# ROD AND WIRE MILL ANNUAL INTERIM MEASURE 2022 PROGRESS REPORT

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# 1.0 INTRODUCTION

This Progress Report has been prepared by ARM Group LLC (ARM) which presents the 2022 Interim Measures (IMs) conducted for the Rod and Wire Mill (RWM) located at the Tradepoint Atlantic (TPA) property. This report includes:

- a brief history of the Rod and Wire Mill Area,
- a description of historical interim measures that operated at the RWM,
- a description of additional remedial efforts that were completed in 2016 and 2017 to treat soil and groundwater in the RWM area,
- the groundwater flow patterns and contaminant distribution, and
- an evaluation of the effectiveness of the interim measure to date.

## 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 significantly altered since the inception of 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 (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. 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 (EPA), and the Maryland Department of the Environment (MDE) (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 Tradepoint Atlantic property. 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. Parcel A3 (the RWM), is shown in **Figure 1.**

The RWM is the location of the former mill 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. From the 1950s, the acidic leach residue was stored in the Northwest Pond until about 1959 when filters were utilized 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 in **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 hydrogeologic zone includes slag fill material or recent sedimentary deposits and the unconfined water table at the Site. Monitoring wells and piezometers designated as shallow are screened within this uppermost, unconfined water bearing 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 hydrologically 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 was the focus of the pump and treat interim measure formerly used at the Site (1986-1999/2001-2016) and is therefore also referred to as the intermediate pumping zone. The intermediate zone includes the unconfined to partially confined groundwater in the Pleistocene-aged Upper Talbot unit. The "intermediate" bottom-of-screen elevations range from approximately -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 and Upper Talbot channel Unit.

The lower hydrogeologic zone includes the confined groundwater in the Lower Talbot or Upper Patapsco Sand unit. The "lower" bottom-of-screen elevations range from approximately -50 to -141 feet amsl. The lower hydrogeologic zone is not a primary focus of 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 associated with the former iron and steel operations have not been identified.

## 2.2. Historical Interim Measure for Groundwater Conditions

The historical operations within 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, as well as 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 was dismantled in 1999 to support the demolition of the Rod and Wire Mill, allowing for reassessment of the interim measure. 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 consisting of 31 wells was installed to monitor 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, which consisted of two intermediate zone recovery wells (RW10-PZM020 and RW15-PZM020) that removed water at a rate of between 5 and 12 gallons per minute (gpm). The expected normal operating rate for the treatment system 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, and continued until September 2016, when it was stopped to support the construction activities at the RWM. In particular, the pumping wells and associated pumps, piping, and pipe racks were shut down and removed in order to install the alkaline charged remediation trenches. The remediation trenches were constructed between October and December 2017 (*Interim Measures Construction Report, In-Situ Groundwater Treatment*, Advanced GeoServices Corp, January 2018).

# 3.0 INTERIM MEASURES AND GROUNDWATER CONDITIONS

## 3.1. INTERIM MEASURE REMEDIAL APPROACH

Advanced GeoServices (AGS) was contracted to design and install remediation trenches to serve as the interim measure 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 interim measure, which focused on groundwater in the intermediate zone, was to reduce concentrations of dissolved metals and to minimize contaminant discharges from this zone to surface water. In the IM design, the groundwater velocities were expected to be slow, in the range of 5 to 10 feet per year (later calculated to be less than five feet per year in the RWM Supplemental Investigation Report). Groundwater in the shallow zone was noted to have a higher pH compared to the intermediate zone due to the presence of slag fill, and as a result, the distribution of metals in the shallow zone groundwater indicates limited mobility (i.e., lack of migration). Therefore, the intermediate zone was the primary focus of the interim measure.

Groundwater extraction from the pumping wells ceased in September 2016 to support the construction of the remediation trenches. The objective of the remediation trenches is to address the elevated dissolved cadmium and zinc in the intermediate groundwater zone by precipitating the dissolved metals in-situ. This is achieved by raising the existing groundwater pH from approximately 4 to a range of 9.5 to 10 through the addition of alkaline reagents into the intermediate groundwater zone at select high concentration areas. To accomplish this, excavated soils were replaced with alkaline charges that react with acidic groundwater to create 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 perpendicular to the anticipated groundwater flow. A typical cross-section of a remediation trench is provided as **Figure 3** and the approximate locations of the trenches are shown on the various maps provided as part of this report.

Paving at the RWM, completed around the end of March 2018, has reduced aquifer recharge from precipitation. While the whole Site is not paved, and it is possible there is some recharge to the intermediate zone via shallow zone groundwater draining through the trenches, the potentiometric surface is nearly flat in the intermediate zone. A lack of gradient in the intermediate zone results in a slow groundwater velocity which controls the rate of treatment by the trenches. As part of creating an updated conceptual site model in the Rod and Wire Mill Interim Measure Supplemental Investigation Report (ARM, Revision 1 dated April 8, 2020), lateral groundwater flow velocities were calculated based on groundwater level measurements in May 2019. Groundwater flow velocity was calculated at 33.8 ft/year in the shallow zone and

4.94 ft/year in the intermediate zone. Details of these calculations can be found in the Rod and Wire Mill Interim Measure Supplemental Investigation Report (ARM 2020a).

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

The interim groundwater treatment goals are to increase the pH in the intermediate groundwater zone in order to precipitate the dissolved metals and achieve a reduction in dissolved concentrations of cadmium and zinc within and downgradient of the source areas. Ultimately the treatment goal is to demonstrate that the concentrations of the primary contaminants (cadmium and zinc) in groundwater discharging at the shoreline/property boundary are acceptable.

### 3.2. Groundwater Well Network

In 2022, the monitoring network for the shallow and intermediate zones at the Site included 76 wells. Well construction details for all wells are included in **Table 1**. A "well pair" refers to one shallow zone well and one intermediate zone well installed very close to each other whose well names begin with the same prefix (e.g., RWA-MWS and RWA-MWI). Shallow zone wells have been assigned a well name ending in "-MWS" while intermediate zone wells have been assigned a well name ending in "-MWI".

For the purposes of evaluating trends in groundwater, monitoring wells at the Site have been categorized into four groups:

- The "Upgradient" wells are located farthest upgradient, generally farthest to the east.
- The "Delineation" wells are located along the northern boundary of the site.
- The "Interior" wells are located in the central portion of the site. The Focused well pairs—RWJ, RWK, and RWL—are a subset of Interior wells that were installed directly adjacent to one of the trenches to help assess the trench performance. Proximity to the trench was very important due to the slow intermediate zone groundwater velocity calculated for the site.
- The "Perimeter" wells are generally located farthest to west (downgradient), running north-south.

Well categories are shown below in Table 3.2.1.

As detailed in the RWM Supplemental Investigation Report (ARM, 2020a), well pairs J – K – L were installed in close proximity to the western most trench in order to evaluate the trench performance. Well pair RWJ was installed directly adjacent to the trench. The other two well pairs (RWK and RWL) were installed progressively further from the RWJ pair in the southwestern direction, with the RWK pair approximately 10 feet away and the RWL pair approximately 25 feet away. These three well pairs, along with the RW12 well pair (located immediately upgradient of the western-most trench and approximately colinear with the J-K-L pairs), are used to assess the near-field effect of one of the remediation trenches.

Groundwater samples were collected from all existing shallow and intermediate wells on a monthly basis from February 2017 up to January 2018. Following the January 2018 sampling event, groundwater samples were collected from all existing shallow and intermediate wells on a quarterly basis.

**Table 3.2.1 - Well Categories**

| Upgradient | Delineation | Interior/Focused | Perimeter |
|---|---|---|---|
| RW19-MWS/RW19-MWI | RW21-MWS/RW21-MWI | RW09-MWS/RW09-MWI | RW01-MWS/RW01-MWI |
| RWR-MWS/RWR-MWI | RWH-MWS/RWH-MWI | RW10-MWI | RW02-MWS/RW02-MWI |
| RWS-MWS/RWS-MWI | RWI-MWS/RWI-MWI | RW11-MWS/RW11-MWI | RW03R-MWS/RW03R-MWI |
| | RWO-MWS/RWO-MWI | RW12-MWS/RW12-MWI | RW04-MWS |
| | RWP-MWI | RW13-MWI | RW05-MWS/RW05R-MWI |
| | RWQ-MWS/RWQMWI | RW14-MWS | RW06R-MWS/RW06-MWI |
| | | RW15-MWS/RW15-MWI | RW07-MWS/RW07-MWI |
| | | RW16-MWS/RW16-MWI | RW08-MWS/RW08-MWI |
| | | RW18-MWS/RW18-MWI | RW22R-MWS/RW22R-MWI |
| | | RW23-MWS/RW23-MWI | RWA-MWS/RWA-MWI |
| | | RW24-MWS/RW24-MWI | RWB-MWS/RWB-MWI |
| | | RW25-MWS/RW25-MWI | RWD-MWS/RWD-MWI |
| | | RWJ-MWS/RWJ-MWI | RWE-MWS/RWE-MWI |
| | | RWK-MWS/RWK-MWI | RWF-MWS/RWF-MWI |
| | | RWL-MWS/RWL-MWI | RWG-MWS/RWG-MWI |
| | | RWM-MWS/RWM-MWI | |
| | | RWN-MWS | |

ARM submitted a Rod and Wire Mill Monitoring Network Update Letter dated March 8, 2021 (MNU Letter) to outline an updated groundwater sampling plan for the calendar year of 2021 and going forward. This plan consisted of collecting samples from some wells on a semiannual basis and others on an annual basis. The MNU Letter included tables showing the updated sampling frequency for the wells and the rationale for each. These tables are included as **Table 2** (shallow wells) and **Table 3** (intermediate wells). Samples collected for the first quarter sampling event (Q1) were collected from February 23 to March 28, 2022. Samples collected for the third quarter sampling event (Q3) were collected from September 9-28, 2022.

Well pair RW03R-MWS and RW03R-MWI were installed on May 3, 2022. These wells were installed as replacements for the original RW03 pair (RW03R-MWS and RW03-MWI). The original two wells were inadvertently buried during development and landscaping activities in 2021 and subsequently could not be located. Both new wells was installed about 14 feet south of the original wells, with similar screened intervals: the intermediate replacement well has the same screen interval as the original intermediate well (30-40' bgs), while the shallow replacement well has a screen interval of 12-20' bgs compared to 10-20' bgs for the original. Well construction logs are included in this report in **Appendix A.**

This IM Progress Report summarizes groundwater conditions following remediation trench installation, with focus on the results of the two semiannual sampling events carried out in 2022.

## 3.3. GROUNDWATER CONDITIONS IN 2022

### 3.3.1. Shallow Groundwater Zone

#### *3.3.1.1 Groundwater Elevations*

A synoptic round of groundwater level measurements was collected for the Q1 and Q3 sampling events. Based on the field measurements, groundwater potentiometric surface maps were constructed for the shallow zone for the Q1 and Q3 events and are included as **Figure 4** and **Figure 5**, respectively. As shown on the figures, the predominant flow direction for the shallow zone in the eastern portion of the Site is to the west. In the central and west portions of the Site groundwater flow is to the north and northwest. In the southwest portion of the Site (south of RW06R-MWS) flow is to the west and southwest. On both figures, RW23-MWS is seen to be a localized high point from which groundwater flow radially to the north, northwest, west, and southwest.

#### *3.3.1.2 Zinc*

**Figure 6** displays the distribution of zinc concentrations in the shallow zone during the Q1 sampling event. The highest measured concentration was at RWN-MWS (548,000 µg/L), located upgradient of the western-most remediation trench and within the former Sludge Bin Storage Area. In addition, zinc was measured in high concentrations (compared to other shallow well concentrations during this event) east of the trenches near the southern edges of the Former East Pond at RWR-MWS (267,000 µg/L), RWS-MWS (97,500), and north of the remediation trenches in RW22R-MWS (113,000 µg/L).

**Figure 7** displays the distribution of zinc concentrations in the shallow zone during the Q3 sampling event. Relatively high concentrations were measured again at RWR-MWS (205,000 µg/L) and RW22R-MWS (197,000 µg/L). The zinc distribution is very similar to that of the Q1 event. For contour purposes, if a sample was not collected during the Q3 sampling event, then the concentration from the Q1 sampling event was used.

Time series graphs of zinc concentrations in shallow wells are shown in **Figures 8** through **13**. For all charts, the y-axes are shown on logarithmic scales. Results for the shallow wells are compared to the relevant surface water criterion for zinc of 81 µg/L. The charts include the four different well groups and are divided up based on installation date. Wells installed in 2017 or prior are termed “original wells”, and wells installed in 2019 are termed “supplemental wells”.

- **Figure 8**: shallow perimeter wells, original wells
- **Figure 9**: shallow perimeter wells, supplemental wells
- **Figure 10**: shallow interior wells, original wells
- **Figure 11**: shallow interior wells, supplemental wells
- **Figure 12**: shallow delineation wells, all wells
- **Figure 13**: shallow upgradient wells, all wells

Several items to note include:

- Significant fluctuations in zinc concentrations have historically been observed in RW02-MWS. From its installation in 2019 up through the November 2020 sampling event, the concentration of zinc in this well was most often measured between 1,000 and 30,000 µg/L. Then, the zinc concentration in this well went from 3.1 JB µg/L in the Q4 2021 event, to 36,300 µg/L in the Q1 2022 event, to 7,503 µg/L in the Q3 2022 event.
- The concentration of zinc in RW03R-MWS measured during the Q3 2022 event (102 µg/L) is much lower than the last zinc concentration measured in RW03-MWS before it was lost, (18,800 µg/L in the Q2 2020 event.)
- Concentrations of zinc in perimeter shallow wells were below the relevant surface water criterion of 81 µg/L in three of the ten perimeter shallow wells sampled in the Q3 2022 event: RWB-MWS, RWD-MWS, and RW05-MWS.

Refer to Section 3.4 for trend analysis. Results for zinc concentrations in shallow wells are shown in **Table 4.** Laboratory reports for samples collected during 2022 are included as **Appendix B.** Individual time-series graphs for each shallow zone monitoring well are presented in **Appendix C.**

##### *3.3.1.3 Cadmium*

**Figure 14** displays a map of the distribution of cadmium concentrations in the shallow zone during the Q1 2022 sampling event. Well RWN-MWS, located within the Former Sludge Bin Storage Area, had the highest detected concentration of cadmium at 2,260 µg/L. Well RWI-MWS, located within the Former Northwest Pond, also had a relatively high cadmium concentration of 1,010 µg/L. All cadmium concentrations in shoreline wells that were sampled were non-detect except for RW22R-MWS (29.4 µg/L), RW07-MWS (16.6 µg/L), and RWF-MWS (4.9 µg/L). The ambient surface water criterion for cadmium is 7.9 µg/L. All other measured cadmium concentrations at shallow zone wells were below 30 µg/L.

**Figure 15** displays the distribution of cadmium concentrations in the shallow zone during the Q3 2022 sampling event. For contour purposes, if a sample was not collected during the Q3 sampling event, then the concentration from the Q1 sampling event was utilized. During the Q3 sampling event, RW22R-MWS had the highest detected concentration of cadmium (56.9 µg/L) (RWN-MWS and RWI-MWS are sampled annually in Q1 only). All cadmium concentrations along the shoreline in the intermediate zone were below 5 µg/L.

Time series graphs of cadmium concentrations in shallow wells are shown in **Figures 16** through **21**. For all charts, the y-axes are shown on logarithmic scales. Results for the shallow wells are compared to the relevant surface water criterion for cadmium of 7.9 µg/L. The charts include the four different well groups, and are divided up based on installation date. Wells installed in 2017 or prior are termed "original wells", and wells installed in 2019 are termed "supplemental wells".

- **Figure 16**: shallow perimeter wells, original wells
- **Figure 17**: shallow perimeter wells, supplemental wells
- **Figure 18**: shallow interior wells, original wells
- **Figure 19**: shallow interior wells, supplemental wells
- **Figure 20**: shallow delineation wells, all wells
- **Figure 21**: shallow upgradient wells, all wells

Several items to note include:

- Concentrations of cadmium in perimeter shallow wells were below the relevant surface water criterion of 7.9 µg/L in all perimeter shallow wells sampled in the Q3 2022 event.
- Sampling results for interior shallow zone wells show that total cadmium was generally below 5 µg/L during 2022, except for in well RWN-MWS. This well is located within the former Sludge Bin Storage Area and had a cadmium concentration that was three orders of magnitude greater than concentrations of most of the shallow zone wells.
- Cadmium was detected in upgradient shallow zone well RWS-MWS at very low levels (less than 3 µg/L).

Refer to Section 3.4 for trend analysis. Cadmium concentrations in shallow wells are shown in **Table 5.** Laboratory reports for samples collected during 2022 are included as **Appendix B.** Individual time-series graphs for each shallow zone monitoring well are presented in **Appendix C.**

#### *3.3.1.4 pH*

Measurements of pH in the shallow groundwater zone from the Q1 2022 sampling event, shown on **Figure 22**, ranged from 4.20 to 10.62. Wells RWJ-MWS, RW06R-MWS and RW16-MWS had relatively high pH values (9.83, 10.1, and 10.62, respectively).

Measurements of pH in the shallow groundwater zone from the Q3 2022 sampling event, shown on **Figure 23**, generally ranged from 4 to 11, with a few pH values outside this range that may be anomalous. All 2022 shallow zone field parameter data, including pH, are summarized in **Table 6**.

### 3.3.2. Intermediate Groundwater Zone

#### *3.3.2.1 Groundwater Elevations*

A synoptic round of groundwater level measurements was collected for each of the Q1 and Q3 2022 sampling events. Based on these field measurements, groundwater elevation contour maps were constructed for the intermediate zone for the two semiannual events (included as **Figure 24** and **Figure 25**, respectively). The groundwater elevations reveal that the potentiometric surface in the intermediate zone was nearly flat during both 2022 events, with very little variation (generally less than a foot of difference) amongst most calculated groundwater elevations across the Site. Well RWR-MWI had a notably higher groundwater elevation in the Q1 event (3.16 feet amsl) compared to its Q3 elevation (1.30 feet amsl). Otherwise, groundwater elevations were generally higher during the Q3 event than the Q1 event. It should be noted that there was a fairly significant precipitation event (1.38 inches) on the day prior to the Fall 2022 groundwater gauging. Anomalous elevations were measured for the Q3 event for wells RW10-MWI (3.00 feet amsl) and RW19-MWI (-2.83 feet amsl) so these values were not included for the generation of the contours on **Figure 25**.

Groundwater elevations in the intermediate zone are generally lower than in the shallow zone, indicating a downward vertical gradient. There are three exceptions (RW22R, RWE and RWG pairs) where a higher groundwater elevation was observed in the intermediate well than in the shallow well, indicating a potential upward vertical gradient at these locations. The upward vertical gradient has been observed in this area in several sampling events prior to 2022.

#### *3.3.2.2 Zinc*

Intermediate groundwater zinc concentrations during the Q1 2022 event are shown on **Figure 26**. Zinc concentrations were highest within and outside the north edge of the former East Pond source area, at RW19-MWI (3,090,000 µg/L) and RWP-MWI (2,530,000 µg/L), respectively. A high zinc concentration was also observed at RW21-MWI (5,070,000 µg/L). Zinc concentrations above 500,000 µg/L were also observed at locations RWR-MWI and RWS-MWI. **Figure 26** shows that the contaminant plume in the intermediate zone extends beyond the northern limits of the treatment trenches and that the former Northwest Pond area may have acted as a source of contaminant mass to the intermediate zone groundwater. This impacted area was discussed in the Comment Response Letter: Rod and Wire Mill IM 2020 Progress Report and Parcel A3 NAPL Semi-Annual Monitoring Report (ARM 2022); it was identified in previous sampling and delineation events but was unable to be completely excavated due to the presence of overhead electric lines.

The concentration observed in RWA-MWI was also elevated compared to other shoreline intermediate wells during this event. Based on the lower concentration in RW22R-MWI, the relatively high zinc concentration in RWA-MWI appears to be isolated from the high concentrations observed around the former Northwest Pond area. At RWJ-MWI, the zinc concentration is low (6,330 µg/L) relative to other intermediate wells nearby. However, concentrations of zinc above 60,000 µg/L extend westward from RWL-MWI toward RWE-MWI, and also to the south from RWL-MWI to RW23-MWI.

Intermediate zone groundwater zinc concentrations during the Q3 2022 event are shown on **Figure 27.** For contour purposes, if a sample was not collected during the Q3 sampling event, then the concentration from the Q1 sampling event was used. High concentrations at well RWP-MWI and RWR-MWI were still present during the Q3 event. The isolated plume in the northwest corner near RWA-MWI persists, as well as the two axes of high concentrations (~60,000-100,000 µg/L) extending from RWL-MWI westward to RWE-MWI and from RWL-MWI southward to RW23-MWI). The concentration in RW06-MWI was significantly higher during the Q3 event (97,570 µg/L) than the Q1 event (anomalously not detected).

Time series graphs of zinc concentrations in intermediate wells are shown in **Figures 28** through **33**. For all charts, the y-axes are shown on logarithmic scales. Results for the intermediate wells are compared to the relevant surface water criterion for zinc of 81 µg/L. The charts include the four different well groups and are divided up based on installation date. Wells installed in 2017 or prior are termed "original wells", and wells installed in 2019 are termed "supplemental wells".

- **Figure 28**: intermediate perimeter wells, original wells
- **Figure 29**: intermediate perimeter wells, supplemental wells
- **Figure 30**: intermediate interior wells, original wells
- **Figure 31**: intermediate interior wells, supplemental wells
- **Figure 32**: intermediate delineation wells, all wells
- **Figure 33**: intermediate upgradient wells, all wells

Several items to note include:

- The concentration of zinc in well RW03R-MWI during the Q3 event (3,063 µg/L) was much lower than the last measured concentration of zinc in RW03-MWI before it was lost (19,400 µg/L).

- There were two locations—RWB-MWI (19 µg/L, Q3) and RW08-MWI (not detected, Q1)—with zinc concentrations in the intermediate perimeter wells below the surface water criterion of 81 µg/L during either of the 2022 events. The highest zinc concentration amongst perimeter wells in 2022 was consistently measured in well RWA-MWI (415,000 µg/L in the Q1 event and 340,500 µg/L in the Q3 event).
- The zinc concentration in upgradient intermediate zone well RW19-MWI exhibited a significant increase from the previous Q2 2021 sampling event to the Q1 2022 sampling event; however, the result from the Q2 2021 sampling event was anonymously low, and the result from the Q1 2022 sampling event was within the historic range.

Refer to Section 3.4 for trend analysis. All intermediate well zinc results are included in **Table 7.** Laboratory reports for samples collected during 2022 are included as **Appendix B.** Individual time-series graphs for each intermediate zone monitoring well are presented in **Appendix D.**

#### *3.3.2.3 Cadmium*

Intermediate zone cadmium concentrations during the Q1 event, shown on **Figure 34**, vary significantly across the Site. The highest cadmium concentration was measured in RW13-MWI (23,700 µg/L) located in the former Sludge Bin Storage Area. There were also relatively high concentrations compared to other intermediate well concentrations during this event north of the easternmost trench near the former East Pond in well RWP-MWI (5,340 µg/L) and north of the westernmost trench near the former Northwest Pond in wells RWI-MWI (5,230 µg/L) and RWH-MWI (5,150 µg/L). As with zinc, the high cadmium detection at the northwestern-most corner of the Site at RWA-MWI (9,840 µg/L) appears to be isolated from the known source areas.

Intermediate zone cadmium concentrations during the Q3 event, shown on **Figure 35,** are similar to those observed during the Q1 event. Relatively high concentrations persisted in northern wells RWH-MWI and RWP-MWI, as well as at the isolated concentrations detected in the northwest corner at RWA-MWI. Cadmium concentrations in the intermediate perimeter wells during the Q3 event were below the relevant surface water criterion of 7.9 µg/L in RWB-MWI, RW22R-MWI, and RW05R-MWI.

Time series graphs of zinc concentrations in intermediate wells are shown in **Figures 36** through **41**. For all charts, the y-axes are shown on logarithmic scales. Results for the intermediate wells are compared to the surface water criterion for cadmium of 7.9 µg/L. The charts include the four different well groups and are divided up based on installation date. Wells installed in 2017 or prior are termed "original wells", and wells installed in 2019 are termed "supplemental wells".

- **Figure 36**: intermediate perimeter wells, original wells
- **Figure 37**: intermediate perimeter wells, supplemental wells
- **Figure 38**: intermediate interior wells, original wells
- **Figure 39**: intermediate interior wells, supplemental wells

- **Figure 40**: intermediate delineation wells, all wells
- **Figure 41**: intermediate upgradient wells, all wells

Several items to note include:

- The highest cadmium concentration in perimeter wells in 2022 was consistently measured in well RWA-MWI (9,840 µg/L in the Q1 event and 8,587 µg/L in the Q3 event).
- As with zinc, the concentration of cadmium measured in well RW03R-MWI during the Q3 2022 event (9.6 µg/L) was much lower than the last cadmium concentration measured in the well it replaced RW03-MWI before it was lost (581 µg/L).

Refer to Section 3.4 for trend analysis. Cadmium results for all samples from the intermediate zone are included in **Table 8.** Laboratory reports for samples collected during 2022 are included as **Appendix B.** Individual time-series graphs for each intermediate zone monitoring well are presented in **Appendix D.**

##### *3.3.2.4 pH*

For both the Q1 and Q3 event, pH values in the intermediate groundwater zone generally ranged from 3.5 to 7.5. All 2022 intermediate zone field parameter data, including pH, are summarized in **Table 9**. Measurements of pH within the intermediate groundwater zone during the Q1 and Q3 events are shown on **Figure 42** and **Figure 43,** respectively. The highest pH value (7.79) during the Q1 event was measured at well RW16-MWI, while the highest value during the Q3 event was measured at well RWJ-MWI (7.47). There were five intermediate zone monitoring wells with pH values less than 4.0 (RWD-MWI, RWG-MWI, RW08-MWI, RW12-MWI and RW21-MWI). Previous years also had a few wells with pH values below 4.0. Across the whole site, pH is generally lower in the intermediate zone than in the shallow zone. However, during both the Q1 and Q3 events, the pH in the intermediate wells in the RWK and RWL well pairs was higher than it was in the corresponding shallow wells. This is discussed further in the paragraph below.

### 3.3.3. Focused Well Pairs J-K-L

**Figure 26** and **Figure 27** show the locations of the Focused wells (well pairs J-K-L) relative to the trench, along with the intermediate zinc concentrations for the Q1 and Q3 2022 sampling events, respectively. These Focused wells were installed in 2019, more than two years following the trench installation. As indicated on **Figure 26**, intermediate groundwater upgradient of the westernmost trench in well RW13-MWI contains over 400,000 µg/L of dissolved zinc. The zinc concentration in RWJ-MWI, directly adjacent and downgradient of the trench, was detected at 6,330 µg/L in the Q1 sampling event and 1,325 µg/L in the Q3 sampling event. As the distance downgradient from the trench increased, the zinc concentration was observed to increase such that the zinc concentration ranged from 16,940 µg/L to 19,600 µg/L in RWK-MWI (~10 feet downgradient of RWJ-MWI) and from 75,200 µg/L to 79,440 µg/L in RWL-MWI (~20 feet downgradient from RWJ-MWI). The same pattern appears in these Focused wells in intermediate zone for cadmium concentrations. The concentrations for RWK-MWI and RWL-MWI in 2022 for zinc only (cadmium levels were similar to previous years) were the lowest observed in these wells.

There is also a corresponding gradient in pH in these focused wells. Measured pH values exhibit decreasing gradient moving away from the trench in the intermediate zone. In both the Q1 and Q3 events, RWJ-MWI has the highest pH (6.84 and 7.47) while RWL-MWI has the lowest pH (5.77 and 6.24), with RWK-MWI having a pH between the two (6.37 and 6.60). These patterns in zinc concentrations, cadmium concentrations, and pH measurements in the intermediate zone suggests that the permeable reactive barrier treatment technology and the reagent appears to be effective in raising the pH of the groundwater and removing the metals concentrations.

Furthermore, during both the Q1 and Q3 events, the pH was higher in intermediate well RWK-MWI than in its paired shallow well RWK-MWS, and the pH was higher in intermediate well RWL-MWI than in its paired shallow well RWL-MWS. This suggests that treated groundwater from the trench may be starting to reach the RWK-MWI and RWL-MWI wells. Time-series graphs of pH measurements for the Focused shallow wells and the Focused intermediate wells are shown on **Figure 44** and **Figure 45**, respectively.

Time series graphs for the focused well pairs are shown in **Figures 46** through **48**. For all charts, the y-axes are shown on logarithmic scales. Results for the intermediate wells are compared to the surface water criterion for cadmium of 7.9 µg/L. The charts include the four different well groups and are divided up based on installation date. Wells installed in 2017 or prior are termed "original wells", and wells installed in 2019 are termed "supplemental wells".

- **Figure 46**: shallow zone, zinc
- **Figure 47**: intermediate zone, zinc
- **Figure 48**: intermediate zone, cadmium

Cadmium is rarely detected or is detected below the reporting limit in the shallow Focused wells, therefore no time-series graph was made for cadmium concentrations in the shallow wells. Several items to note include:

- Concentrations upgradient from the trench (RW13-MWI and RW12-MWI concentrations) suggest that the zinc concentration at RWJ-MWI has significantly decreased from what it would have been in that area without installation of the trenches.
- For both the shallow and intermediate wells, the zinc concentrations in the RWJ well pair (the closest wells to the trench) are significantly lower than the zinc concentrations in the RWK and RWL well pairs. Refer to **Figure 46** and **Figure 47**.
- For the intermediate wells, the cadmium concentrations in the RWJ well pair (the closest wells to the trench) are lower than the zinc concentrations in the RWK and RWL well pairs.

In addition, the cadmium concentrations in the RWJ and RWK well pairs are significantly lower than the cadmium concentrations in the RWL well pair (the furthest from the trench). Refer to **Figure 48**.

The groundwater elevations of the Focused well pairs provide evidence that groundwater may be draining through the trenches from the shallow zone to the intermediate zone. In both semiannual sampling events 2022, there is a groundwater elevation gradient toward the trench (from L toward J) in these three wells in the shallow zone. This gradient is depicted by the groundwater elevations shown on **Figure 4** and **Figure 5**. Although the differences in groundwater elevations between the three wells are usually within a tenth of a foot, there is almost a two-foot difference between RWL-MWS (3.67 feet amsl) and RWK-MWS (1.85 feet amsl) in the Q1 event. During the Q3 2022 event, there is a slight groundwater elevation gradient away from the trench (from J toward L) in the intermediate zone. This gradient is depicted by the groundwater elevations shown on Figure 25. The difference in groundwater elevations between the three intermediate zone Focused wells is a few tenths of a foot. A groundwater elevation gradient away from the trench in the intermediate zone was not observed during the Q1 event due to some anomalous groundwater elevations in these wells. Although the groundwater elevations in the Focused wells do not depict a gradient away from the trench (from J to L) in the intermediate zone during the Q1 event, it did show a gradient away from the trench during the Q3 event, and has also been observed during most previous years' monitoring events.

