232321004		Collected: 10/06/17 11:30	Received: 10/06/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>43.7</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:38	7440-43-9		
Zinc	<b>393000</b>	ug/L	10000	1040	1000	10/10/17 09:46	10/10/17 21:02	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW16-MW(S)</b>									
<b>Lab ID: 30232321005</b>									
Collected: 10/06/17 12:05    Received: 10/06/17 23:00    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 20:53	7440-43-9	
Zinc	<b>26.2</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 20:53	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW10-MW(I)		Lab ID: 30232321006		Collected: 10/06/17 13:22	Received: 10/06/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>24.6</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:43	7440-43-9		
Zinc	<b>31000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:44	7440-66-6		

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

<b>Sample: RW13-MW(I)</b>		<b>Lab ID: 30232321007</b>		Collected: 10/06/17 14:12	Received: 10/06/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>28700</b>	ug/L	300	87.0	100	10/10/17 09:46	10/10/17 20:47	7440-43-9	
Zinc	<b>204000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:47	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW14-MW(S)		Lab ID: 30232321008		Collected: 10/06/17 14:58		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1750</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:48	7440-43-9	
Zinc	<b>28900</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

QC Batch: 274811 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30232321001, 30232321002, 30232321003, 30232321004, 30232321005, 30232321006, 30232321007, 30232321008

METHOD BLANK: 1351536 Matrix: Water  
Associated Lab Samples: 30232321001, 30232321002, 30232321003, 30232321004, 30232321005, 30232321006, 30232321007, 30232321008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/10/17 18:33	
Zinc	ug/L	10.0 U	10.0	1.0	10/10/17 18:33	

LABORATORY CONTROL SAMPLE: 1351537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	521	104	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351539 1351540

Parameter	Units	30231962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	5.2	500	500	536	540	106	107	75-125	1	20	
Zinc	ug/L	18700	500	500	19200	19100	88	70	75-125	0	20 ML	

MATRIX SPIKE SAMPLE: 1351542

Parameter	Units	30232321002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1510	500	1920	83	75-125	
Zinc	ug/L	150000	500	143000	-1500	75-125 ML	

SAMPLE DUPLICATE: 1351538

Parameter	Units	30231962001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	5.2	5.8	11	20	
Zinc	ug/L	18700	19000	2	20	

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1510	1480	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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**QUALITY CONTROL DATA**

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	150000	147000	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: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

---

### 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.

### ANALYTE QUALIFIERS

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.: 30232321

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30232321001	RW12-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321002	RW12-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321003	RW18-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321004	RW18-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321005	RW16-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321006	RW10-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321007	RW13-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321008	RW14-MW(S)	EPA 3005A	274811	EPA 6010C	274905

### 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.

30232321

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: **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: **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 Queue Reference:  
 Pace Project Manager: **Samantha Bayura**  
 Pace Profile #:

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Site Location: MD STATE: MD

NO#: 30232321



ITEM #	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	Required Client Information <b>SAMPLE ID</b> (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	Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Preservatives Y/N	Requested Y/N	Analysis Test Total Cadmium 6010 Total Zinc 6010 Residual Chlorine	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB						
1		RW12-MWG		G		10/6/17	0928				001	
2		RW12-MWG		G		1005					002	
3		RW18-MWG		G		1058					003	
4		RW18-MWG		G		1130					004	
5		RW16-MWG		G		1205					005	
6		RW10-MWG		G		1332					006	
7		RW13-MWG		G		1412					007	
8		RW14-MWG		G		1458					008	
9												
10												
11												
12												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	David F. Hillebrand	10/6/17	1725	David F. Hillebrand	10/6/17	1630	
	David F. Hillebrand	10/6/17	1900	David F. Hillebrand	10/6/17	1905	
	David F. Hillebrand	10/6/17	2300	David F. Hillebrand	10/6/17	2300	Y N Y

Temp in °C: \_\_\_\_\_  
 Received on: \_\_\_\_\_  
 Custody Sealed: \_\_\_\_\_  
 Cooler (Y/N): \_\_\_\_\_  
 Samples Intact (Y/N): \_\_\_\_\_

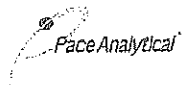
DATE Signed (MM/DD/YYYY): 10/6/17

PRINT Name of SAMPLER: *Laura Sargent*  
 SIGNATURE of SAMPLER: *Laura Sargent*

SAMPLER NAME AND SIGNATURE: *David F. Hillebrand*

Pittsburgh Lab Sample Condition Upon Receipt

30 232321



Client Name: SPARRONS Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label ARM  
LIMS Login ARM

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 2.9 °C Correction Factor: 10.0 °C Final Temp: 2.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 10/7/17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
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):			/	17.
Trip Blank Present:			/	18.
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.

October 16, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 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.: 30232421

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30232421001	RW20-MW(S)	Water	10/09/17 09:56	10/09/17 23:25
30232421002	RW20-MW(I)	Water	10/09/17 10:44	10/09/17 23:25

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30232421001	RW20-MW(S)	EPA 6010C	PJD	2
30232421002	RW20-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.: 30232421

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** October 16, 2017

**General Information:**

2 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Sample: RW20-MW(S)		Lab ID: 30232421001		Collected: 10/09/17 09:56		Received: 10/09/17 23:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>25.3</b>	ug/L	3.0	0.87	1	10/12/17 09:53	10/12/17 21:35	7440-43-9	
Zinc	<b>900</b>	ug/L	10.0	1.0	1	10/12/17 09:53	10/12/17 21:35	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW20-MW(I)</b>									
<b>Lab ID: 30232421002</b>									
Collected: 10/09/17 10:44    Received: 10/09/17 23:25    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/12/17 09:53	10/12/17 21:49	7440-43-9	
Zinc	<b>295</b>	ug/L	10.0	1.0	1	10/12/17 09:53	10/12/17 21:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

QC Batch: 275157 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30232421001, 30232421002

METHOD BLANK: 1352935 Matrix: Water  
Associated Lab Samples: 30232421001, 30232421002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/12/17 21:30	
Zinc	ug/L	10.0 U	10.0	1.0	10/12/17 21:30	