### 3.4. Statistical Evaluation – Trend Analysis

For the purpose of evaluating the distribution of parameter concentrations over time, parameters were subjected to a trend analysis. Trend analysis was performed for cadmium and zinc for all wells using the Mann-Kendall test.

The Mann-Kendall test is a non-parametric test for identifying linear trends in data. The test is suitable for non-normally distributed data and is not limited by sample size. The test pairs measurements and assigns a score to each possible pair based on comparing the average of the pair in question to the average of a pair of earlier measurements. If the average of a particular pair of measurements is lower than the average of an earlier pair it is assigned a score of -1, if it is tied it is assigned a score of 0, and if it is higher it is assigned a score of 1. The sum of these scores is computed to obtain the Mann-Kendall Statistic (S). If S is positive it implies an upward trend over time, if it is negative it implies a downward trend over time, an S value near zero roughly indicates that there is no apparent trend in data. As the absolute value of S gets larger, the stronger the evidence for a real increasing or decreasing trend. For larger data sets (greater than 10), the behavior of S tends to approximate a normal distribution in accordance to the central limit theorem, and a standardized statistic, Z, is used for trend identification. For higher levels of significance, the larger the absolute value of Z or S needs to be to conclude the presence of a trend in data over time. A significance level of 95 percent was used for all Mann-Kendall Tests performed for this evaluation. Data points that were below the detection limits were replaced with the laboratory reporting limit divided by two. No wells were excluded as a result of having too few samples. The results of the trend tests were reviewed to remove any trends that were the result of changing detection limits over time. Statistical analyses were performed using the ChemStat® statistical analysis software (version 6.3.0.2, Starpoint Software, Inc., ©1996-2013). A trend was identified as statistically significant if the Mann-Kendall Test identified it as increasing or decreasing at a 95% confidence factor. The ChemStat® input and output files are included as an Electronic Attachment.

Statistically significant trends for cadmium and zinc are summarized **Table 10**. If no statistically significant trend was identified for a parameter, it is not shown in **Table 10**. Historical sampling dates included in the statistical trend analysis covered events from well installation (2017 to 2019) to present. The results of all trend tests are included in **Appendix E**, and are summarized below.

Upgradient wells:

- Downward trend for cadmium in RWR-MWS and RW19-MWI
- Downward trend for zinc in RWR-MWI
- Upward trend for cadmium in RWS-MWI

Delineation wells:

- Downward trend for cadmium in RWO-MWS and RWO-MWI
- Downward trend for zinc in RWQ-MWI
- Upward trend for cadmium in RWH-MWI

Interior wells:

- Downward trend for cadmium in RW12-MWS, RW16-MWS, RW18-MWS, RWN-MWS, RW10-MWI, RW11-MWI, RW16-MWI, RW18-MWI, and RW24-MWI
- Downward trend for zinc in RWM-MWI
- Upward trends for zinc at RW11-MWS and RW09-MWI
- Upward trend for cadmium at RW25-MWI

Focused (J-K-L) wells:

- Downward trend for cadmium in RWJ-MWS, RWK-MWS, and RWL-MWS
- Downward trend for zinc in RWL-MWI

Perimeter wells:

- Downward trend for cadmium in RW01-MWS, RW02-MWS, RW05-MWS, RWB-MWS, RWF-MWS, RW05R-MWI, RWB-MWI, and RWE-MWI
- Downward trend for zinc in RW08-MWI
- Upward trends for zinc at RWG-MWI
- Upward trend for cadmium at RW07-MWS, RW01-MWI, RW06-MWI, RW07-MWI, RW22R-MWI, and RWF-MWI

For the Focused J-K-L wells, several downward trends were identified, and no upward trends were identified. For the other interior wells, nine wells had downward trends for cadmium and one well had a downward trend for zinc, compared with only two wells with upward trends for cadmium and one well with an upward trend for zinc. This indicates that for the wells within the remediation trench area, the majority of wells have either stable or downward trends for both cadmium and zinc.

### 3.5. CONTAMINANT REDUCTION

The interim groundwater treatment goals are to increase the pH in the intermediate groundwater zone in order to precipitate the dissolved metals and achieve a reduction in dissolved concentrations of cadmium and zinc within the source areas.

The time-series graphs show that the cadmium and zinc concentrations have, in some cases, fluctuated by orders of magnitude between consecutive sampling events. As a result, the comparison of individual quarterly values for some wells can indicate an increase or decrease depending on which specific quarterly values are compared. For ease in visualizing overall trends and magnitude of reductions, annual average concentrations of cadmium and zinc were calculated for each well for which multiple years of data are available. Values for total and dissolved metals were used interchangeably in the calculations based on previous observations that nearly all of the total metals concentrations are accounted for by the dissolved fraction.

**Table 11** summarizes average annual groundwater cadmium and zinc concentrations at each shallow zone well installed before the remediation trenches. The table shows that the average cadmium concentrations in shallow zone wells that were sampled in 2022 are all below the ambient surface water quality criterion of 7.9 ug/L, except for RW07-MWS. All other shallow well cadmium concentrations have shown decreases over the observed time period.

Zinc concentrations in the easternmost interior shallow zone wells that were sampled in 2022 (RW16-MWS and RW18-MWS) showed reductions of 69% and 97%, respectively, over the observed time periods. However, zinc concentrations increased from 2015 to 2022 at the more western interior well RW12-MWS. The largest percent increases were observed at interior well RW12-MWS (556%) and perimeter well RW02-MWS (562%). Zinc concentrations in perimeter wells RW01-MWS and RW05-MWS decreased by 24% and 90%, respectively, since they were installed. The only other well that was sampled in 2022 in which 2022 zinc concentrations showed an increase relative to its earliest yearly average was RW07-MWS (209%).

**Table 12** summarizes average annual groundwater cadmium and zinc concentrations at each intermediate zone well installed before the remediation trenches. For cadmium concentrations, the 2022 yearly average for upgradient well RW19-MWI showed a 95% reduction from its 2017 yearly average. Interior wells that were sampled in 2022 showed decreases from the earliest yearly average to the 2022 yearly average except for well RW15-MWI. The most significant cadmium concentration decreases were observed at RW09-MWI, RW10-MWI, RW11-MWI, and RW12-MWI, with values decreasing by over 80%. Intermediate zone yearly average cadmium concentrations have increased in perimeter wells RW01-MWI, RW06-MWI and RW07-MWI. The most notable increases were at wells RW06-MWI and RW07-MWI, where average yearly cadmium concentrations increased by 1,679% and 2,573%, respectively, from their earliest yearly average to their 2022 yearly average. Decreases in cadmium concentrations were observed in RW02-MWI and RW03-MWI from their earliest yearly averages to their 2022 yearly averages.

For zinc concentrations, 2022 yearly average in intermediate zone upgradient well RW19-MWI decreased by 34% compared to the 2017 yearly average. Most interior wells showed significant decreases in zinc concentrations from the earliest yearly average to the 2022 yearly average. Only interior wells RW09-MWI and RW15-MWI exhibited increases from their earliest yearly average zinc concentrations to their 2022 average zinc concentrations. Patterns in zinc concentrations for intermediate zone perimeter wells corresponded to those for cadmium in intermediate zone perimeter wells, where RW01-MWI, RW06-MWI and RW07-MWI showed increases from their earliest yearly averages to their 2022 yearly averages.

# 4.0 SUMMARY AND CONCLUSIONS

The current approach for addressing the source area elevated dissolved cadmium and zinc in the intermediate groundwater zone is to precipitate the dissolved metals in-situ by raising the groundwater pH above 7. This approach relies on groundwater movement to intercept the migration of metals contaminants in the intermediate zone upgradient of the trenches. Therefore, the effectiveness of the interim measure is expected to be observed first in the intermediate zone wells closest to the trenches and, due to the relatively slow groundwater velocity (less than 5 ft/year), may not be apparent in downgradient wells for several years after trench installation (January 2017).

The three Focused well pairs wells J - K - L were installed directly adjacent to the western most treatment trench to help evaluate overall trench performance. RWJ-MWI located closest to the trench exhibited elevated pH values and, most notably, significantly lower zinc concentrations when compared to the upgradient groundwater concentrations relative to the trench. Furthermore, it is notable that the pH was higher in intermediate wells RWK-MWI and RWL-MWI than in their paired shallow wells RWK-MWS and RWL-MWS. This suggests that treated groundwater from the trench may be starting to reach the RWK-MWI and RWL-MWI wells.

It is still early in the generation and evaluation of the groundwater monitoring data, especially due to the relatively flat groundwater gradient in the intermediate zone (as shown on **Figures 24 and 25**). Flow through the trenches is what effects the treatment of the groundwater, and the flow of ground water is slow due to the flat hydraulic gradient. However, the trend analysis completed identified several downward trends in the Focused J-K-L wells, and no upward trends. For the other interior wells, nine wells had downward trends for cadmium and one well had a downward trend for zinc, compared with only two wells with upward trends for cadmium and one well with an upward trend for zinc. This indicates that for the wells within the remediation trench area, the majority of wells have either stable or downward trends for both cadmium and zinc. Groundwater monitoring data and the overall trend will continue to be monitored and evaluated to assess the effectiveness of the treatment trenches in precipitating the dissolved metals from the groundwater.

In the shallow wells along the western shoreline (perimeter wells), cadmium concentrations in nearly all wells are below the ambient surface water quality criterion. However, less than half of zinc concentrations in these wells are below the ambient surface water quality criterion.

**Table 12** shows that concentration reductions have been achieved in the majority of interior intermediate wells since installation of the trenches.

Some wells at the Site are continuing to observe fluctuations in cadmium and zinc concentrations (several orders of magnitude) between consecutive events. It has been noted that the wells that have exhibited these fluctuations are mostly wells installed prior to 2019. As such, these older wells exhibiting fluctuations will be inspected and/or have the structural integrity evaluated in order to determine if they are still providing groundwater samples that accurately reflect the groundwater geochemistry at the Site and are not being influenced by surface runoff leaking into the well or other similar structural failures.

The RWM IM Supplemental Investigation Report (ARM 2020a) identified some areas that may be outside the intended effective zone of the remediation trenches. The long-term effectiveness of the interim measure and the need for additional or alternative remedial measures will be evaluated further as described in the Rod and Wire Mill Groundwater Corrective Measures Study (CMS) Work Plan (Revision 1, dated January 14, 2021). The forthcoming Rod and Wire Mill Groundwater CMS Report will also evaluate the existing monitoring well network for both the shallow and intermediate groundwater zones.

Groundwater sampling at the RWM for dissolved cadmium and zinc will continue in 2023 in accordance with the schedule as presented in the RWM Monitoring Network Update letter (ARM 2021c).

# 5.0 REFERENCES

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ARM Group LLC (2021c). *RWM Monitoring Well Network Update Letter.* March 8, 2021.

# FIGURES


Trade Point Atlantic
Rod & Wire Mill Location Map
March 30, 2021

Figure
1

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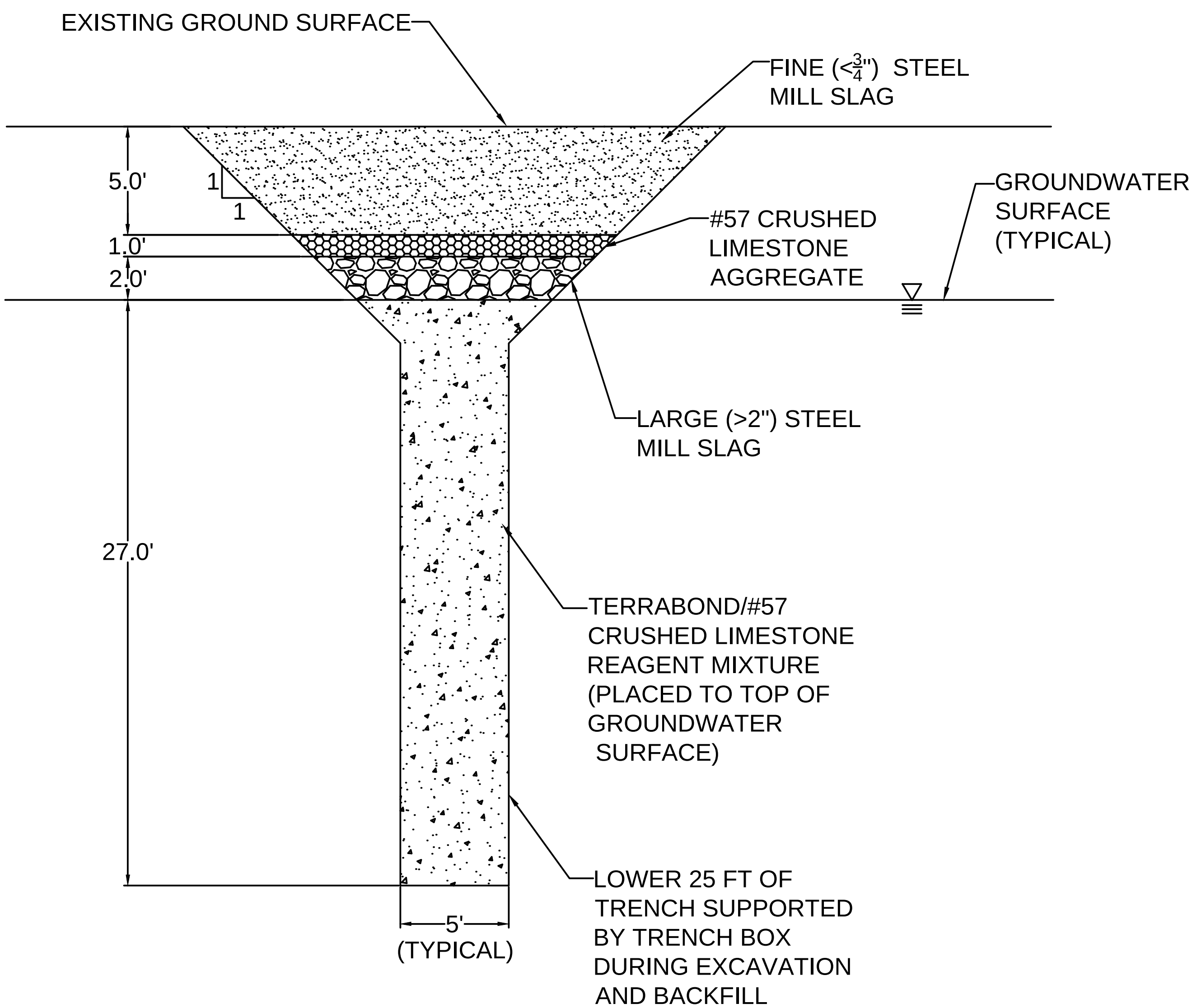
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103


Parcel A3 (Rod & Wire Mill)
Location of Historical Activities
January 13, 2020

Figure 2

| | |
|---|---|
| Tradepoint Atlantic | Sparrows Point |
| ARM Project 21010103 | Baltimore County, MD |

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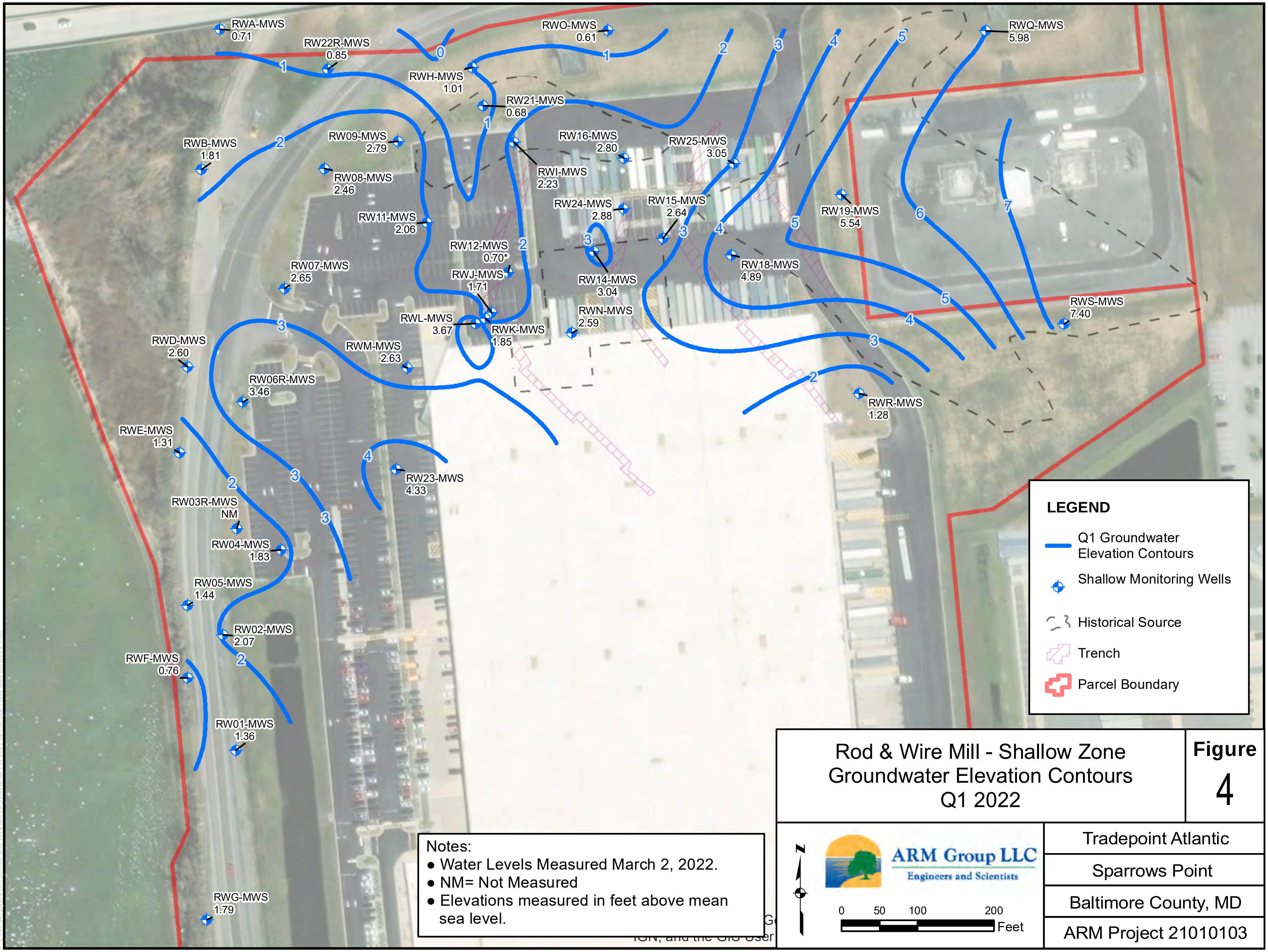
F:\Projects\2016\20163421 - Sparrows Point Rod and Wire Mill Area\Cad\FIGURE 3 - Trench Profiles.dwg

INTERIM REMEDIAL MEASURES
FORMER ROD AND WIRE MILL AREA
SPARROWS POINT, MD
TYPICAL TREATMENT TRENCH BACKFILL PROFILE SECTION VIEW

| | | | |
|---|---|---|---|
| PROJECT ENGINEER: JSD | SCALE: 1" = 8' | | |
| CHECKED BY: | PROJECT NUMBER: 2016-3421 | | |
| DRAWN BY: EEE | DATE: 3/23/2017 | FIGURE: 3 | |




Notes:
- Water Levels Measured March 2, 2022.
- NM= Not Measured
- Elevations measured in feet above mean sea level.

Rod & Wire Mill - Shallow Zone Groundwater Elevation Contours Q1 2022

Figure 4

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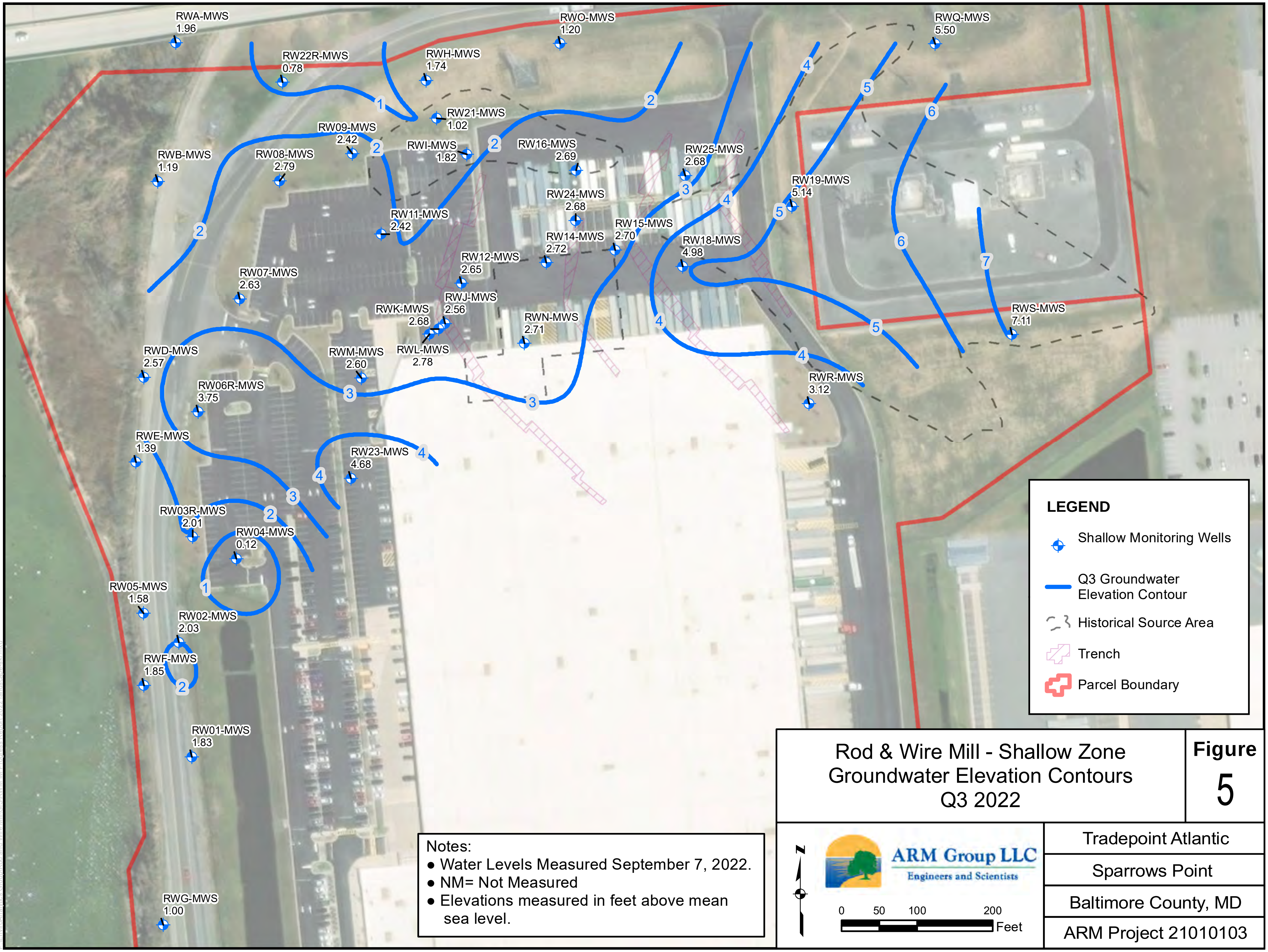
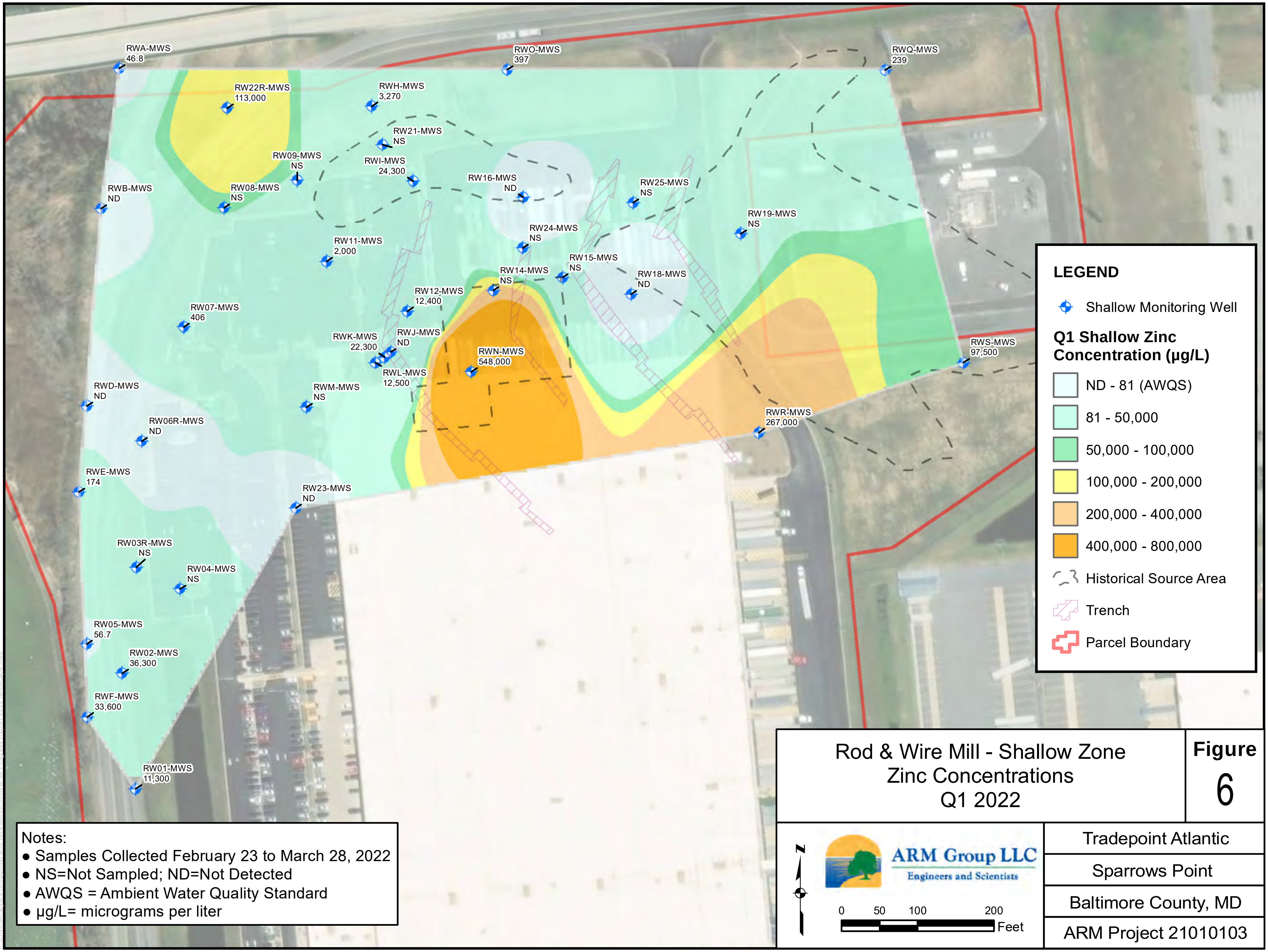
| | |
|---|---|
| Tradepoint Atlantic | |
| Sparrows Point | |
| Baltimore County, MD | |
| ARM Project 21010103 | |


RWA-MWS 1.96
RW22R-MWS 0.78
RWH-MWS 1.74
RWO-MWS 1.20
RWQ-MWS 5.50
RW21-MWS 1.02
RW09-MWS 2.42
RWB-MWS 1.19
RW08-MWS 2.79
RWI-MWS 1.82
RW16-MWS 2.69
RW25-MWS 2.68
RW19-MWS 5.14
RW24-MWS 2.68
RW11-MWS 2.42
RW15-MWS 2.70
RW14-MWS 2.72
RW18-MWS 4.98
RW12-MWS 2.65
RW07-MWS 2.63
RWJ-MWS 2.56
RWK-MWS 2.68
RWN-MWS 2.71
RWS-MWS 7.11
RWD-MWS 2.57
RWM-MWS 2.60
RWL-MWS 2.78
RWR-MWS 3.12
RW06R-MWS 3.75
RWE-MWS 1.39
RW23-MWS 4.68
RW03R-MWS 2.01
RW04-MWS 0.12
RW05-MWS 1.58
RW02-MWS 2.03
RWF-MWS 1.85
RW01-MWS 1.83
RWG-MWS 1.00
LEGEND
Shallow Monitoring Wells
Q3 Groundwater Elevation Contour
Historical Source Area
Trench
Parcel Boundary
Notes:
● Water Levels Measured September 7, 2022.
● NM= Not Measured
● Elevations measured in feet above mean sea level.
Rod & Wire Mill - Shallow Zone
Groundwater Elevation Contours
Q3 2022
Figure
5
N
ARM Group LLC
Engineers and Scientists
0 50 100 200
Feet
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103




Notes:

- Samples Collected February 23 to March 28, 2022
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

Rod & Wire Mill - Shallow Zone Zinc Concentrations Q1 2022

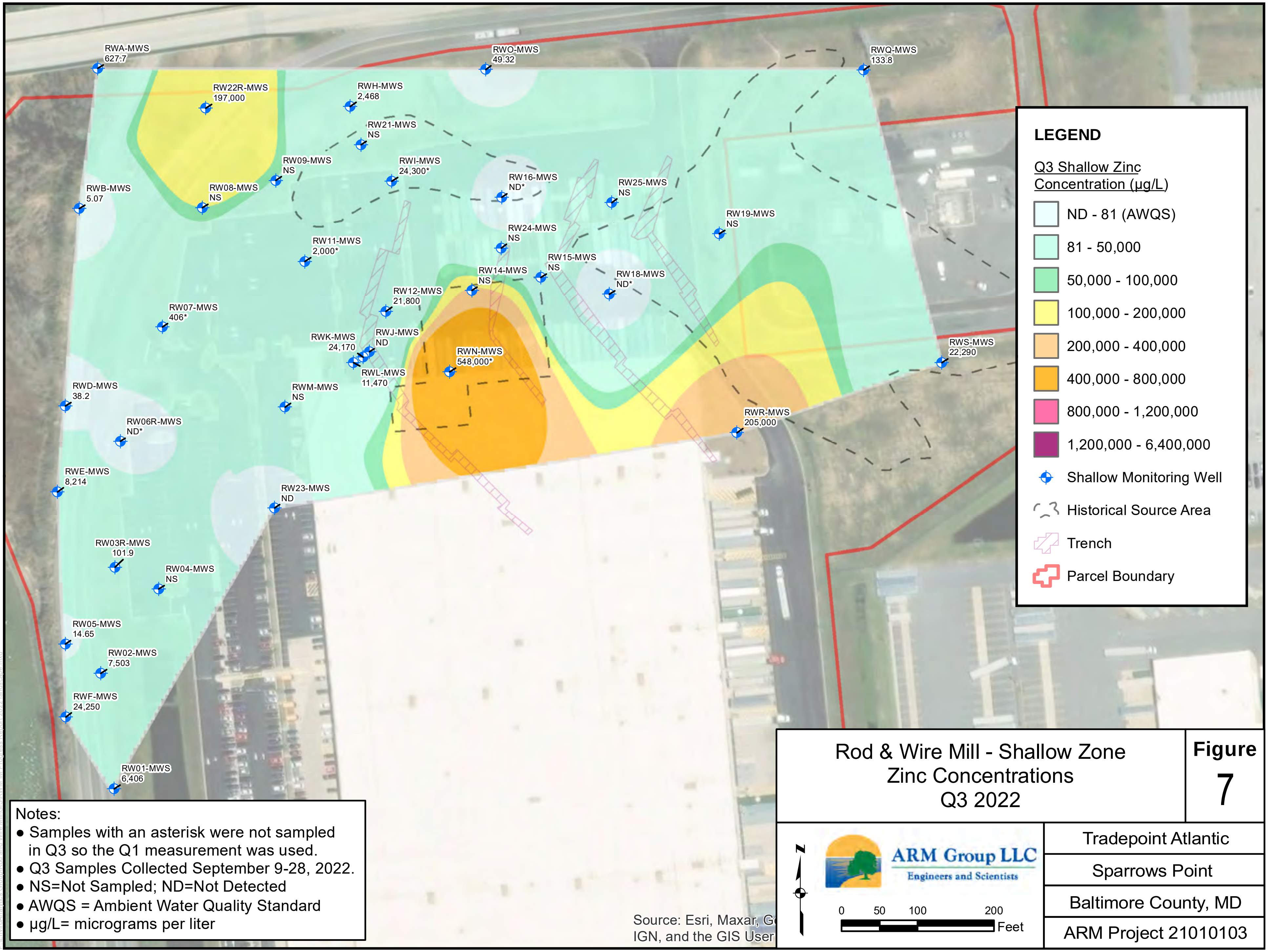
Figure 6

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103




Notes:
- Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
- Q3 Samples Collected September 9-28, 2022.
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

Rod & Wire Mill - Shallow Zone Zinc Concentrations Q3 2022

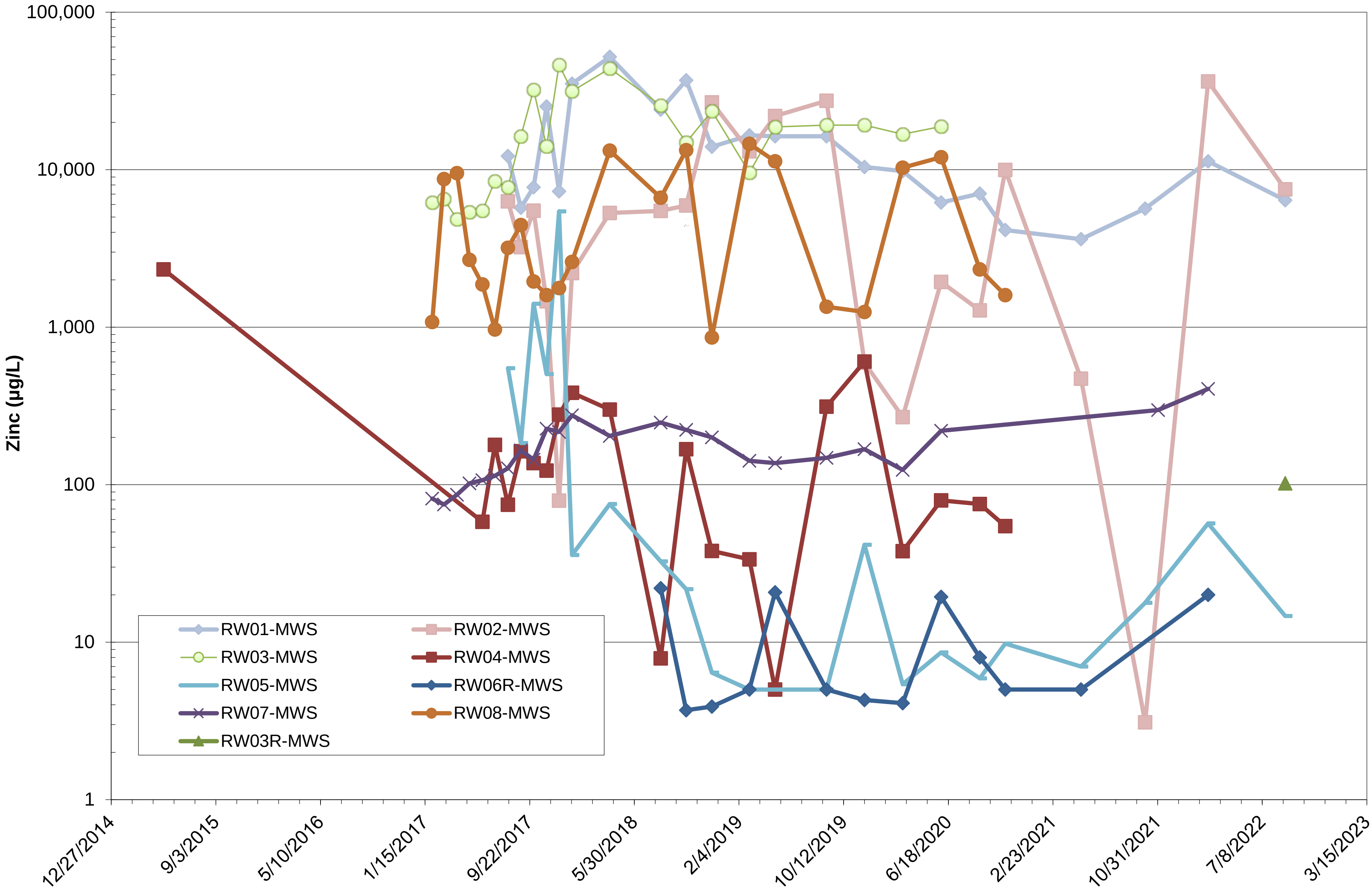
Figure 7

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103

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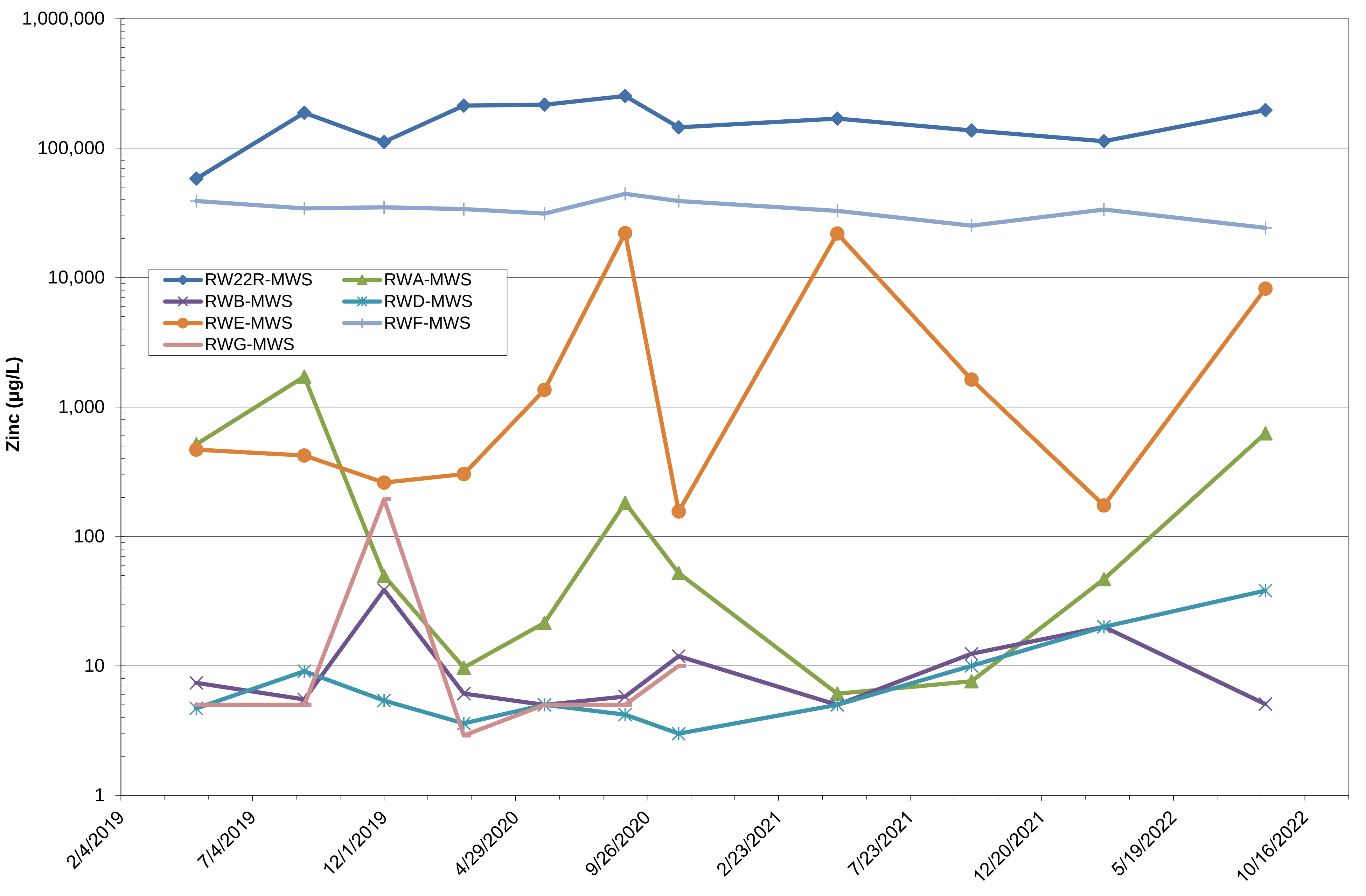
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Perimeter Zinc Concentrations (Original Wells)

February 2023

**Figure 8**

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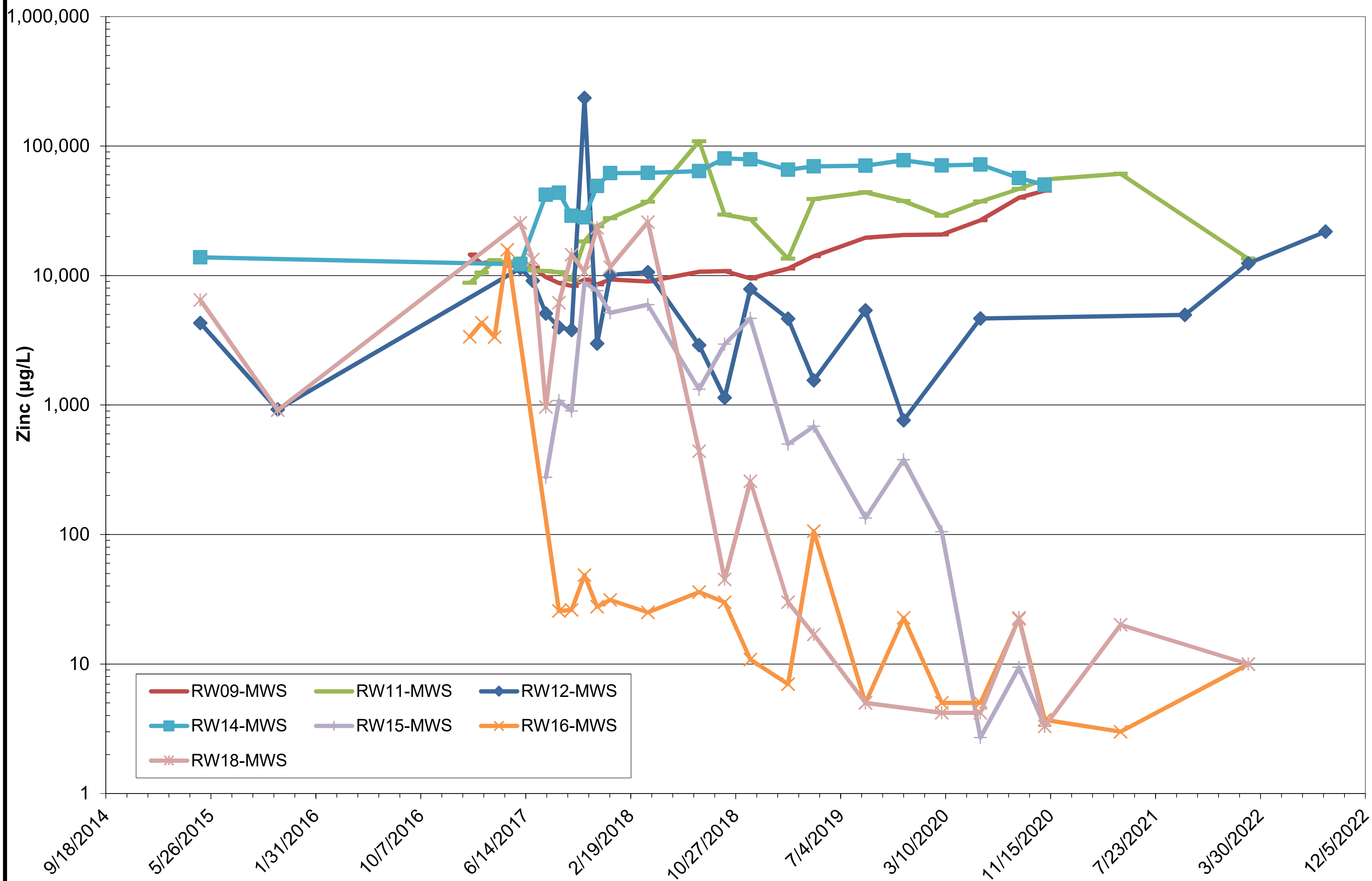
Sparrows Point, Maryland

Shallow Perimeter Zinc Concentrations (Supplemental Wells)

February 2023

Figure 9

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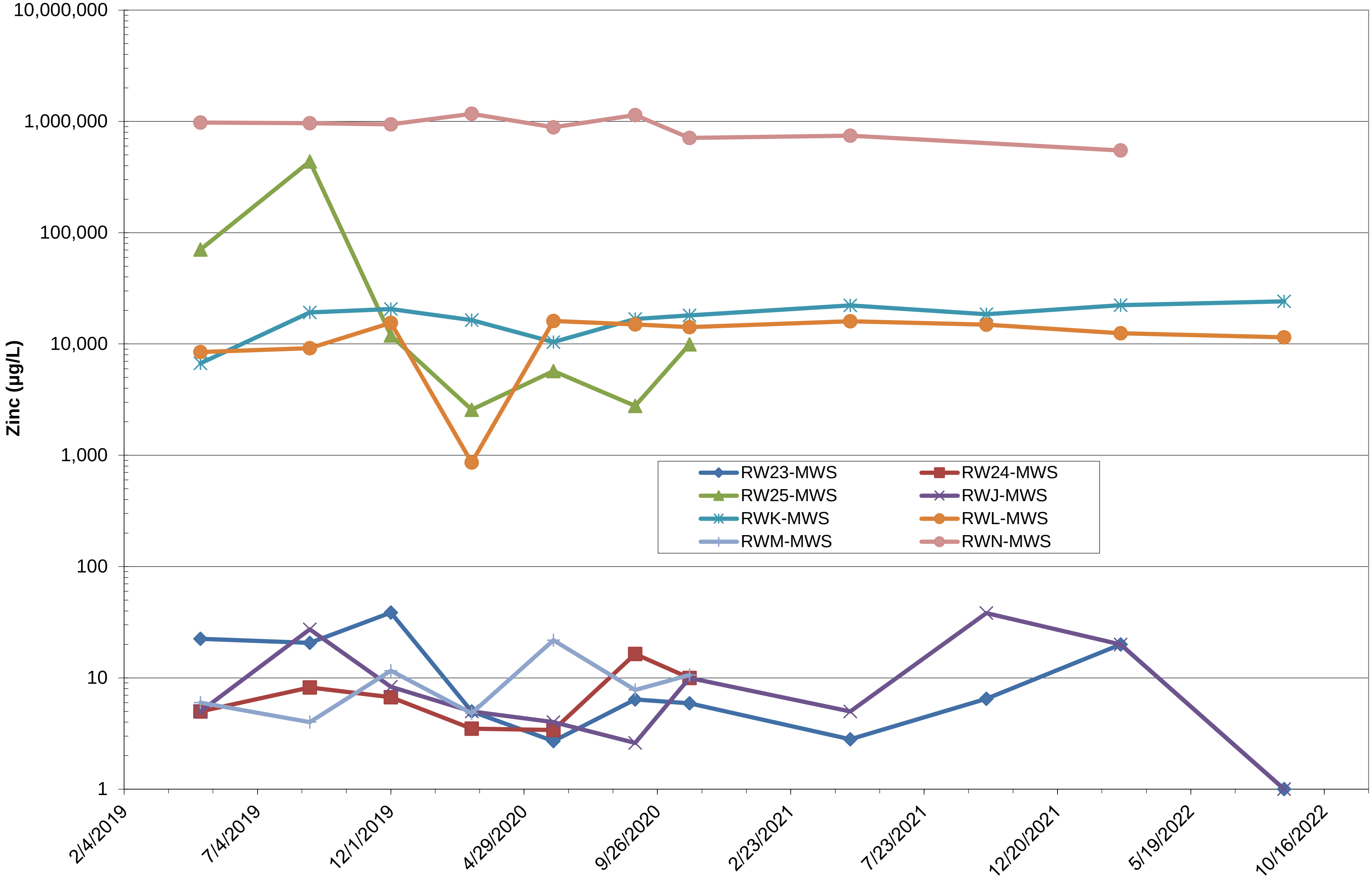
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Interior Zinc Concentrations (Original Wells)

February 2023

**Figure 10**

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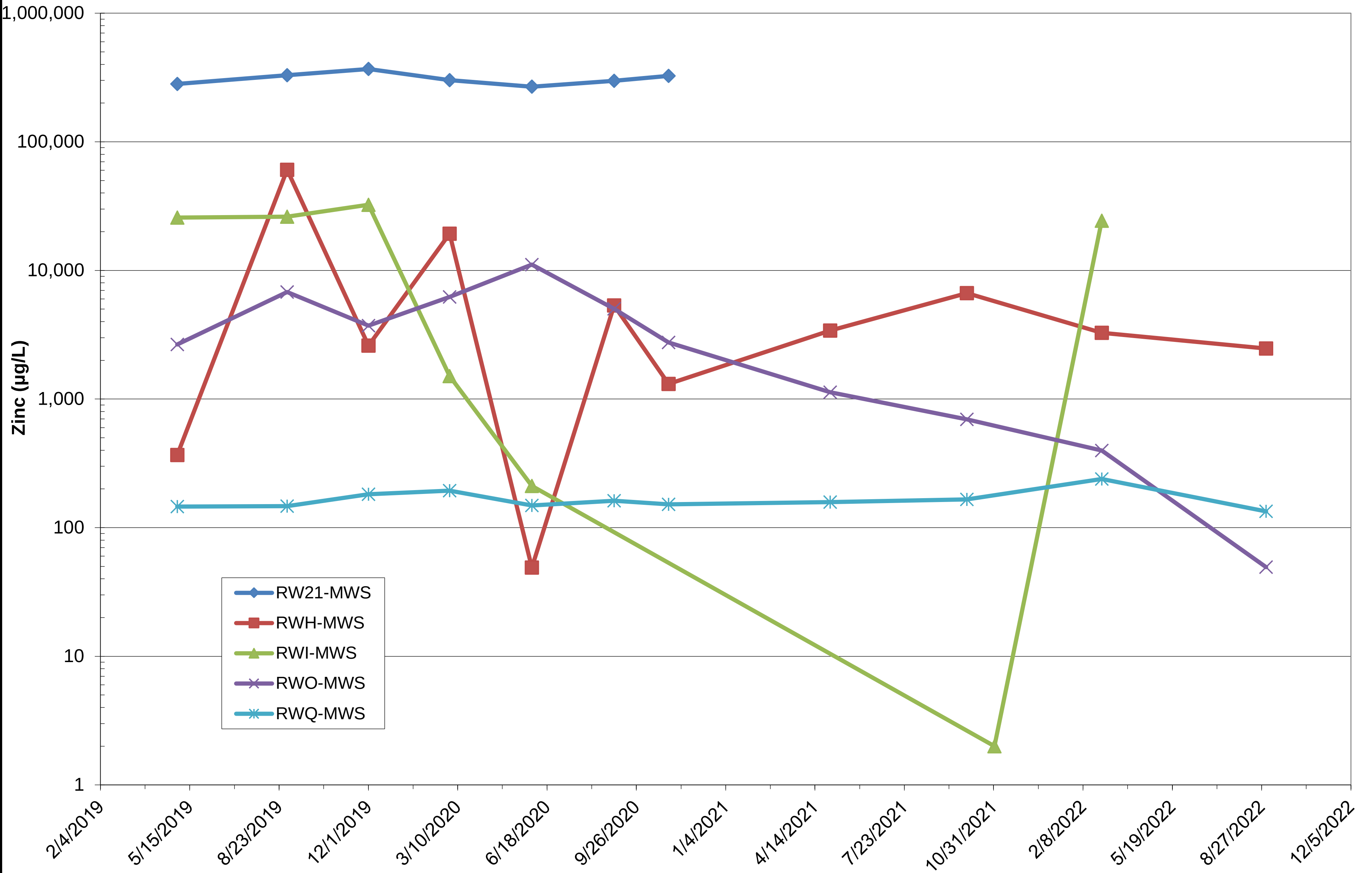
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Interior Zinc Concentrations (Supplemental Wells)

February 2023

**Figure 11**

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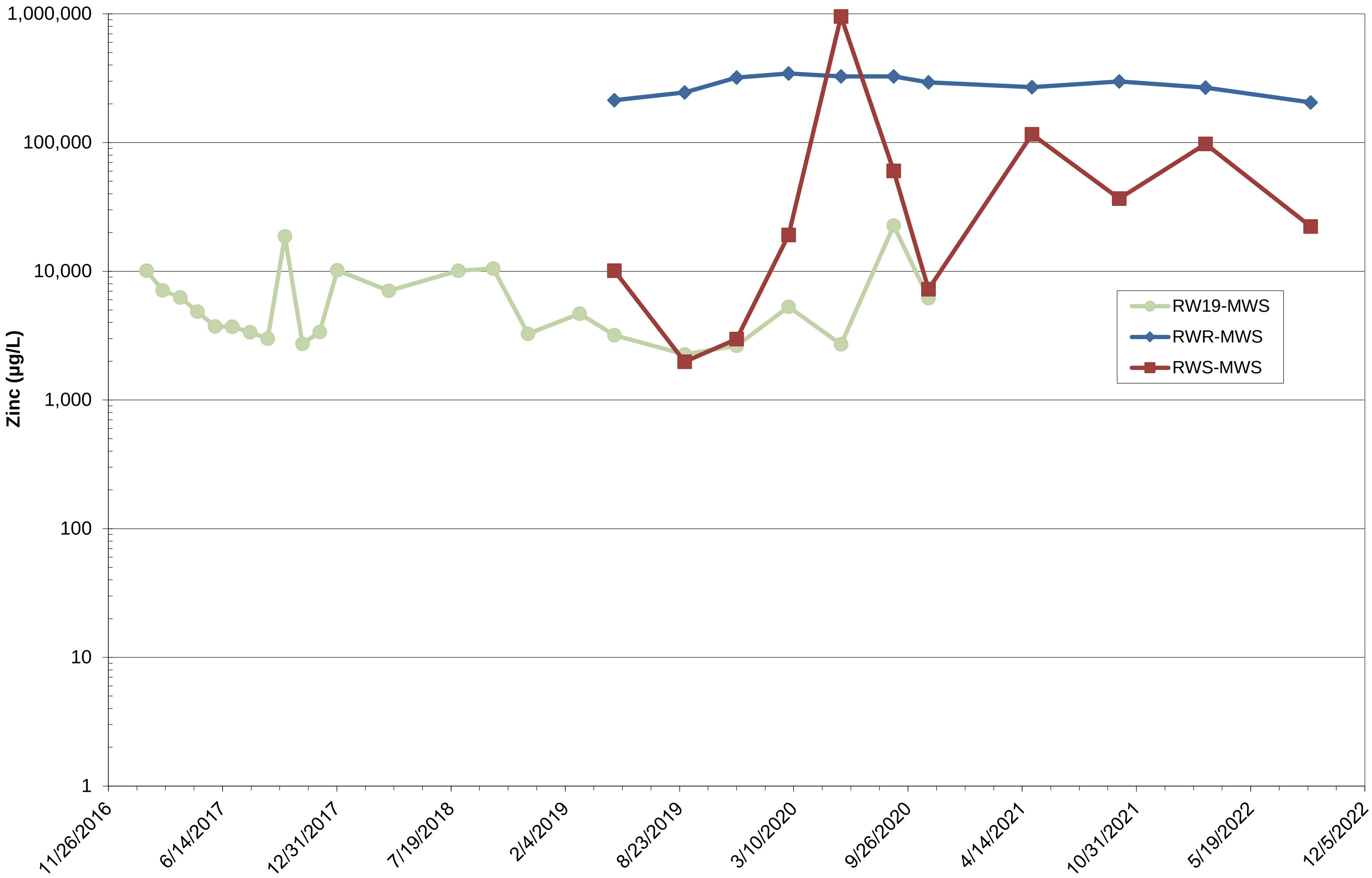
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Delineation Wells
Zinc Concentrations

February 2023

Figure
12

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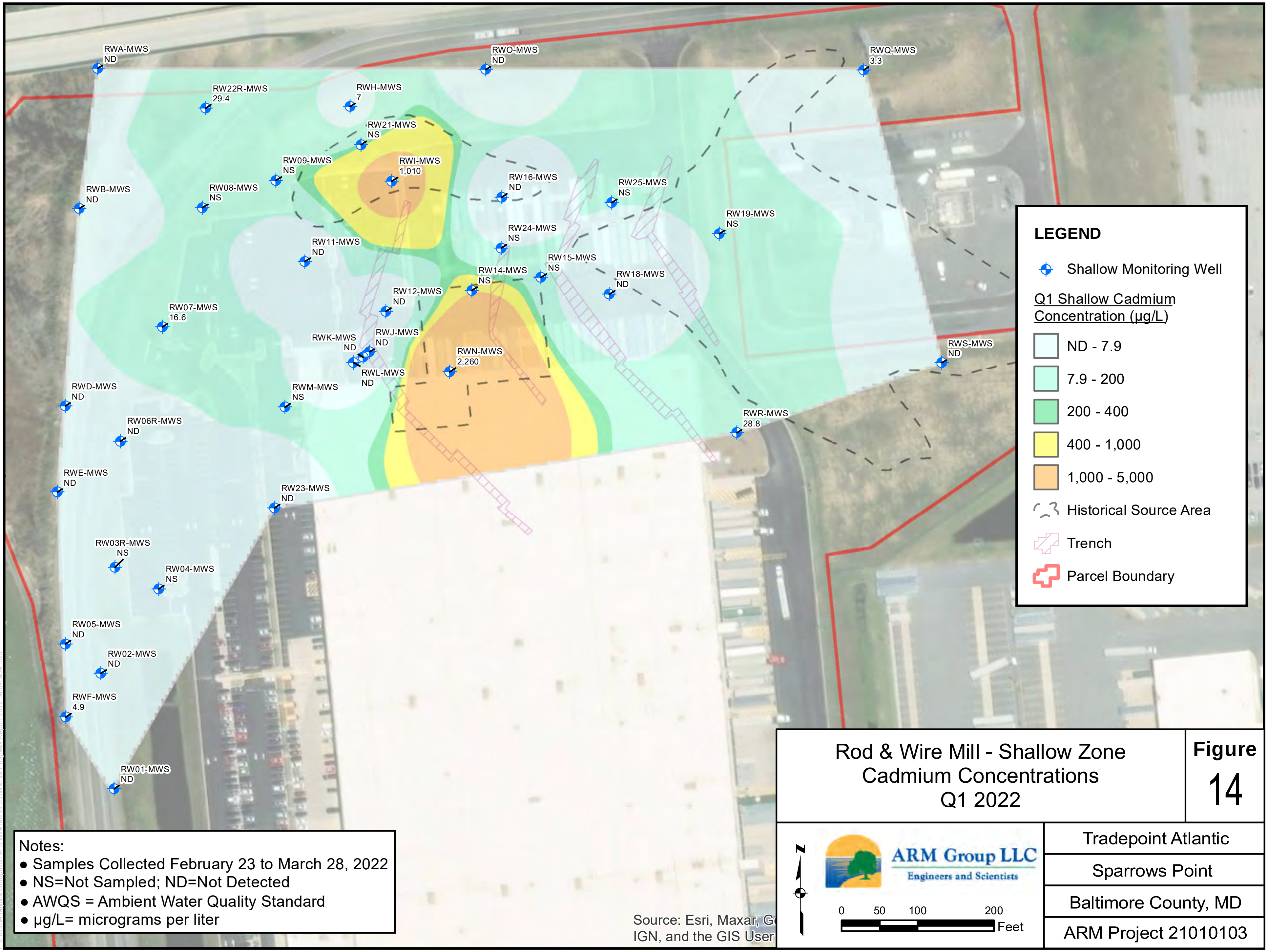
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Upgradient
Zinc Concentrations

February 2023

Figure
13



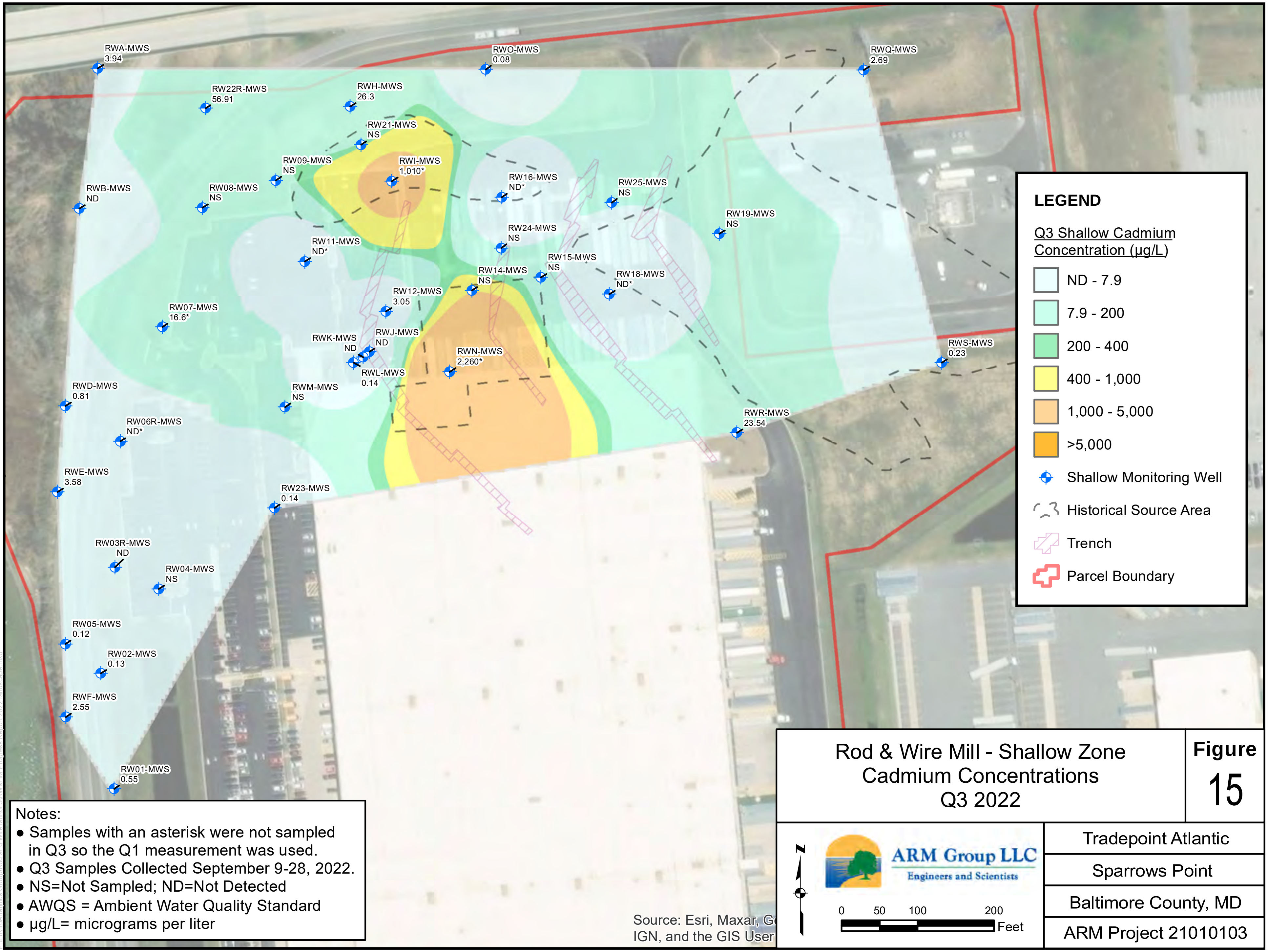

Notes:
- Samples Collected February 23 to March 28, 2022
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