LABORATORY CONTROL SAMPLE: 1352936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	488	98	80-120	
Zinc	ug/L	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352938 1352939

Parameter	Units	30232421001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Cadmium	ug/L	25.3	500	531	533	101	101	75-125	0	20		
Zinc	ug/L	900	500	1380	1390	96	99	75-125	1	20		

SAMPLE DUPLICATE: 1352937

Parameter	Units	30232421001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	25.3	24.8	2	20	
Zinc	ug/L	900	888	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: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

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### 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.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30232421001	RW20-MW(S)	EPA 3005A	275157	EPA 6010C	275267
30232421002	RW20-MW(I)	EPA 3005A	275157	EPA 6010C	275267

**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: **icalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3066** 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: **170384M**

**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 #:

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
 Site Location: \_\_\_\_\_ STATE: **MD**

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WASTE WATER PRODUCT P SOILSOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Section D Required Client Information <b>SAMPLE ID</b> (A-Z, 0-9 / - / -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
1		RW20-MW(S)	10/17/19	1045	1	1	Unpreserved	Y		001
2		RW20-MW(D)	10/17/19	1044	1	1	H <sub>2</sub> SO <sub>4</sub>	Y		002
3							HCl			
4							NaOH			
5							Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>			
6							Methanol			
7							Other			
8							Analysis Test ↑			
9							Total Cadmium 6010	X		
10							Total Zinc 6010	X		
11										
12										

**ADDITIONAL COMMENTS**  
 Andrew Williams  
 David Williams  
 10/17/19  
 10/17/19  
 10/17/19

**RELINQUISHED BY / AFFILIATION**  
 Andrew Williams  
 David Williams  
 10/17/19  
 10/17/19

**DATE**  
 10/17/19  
 10/17/19  
 10/17/19

**TIME**  
 1045  
 1044

**ACCEPTED BY / AFFILIATION**  
 David Williams  
 Andrew Williams  
 10/17/19  
 10/17/19

**DATE**  
 10/17/19  
 10/17/19

**TIME**  
 12:00  
 12:38

**SAMPLE CONDITIONS**  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y  
 Y

**Temp in °C**  
 38  
 38

**Received on**  
 Y  
 Y

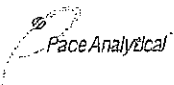
**Ice (Y/N)**  
 Y  
 Y

**Custody Sealed**  
 Y  
 Y

**Samples Intact**  
 Y  
 Y

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: **Leanda M. Calmas**  
 SIGNATURE of SAMPLER: *Leanda M. Calmas*  
 DATE Signed (MM/DD/YY): **10/08/19**

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAqua

Project # 30232421

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>ZH</u>
LIMS Login	<u>ANV</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 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: AML 10-10-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AML</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

September 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 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.: 30229013

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229013001	RW06-MW (D)	Water	09/01/17 11:28	09/01/17 22:15
30229013002	RW06-MW (I)	Water	09/01/17 11:50	09/01/17 22:15
30229013003	RW06-MW (S)	Water	09/01/17 12:33	09/01/17 22:15
30229013004	RW03-MW (S)	Water	09/01/17 13:27	09/01/17 22:15
30229013005	RW03-MW (I)	Water	09/01/17 14:00	09/01/17 22:15
30229013006	RW04-MW (S)	Water	09/01/17 14:55	09/01/17 22:15

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229013001	RW06-MW (D)	EPA 6010C	PJD	2
30229013002	RW06-MW (I)	EPA 6010C	PJD	2
30229013003	RW06-MW (S)	EPA 6010C	PJD	2
30229013004	RW03-MW (S)	EPA 6010C	PJD	2
30229013005	RW03-MW (I)	EPA 6010C	PJD	2
30229013006	RW04-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.: 30229013

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 08, 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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Sample: RW06-MW (D)		Lab ID: 30229013001	Collected: 09/01/17 11:28	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.85J</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 18:44	7440-43-9	
Zinc	<b>20.3</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 18:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Sample: RW06-MW (I)		Lab ID: 30229013002		Collected: 09/01/17 11:50		Received: 09/01/17 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.5</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 18:58	7440-43-9	
Zinc	<b>508</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 18:58	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW06-MW (S)		Lab ID: 30229013003		Collected: 09/01/17 12:33		Received: 09/01/17 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:00	7440-43-9	
Zinc	<b>10.0 U</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 19:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Sample: RW03-MW (S)		Lab ID: 30229013004	Collected: 09/01/17 13:27	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.4</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:08	7440-43-9	
Zinc	<b>16300</b>	ug/L	1000	108	100	09/06/17 08:24	09/07/17 19:21	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW03-MW (I)		Lab ID: 30229013005	Collected: 09/01/17 14:00	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>214</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:10	7440-43-9	
Zinc	<b>9340</b>	ug/L	100	10.8	10	09/06/17 08:24	09/07/17 19:23	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW04-MW (S)</b>									
<b>Lab ID: 30229013006</b>									
Collected: 09/01/17 14:55    Received: 09/01/17 22:15    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>0.71J</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:12	7440-43-9	
Zinc	<b>163</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 19:12	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

QC Batch: 270606 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30229013001, 30229013002, 30229013003, 30229013004, 30229013005, 30229013006

METHOD BLANK: 1331586 Matrix: Water  
Associated Lab Samples: 30229013001, 30229013002, 30229013003, 30229013004, 30229013005, 30229013006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/07/17 18:39	
Zinc	ug/L	10.0 U	10.0	1.1	09/07/17 18:39	

LABORATORY CONTROL SAMPLE: 1331587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	524	105	80-120	
Zinc	ug/L	500	520	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1331589 1331590

Parameter	Units	30229013001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result						
Cadmium	ug/L	0.85J	500	500	532	525	106	105	75-125	1	20	
Zinc	ug/L	20.3	500	500	535	530	103	102	75-125	1	20	

SAMPLE DUPLICATE: 1331588

Parameter	Units	30229013001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.85J	0.96J		20	
Zinc	ug/L	20.3	19.2	6	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