Rod & Wire Mill - Shallow Zone Cadmium Concentrations Q1 2022

Figure 14

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103




**LEGEND**

Q3 Shallow Cadmium Concentration (µg/L)

- ND - 7.9
- 7.9 - 200
- 200 - 400
- 400 - 1,000
- 1,000 - 5,000
- >5,000
- Shallow Monitoring Well
- Historical Source Area
- Trench
- Parcel Boundary

Notes:
- Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
- Q3 Samples Collected September 9-28, 2022.
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

# Rod & Wire Mill - Shallow Zone Cadmium Concentrations Q3 2022

**Figure 15**

ARM Group LLC
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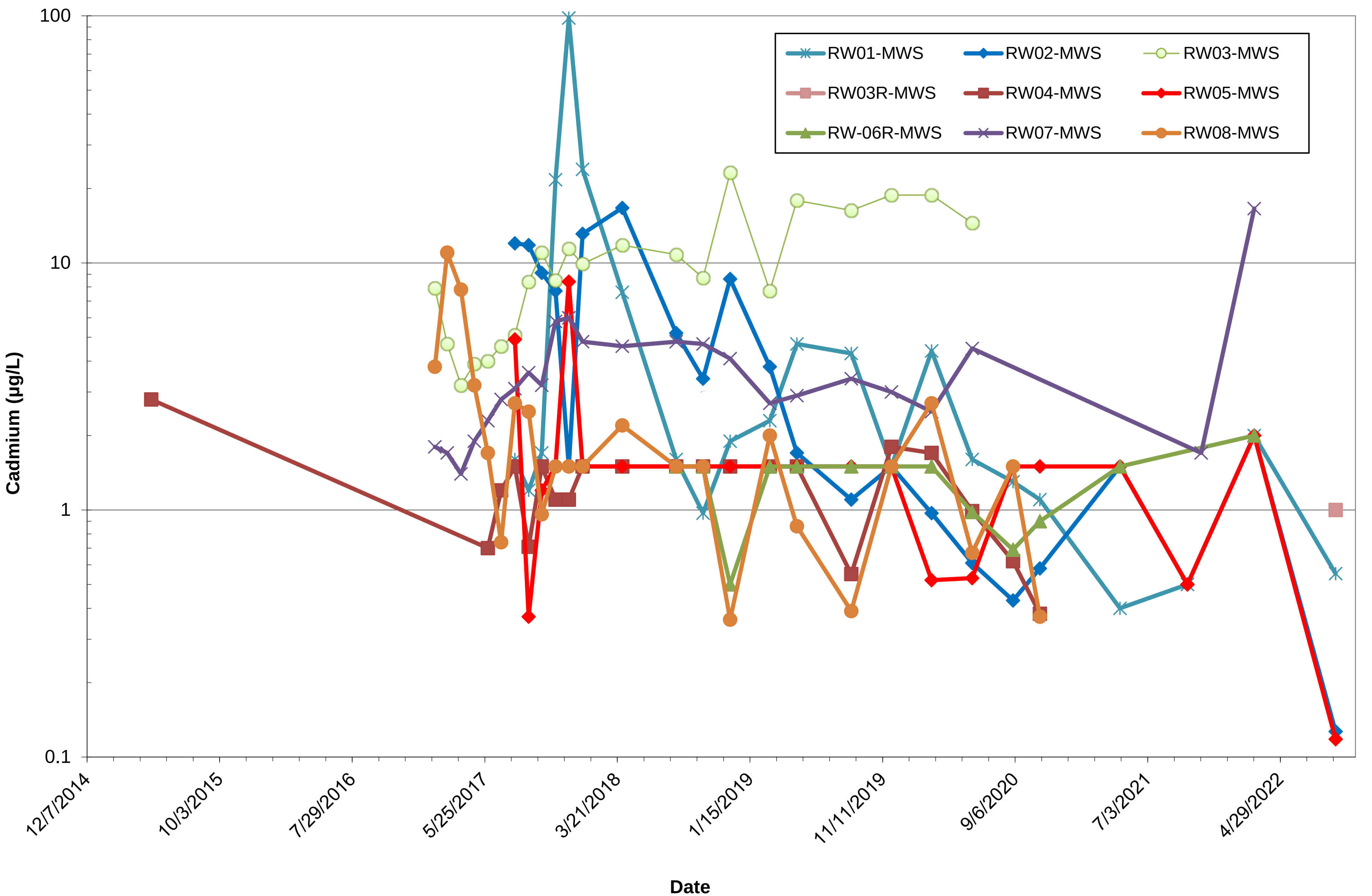
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103




ARM Group LLC
Engineers and Scientists

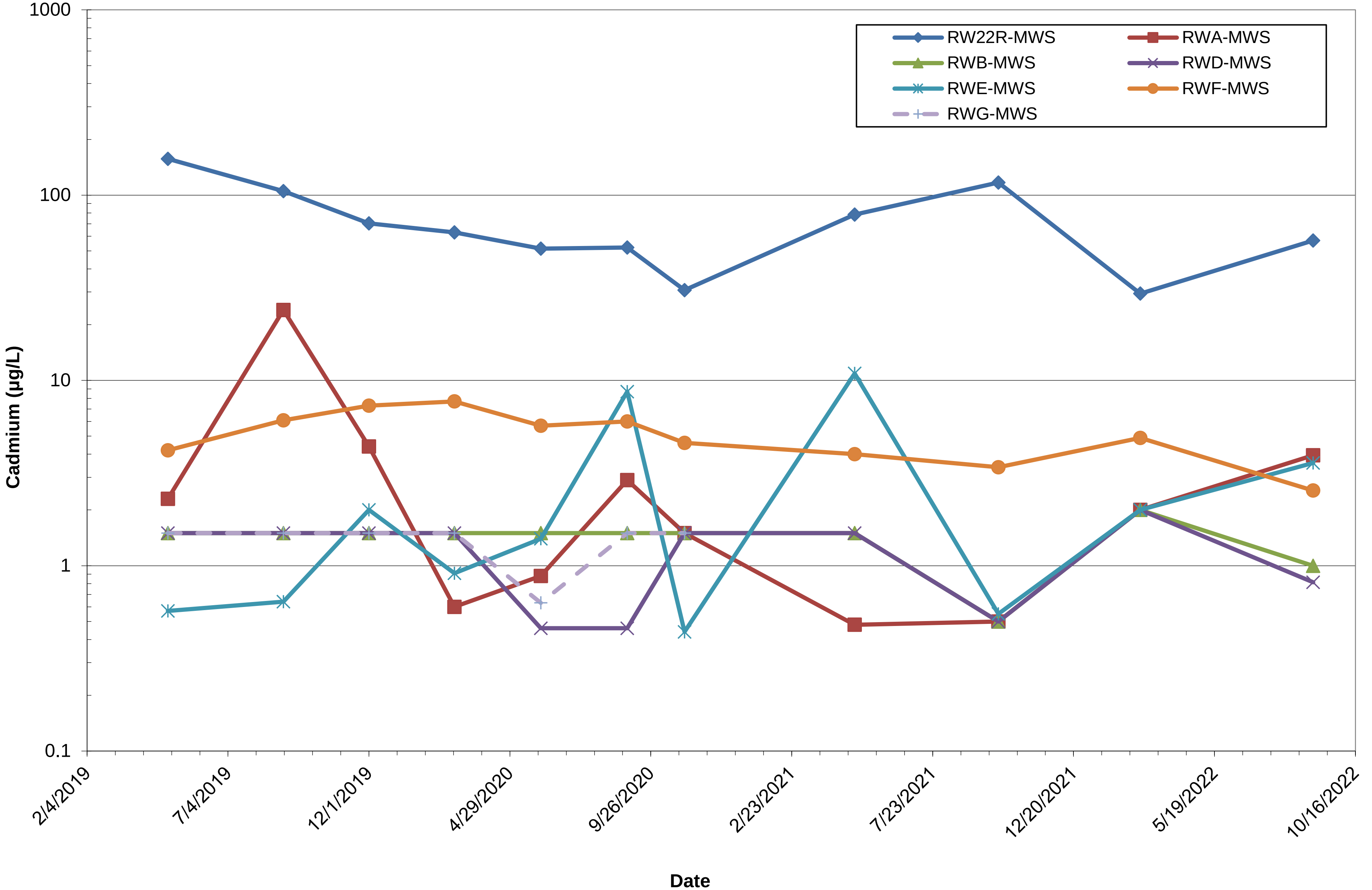
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

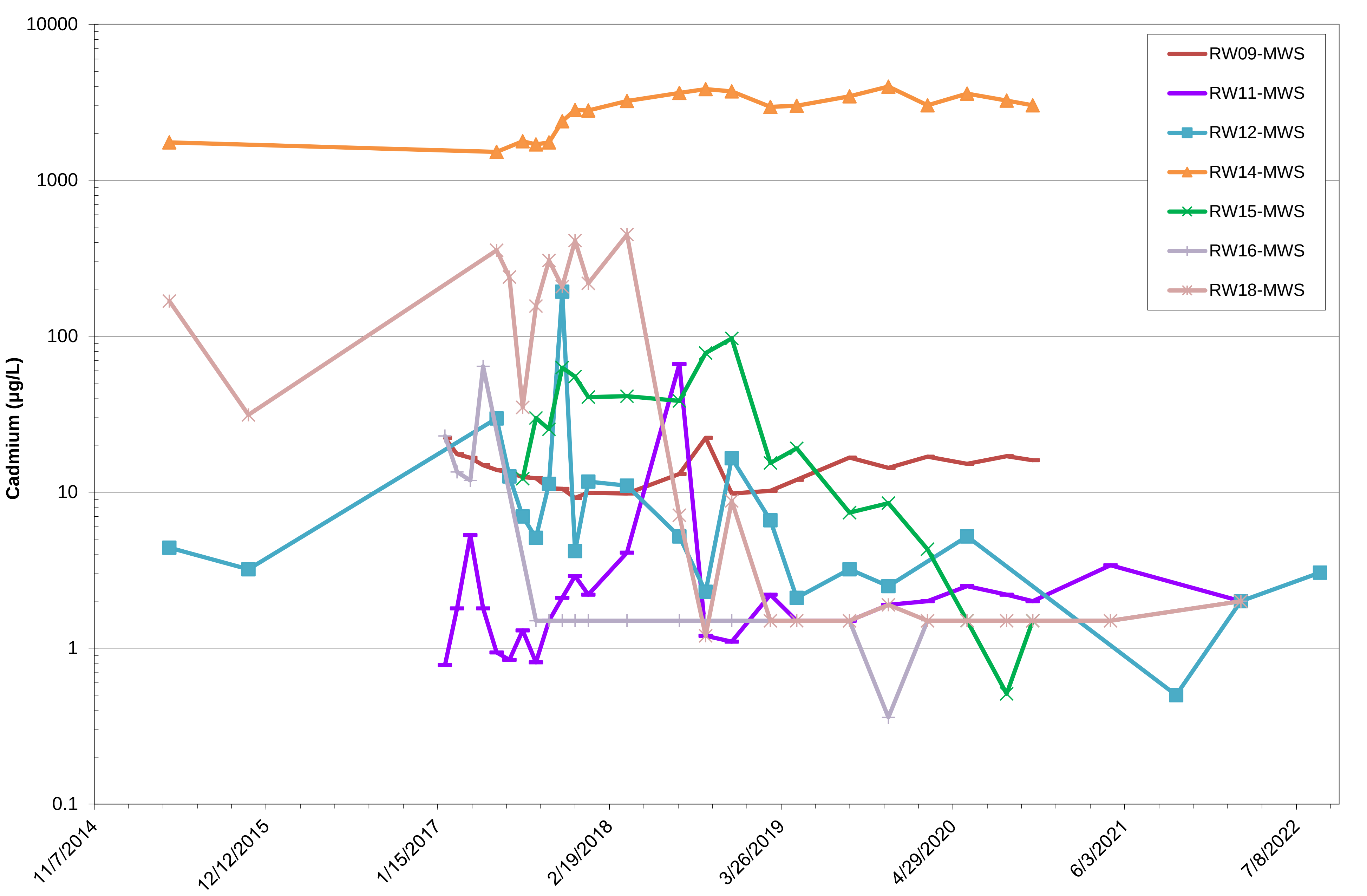
Shallow Perimeter Cadmium Concentrations (Original Wells)

February 2023

**Figure 16**




| ARM Group LLC<br>Engineers and Scientists | Rod and Wire Mill<br>Tradepoint Atlantic<br><br>Sparrows Point, Maryland | Shallow Perimeter Cadmium Concentrations (Supplemental Wells)<br><br>February 2023 | **Figure**<br>**17** |
|---|---|---|---|

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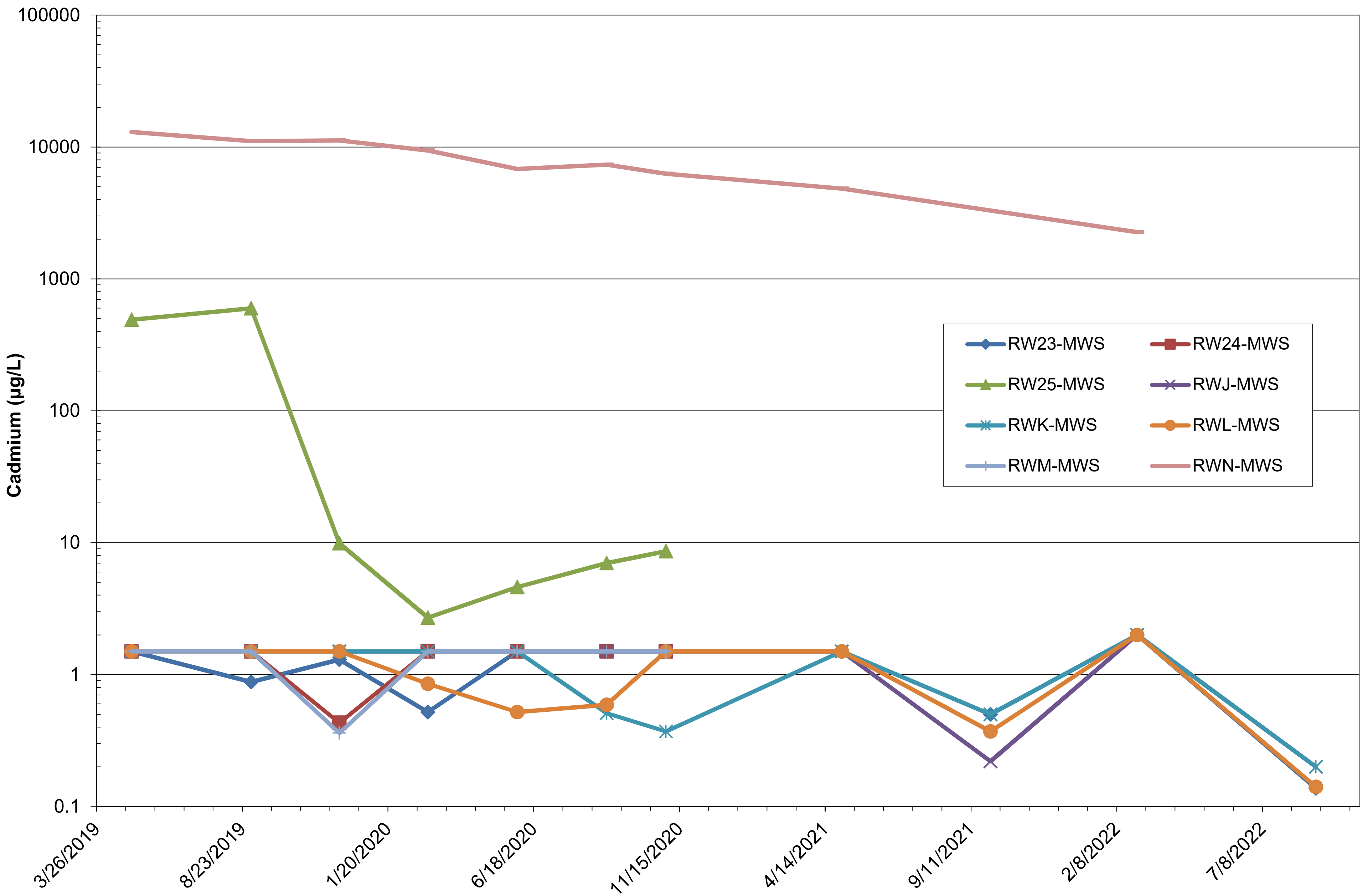
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Interior Cadmium Concentrations (Original Wells)

February 2023

**Figure 18**




ARM Group LLC
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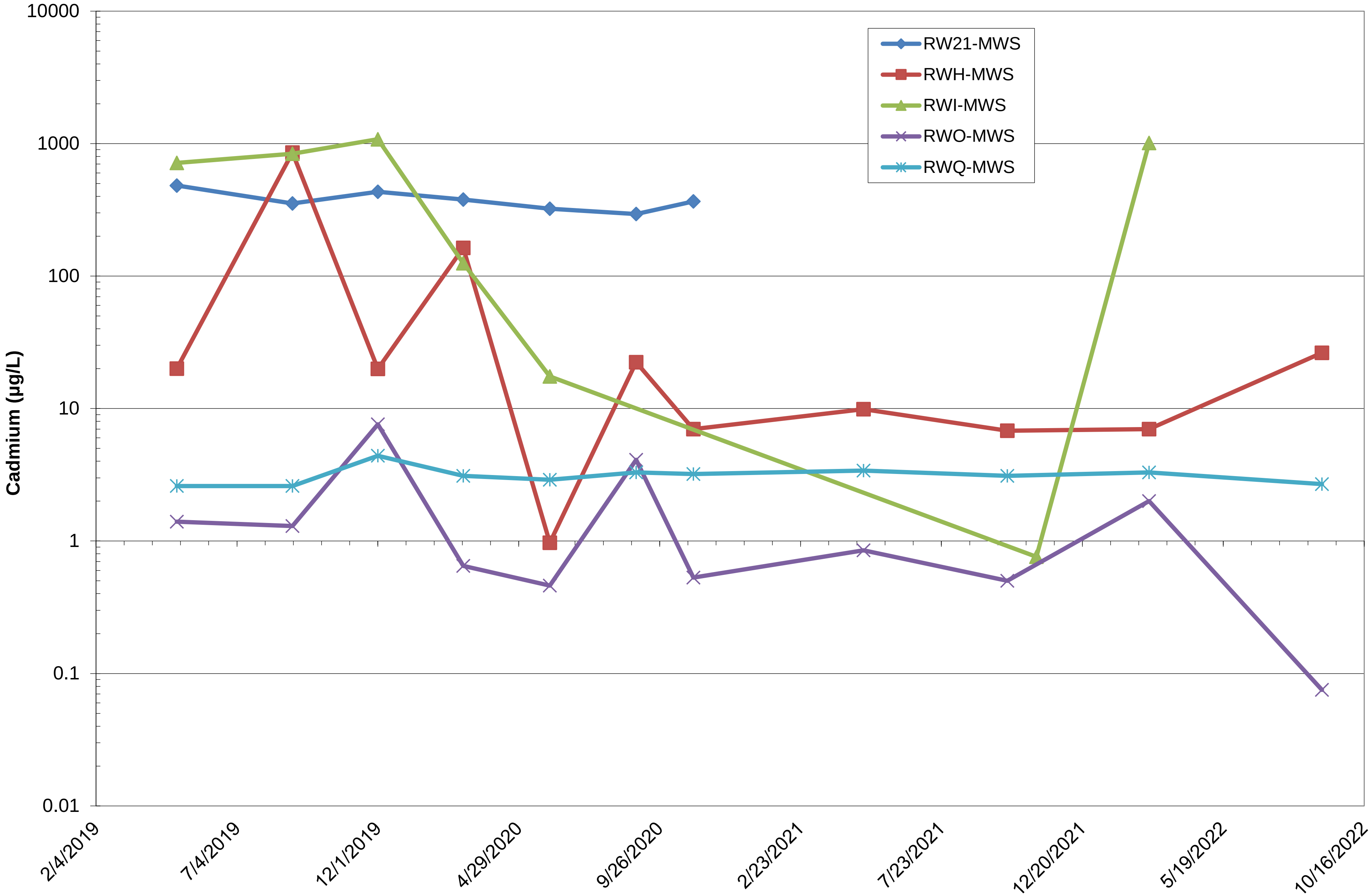
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Interior Cadmium Concentrations (Supplemental Wells)

February 2023

Figure 19

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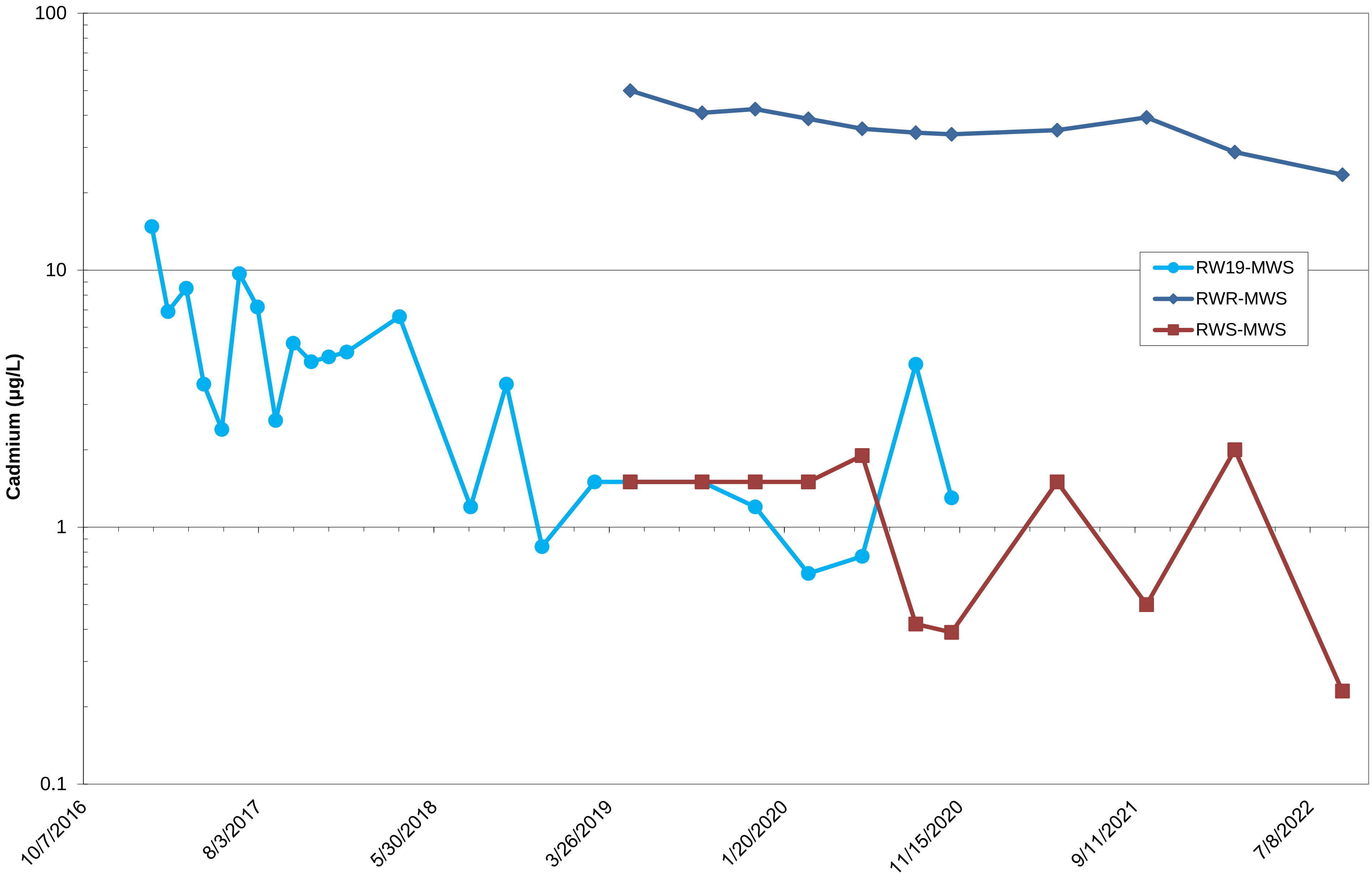
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Shallow Delineation
Cadmium Concentrations

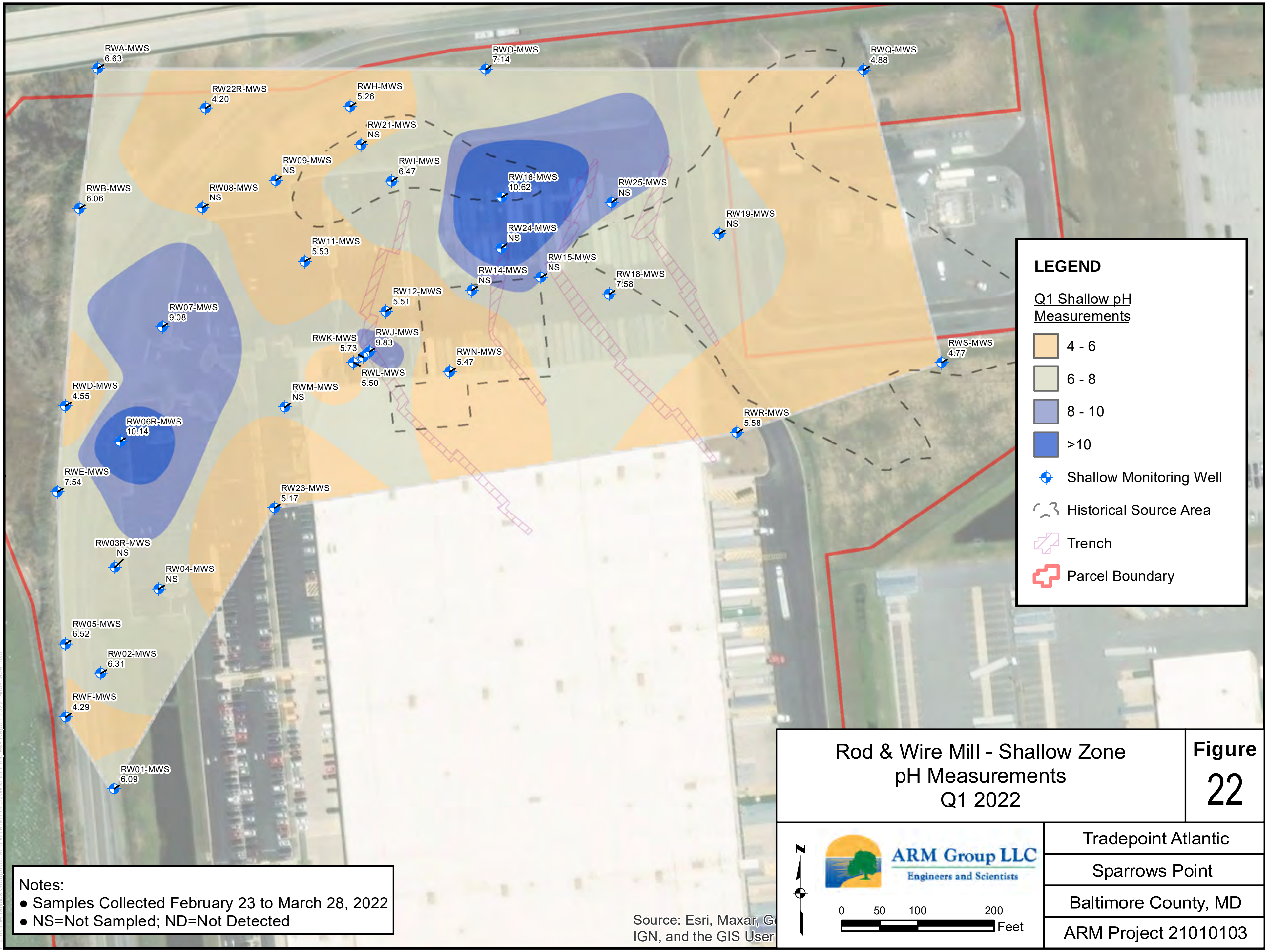
February 2023

**Figure**
**20**




ARM Group LLC
Engineers and Scientists

| | | | |
|---|---|---|---|
| ARM Group LLC<br>Engineers and Scientists | Rod and Wire Mill<br>Tradepoint Atlantic<br><br>Sparrows Point, Maryland | Shallow Upgradient<br>Cadmium Concentration<br><br>February 2023 | **Figure**<br>**21** |




Rod & Wire Mill - Shallow Zone
pH Measurements
Q1 2022

Figure 22

ARM Group LLC
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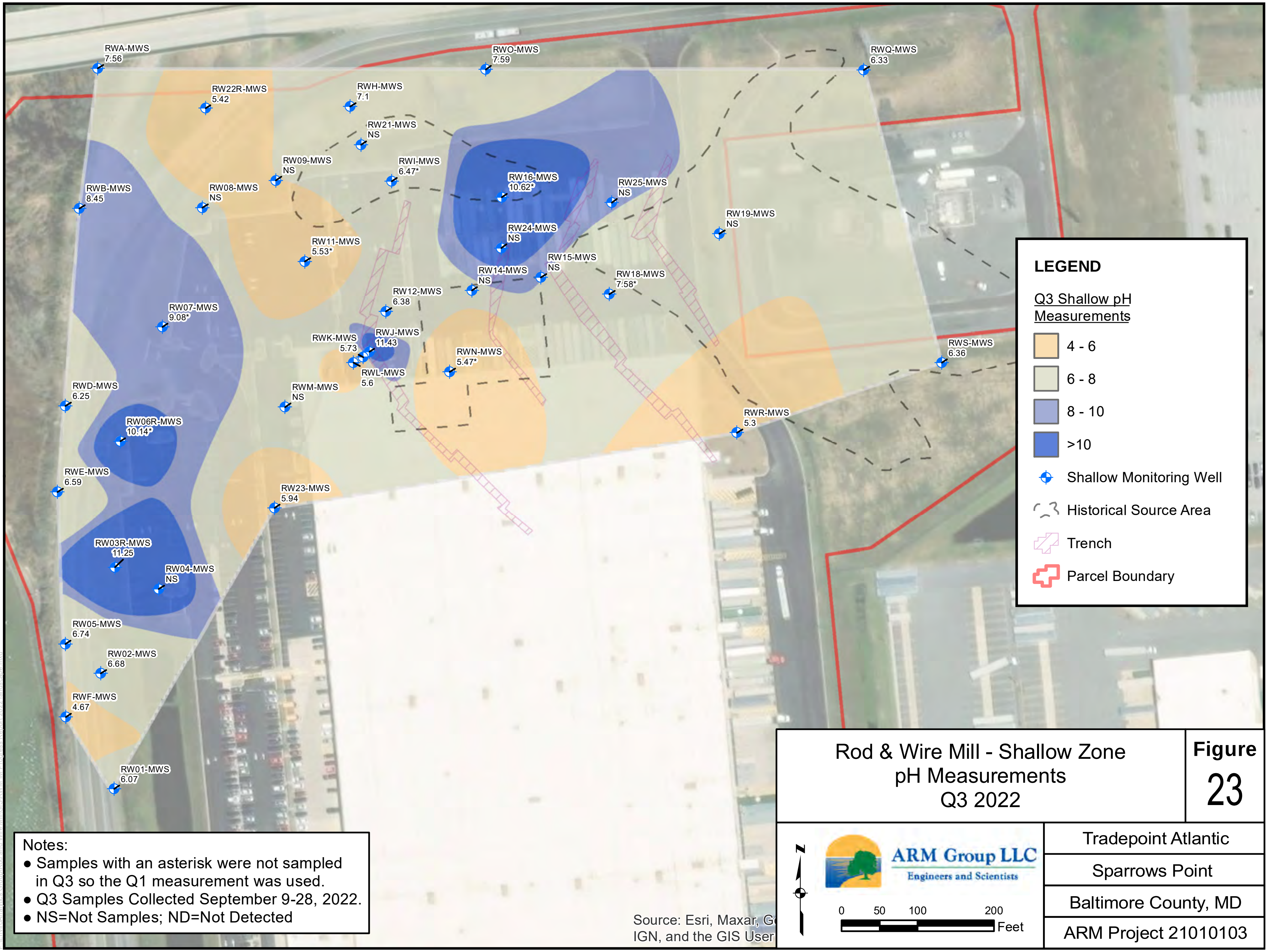
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103

Notes:
- Samples Collected February 23 to March 28, 2022
- NS=Not Sampled; ND=Not Detected




Notes:
- Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
- Q3 Samples Collected September 9-28, 2022.
- NS=Not Samples; ND=Not Detected

Rod & Wire Mill - Shallow Zone pH Measurements Q3 2022

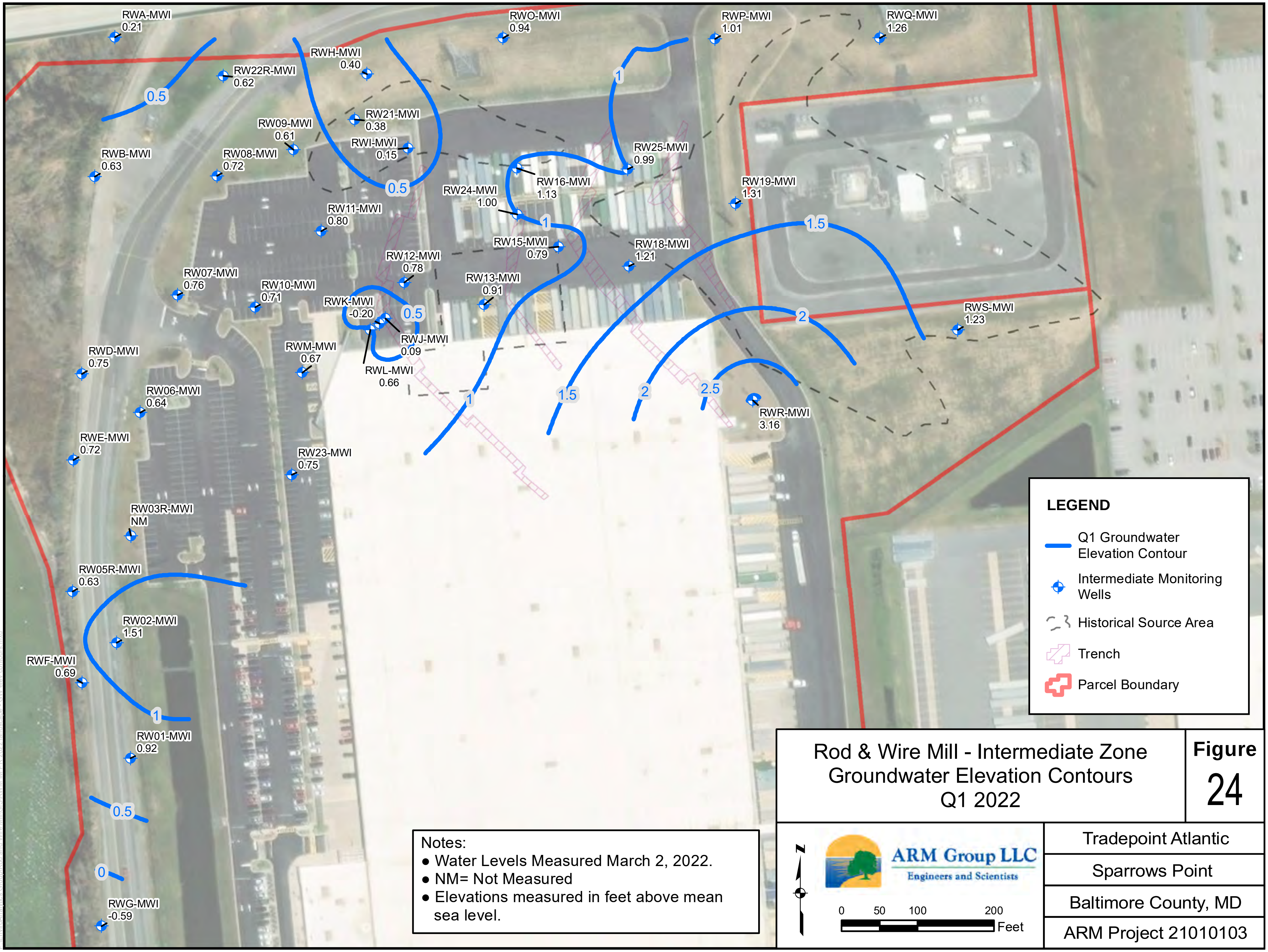
Figure 23

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103




Notes:
- Water Levels Measured March 2, 2022.
- NM= Not Measured
- Elevations measured in feet above mean sea level.

Rod & Wire Mill - Intermediate Zone Groundwater Elevation Contours Q1 2022

Figure 24

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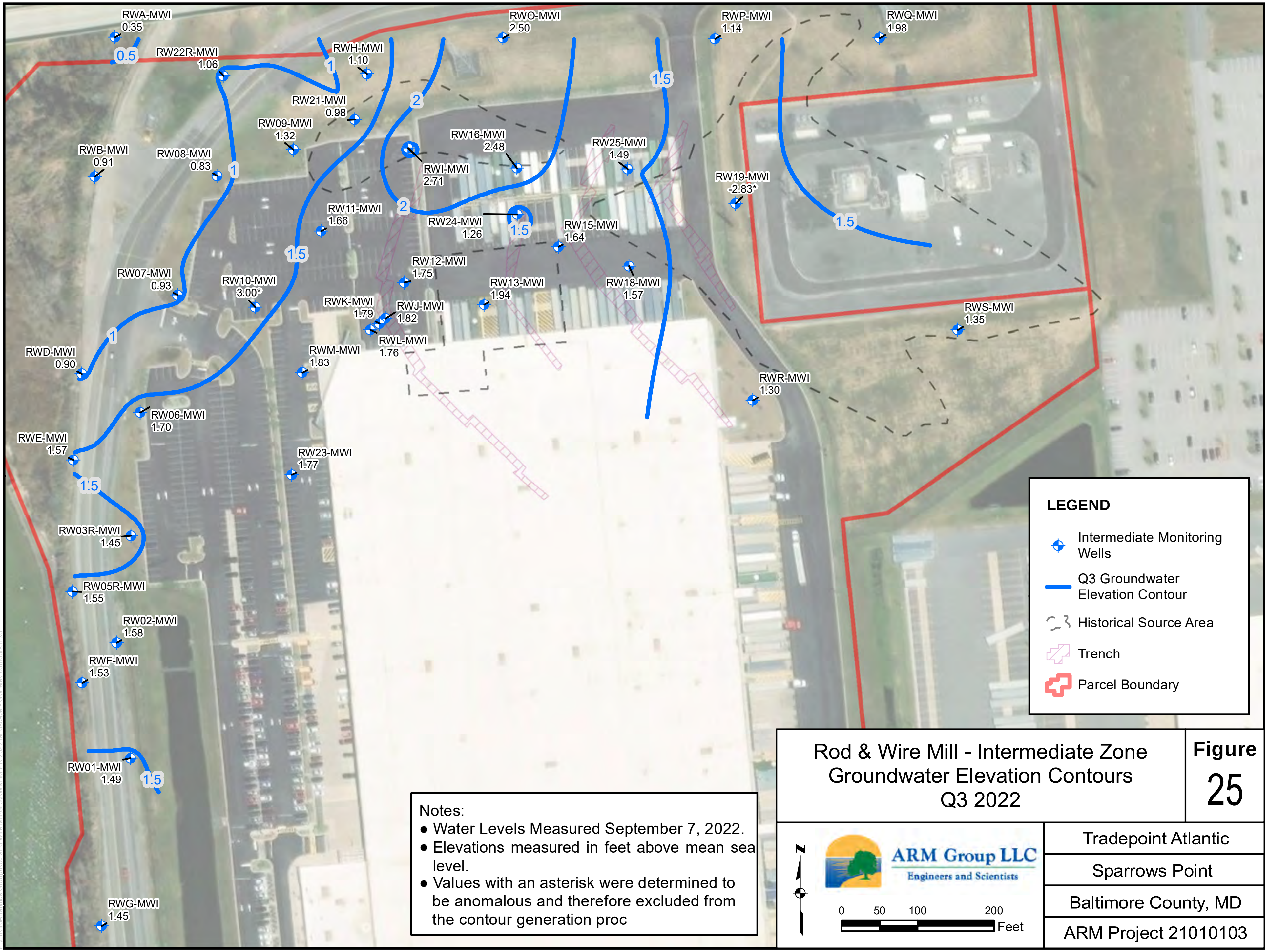
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103




Notes:
- Water Levels Measured September 7, 2022.
- Elevations measured in feet above mean sea level.
- Values with an asterisk were determined to be anomalous and therefore excluded from the contour generation proc

Rod & Wire Mill - Intermediate Zone Groundwater Elevation Contours Q3 2022

Figure 25

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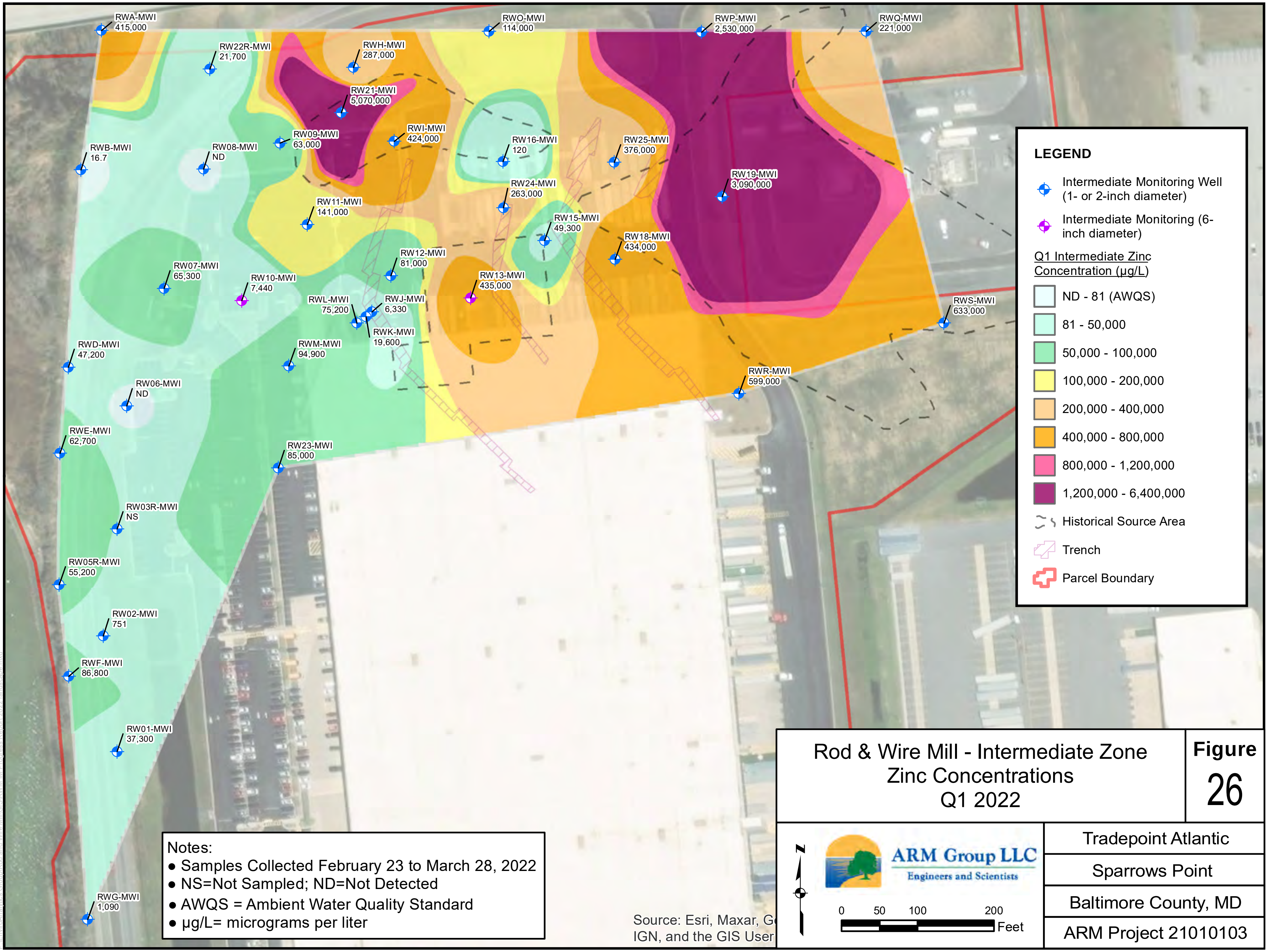
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103




Notes:

- Samples Collected February 23 to March 28, 2022
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

Rod & Wire Mill - Intermediate Zone Zinc Concentrations Q1 2022

Figure 26

ARM Group LLC
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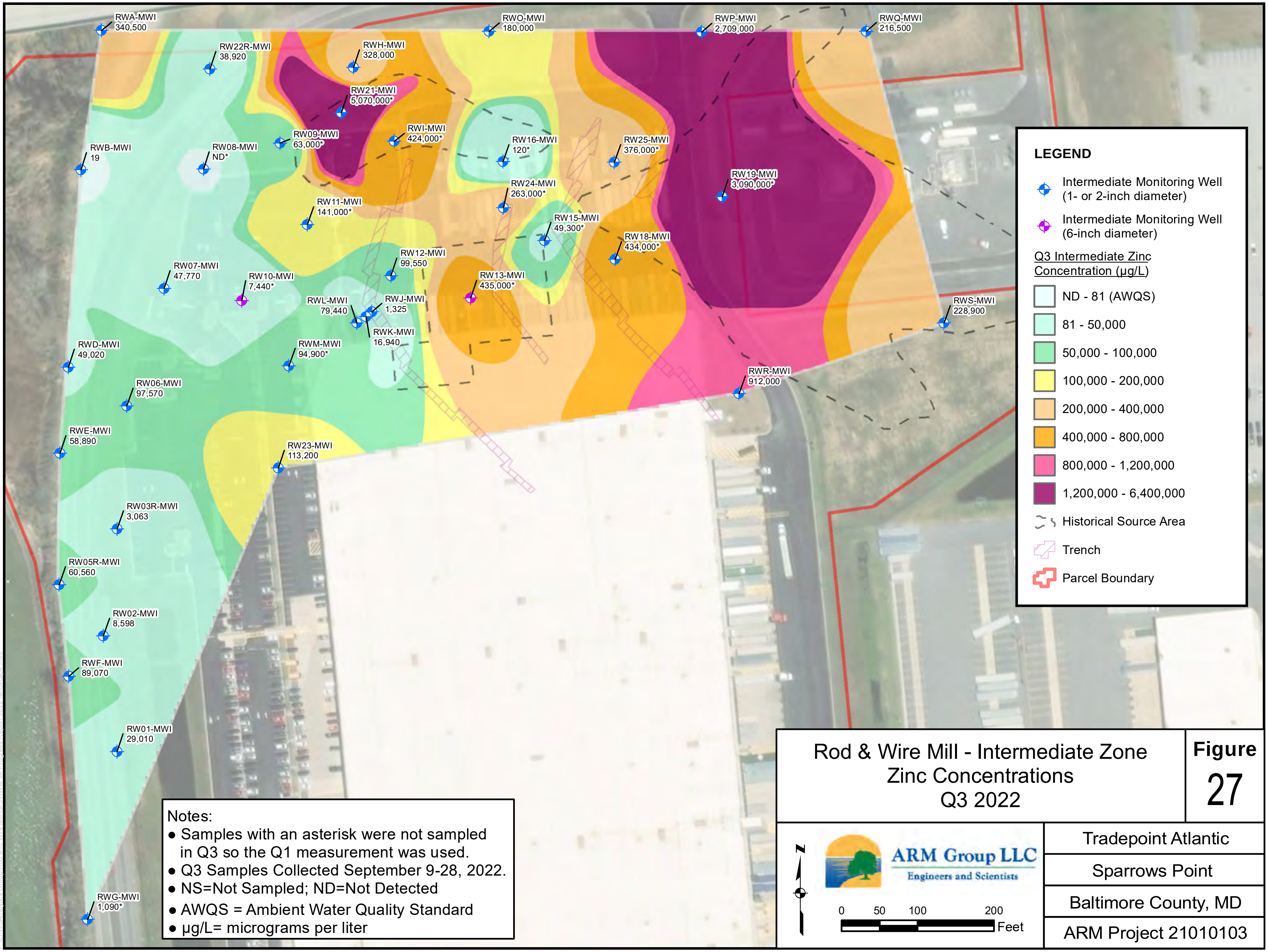
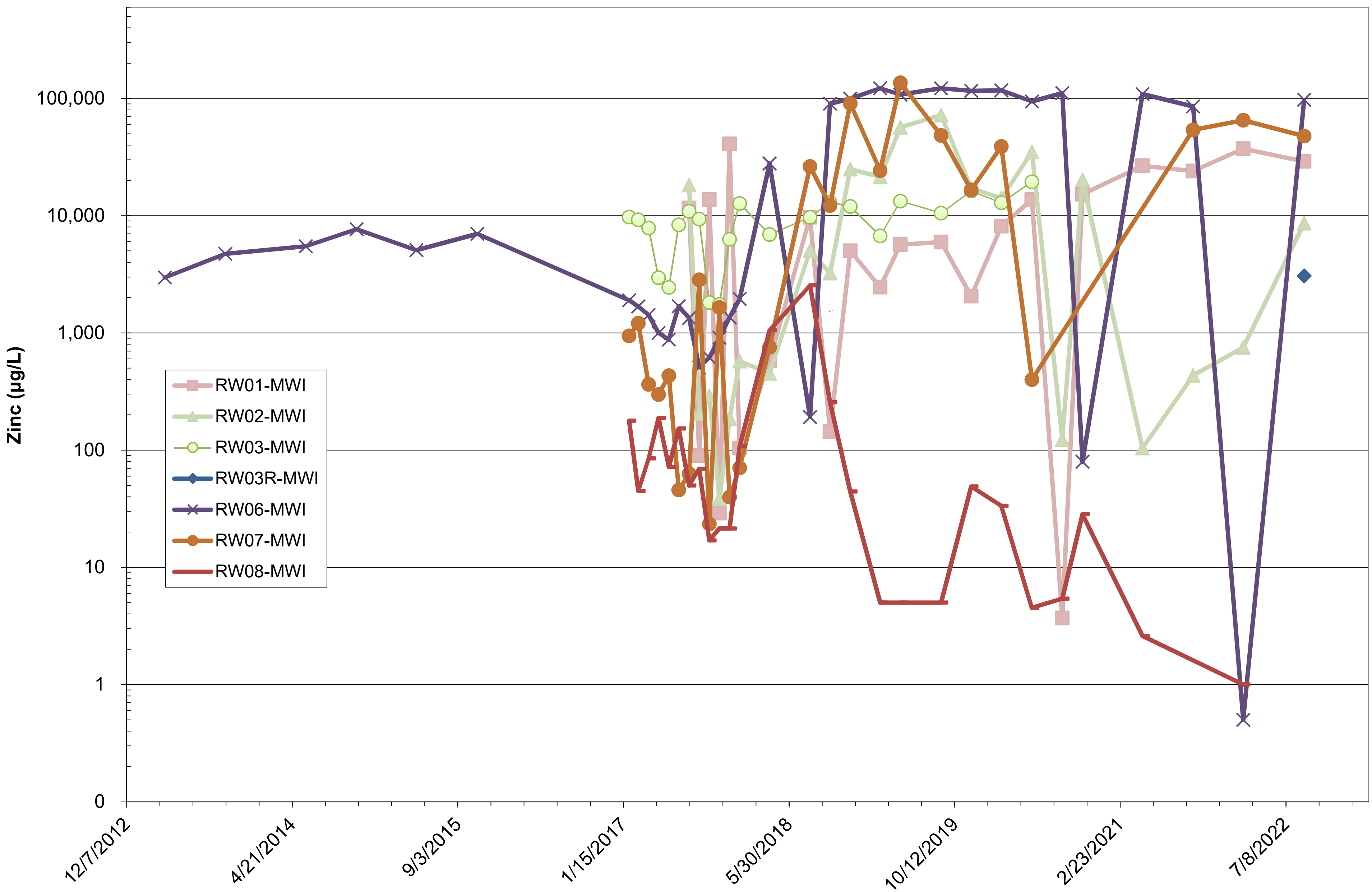
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103


RWA-MWI 340,500
RWO-MWI 180,000
RWP-MWI 2,709,000
RWQ-MWI 216,500
RW22R-MWI 38,920
RWH-MWI 328,000
RW21-MWI 5,070,000*
RWI-MWI 424,000*
RW09-MWI 63,000*
RWB-MWI 19
RW08-MWI ND*
RW16-MWI 120*
RW25-MWI 376,000*
RW19-MWI 3,090,000*
RW24-MWI 263,000*
RW11-MWI 141,000*
RW15-MWI 49,300*
RW18-MWI 434,000*
RW12-MWI 99,550
RW07-MWI 47,770
RW10-MWI 7,440*
RW13-MWI 435,000*
RWL-MWI 79,440
RWJ-MWI 1,325
RWK-MWI 16,940
RWS-MWI 228,900
RWD-MWI 49,020
RWM-MWI 94,900*
RWR-MWI 912,000
RW06-MWI 97,570
RWE-MWI 58,890
RW23-MWI 113,200
RW03R-MWI 3,063
RW05R-MWI 60,560
RW02-MWI 8,598
RWF-MWI 89,070
RW01-MWI 29,010
RWG-MWI 1,090*
LEGEND
Intermediate Monitoring Well (1- or 2-inch diameter)
Intermediate Monitoring Well (6-inch diameter)
Q3 Intermediate Zinc Concentration (µg/L)
ND - 81 (AWQS)
81 - 50,000
50,000 - 100,000
100,000 - 200,000
200,000 - 400,000
400,000 - 800,000
800,000 - 1,200,000
1,200,000 - 6,400,000
Historical Source Area
Trench
Parcel Boundary
Notes:
● Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
● Q3 Samples Collected September 9-28, 2022.
● NS=Not Sampled; ND=Not Detected
● AWQS = Ambient Water Quality Standard
● µg/L= micrograms per liter
N
0 50 100 200 Feet
Rod & Wire Mill - Intermediate Zone Zinc Concentrations Q3 2022
Figure 27
ARM Group LLC
Engineers and Scientists
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103




ARM Group LLC
Engineers and Scientists

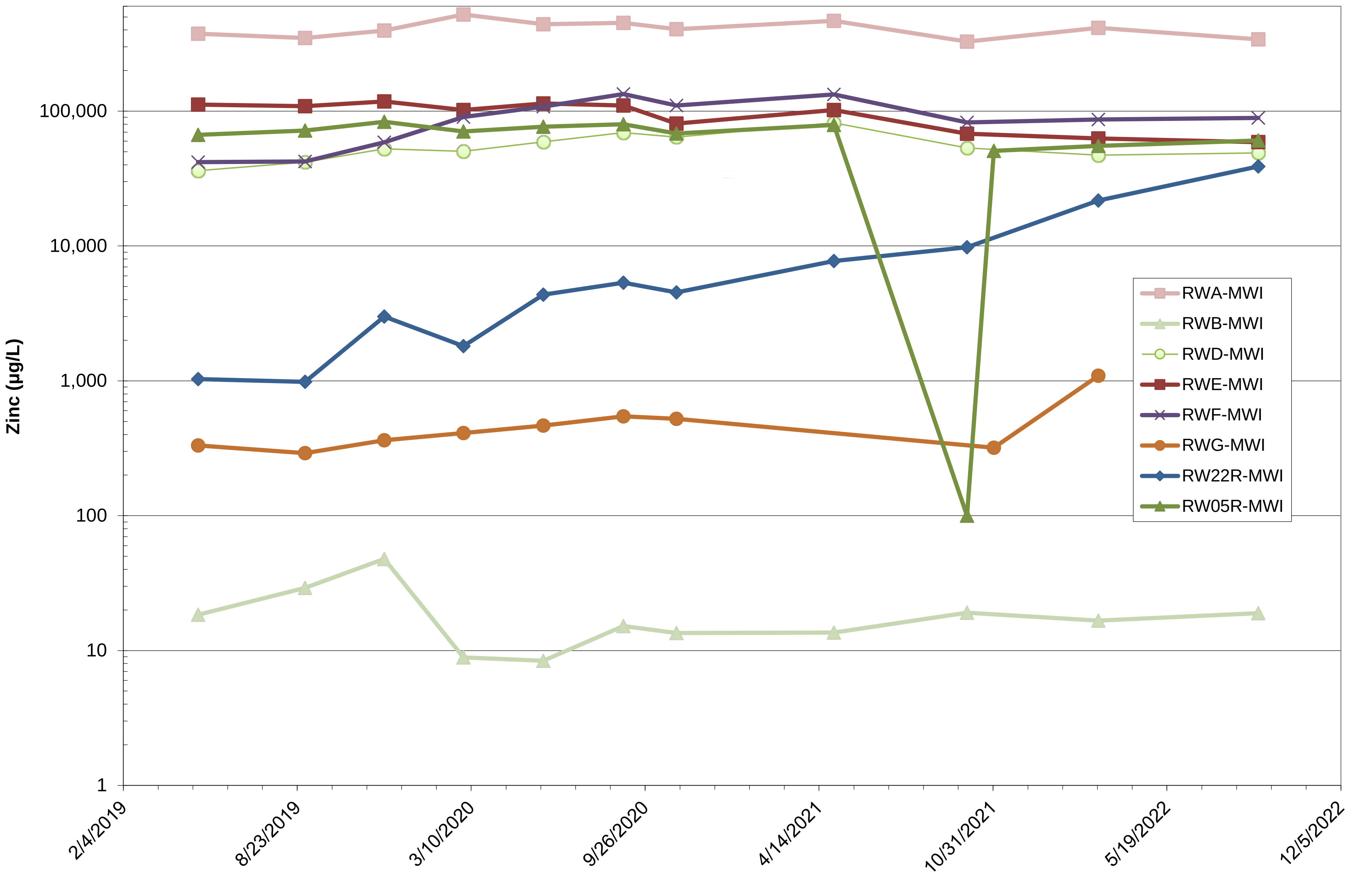
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Perimeter Zinc Concentrations (Original Wells)

February 2023

**Figure 28**

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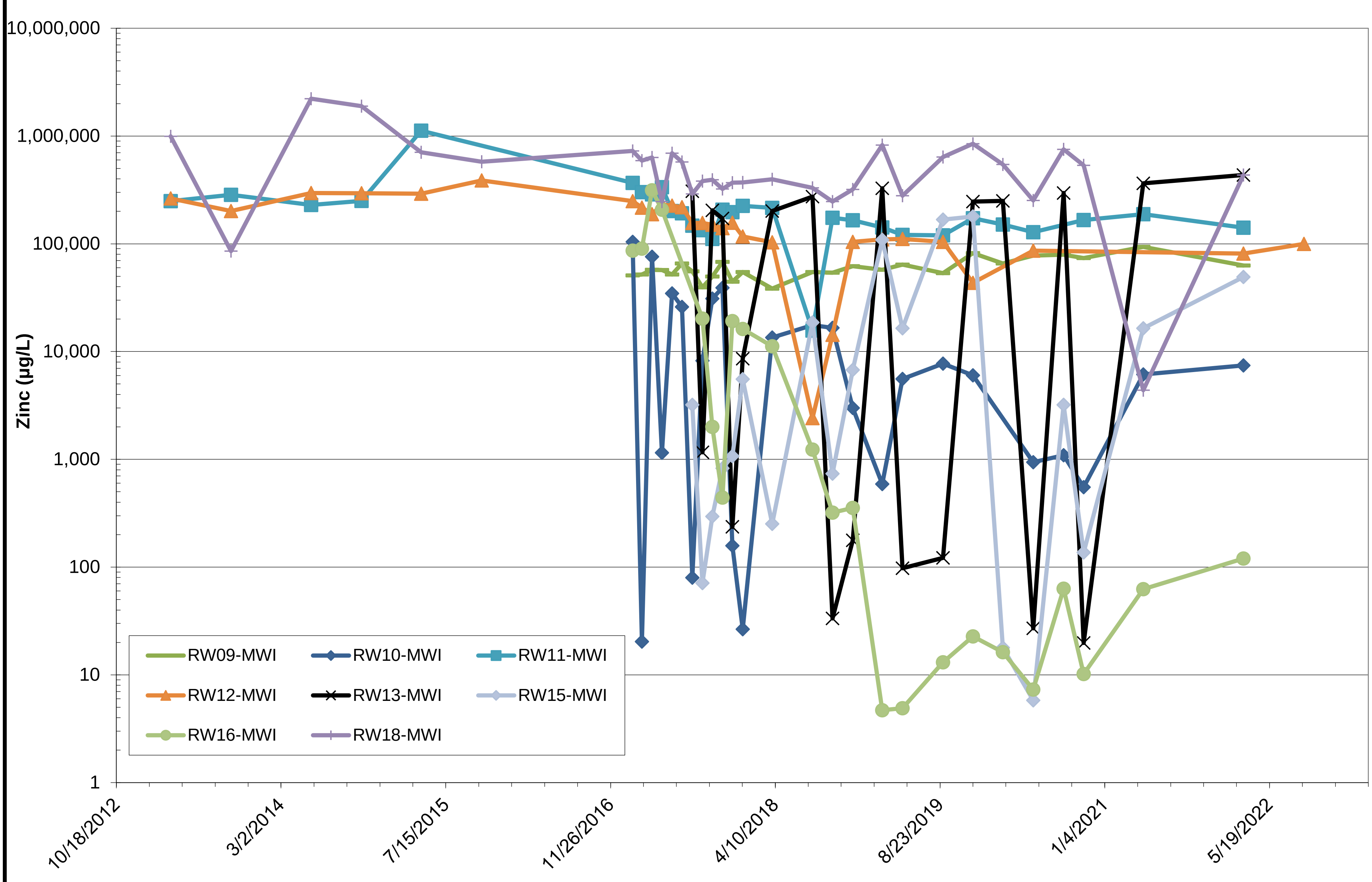
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Perimeter Zinc Concentrations (Supplemental Wells)