---

### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229013001	RW06-MW (D)	EPA 3005A	270606	EPA 6010C	270721
30229013002	RW06-MW (I)	EPA 3005A	270606	EPA 6010C	270721
30229013003	RW06-MW (S)	EPA 3005A	270606	EPA 6010C	270721
30229013004	RW03-MW (S)	EPA 3005A	270606	EPA 6010C	270721
30229013005	RW03-MW (I)	EPA 3005A	270606	EPA 6010C	270721
30229013006	RW04-MW (S)	EPA 3005A	270606	EPA 6010C	270721

### REPORT OF LABORATORY ANALYSIS

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**Section A**  
 Required Client Information:  
 Company: **EnviroAnalytics Group**

**Section B**  
 Required Project Information:  
 Report To: **James Calenda**  
 Copy To: **Stewart Kabis**

**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 #: \_\_\_\_\_

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**

Project Name: **Rod and Wire Mill GW Sampling**  
 Project Number: \_\_\_\_\_

REGULATORY AGENCY: \_\_\_\_\_  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Site Location: \_\_\_\_\_ STATE: **MD**

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE 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	Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Preservatives	W/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
1				DATE	TIME							
2				DATE	TIME							
3				DATE	TIME							
4				DATE	TIME							
5				DATE	TIME							
6				DATE	TIME							
7				DATE	TIME							
8				DATE	TIME							
9				DATE	TIME							
10				DATE	TIME							
11				DATE	TIME							
12				DATE	TIME							

**ADDITIONAL COMMENTS**

RELINQUISHED BY / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

ACCEPTED BY / AFFILIATION: *David S. Hillegas* DATE: *9/17/15* TIME: \_\_\_\_\_

Temp in °C: \_\_\_\_\_ Received on Ice (Y/N): \_\_\_\_\_ Custody Sealed (Y/N): \_\_\_\_\_ Samples Intact (Y/N): \_\_\_\_\_

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: *Leandra M. Calenda*  
 SIGNATURE of SAMPLER: *Leandra M. Calenda* DATE Signed (MM/DD/YYYY): *09/01/15*

Pittsburgh Lab Sample Condition Upon Receipt

30229013



Client Name: EnviroAnalytics Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: N/A

Label <u>ZH</u>
LIMS Login <u>TR1</u>

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 1.7 °C Correction Factor: 0.0 °C Final Temp: 1.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: <u>ZH 9/2/12</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16. <u>Pitler</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ZH</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
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.

September 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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.: 30229127

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229127001	RW05-MW(I)	Water	09/05/17 09:27	09/05/17 23:30
30229127002	RW13-MW(I)	Water	09/05/17 10:25	09/05/17 23:30
30229127003	RW12-MW(S)	Water	09/05/17 11:10	09/05/17 23:30
30229127004	RW12-MW(I)	Water	09/05/17 11:47	09/05/17 23:30
30229127005	RW17-MW(S)	Water	09/05/17 12:23	09/05/17 23:30
30229127006	RW16-MW(I)	Water	09/05/17 13:37	09/05/17 23:30
30229127007	RW14-MW(S)	Water	09/05/17 14:09	09/05/17 23:30
30229127008	RW16-MW(S)	Water	09/05/17 15:10	09/05/17 23:30

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229127001	RW05-MW(I)	EPA 6010C	PJD	2
30229127002	RW13-MW(I)	EPA 6010C	PJD	2
30229127003	RW12-MW(S)	EPA 6010C	PJD	2
30229127004	RW12-MW(I)	EPA 6010C	PJD	2
30229127005	RW17-MW(S)	EPA 6010C	PJD	2
30229127006	RW16-MW(I)	EPA 6010C	PJD	2
30229127007	RW14-MW(S)	EPA 6010C	PJD	2
30229127008	RW16-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.: 30229127

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 11, 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.

QC Batch: 270942

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229127001,30229225003

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

- MSD (Lab ID: 1333391)
- Zinc

**Duplicate Sample:**

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

**Additional Comments:**

Batch Comments:

- PDS failed for Zinc.
- QC Batch: 271062

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- BLANK (Lab ID: 1333387)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333389)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333392)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1333388)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333390)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333393)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1333391)
  - Cadmium
  - Zinc
- RW05-MW(I) (Lab ID: 30229127001)
  - Cadmium
  - Zinc
- RW12-MW(I) (Lab ID: 30229127004)
  - Cadmium
  - Zinc
- RW12-MW(S) (Lab ID: 30229127003)
  - Cadmium
  - Zinc
- RW13-MW(I) (Lab ID: 30229127002)
  - Cadmium
  - Zinc
- RW14-MW(S) (Lab ID: 30229127007)
  - Cadmium
  - Zinc
- RW16-MW(I) (Lab ID: 30229127006)
  - Cadmium
  - Zinc
- RW16-MW(S) (Lab ID: 30229127008)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- RW17-MW(S) (Lab ID: 30229127005)
  - 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.: 30229127

Sample: RW05-MW(I)		Lab ID: 30229127001		Collected: 09/05/17 09:27		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1400</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 21:44	7440-43-9	1c
Zinc	<b>30900</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:03	7440-66-6	1c,MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW13-MW(I)</b>									
<b>Lab ID: 30229127002</b>									
Collected: 09/05/17 10:25    Received: 09/05/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>66.0</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 21:58	7440-43-9	1c
Zinc	<b>1160</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 21:58	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

Sample: RW12-MW(S)		Lab ID: 30229127003		Collected: 09/05/17 11:10		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.1</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:01	7440-43-9	1c
Zinc	<b>3980</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:01	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW12-MW(I)		Lab ID: 30229127004		Collected: 09/05/17 11:47		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1820</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:13	7440-43-9	1c
Zinc	<b>156000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:18	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW17-MW(S)</b>									
<b>Lab ID: 30229127005</b>									
Collected: 09/05/17 12:23    Received: 09/05/17 23:30    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>5870</b>	ug/L	300	34.4	100	09/08/17 08:50	09/09/17 01:21	7440-43-9	1c
Zinc	<b>330000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:21	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW16-MW(I)		Lab ID: 30229127006		Collected: 09/05/17 13:37		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:18	7440-43-9	1c
Zinc	<b>20200</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:23	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW14-MW(S)		Lab ID: 30229127007		Collected: 09/05/17 14:09		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1700</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:21	7440-43-9	1c
Zinc	<b>43500</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:25	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