February 2023

**Figure 29**

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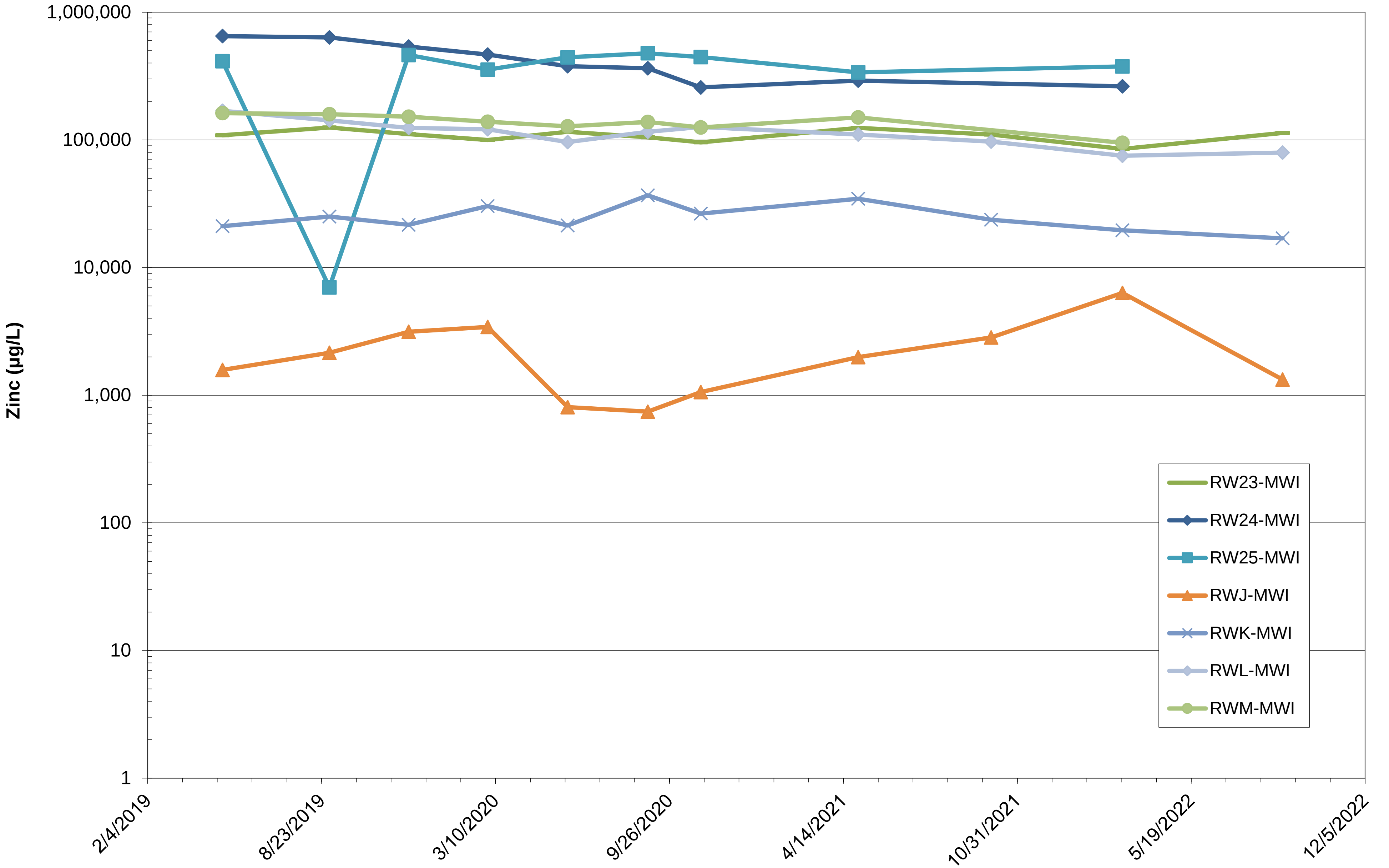
| | | | |
|---|---|---|---|
| | Rod and Wire Mill<br>Tradepoint Atlantic | Intermediate Interior Zinc Concentrations (Original Wells)<br>February 2023 | **Figure**<br>**30** |
| | Sparrows Point, Maryland | | |

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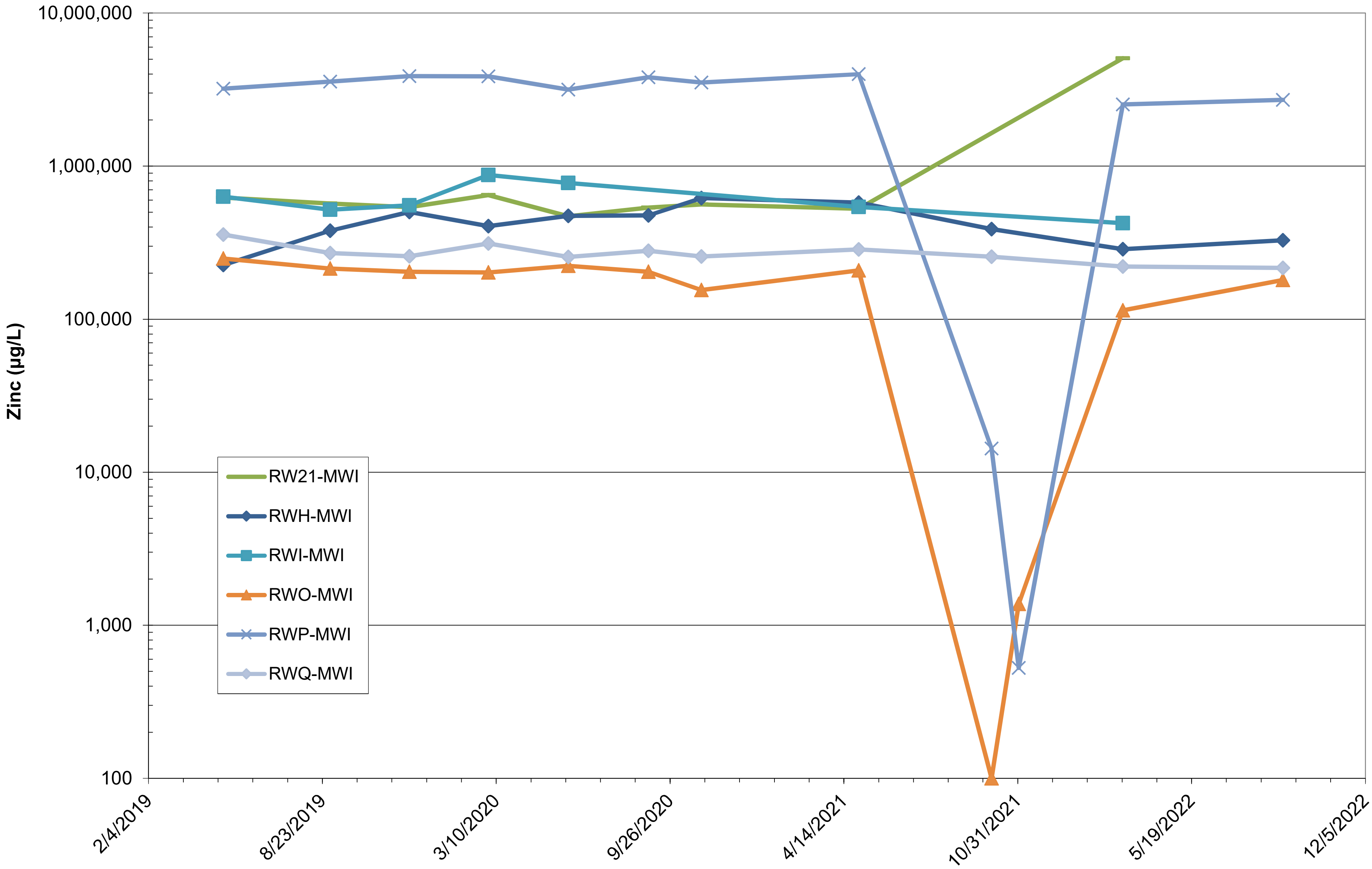
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

# Intermediate Interior Zinc Concentrations (Supplemental Wells)

February 2023

**Figure 31**

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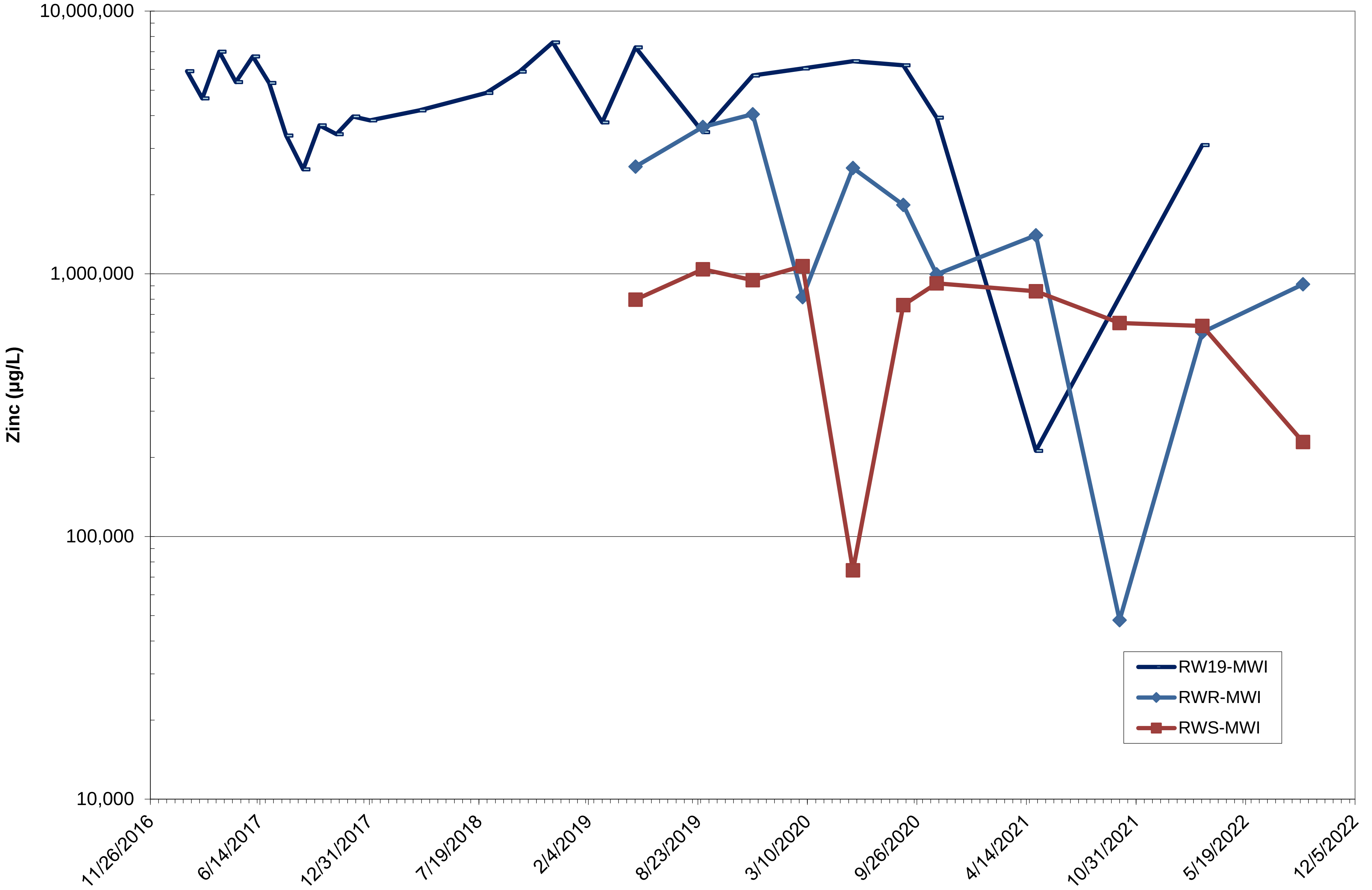
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Delineation Wells
Zinc Concentrations

February 2023

Figure
32

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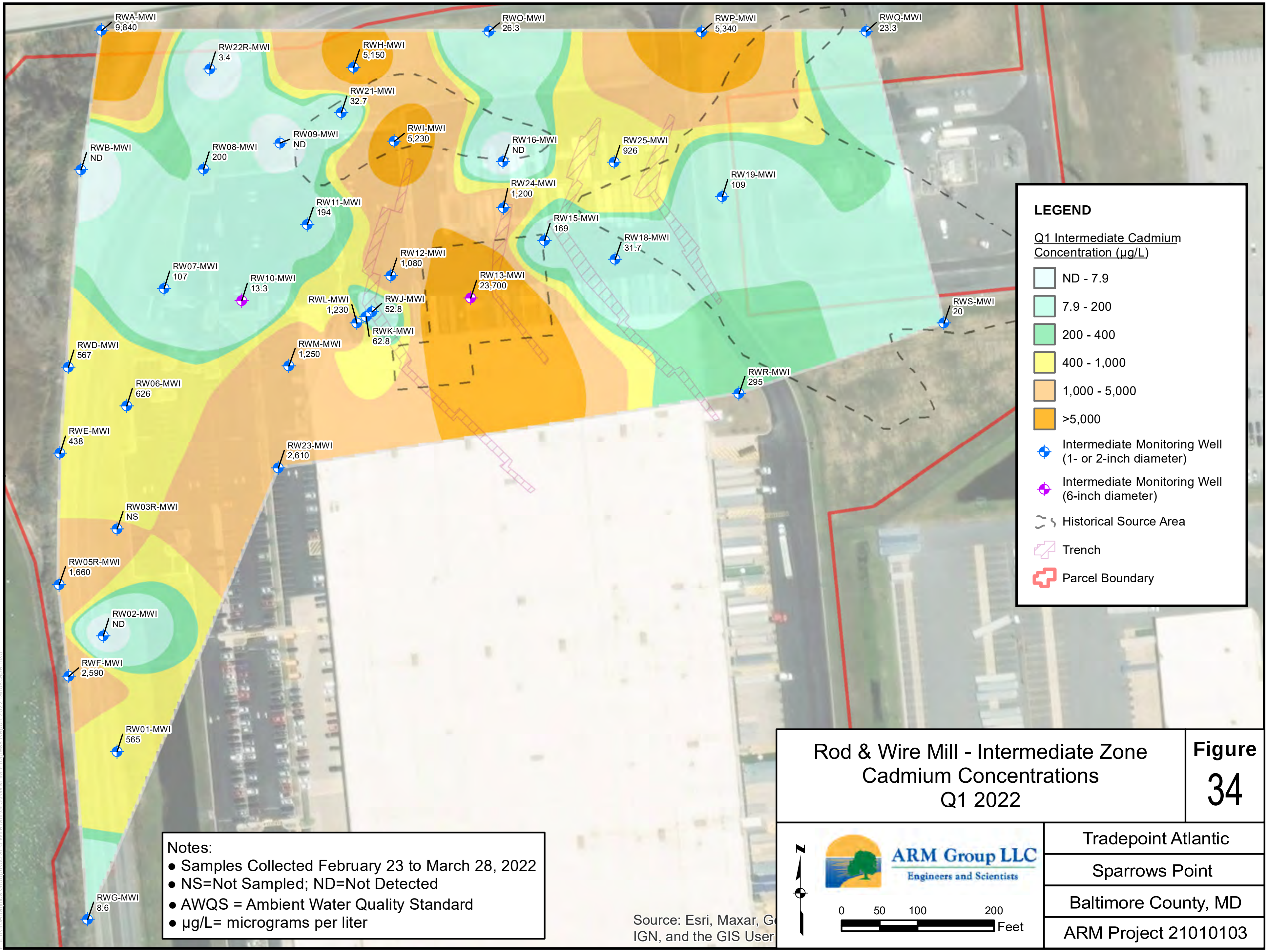
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Upgradient
Zinc Concentrations

February 2023

**Figure 33**




Notes:
- Samples Collected February 23 to March 28, 2022
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

# Rod & Wire Mill - Intermediate Zone Cadmium Concentrations Q1 2022

**Figure 34**

ARM Group LLC
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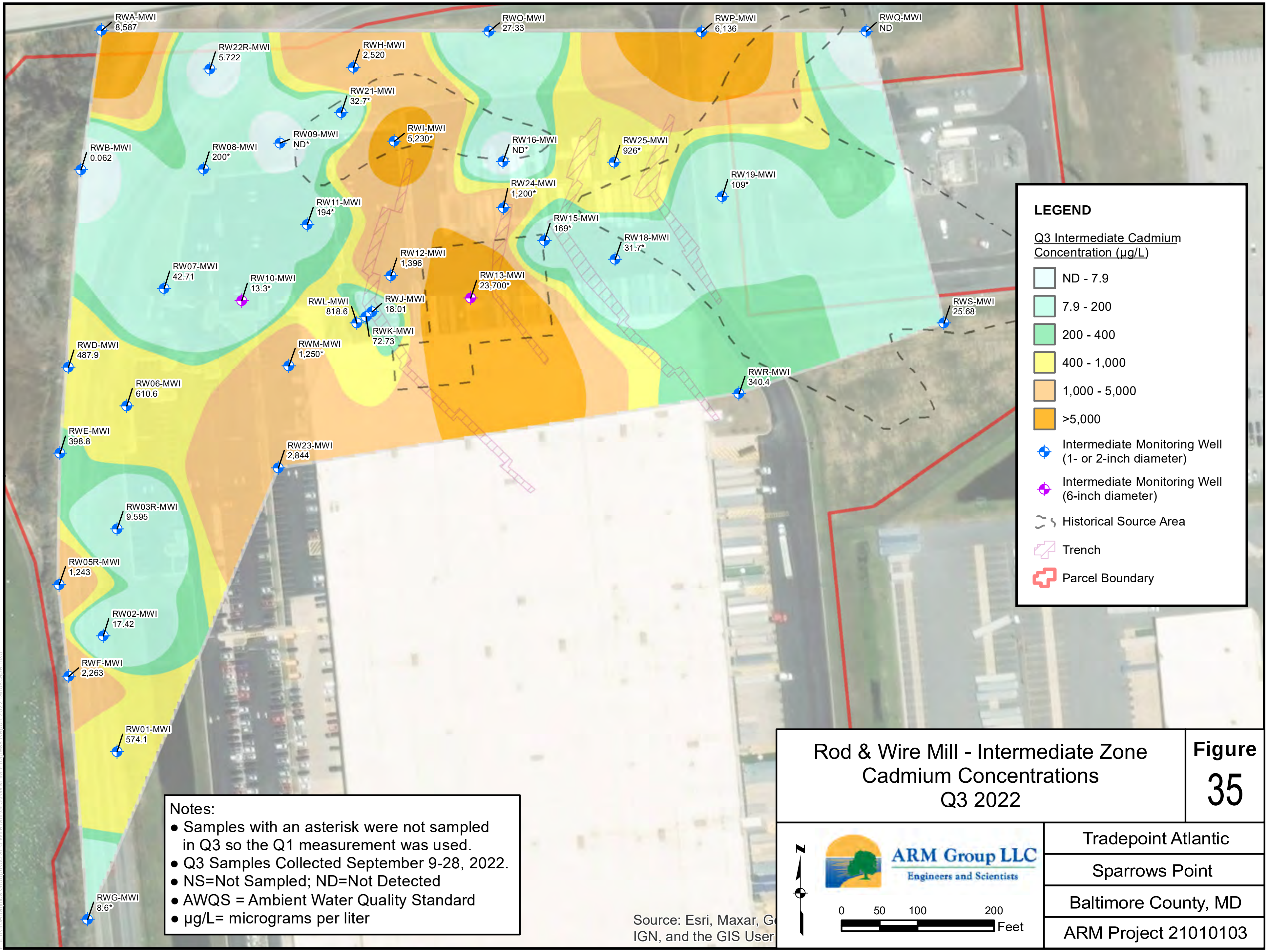
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103



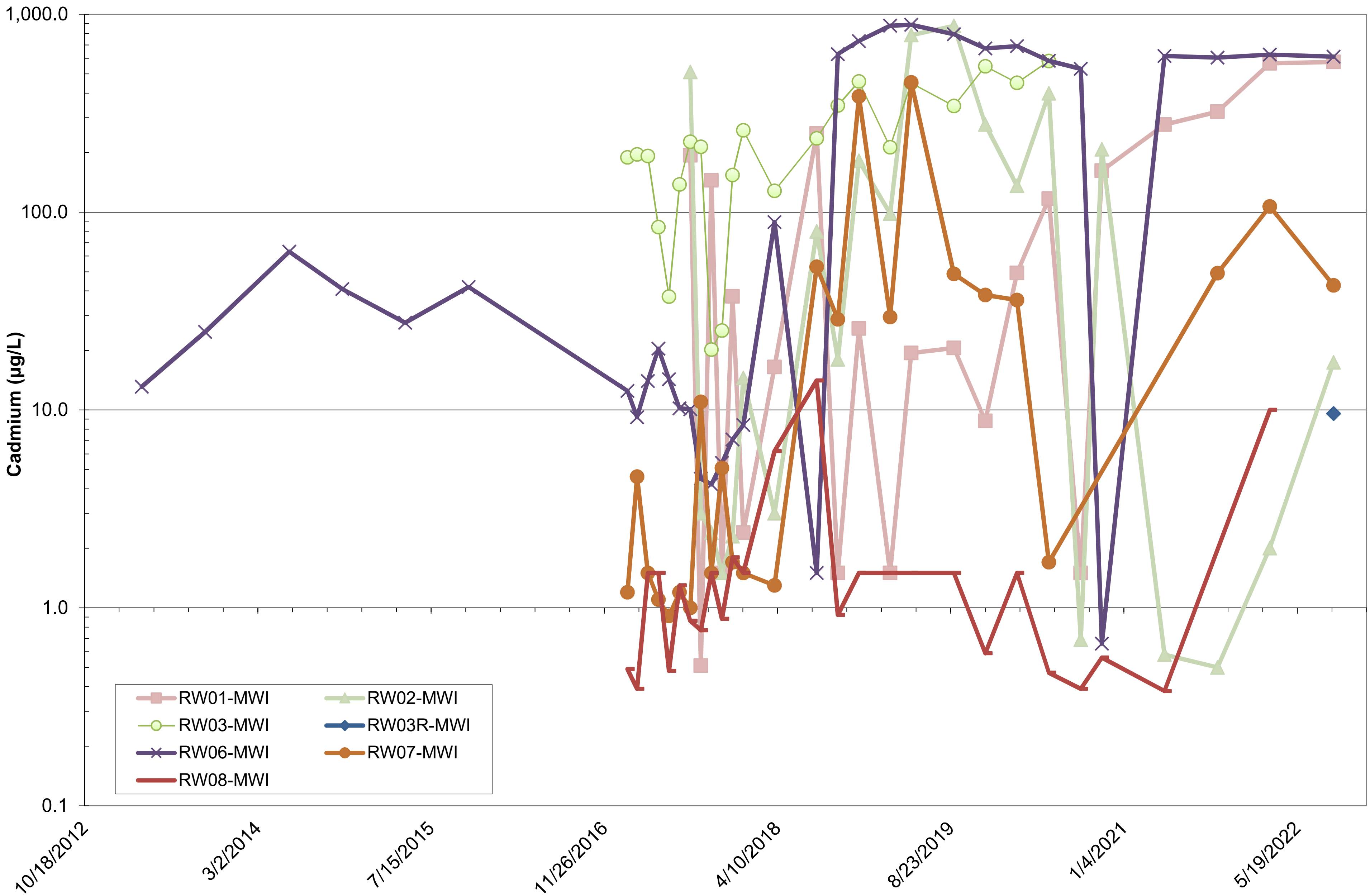

Notes:
- Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
- Q3 Samples Collected September 9-28, 2022.
- NS=Not Sampled; ND=Not Detected
- AWQS = Ambient Water Quality Standard
- µg/L= micrograms per liter

# Rod & Wire Mill - Intermediate Zone Cadmium Concentrations Q3 2022

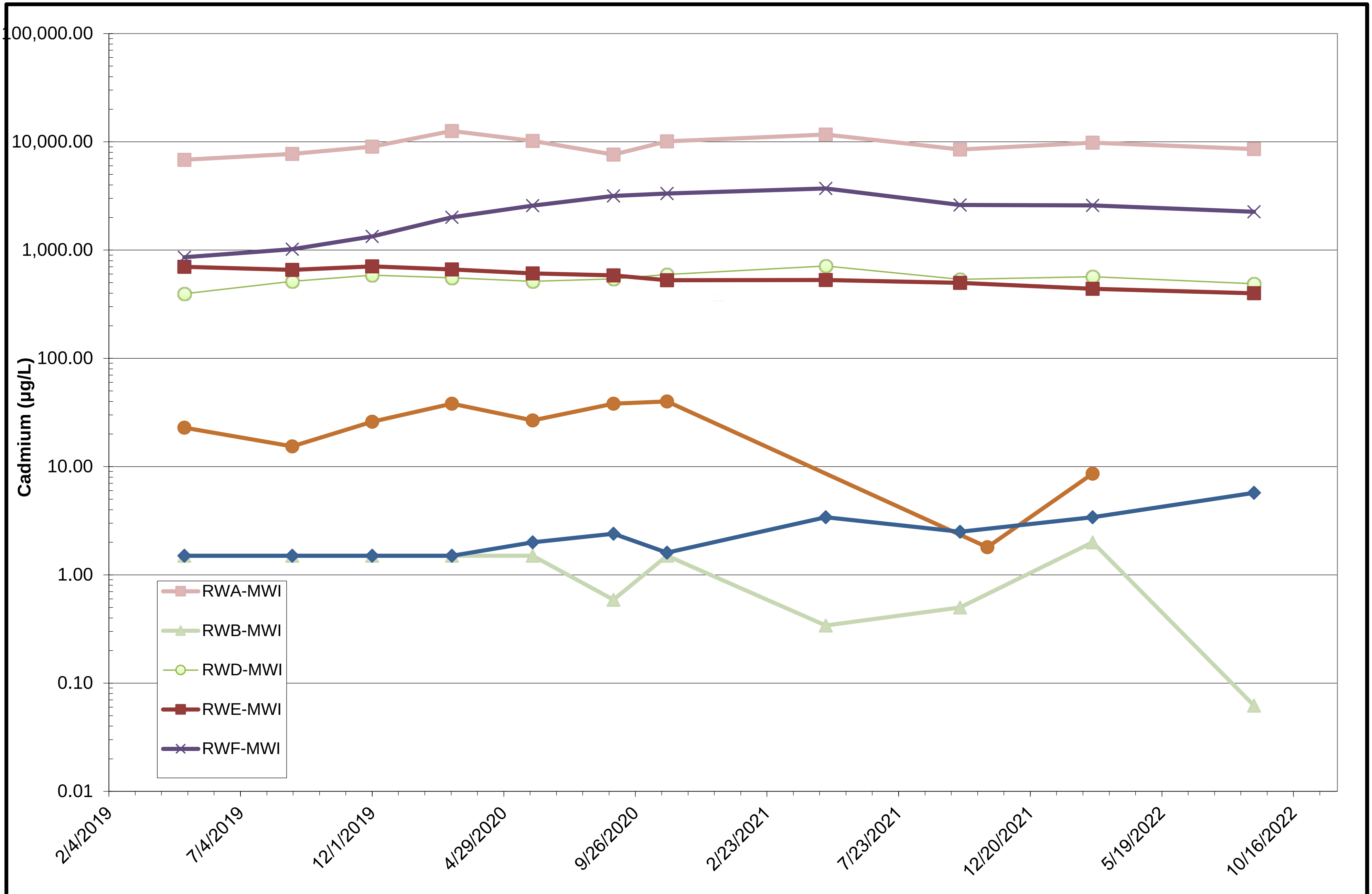
**Figure 35**

ARM Group LLC
Engineers and Scientists

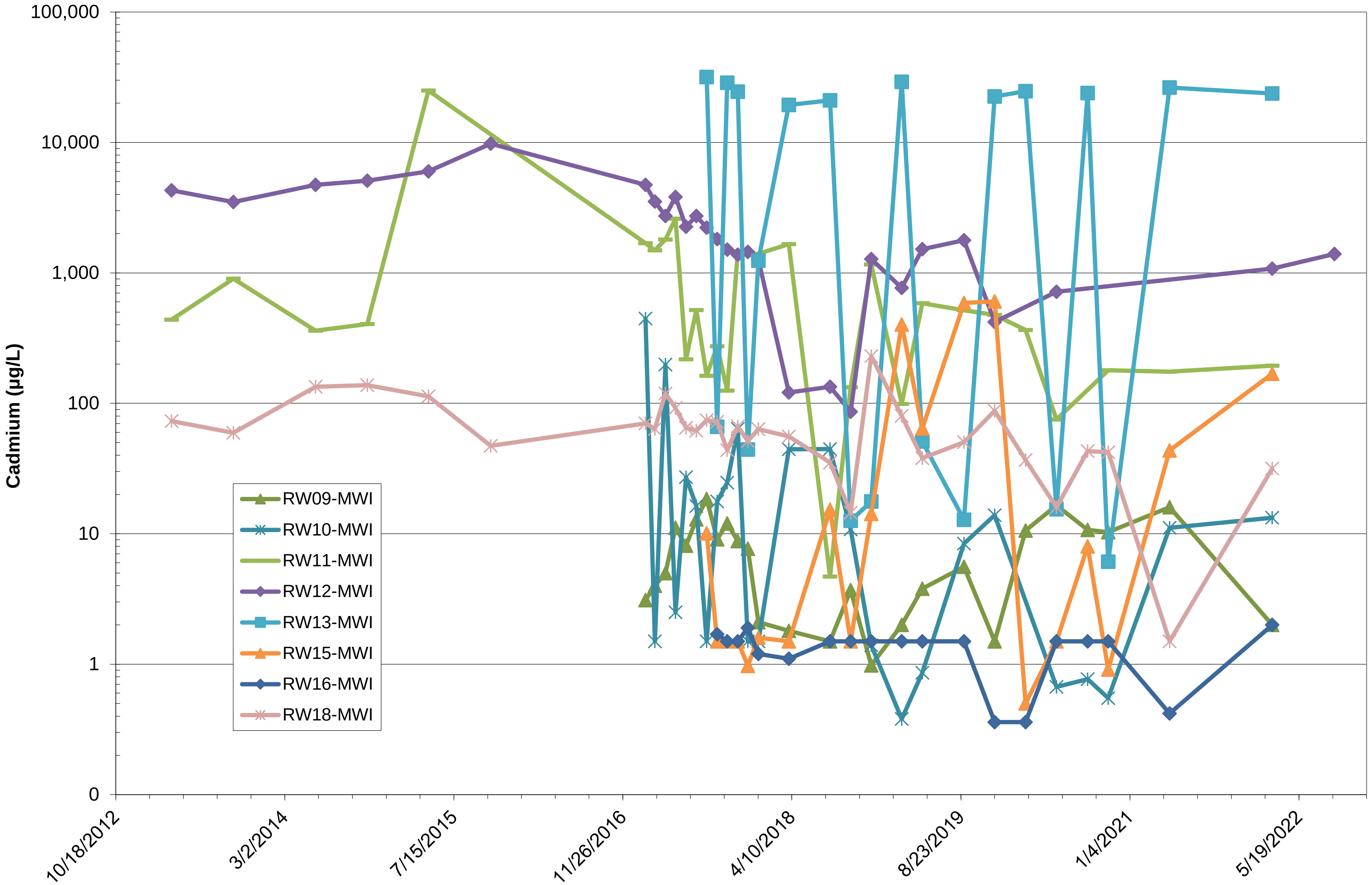
| | |
|---|---|
| Tradepoint Atlantic | |
| Sparrows Point | |
| Baltimore County, MD | |
| ARM Project 21010103 | |