Sample: <b>RW16-MW(S)</b>		Lab ID: <b>30229127008</b>		Collected: 09/05/17 15:10		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:23	7440-43-9	1c
Zinc	<b>25.6</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:23	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.: 30229127

QC Batch: 270942 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30229127001, 30229127002, 30229127003, 30229127004, 30229127005, 30229127006, 30229127007, 30229127008

METHOD BLANK: 1333387 Matrix: Water  
Associated Lab Samples: 30229127001, 30229127002, 30229127003, 30229127004, 30229127005, 30229127006, 30229127007, 30229127008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/08/17 21:39	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/08/17 21:39	1c

LABORATORY CONTROL SAMPLE: 1333388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	1c
Zinc	ug/L	500	502	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333390 1333391

Parameter	Units	30229127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1900	1820	101	84	75-125	4	20	1c
Zinc	ug/L	30900	500	500	31500	31600	112	146	75-125	1	20	1c, MH

MATRIX SPIKE SAMPLE: 1333393

Parameter	Units	30229225003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.81J	500	521	104	75-125	1c
Zinc	ug/L	10600	500	11000	92	75-125	1c

SAMPLE DUPLICATE: 1333389

Parameter	Units	30229127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1390	1	20	1c
Zinc	ug/L	30900	30400	2	20	1c

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.81J	0.88J		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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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	10600	10500	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.

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

---

### 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: 271062  
[1] PDS failed for Zinc.

### ANALYTE QUALIFIERS

1c PDS failed for Zinc.  
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.: 30229127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229127001	RW05-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127002	RW13-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127003	RW12-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127004	RW12-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127005	RW17-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127006	RW16-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127007	RW14-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127008	RW16-MW(S)	EPA 3005A	270942	EPA 6010C	271062

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Pittsburgh Lab Sample Condition Upon Receipt

30229127



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 6 Type of Ice:  Wet  Blue  None

Cooler Temperature Observed Temp 4.0 °C Correction Factor: 100 °C Final Temp: 4.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ANL 7-6-17

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>WF</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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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	17.
Trip Blank Present:		X		18.
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.

September 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229225

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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.: 30229225

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229225001	RW07-MW(S)	Water	09/06/17 08:53	09/06/17 23:55
30229225002	RW07-MW(I)	Water	09/06/17 09:20	09/06/17 23:55
30229225003	RW11-MW(S)	Water	09/06/17 10:01	09/06/17 23:55
30229225004	RW11-MW(I)	Water	09/06/17 10:25	09/06/17 23:55
30229225005	RW15-MW(S)	Water	09/06/17 11:31	09/06/17 23:55
30229225006	RW15-MW(I)	Water	09/06/17 12:15	09/06/17 23:55
30229225007	RW20-MW(S)	Water	09/06/17 13:03	09/06/17 23:55
30229225008	RW20-MW(I)	Water	09/06/17 14:15	09/06/17 23:55

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229225001	RW07-MW(S)	EPA 6010C	PJD	2
30229225002	RW07-MW(I)	EPA 6010C	PJD	2
30229225003	RW11-MW(S)	EPA 6010C	PJD	2
30229225004	RW11-MW(I)	EPA 6010C	PJD	2
30229225005	RW15-MW(S)	EPA 6010C	PJD	2
30229225006	RW15-MW(I)	EPA 6010C	PJD	2
30229225007	RW20-MW(S)	EPA 6010C	PJD	2
30229225008	RW20-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.: 30229225

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 11, 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.

QC Batch: 270942

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229127001,30229225003

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

- MSD (Lab ID: 1333391)
- Zinc

### Duplicate Sample:

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

### Additional Comments:

Batch Comments:

- PDS failed for Zinc.
- QC Batch: 271062

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- BLANK (Lab ID: 1333387)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333389)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333392)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1333388)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333390)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333393)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1333391)
  - Cadmium
  - Zinc
- RW07-MW(I) (Lab ID: 30229225002)
  - Cadmium
  - Zinc
- RW07-MW(S) (Lab ID: 30229225001)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30229225004)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30229225003)
  - Cadmium
  - Zinc
- RW15-MW(I) (Lab ID: 30229225006)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30229225005)
  - Cadmium
  - Zinc
- RW20-MW(I) (Lab ID: 30229225008)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- RW20-MW(S) (Lab ID: 30229225007)

- 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.: 30229225

Sample: RW07-MW(S)		Lab ID: 30229225001		Collected: 09/06/17 08:53		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:26	7440-43-9	1c
Zinc	<b>165</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:26	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW07-MW(I)		Lab ID: 30229225002	Collected: 09/06/17 09:20	Received: 09/06/17 23:55	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>11.0</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:28	7440-43-9	1c	
Zinc	<b>2840</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:28	7440-66-6	1c	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW11-MW(S)		Lab ID: 30229225003		Collected: 09/06/17 10:01	Received: 09/06/17 23:55	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>0.81J</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:30	7440-43-9	1c	
Zinc	<b>10600</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:42	7440-66-6	1c	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229225

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: RW11-MW(l)</b>									
<b>Lab ID: 30229225004</b>									
Collected: 09/06/17 10:25    Received: 09/06/17 23:55    Matrix: Water									
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>274</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:43	7440-43-9	1c
Zinc	<b>134000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:49	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW15-MW(S)		Lab ID: 30229225005		Collected: 09/06/17 11:31		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.7</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:45	7440-43-9	1c
Zinc	<b>444</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:45	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW15-MW(I)		Lab ID: 30229225006		Collected: 09/06/17 12:15	Received: 09/06/17 23:55	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>21.3</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:48	7440-43-9	1c	
Zinc	<b>43000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:51	7440-66-6	1c	

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW20-MW(S)		Lab ID: 30229225007		Collected: 09/06/17 13:03	Received: 09/06/17 23:55	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>29.9</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:50	7440-43-9	1c	
Zinc	<b>1080</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:50	7440-66-6	1c	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW20-MW(I)		Lab ID: 30229225008		Collected: 09/06/17 14:15	Received: 09/06/17 23:55	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:52	7440-43-9	1c	
Zinc	<b>71.1</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:52	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.: 30229225

QC Batch: 270942 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30229225001, 30229225002, 30229225003, 30229225004, 30229225005, 30229225006, 30229225007, 30229225008

METHOD BLANK: 1333387 Matrix: Water  
Associated Lab Samples: 30229225001, 30229225002, 30229225003, 30229225004, 30229225005, 30229225006, 30229225007, 30229225008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/08/17 21:39	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/08/17 21:39	1c

LABORATORY CONTROL SAMPLE: 1333388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	1c
Zinc	ug/L	500	502	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333390 1333391

Parameter	Units	30229127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1900	1820	101	84	75-125	4	20	1c
Zinc	ug/L	30900	500	500	31500	31600	112	146	75-125	1	20	1c, MH

MATRIX SPIKE SAMPLE: 1333393

Parameter	Units	30229225003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.81J	500	521	104	75-125	1c
Zinc	ug/L	10600	500	11000	92	75-125	1c

SAMPLE DUPLICATE: 1333389

Parameter	Units	30229127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1390	1	20	1c
Zinc	ug/L	30900	30400	2	20	1c

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.81J	0.88J		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 and Wire Mill GW Sampling

Pace Project No.: 30229225

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	10600	10500	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229225

---

### 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: 271062

[1] PDS failed for Zinc.

### ANALYTE QUALIFIERS

1c PDS failed for Zinc.

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.: 30229225

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229225001	RW07-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225002	RW07-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225003	RW11-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225004	RW11-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225005	RW15-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225006	RW15-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225007	RW20-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225008	RW20-MW(I)	EPA 3005A	270942	EPA 6010C	271062

### 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: **Rod and Wire Mill GW Sampling**  
 Project Number: **170206M**

**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 #: \_\_\_\_\_

**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	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		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						
		DRINKING WATER WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIPE AIR OTHER TISSUE				DATE	TIME	DATE	TIME	H <sub>2</sub> O <sub>2</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> Methanol Other			
1	R2007-MWS		WTG			9/6/13	1500		1	Unpreserved	Total Cadmium 6010 Total Zinc 6010		001
2	R2007-MWE					9/6/13	1500		1				002
3	R2011-MWS					10/15	1500		1				003
4	R2011-MWE					10/15	1500		1				004
5	R2015-MWS					12/15	1500		1				005
6	R2015-MWE					12/15	1500		1				006
7	R2020-MWS					12/15	1500		1				007
8	R2020-MWE					12/15	1500		1				008
9													
10													
11													
12													

**ADDITIONAL COMMENTS**

RELINQUISHED BY / AFFILIATION: **David Stilleyspace** DATE: **9/6/13** TIME: **1500**

ACCEPTED BY / AFFILIATION: **David Stilleyspace** DATE: **9/6/13** TIME: **1550**

RELINQUISHED BY / AFFILIATION: **David Stilleyspace** DATE: **9/6/13** TIME: **1555**

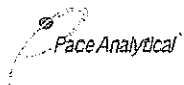
ACCEPTED BY / AFFILIATION: **Donleyhan/Pace** DATE: **9-6-13** TIME: **2355**

Temp in °C: \_\_\_\_\_ Received on Ice (Y/N): \_\_\_\_\_ Custody Sealed (Y/N): \_\_\_\_\_ Cooler (Y/N): \_\_\_\_\_ Samples Intact (Y/N): \_\_\_\_\_

SAMPLER NAME AND SIGNATURE: \_\_\_\_\_  
 PRINT Name of SAMPLER: **Leandra M. Calenda**  
 SIGNATURE of SAMPLER: \_\_\_\_\_  
 DATE Signed (MM/DD/YY): **09/06/13**

F-ALL-Q-020rev.06, Z-Feb-2007

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna.

Project # 30229225

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>AM</u>

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 2.8 °C Correction Factor: 10.0 °C Final Temp: 2.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 9-7-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.

September 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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.: 30229376

---

### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229376001	RW18-MWI	Water	09/07/17 10:25	09/07/17 23:00
30229376002	RW18-MWS	Water	09/07/17 11:00	09/07/17 23:00
30229376003	RW09-MWS	Water	09/07/17 11:42	09/07/17 23:00
30229376004	RW09-MWI	Water	09/07/17 12:05	09/07/17 23:00
30229376005	RW10-MWI	Water	09/07/17 13:03	09/07/17 23:00
30229376006	RW08-MWI	Water	09/07/17 14:15	09/07/17 23:00
30229376007	RW08-MWS	Water	09/07/17 15:00	09/07/17 23:00

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229376001	RW18-MWI	EPA 6010C	PJD	2
30229376002	RW18-MWS	EPA 6010C	PJD	2
30229376003	RW09-MWS	EPA 6010C	PJD	2
30229376004	RW09-MWI	EPA 6010C	PJD	2
30229376005	RW10-MWI	EPA 6010C	PJD	2
30229376006	RW08-MWI	EPA 6010C	PJD	2
30229376007	RW08-MWS	EPA 6010C	PJD	2

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 14, 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.

QC Batch: 271239

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229376001,30229570004

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

- MS (Lab ID: 1334722)
- Zinc

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

- MSD (Lab ID: 1334723)
- Zinc

### Duplicate Sample:

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

### Additional Comments:

Batch Comments:

Cadmium failed on the PDS.