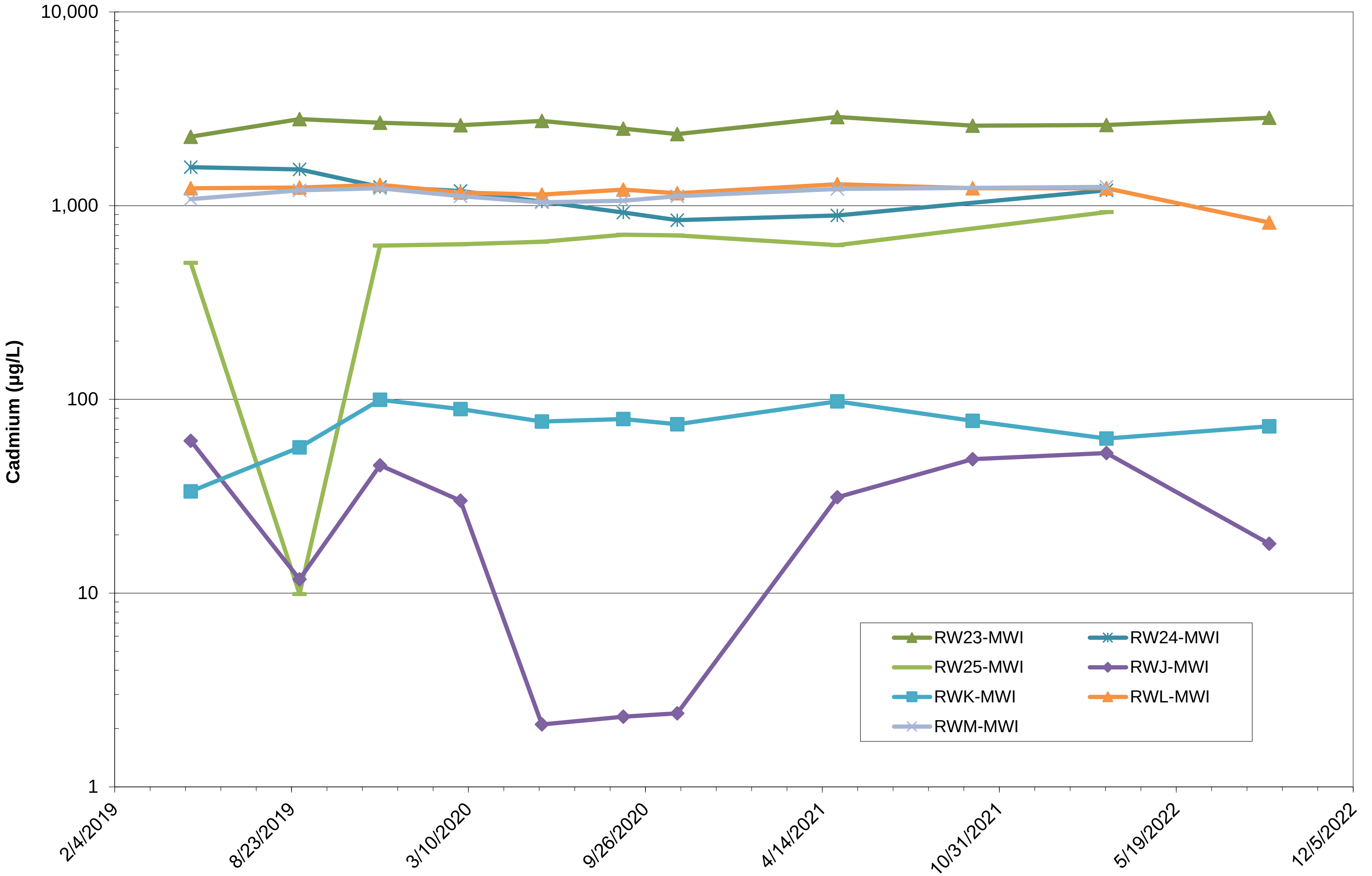

| ARM Group LLC<br>Engineers and Scientists | Rod and Wire Mill<br>Tradepoint Atlantic<br><br>Sparrows Point, Maryland | Intermediate Perimeter Cadmium Concentrations (Orginal Wells)<br><br>February 2023 | Figure<br>36 |
|---|---|---|---|




| | | | |
|---|---|---|---|
| ARM Group LLC<br>Engineers and Scientists | Rod and Wire Mill<br>Tradepoint Atlantic<br><br>Sparrows Point, Maryland | Intermediate Perimeter Cadmium Concentrations (Supplemental Wells)<br><br>February 2023 | **Figure**<br>**37** |




| ARM Group LLC<br>Engineers and Scientists | Rod and Wire Mill<br>Tradepoint Atlantic<br><br>Sparrows Point, Maryland | Intermediate Interior Cadmium Concentrations (Original Wells)<br>February 2023 | **Figure 38** |
|---|---|---|---|




ARM Group LLC
Engineers and Scientists

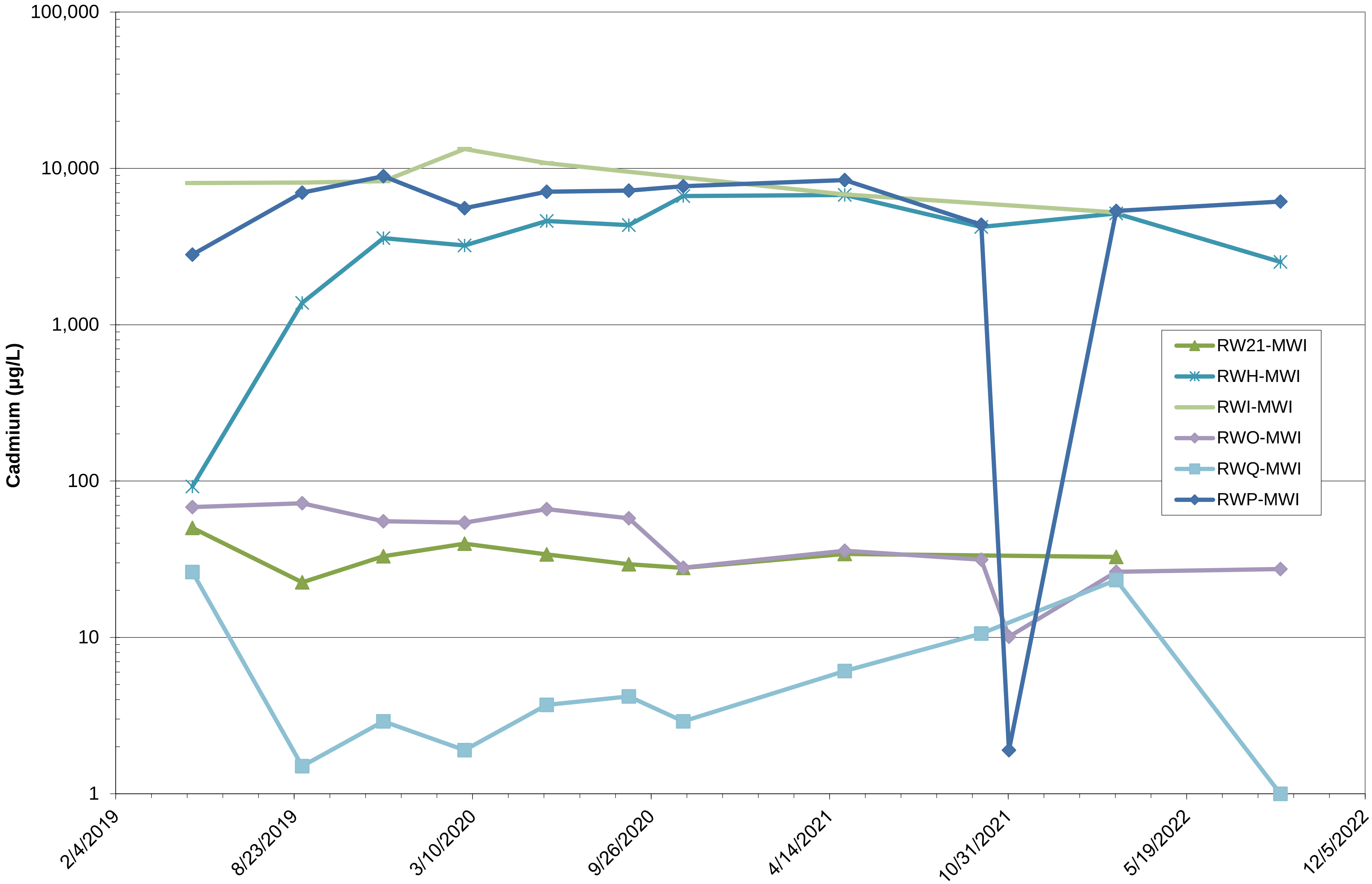
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Interior Cadmium Concentrations (Supplemental Wells)

February 2023

**Figure 39**

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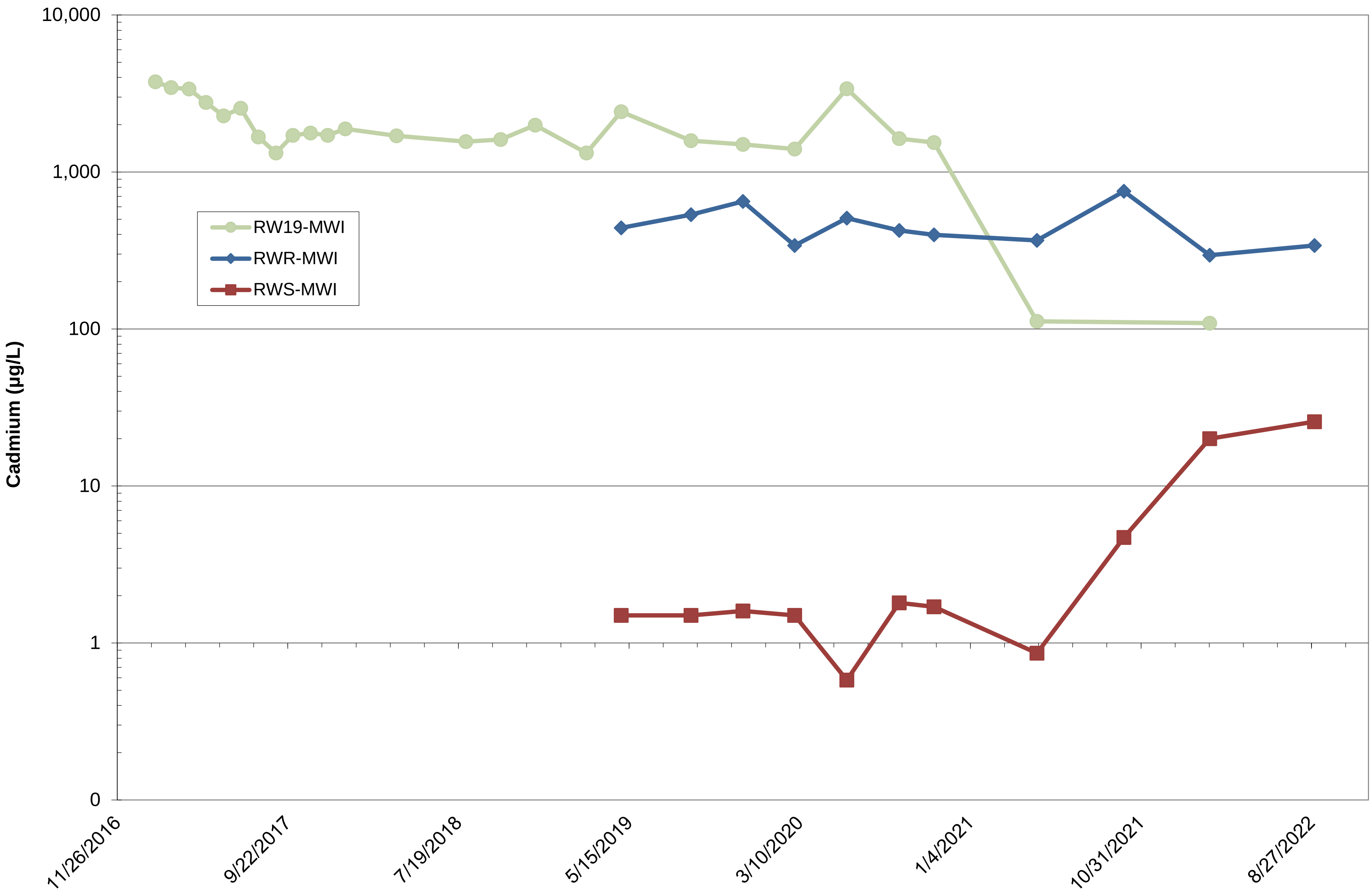
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

# Intermediate Delineation Wells Cadmium Concentrations

February 2023

**Figure 40**

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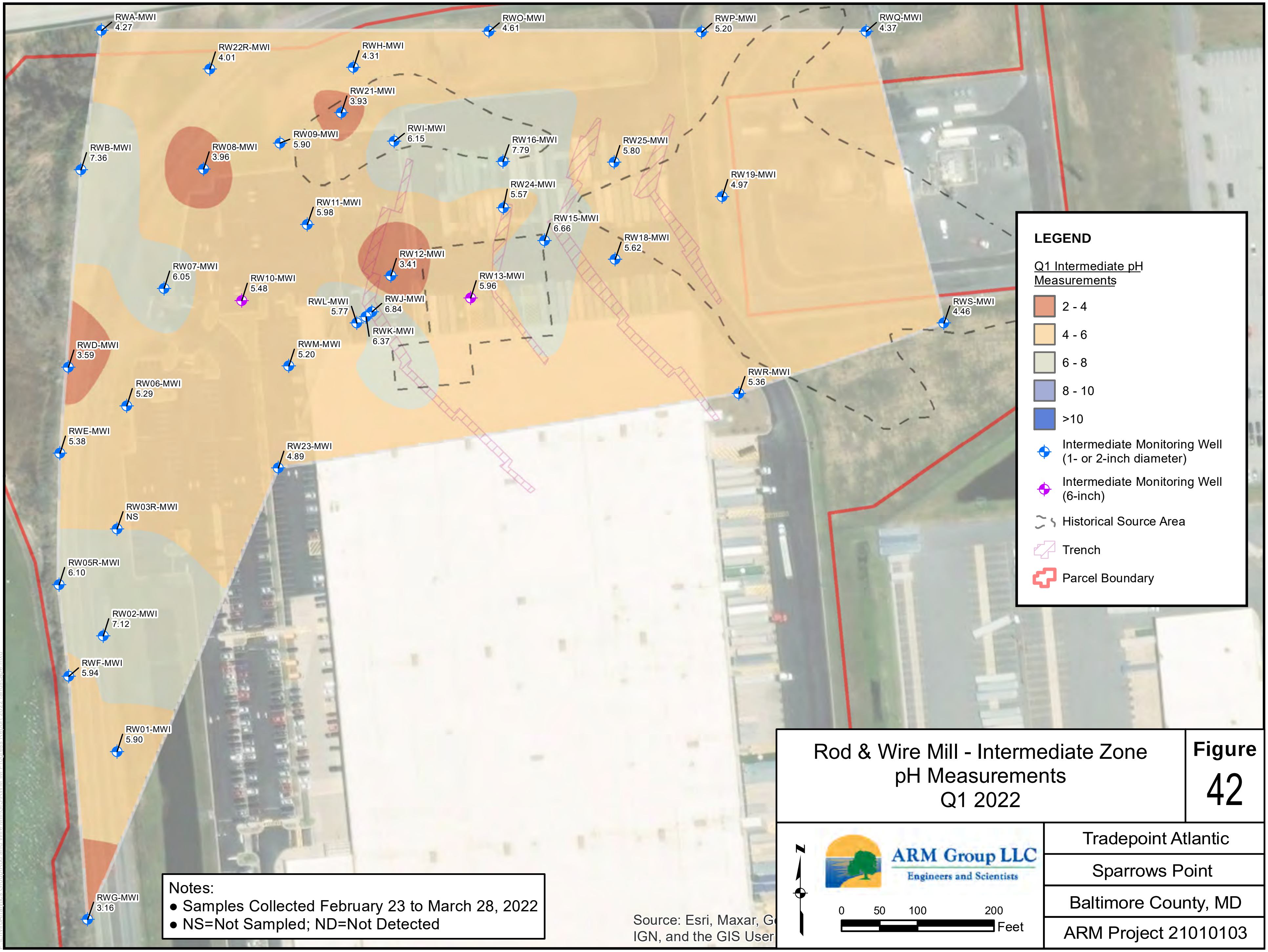
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

Intermediate Upgradient
Cadmium Concentrations

February 2023

**Figure**
**41**




Rod & Wire Mill - Intermediate Zone
pH Measurements
Q1 2022

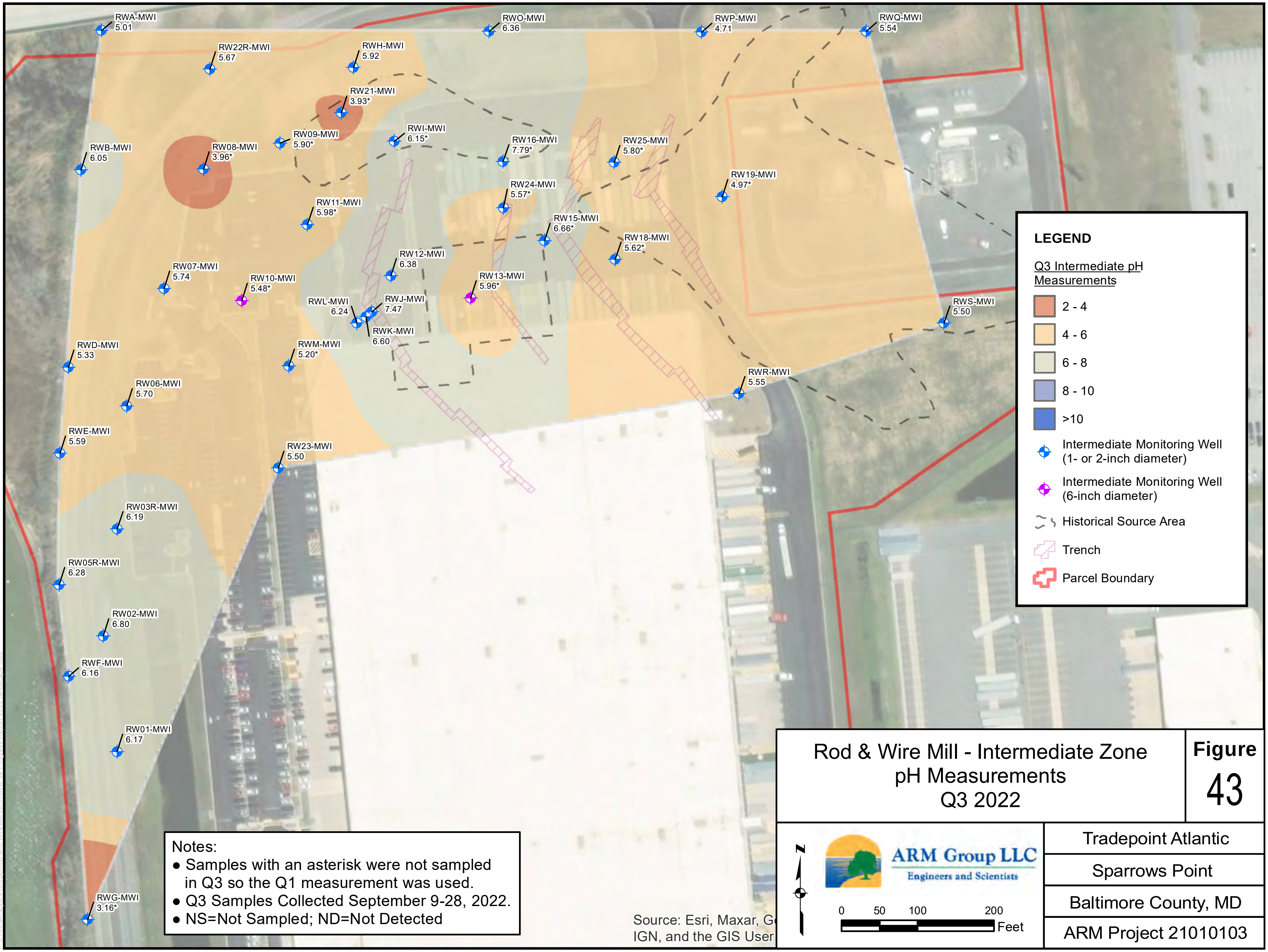
Figure 42

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010103




Notes:
- Samples with an asterisk were not sampled in Q3 so the Q1 measurement was used.
- Q3 Samples Collected September 9-28, 2022.
- NS=Not Sampled; ND=Not Detected

Rod & Wire Mill - Intermediate Zone
pH Measurements
Q3 2022

Figure 43

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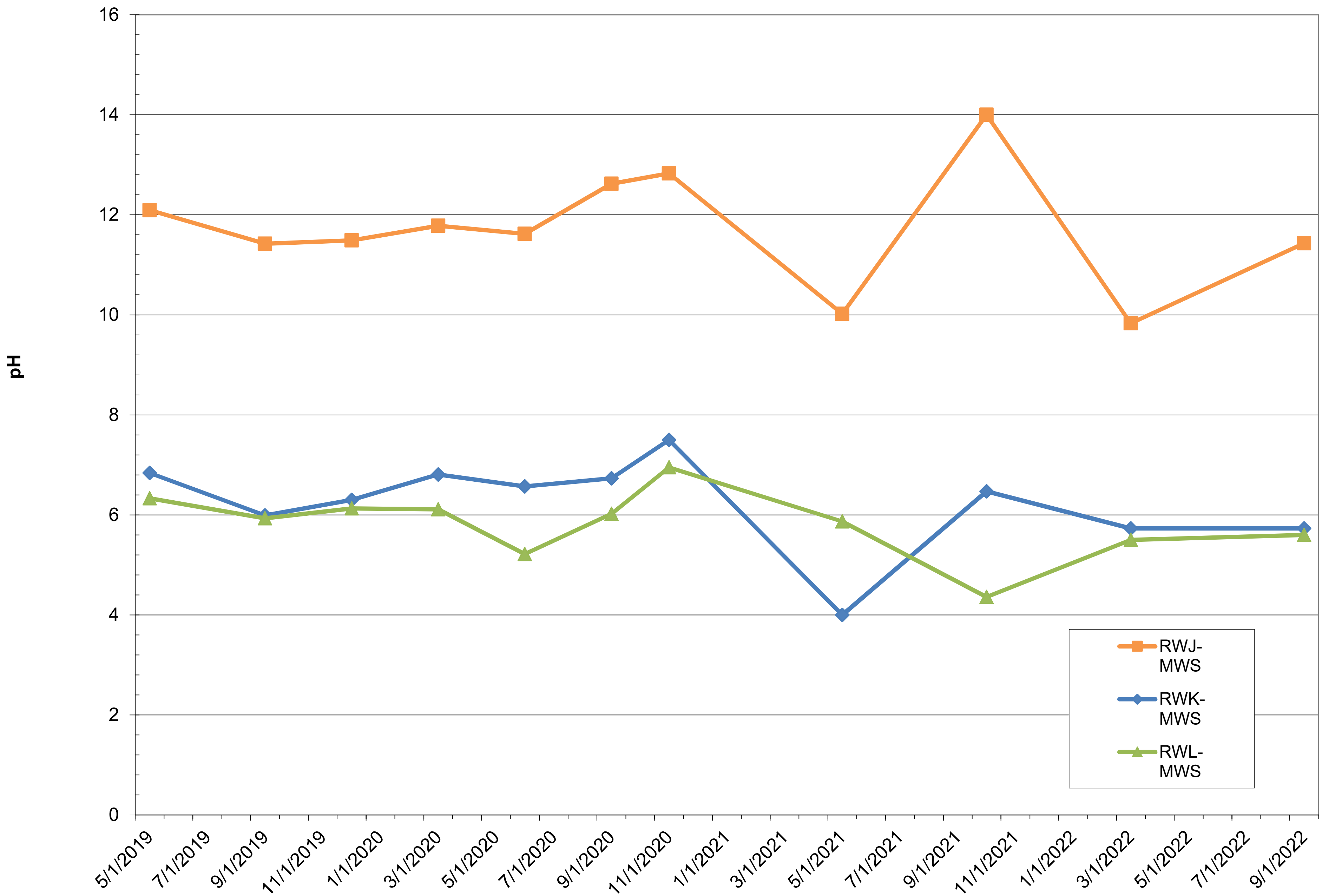
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010103




ARM Group LLC
Engineers and Scientists

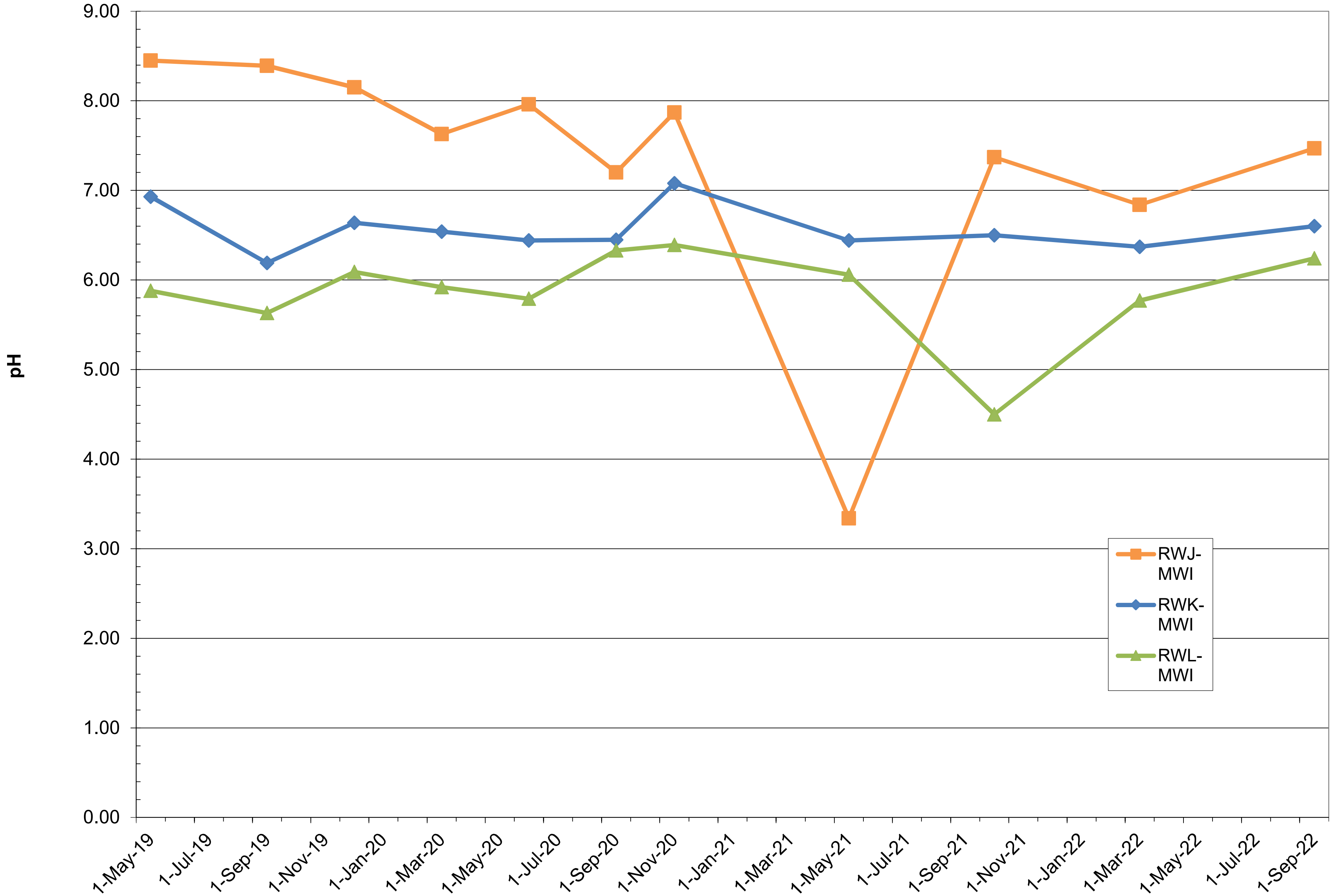
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