- QC Batch: 271286

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1334719)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334721)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334724)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1334720)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334722)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334725)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1334723)
  - Cadmium
  - Zinc
- RW08-MWI (Lab ID: 30229376006)
  - Cadmium
  - Zinc
- RW08-MWS (Lab ID: 30229376007)
  - Cadmium
  - Zinc
- RW09-MWI (Lab ID: 30229376004)
  - Cadmium
  - Zinc
- RW09-MWS (Lab ID: 30229376003)
  - Cadmium
  - Zinc
- RW10-MWI (Lab ID: 30229376005)
  - Cadmium
  - Zinc
- RW18-MWI (Lab ID: 30229376001)
  - Cadmium
  - Zinc
- RW18-MWS (Lab ID: 30229376002)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 14, 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.: 30229376

Sample: RW18-MWI		Lab ID: 30229376001		Collected: 09/07/17 10:25		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>72.2</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:22	7440-43-9	1c
Zinc	<b>382000</b>	ug/L	10000	1080	1000	09/11/17 14:14	09/14/17 01:57	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.: 30229376

Sample: RW18-MWS		Lab ID: 30229376002		Collected: 09/07/17 11:00		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>156</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:38	7440-43-9	1c
Zinc	<b>6160</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:00	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Sample: RW09-MWS		Lab ID: 30229376003		Collected: 09/07/17 11:42		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.3</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:40	7440-43-9	1c
Zinc	<b>8750</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:02	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30229376004</b>		Collected: 09/07/17 12:05	Received: 09/07/17 23:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.1</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:47	7440-43-9	1c
Zinc	<b>39400</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:10	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Sample: RW10-MWI		Lab ID: 30229376005		Collected: 09/07/17 13:03		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.7</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:50	7440-43-9	1c
Zinc	<b>8220</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:13	7440-66-6	1c

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Sample: RW08-MWI		Lab ID: 30229376006		Collected: 09/07/17 14:15		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.77J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:15	7440-43-9	1c
Zinc	<b>69.4</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:15	7440-66-6	1c

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

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**Sample: RW08-MWS**      **Lab ID: 30229376007**      Collected: 09/07/17 15:00      Received: 09/07/17 23:00      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>2.5J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:55	7440-43-9	1c
Zinc	<b>4460</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:17	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.: 30229376

QC Batch: 271239 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30229376001, 30229376002, 30229376003, 30229376004, 30229376005, 30229376006, 30229376007

METHOD BLANK: 1334719 Matrix: Water  
Associated Lab Samples: 30229376001, 30229376002, 30229376003, 30229376004, 30229376005, 30229376006, 30229376007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/14/17 00:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/14/17 00:41	1c

LABORATORY CONTROL SAMPLE: 1334720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	499	100	80-120	1c
Zinc	ug/L	500	498	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1334722 1334723

Parameter	Units	30229376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	72.2	500	500	608	569	107	99	75-125	7	20	1c
Zinc	ug/L	382000	500	500	399000	368000	3400	-2680	75-125	8	20	1c, MH, ML

MATRIX SPIKE SAMPLE: 1334725

Parameter	Units	30229570004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.37J	500	497	99	75-125	1c
Zinc	ug/L	184	500	677	99	75-125	1c

SAMPLE DUPLICATE: 1334721

Parameter	Units	30229376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	72.2	74.4	3	20	1c
Zinc	ug/L	382000	397000	4	20	1c

SAMPLE DUPLICATE: 1334724

Parameter	Units	30229570004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.37J	0.48J		20	1c
Zinc	ug/L	184	189	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: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

---

### 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: 271286

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium 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.: 30229376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229376001	RW18-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376002	RW18-MWS	EPA 3005A	271239	EPA 6010C	271286
30229376003	RW09-MWS	EPA 3005A	271239	EPA 6010C	271286
30229376004	RW09-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376005	RW10-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376006	RW08-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376007	RW08-MWS	EPA 3005A	271239	EPA 6010C	271286

### 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@enviroanalyticalgroup.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.: **978**  
 Project Name: **Rod and Wire Mill GW Sampling**  
 Project Number: **170381M-1**

**Section C**  
 Invoice Information:  
 Attention: **Laura Sargent**  
 Company Name: **EnviroAnalytics Group**  
 Address: **1850 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: \_\_\_\_\_ STATE: **MD**

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WT WATER PRODUCT WW SOIL/SOLID P OIL SL WIPE OL AIR WP OTHER AR 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)	Temp in °C	Received on	Cooler (Y/N)	Custody Sealed	Samples Intact
				COMPOSITE START	COMPOSITE END/GRAB										
1	RW18-MWI	WT G		9/17	10:05		1	Unpreserved	Y						
2	RW18-MWS	WT G		9/17	11:08		1	H <sub>2</sub> SO <sub>4</sub>	Y						
3	RW09-MWS	WT G		9/17	11:42		1	HNO <sub>3</sub>	Y						
4	RW09-MWS	WT G		9/17	12:05		1	HCl	Y						
5	RW10-MWI	WT G		9/17	13:03		1	NaOH	Y						
6	RW08-MWI	WT G		9/17	14:15		1	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Y						
7	RW08-MWS	WT G		9/17	15:00		1	Methanol	Y						
8								Other							
9															
10															
11															
12															

**ADDITIONAL COMMENTS**  
 Data Package  
 Data validate  
 J. Sargent ARM 9/17 1533  
 David S. Allegre Pace 9/17 1905  
 9/17 2:50  
 Amber Hill Pace 9-17-200 4.0 Y N Y

**RELINQUISHED BY / AFFILIATION** DATE TIME  
 J. Sargent ARM 9/17 1533  
 David S. Allegre Pace 9/17 1905  
 Amber Hill Pace 9-17-200 4.0 Y N Y

**ACCEPTED BY / AFFILIATION** DATE TIME  
 David S. Allegre Pace 9/17 1533  
 Amber Hill Pace 9-17-200 4.0 Y N Y

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: **Lisa Davis**  
 SIGNATURE of SAMPLER: *[Signature]* DATE Signed (MM/DD/YY): **9/17/17**

Temp in °C: \_\_\_\_\_  
 Received on: \_\_\_\_\_  
 Cooler (Y/N): \_\_\_\_\_  
 Custody Sealed: \_\_\_\_\_  
 Samples Intact: \_\_\_\_\_



Client Name: EnviroAna

Project # 30229376

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Label AML  
LIMS Login BUM

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 4.0 °C    Correction Factor: 10.0 °C    Final Temp: 4.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 9-8-17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
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>AML</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
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.



<b>Section A</b> Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: lcalendata@enviroanalyticsgroup.com Phone: 314-620-3056 Requested Due Date/TAI: <u>5 days</u>		<b>Section B</b> Required Project Information: Report To: James Calenda Copy To: PO Number: Project Name: <u>Code and wire mail samples</u> Project Number:		<b>Section C</b> Invoice Information: Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1500 Das Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Pace Profile #:	
<b>REGULATORY AGENCY</b> <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			<b>Site Location</b> STATE: <u>MD</u>		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE Dinking Water DW Waste Water WW Waste Water SW Product Solids PS Oil OIL Waste Water WWT 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 ID.
					DATE	TIME			DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH				
1	RUD18-MUSI		WT6			9-7-17	10:25		1										
2	RUD18-MUS		WT6				11:00		1										
3	RUD09-MUS		WT6				11:42		1										
4	RUD09-MUSI		WT6				12:05		1										
5	RUD10-MUSI		WT6				13:03		1										
6	RUD08-MUSI		WT6				14:15		1										
7	RUD08-MUS		WT6				15:00		1										
8																			
9																			
10																			
11																			
12																			

**ADDITIONAL COMMENTS**  
Data Package Required? (Y/N) (N)  
Data Validation Required? (Y/N) (N)  
If data package is required, attach data package checklist.

**RELINQUISHED BY / AFFILIATION** Free Fall **DATE** 9-7-17 **TIME** 15:33

**ACCEPTED BY / AFFILIATION** Lisa Perin **DATE** 9-7-17 **TIME** 15:33

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: Lisa Perin  
SIGNATURE of SAMPLER: [Signature] **DATE Signed (MM/DD/YY):** 9-7-17

**SAMPLE CONDITIONS**  
Temp in °C \_\_\_\_\_  
Received on Ice (Y/N) \_\_\_\_\_  
Custody Sealed Cooler (Y/N) \_\_\_\_\_  
Samples Intact (Y/N) \_\_\_\_\_



September 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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 and Wire Mill GW Sampling  
Pace Project No.: 30229570

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### 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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229570001	RW19-MW(I)	Water	09/08/17 09:10	09/08/17 23:30
30229570002	RW19-MW(S)	Water	09/08/17 08:45	09/08/17 23:30
30229570003	RW22-MW(I)	Water	09/08/17 13:16	09/08/17 23:30
30229570004	RW22-MW(S)	Water	09/08/17 12:44	09/08/17 23:30
30229570005	RW02-MW(S)	Water	09/08/17 12:12	09/08/17 23:30
30229570006	RW02-MW(I)	Water	09/08/17 11:34	09/08/17 23:30
30229570007	RW21-MW(D)	Water	09/08/17 10:25	09/08/17 23:30
30229570008	RW01-MW(S)	Water	09/08/17 14:54	09/08/17 23:30
30229570009	RW01-MW(I)	Water	09/08/17 14:17	09/08/17 23:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229570001	RW19-MW(I)	EPA 6010C	PJD	2
30229570002	RW19-MW(S)	EPA 6010C	PJD	2
30229570003	RW22-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570004	RW22-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570005	RW02-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570006	RW02-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570007	RW21-MW(D)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570008	RW01-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570009	RW01-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 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: 271239

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229376001,30229570004

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

- MS (Lab ID: 1334722)
- Zinc

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

- MSD (Lab ID: 1334723)
- Zinc

### Duplicate Sample:

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

### Additional Comments:

Batch Comments:

Cadmium failed on the PDS.

- QC Batch: 271286

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1334719)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334721)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334724)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1334720)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334722)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334725)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1334723)
  - Cadmium
  - Zinc
- RW01-MW(I) (Lab ID: 30229570009)
  - Cadmium
  - Zinc
- RW01-MW(S) (Lab ID: 30229570008)
  - Cadmium
  - Zinc
- RW02-MW(I) (Lab ID: 30229570006)
  - Cadmium
  - Zinc
- RW02-MW(S) (Lab ID: 30229570005)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30229570001)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30229570002)
  - Cadmium
  - Zinc
- RW21-MW(D) (Lab ID: 30229570007)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- RW22-MW(I) (Lab ID: 30229570003)
  - Cadmium
  - Zinc
- RW22-MW(S) (Lab ID: 30229570004)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** SM4500H+B-00

**Description:** 4500H+ pH, Electrometric

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

### General Information:

7 samples were analyzed for SM4500H+B-00. 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.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- RW01-MW(I) (Lab ID: 30229570009)
- RW01-MW(S) (Lab ID: 30229570008)
- RW02-MW(I) (Lab ID: 30229570006)
- RW02-MW(S) (Lab ID: 30229570005)
- RW21-MW(D) (Lab ID: 30229570007)
- RW22-MW(I) (Lab ID: 30229570003)
- RW22-MW(S) (Lab ID: 30229570004)

### 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: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW19-MW(I)		Lab ID: 30229570001		Collected: 09/08/17 09:10		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1320</b>	ug/L	15.0	1.7	5	09/11/17 14:14	09/14/17 01:20	7440-43-9	1c
Zinc	<b>2500000</b>	ug/L	100000	10800	10000	09/11/17 14:14	09/14/17 02:17	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW19-MW(S)		Lab ID: 30229570002		Collected: 09/08/17 08:45	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>2.6J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:25	7440-43-9	1c	
Zinc	<b>2990</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:25	7440-66-6	1c	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Sample: RW22-MW(I)		Lab ID: 30229570003		Collected: 09/08/17 13:16	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	3.7	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:27	7440-43-9	1c	
Zinc	328	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:27	7440-66-6	1c	
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00								
pH at 25 Degrees C	7.2	Std. Units	2.0	2.0	1		09/11/17 22:21		H6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW22-MW(S)		Lab ID: 30229570004		Collected: 09/08/17 12:44		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.37J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:30	7440-43-9	1c
Zinc	<b>184</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:30	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>10.1</b>	Std. Units	2.0	2.0	1		09/11/17 22:21		H6

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW02-MW(S)		Lab ID: 30229570005		Collected: 09/08/17 12:12		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.8</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:42	7440-43-9	1c
Zinc	<b>3220</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:42	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>6.1</b>	Std. Units	2.0	2.0	1		09/11/17 22:23		H6

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW02-MW(I)		Lab ID: 30229570006		Collected: 09/08/17 11:34	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>3.0J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:44	7440-43-9	1c	
Zinc	<b>203</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:44	7440-66-6	1c	
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00								
pH at 25 Degrees C	<b>12.2</b>	Std. Units	2.0	2.0	1		09/11/17 22:25		H6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW21-MW(D)		Lab ID: 30229570007		Collected: 09/08/17 10:25	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:47	7440-43-9	1c	
Zinc	<b>43000</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:50	7440-66-6	1c	
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00								
pH at 25 Degrees C	<b>5.4</b>	Std. Units	2.0	2.0	1		09/11/17 22:26		H6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Sample: RW01-MW(S)		Lab ID: 30229570008		Collected: 09/08/17 14:54	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:52	7440-43-9	1c	
Zinc	<b>5730</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 02:19	7440-66-6	1c	
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00								
pH at 25 Degrees C	<b>5.3</b>	Std. Units	2.0	2.0	1		09/11/17 22:27		H6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW01-MW(I)		Lab ID: 30229570009		Collected: 09/08/17 14:17	Received: 09/08/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	<b>0.51J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:54	7440-43-9	1c	
Zinc	<b>90.0</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:54	7440-66-6	1c	
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00								
pH at 25 Degrees C	<b>12.3</b>	Std. Units	2.0	2.0	1		09/11/17 22:28		H6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

QC Batch: 271239 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30229570001, 30229570002, 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009

METHOD BLANK: 1334719 Matrix: Water  
Associated Lab Samples: 30229570001, 30229570002, 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/14/17 00:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/14/17 00:41	1c

LABORATORY CONTROL SAMPLE: 1334720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	499	100	80-120	1c
Zinc	ug/L	500	498	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1334722 1334723

Parameter	Units	30229376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	72.2	500	500	608	569	107	99	75-125	7	20	1c
Zinc	ug/L	382000	500	500	399000	368000	3400	-2680	75-125	8	20	1c, MH, ML

MATRIX SPIKE SAMPLE: 1334725

Parameter	Units	30229570004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.37J	500	497	99	75-125	1c
Zinc	ug/L	184	500	677	99	75-125	1c

SAMPLE DUPLICATE: 1334721

Parameter	Units	30229376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	72.2	74.4	3	20	1c
Zinc	ug/L	382000	397000	4	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 and Wire Mill GW Sampling

Pace Project No.: 30229570

SAMPLE DUPLICATE: 1334724

Parameter	Units	30229570004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.37J	0.48J		20	1c
Zinc	ug/L	184	189	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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### QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

QC Batch: 271273 Analysis Method: SM4500H+B-00

QC Batch Method: SM4500H+B-00 Analysis Description: 4500H+B pH

Associated Lab Samples: 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009

SAMPLE DUPLICATE: 1334856

Parameter	Units	30229627001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.7	9.7	0	10	H6

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

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### 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: 271286

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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.: 30229570

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229570001	RW19-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570002	RW19-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570003	RW22-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570004	RW22-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570005	RW02-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570006	RW02-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570007	RW21-MW(D)	EPA 3005A	271239	EPA 6010C	271286
30229570008	RW01-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570009	RW01-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570003	RW22-MW(I)	SM4500H+B-00	271273		
30229570004	RW22-MW(S)	SM4500H+B-00	271273		
30229570005	RW02-MW(S)	SM4500H+B-00	271273		
30229570006	RW02-MW(I)	SM4500H+B-00	271273		
30229570007	RW21-MW(D)	SM4500H+B-00	271273		
30229570008	RW01-MW(S)	SM4500H+B-00	271273		
30229570009	RW01-MW(I)	SM4500H+B-00	271273		

### 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: **314-620-3066** Fax: **5 Day**  
 Requested Due Date/TAT: **5 Day**

**Section B**  
 Required Project Information:  
 Report To: **James Calenda**  
 Copy To: **Stewart Kabis**  
 Purchase Order No.: **17000000**  
 Project Name: **Rod and Wire Mill GW Sampling**  
 Project Number: **17000000**

**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 #:

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Site Location: **MD**  
 STATE:

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB					
1	RW19-MW(D)	GW			9/17/09	1			001
2	RW19-MW(S)	GW			9/17/09	1			002
3	RW22-MW(S)	GW			1316	2			003
4	RW22-MW(S)	GW			1244	2			004
5	RW02-MW(S)	GW			1212	2			005
6	RW02-MW(D)	GW			1124	2			006
7	RW01-MW(S)	GW			1025	2			007
8	RW01-MW(S)	GW			1454	2			008
9	RW01-MW(S)	GW			1417	2			009
10									
11									
12									

**ADDITIONAL COMMENTS**

**RELINQUISHED BY / AFFILIATION** DATE TIME  
 David S. Hillegas/Pace 9/17 1527  
 David S. Hillegas/Pace 9/17 1537

**ACCEPTED BY / AFFILIATION** DATE TIME  
 David S. Hillegas/Pace 9/17 1537  
 David S. Hillegas/Pace 9/17 1537

**Temp in °C** Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)

Temp in °C: 1.2 Y Y Y

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: *Laura M. Sargent*  
 SIGNATURE of SAMPLER: *Laura M. Sargent*  
 DATE Signed (MM/DD/YYYY): 9/18/09

**WO# : 30229570**



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: SPARROW'S

Project # 30229570 - 1

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>EM</u>

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 1.2 °C Correction Factor: +0.0 °C Final Temp: 1.2 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 9/19/17

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.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16. Samples 006 and 009 unpreserved bottles were basic.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
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.