RWJ-MWS, RWK-MWS, RWL-MWS
pH Measurements

February 2023

**Figure 44**

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Engineers and Scientists

Rod and Wire Mill
Tradepoint Atlantic

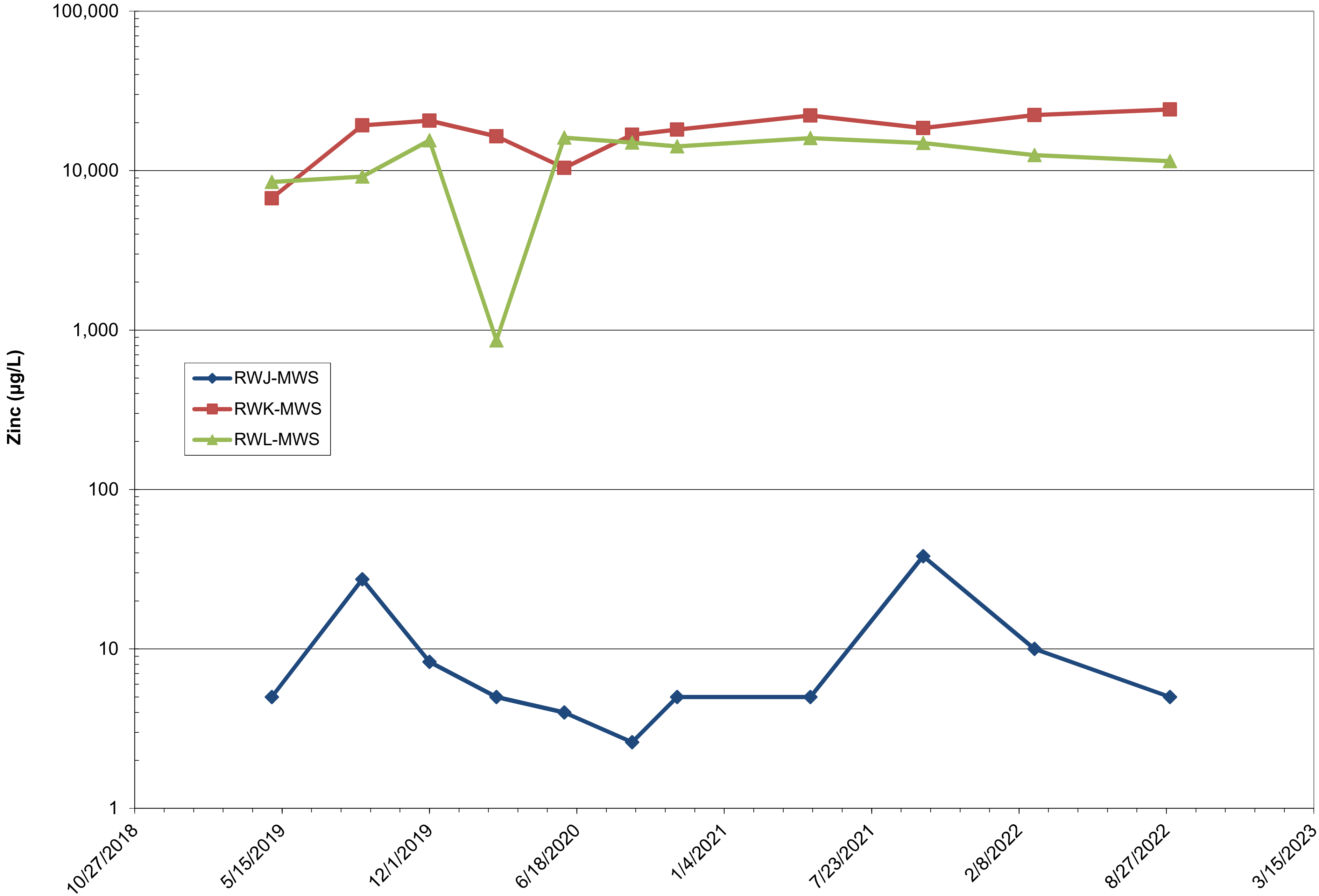
Sparrows Point, Maryland

RWJ-MWI, RWK-MWI, and RWL-MWI
pH Measurements

February 2023

**Figure**

**45**




ARM Group LLC
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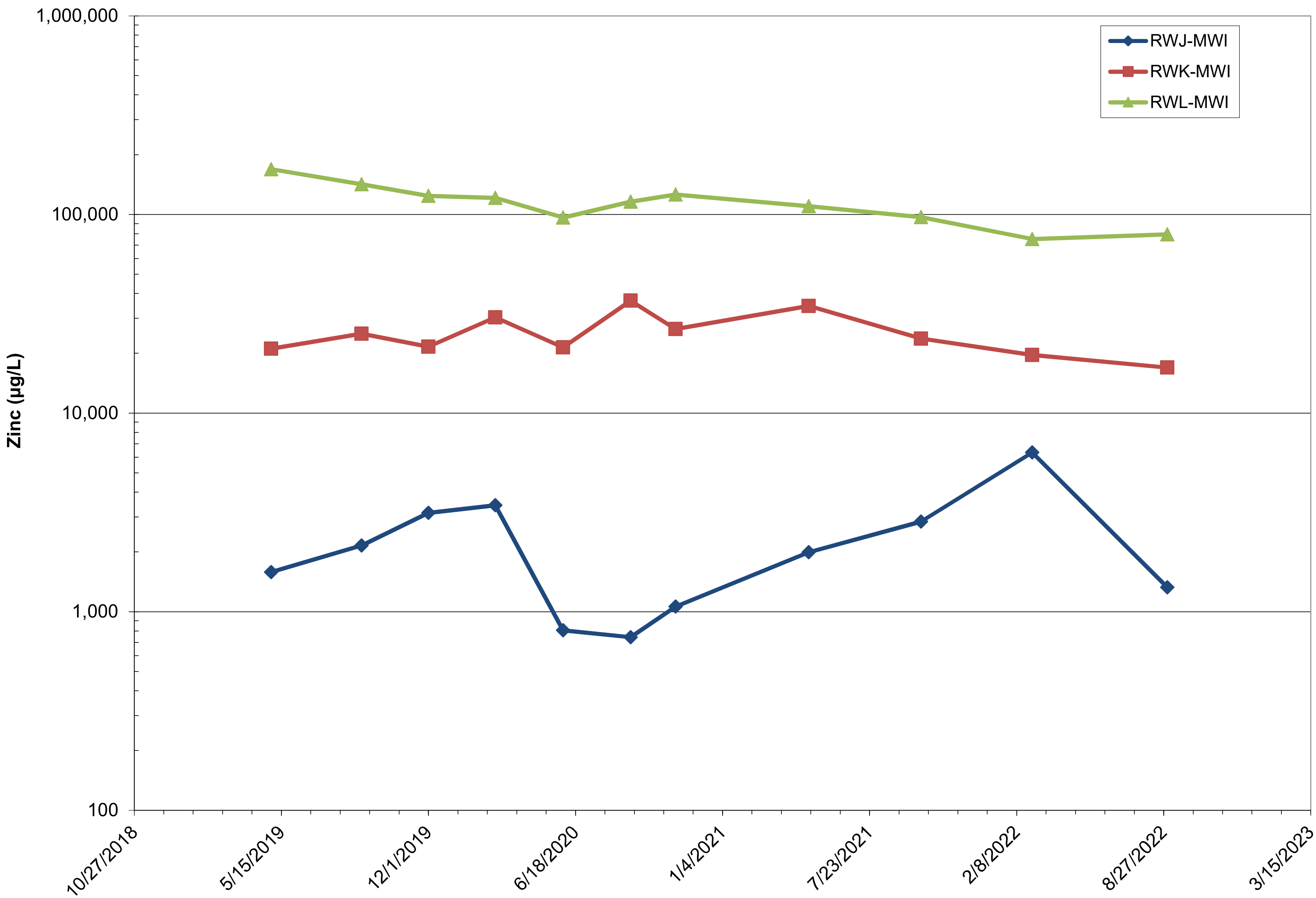
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

RWJ-MWS, RWK-MWS, and RWL-MWS
Zinc Concentrations

February 2023

**Figure 46**




ARM Group LLC
Engineers and Scientists

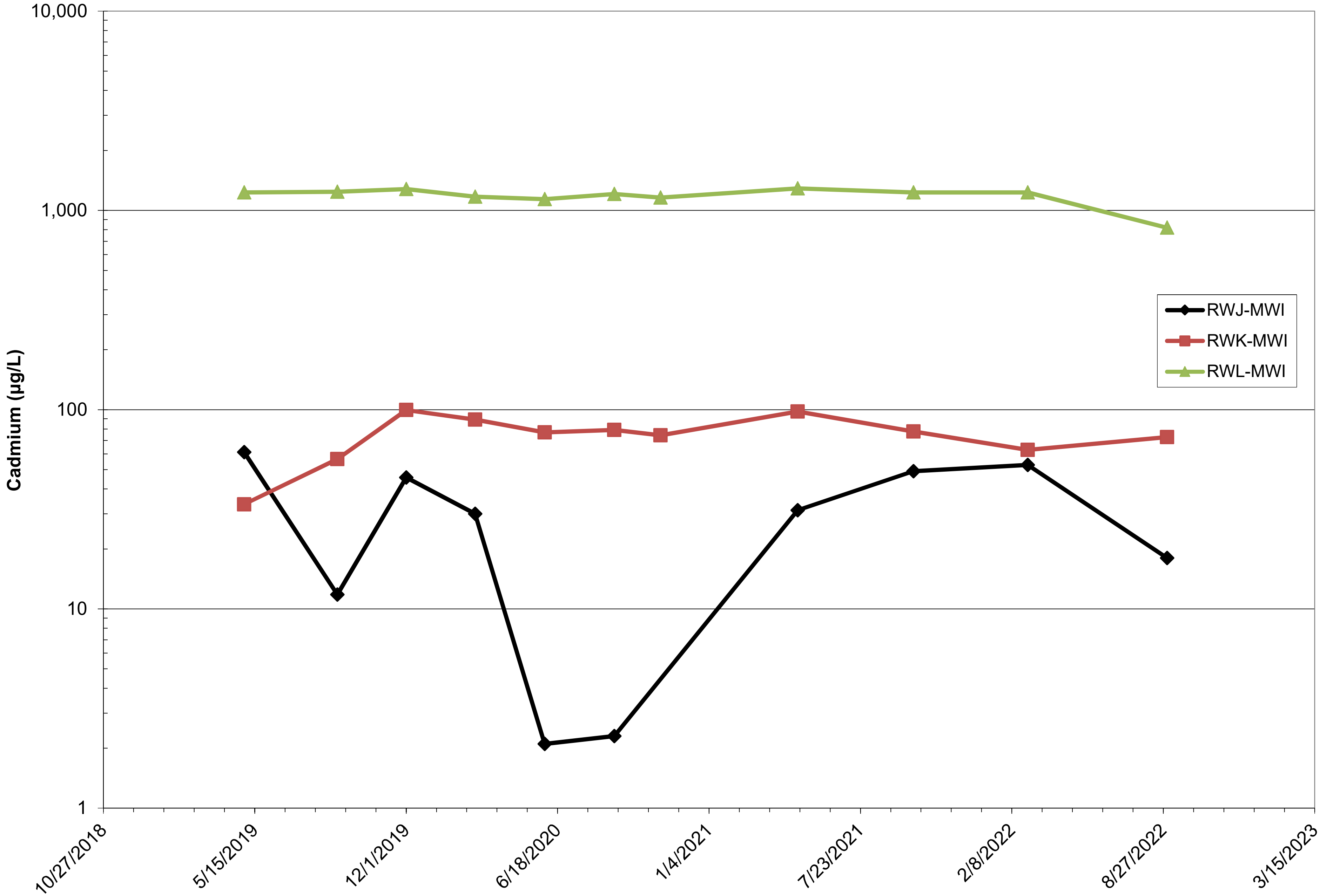
Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

RWJ-MWI, RWK-MWI, and RWL-MWI
Zinc Concentrations

February 2023

**Figure**
**47**




ARM Group LLC
Engineers and Scientists

Rod and Wire Mill
Tradepoint Atlantic

Sparrows Point, Maryland

RWJ-MWI, RWK-MWI, and RWL-MWI
Cadmium Concentrations

February 2023

**Figure 48**

# TABLES

**TABLE 1**
**Monitoring Well Construction Summary**
**Rod Wire Mill Interim Measure Progress Report**

| Well Name | Monitoring Area | Installation Date | Abandonment Date | Northing | Easting | Surface Completion | TOC Elevation (ft AMSL) | Ground Surface Elevation (ft AMSL) | Total Well Depth (feet) | Screen Length (feet) | Well Diameter (inch) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RW01-MWI | Intermediate | 8/1/2017 | 4/25/2023 | 571513.6572 | 1455952.772 | Flush Mount | 9.78 | 10.21 | 41 | 10 | 2 |
| RW01-MWS | Shallow | 7/28/2017 | 4/25/2023 | 571518.9458 | 1455952.268 | Flush Mount | 9.71 | 10.18 | 20 | 10 | 2 |
| RW02-MWI | Intermediate | 7/31/2017 | 4/25/2023 | 571665.1462 | 1455934.83 | Flush Mount | 9.86 | 10.12 | 36.5 | 10 | 2 |
| RW02-MWS | Shallow | 7/27/2017 | 4/25/2023 | 571670.4206 | 1455934.956 | Flush Mount | 10.01 | 10.18 | 18 | 10 | 2 |
| RW03-MWI | Intermediate | 12/9/2016 | Destroyed | 571819.168 | 1455955.53 | | 13.35 | 10.15 | 40 | 10 | 2 |
| RW03-MWS | Shallow | 12/9/2016 | Destroyed | 571824.033 | 1455955.781 | | 13.92 | 10.08 | 20 | 10 | 2 |
| RW03R-MWI | Shallow | 5/3/2022 | | 571809.753 | 1455953.368 | Stick-up Steel Casing | 13.8 | 11.63 | 20 | 8 | 2 |
| RW03R-MWS | Intermediate | 5/3/2022 | | 571805.64 | 1455953.193 | Stick-up Steel Casing | 13.78 | 11.52 | 40 | 10 | 2 |
| RW04-MWS | Shallow | 8/11/2000 | | 571781.312 | 1456010.849 | Flush Mount | 8.89 | 9.2 | 15 | unknown | 2 |
| RW05-MWS | Shallow | 7/11/2017 | | 571709.0224 | 1455888.533 | Flush Mount | 9.73 | 10.08 | 17 | 10 | 2 |
| RW05R-MWI | Intermediate | 4/23/2019 | | 571732.443 | 1455877.003 | Stick-up Steel Casing | 12.95 | 10.56 | 40 | 10 | 1 |
| RW06R-MWD | Deep | 5/1/2018 | | 571962.528 | 1455966.189 | Flush mount | 11.84 | 12.07 | 62 | 10 | 2 |
| RW06R-MWS | Shallow | 4/30/2018 | | 571966.8512 | 1455965.706 | Flush mount | 11.44 | 11.95 | 10 | 5 | 2 |
| RW06-MWI | Intermediate | 4/30/1986 | 4/25/2023 | 571975.244 | 1455960.618 | Flush mount | 11.32 | 11.78 | 30 | | 2 |
| RW07-MWI | Intermediate | 12/14/2016 | | 572120.736 | 1456014.511 | Flush mount | 12.87 | 13.16 | 40 | 10 | 2 |
| RW07-MWS | Shallow | 12/14/2016 | | 572124.671 | 1456015.618 | Flush mount | 13.01 | 13.31 | 20 | 10 | 2 |
| RW08-MWI | Intermediate | 12/13/2016 | | 572277.419 | 1456066.32 | Flush mount | 12.27 | 12.71 | 40 | 10 | 2 |
| RW08-MWS | Shallow | 12/13/2016 | | 572281.232 | 1456068.357 | Flush mount | 12.32 | 12.47 | 20 | 10 | 2 |
| RW09-MWI | Intermediate | 12/15/2016 | | 572311.301 | 1456166.668 | Flush mount | 12.75 | 12.95 | 40 | 10 | 2 |
| RW09-MWS | Shallow | 12/16/2016 | | 572317.199 | 1456164.575 | flush mount | 12.81 | 13.07 | 20 | 10 | 2 |
| RW10-MWI | Intermediate | 12/22/2016 | | 572105.166 | 1456116.254 | Vault | 13.44 | NM | 40 | 10 | 6 |
| RW11-MWI | Intermediate | 8/30/2001 | | 572204.529 | 1456202.556 | Flush mount | 12.34 | 12.64 | 30 | unknown | 2 |
| RW11-MWS | Shallow | 12/19/2016 | | 572210.58 | 1456202.673 | Flush mount | 12.16 | 12.63 | 20 | 10 | 2 |
| RW12-MWI | Intermediate | 9/12/1985 | | 572137.284 | 1456311.813 | Flush mount | 13.43 | 13.6 | 30 | unknown | 2 |
| RW12-MWS | Shallow | 8/28/2001 | | 572145.256 | 1456308.732 | Flush mount | 13.15 | 13.5 | 14 | unknown | 2 |
| RW13-MWI | Intermediate | 7/21/2017 | | 572108.388 | 1456416.357 | Vault | 13.69 | 14.51 | 38 | 10 | 6 |
| RW14-MWS | Shallow | 7/27/2017 | | 572172.661 | 1456421.302 | Flush mount | 12.64 | 13.13 | 20.5 | 10 | 2 |
| RW15-MWI | Intermediate | 7/24/2017 | | 572183.9168 | 1456513.584 | Flush mount | 13.33 | 13.58 | 36.5 | 10 | 2 |
| RW15-MWS | Shallow | 7/21/2017 | | 572189.6508 | 1456512.039 | Flush mount | 13.22 | 13.52 | 18.3 | 10 | 2 |
| RW16-MWI | Intermediate | 8/22/2017 | | 572286.93 | 1456459.18 | Flush mount | 12.18 | 12.38 | 40 | 10 | 2 |
| RW16-MWS | Shallow | 8/22/2017 | | 572294.99 | 1456460.62 | Flush mount | 12.02 | 12.24 | 20 | 10 | 2 |
| RW18-MWI | Intermediate | 9/12/1985 | | 572158.807 | 1456606.197 | Flush mount | 13.8 | 14.04 | 30 | unknown | 2 |
| RW18-MWS | Shallow | 9/13/1985 | | 572167.7271 | 1456601.817 | Flush mount | 13.68 | 13.92 | 10 | unknown | 2 |
| RW19-MWI | Intermediate | 12/19/2016 | | 572240.998 | 1456746.128 | Flush mount | 12.64 | NM | 40 | 10 | 2 |
| RW19-MWS | Shallow | 12/20/2016 | | 572247.126 | 1456745.983 | Flush mount | 12.97 | NM | 20 | 10 | 2 |
| RW21-MWI | Intermediate | 4/9/2019 | | 572350.7734 | 1456246.875 | Flush mount | 14.46 | 14.63 | 40 | 10 | 1 |
| RW21-MWP | Perched | 1/28/2020 | | 572363.832 | 1456276.034 | Flush mount | 13.52 | 13.87 | 14 | 10 | 2 |
| RW21-MWS | Shallow | 8/25/2017 | | 572363.8291 | 1456276.018 | Flush mount | 13.51 | 13.91 | 28 | 5 | 2 |
| RW22R-MWI | Intermediate | 4/11/2019 | | 572408.1789 | 1456074.575 | Stick-up Steel Casing | 16.63 | 14.02 | 40 | 10 | 1 |
| RW22R-MWS | Shallow | 4/10/2019 | | 572411.5743 | 1456072.492 | Stick-up Steel Casing | 16.56 | 14.02 | 20 | 10 | 1 |

**TABLE 1**
**Monitoring Well Construction Summary**
**Rod Wire Mill Interim Measure Progress Report**

| Well Name | Monitoring Area | Installation Date | Abandonment Date | Northing | Easting | Surface Completion | TOC Elevation (ft AMSL) | Ground Surface Elevation (ft AMSL) | Total Well Depth (feet) | Screen Length (feet) | Well Diameter (inch) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RW23-MWI | Intermediate | 4/3/2019 | | 571885.073 | 1456164.16 | Flush Mount | 14.36 | 14.6 | 40 | 10 | 1 |
| RW23-MWS | Shallow | 4/4/2019 | | 571887.2879 | 1456162.566 | Flush Mount | 14.24 | 14.5 | 20 | 10 | 1 |
| RW24-MWI | Intermediate | 4/12/2019 | | 572226.4847 | 1456459.746 | Flush Mount | 12.57 | 12.74 | 40 | 10 | 1 |
| RW24-MWS | Shallow | 4/12/2019 | | 572228.5369 | 1456459.897 | Flush Mount | 12.55 | 12.78 | 20 | 10 | 1 |
| RW25-MWI | Intermediate | 4/15/2019 | | 572285.8111 | 1456604.805 | Flush Mount | 12.08 | 12.28 | 40 | 10 | 1 |
| RW25-MWS | Shallow | 4/12/2019 | | 572287.9682 | 1456604.755 | Flush Mount | 11.94 | 12.16 | 20 | 10 | 1 |
| RWA-MWI | Intermediate | 4/10/2019 | | 572458.8731 | 1455932.71 | Stick-up Steel Casing | 10.2 | 7.52 | 20.3 | 5 | 1 |
| RWA-MWS | Shallow | 4/10/2019 | | 572463.9889 | 1455931.14 | Stick-up Steel Casing | 10.59 | 7.74 | 14 | 10 | 1 |
| RWB-MWI | Intermediate | 4/15/2019 | | 572276.3787 | 1455905.79 | Stick-up Steel Casing | 19.73 | 17.57 | 40 | 10 | 1 |
| RWB-MWS | Shallow | 4/16/2019 | | 572280.0647 | 1455906.999 | Stick-up Steel Casing | 20.17 | 17.66 | 20.5 | 10 | 1 |
| RWD-MWI | Intermediate | 4/22/2019 | | 572017.6 | 1455888.923 | Stick-up Steel Casing | 14.87 | 12.72 | 40 | 10 | 1 |
| RWD-MWS | Shallow | 4/22/2019 | | 572021.3034 | 1455888.645 | Stick-up Steel Casing | 14.93 | 12.68 | 19.5 | 10 | 1 |
| RWE-MWI | Intermediate | 4/23/2019 | | 571904.5202 | 1455877.954 | Stick-up Steel Casing | 13.92 | 11.43 | 40 | 10 | 1 |
| RWE-MWS | Shallow | 4/22/2019 | | 571908.5576 | 1455878.188 | Stick-up Steel Casing | 13.96 | 11.57 | 20 | 10 | 1 |
| RWF-MWI | Intermediate | 4/24/2019 | | 571612.1556 | 1455889.581 | Stick-up Steel Casing | 12.31 | 10.3 | 40 | 10 | 1 |
| RWF-MWS | Shallow | 4/24/2019 | | 571613.4919 | 1455888.933 | Stick-up Steel Casing | 12.74 | 10.24 | 20 | 10 | 1 |
| RWG-MWI | Intermediate | 4/25/2019 | | 571293.311 | 1455914.675 | Flush Mount | 9.45 | 9.62 | 40 | 10 | 1 |
| RWG-MWS | Shallow | 4/24/2019 | | 571296.366 | 1455914.217 | Flush mount | 9.64 | 9.55 | 20 | 10 | 1 |
| RWH-MWI | Intermediate | 4/9/2019 | | 572410.3075 | 1456262.809 | Flush Mount | 12.03 | 12.4 | 33.5 | 10 | 1 |
| RWH-MWS | Shallow | 4/8/2019 | | 572413.9151 | 1456261.997 | Flush Mount | 11.83 | 12.29 | 20 | 10 | 1 |
| RWI-MWI | Intermediate | 4/8/2019 | | 572313.561 | 1456316.524 | Flush Mount | 12.95 | 13.23 | 40 | 10 | 1 |
| RWI-MWS | Shallow | 4/8/2019 | | 572315.7998 | 1456316.335 | Flush Mount | 12.89 | 13.23 | 20 | 10 | 1 |
| RWJ-MWI | Intermediate | 4/29/2019 | | 572090.2068 | 1456286.997 | Flush Mount | 14.1 | 14.4 | 40 | 10 | 1 |
| RWJ-MWS | Shallow | 4/29/2019 | | 572092.2156 | 1456287.233 | Flush Mount | 13.81 | 14.31 | 20.5 | 10 | 1 |
| RWK-MWI | Intermediate | 4/2/2019 | | 572083.3646 | 1456279.397 | Flush Mount | 14.22 | 14.54 | 40 | 10 | 1 |
| RWK-MWS | Shallow | 4/1/2019 | | 572085.0241 | 1456279.042 | Flush Mount | 14.24 | 14.5 | 20 | 10 | 1 |
| RWL-MWI | Intermediate | 4/2/2019 | | 572075.2173 | 1456267.262 | Flush Mount | 14.36 | 14.6 | 40 | 10 | 1 |
| RWL-MWS | Shallow | 4/2/2019 | | 572078.1957 | 1456266.559 | Flush Mount | 14.26 | 14.55 | 20 | 10 | 1 |
| RWM-MWI | Intermediate | 4/4/2019 | | 572018.7755 | 1456178.189 | Flush Mount | 14.92 | 15.2 | 40 | 10 | 1 |
| RWM-MWS | Shallow | 4/4/2019 | | 572019.8634 | 1456176.579 | Flush Mount | 14.97 | 15.21 | 20 | 10 | 1 |
| RWN-MWS | Shallow | 4/11/2019 | | 572065.843 | 1456392.375 | Flush Mount | 14.84 | 15.16 | 25 | 10 | 1 |
| RWO-MWI | Intermediate | 4/29/2019 | | 572457.7694 | 1456441.038 | Flush Mount | 11.67 | 11.99 | 40 | 10 | 1 |
| RWO-MWS | Shallow | 4/29/2019 | | 572462.5312 | 1456439.69 | Flush Mount | 11.59 | 11.93 | 20 | 10 | 1 |
| RWP-MWI | Intermediate | 4/17/2019 | | 572456.879 | 1456719.178 | Stick-up Steel Casing | 14.32 | 11.62 | 40 | 10 | 1 |
| RWQ-MWI | Intermediate | 4/18/2019 | | 572457.955 | 1456935.254 | Stick-up Steel Casing | 17.07 | 14.87 | 40 | 10 | 1 |
| RWQ-MWS | Shallow | 4/17/2019 | | 572461.929 | 1456935.291 | Stick-up Steel Casing | 17.11 | 14.64 | 20 | 10 | 1 |
| RWR-MWI | Intermediate | 4/25/2019 | | 571982.59 | 1456768.613 | Flush Mount | 13.7 | 14.04 | 40 | 10 | 1 |
| RWR-MWS | Shallow | 4/25/2019 | | 571986.165 | 1456769.115 | Flush Mount | 13.68 | 14.07 | 20 | 10 | 1 |
| RWS-MWI | Intermediate | 4/18/2019 | | 572075.052 | 1457037.284 | Stick-up Steel Casing | 17.6 | 15.06 | 45 | 10 | 1 |
| RWS-MWS | Shallow | 4/18/2019 | | 572077.763 | 1457037.433 | Stick-up Steel Casing | 17.6 | 15.25 | 20 | 10 | 1 |

NM = not mearsured
TOC = top of casing
AMSL = above mean sea level

**TABLE 2**
**Shallow Zone Sampling Frequency**
**Rod Wire Mill Interim Measure Progress Report**

| Well Name | Monitoring Area | Sample Frequency | Sampling Rationale |
|---|---|---|---|
| RWA-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWB-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWD-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWE-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWF-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWG-MWS | Perimeter | Not Sampled | Outside the area of concern (south) and do not expect to see any changes |
| RWH-MWS | Delineation | Semi-Annually | Monitor northern perimeter concentrations |
| RWI-MWS | Delineation | Annually | Monitor the northwest pond |
| RWJ-MWS | Interior | Semi-Annually | Compare to the intermediate well to assess potential vertical migration |
| RWK-MWS | Interior | Semi-Annually | Compare to the intermediate well to assess potential vertical migration |
| RWL-MWS | Interior | Semi-Annually | Compare to the intermediate well to assess potential vertical migration |
| RWM-MWS | Interior | Not Sampled | Not monitoring the perimeter |
| RWN-MWS | Interior | Annually | Monitor effect on former sludge storage area and any southern direction impacts before the operational building |
| RWO-MWS | Delineation | Semi-Annually | Monitor northern perimeter concentrations |
| RWQ-MWS | Delineation | Semi-Annually | Monitor northern perimeter concentrations |
| RWR-MWS | Upgradient | Semi-Annually | Monitor eastern perimeter concentrations |
| RWS-MWS | Upgradient | Semi-Annually | Monitor eastern perimeter concentrations |
| RW01-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW02-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW03R-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW04-MWS | Perimeter | Not Sampled | In close proximity to RW03-MWS; not needed to monitor the perimeter |
| RW05-MWS | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW06R-MWS | Perimeter | Annually | In close proximity to RWD and RWE-MWS; not needed to monitor the perimeter |
| RW07-MWS | Perimeter | Annually | In close proximity to RWB; not needed to monitor the perimeter |
| RW08-MWS | Perimeter | Not Sampled | Not monitoring the perimeter |
| RW09-MWS | Interior | Not Sampled | Not monitoring the perimeter |
| RW11-MWS | Interior | Annually | Provide spatial coverage in central area |
| RW12-MWS | Interior | Semi-Annually | Compare to the intermediate well to assess potential vertical migration |
| RW14-MWS | Interior | Not Sampled | Redundant with other wells monitoring central area |
| RW15-MWS | Interior | Not Sampled | Redundant with other wells monitoring central area |
| RW16-MWS | Interior | Annually | Within the area of the northwest disposal pond; provide spatial coverage in central area |
| RW18-MWS | Interior | Annually | Monitor any southern direction impacts before the operational building; provide spatial coverage in central area |
| RW19-MWS | Upgradient | Not Sampled | Do not expect to see changes in conditions |
| RW21-MWP | Delineation | Not Sampled | Installed for NAPL monitoring |
| RW21-MWS | Delineation | Not Sampled | Redundant with other monitoring wells in the central area |
| RW22R-MWS | Perimeter | Semi-Annually | Monitor downgradient of northwest pond area; monitor northern perimeter concentrations |
| RW23-MWS | Interior | Semi-Annually | Monitor southern perimeter and immediately downgradient of operational building concentrations |
| RW24-MWS | Interior | Not Sampled | Redundant with other monitoring wells in the central area |
| RW25-MWS | Interior | Not Sampled | Redundant with other monitoring wells in the central area |

**TABLE 3**
**Intermediate Zone Sampling Frequency**
**Rod Wire Mill Interim Measure Progress Report**

| Well Name | Monitoring Area | Sample Frequency | Sampling Rationale |
|---|---|---|---|
| RWA-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWB-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWD-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWE-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWF-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RWG-MWI | Perimeter | Annually | Monitor for changes in perimeter concentrations |
| RWH-MWI | Delineation | Semi-Annually | Monitor northern perimeter conditions |
| RWI-MWI | Delineation | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RWJ-MWI | Performance | Semi-Annually | Near field wells to monitor trench effectiveness; inside final treatment trench |
| RWK-MWI | Performance | Semi-Annually | Near field wells to monitor trench effectiveness; immediate well downgradient after final treatment trench |
| RWL-MWI | Performance | Semi-Annually | Near field wells to monitor trench effectiveness; delineation of final treatment trench |
| RWM-MWI | Performance | Annually | Trench effectiveness is already being monitored closer to the area of concern |
| RWO-MWI | Delineation | Semi-Annually | Monitor northern perimeter conditions |
| RWP-MWI | Delineation | Semi-Annually | Monitor northern perimeter conditions |
| RWQ-MWI | Delineation | Semi-Annually | Monitor northern perimeter conditions |
| RWR-MWI | Upgradient | Semi-Annually | Monitor eastern perimeter conditions; monitor concentrations proximal to the operational building |
| RWS-MWI | Upgradient | Semi-Annually | Monitor eastern perimeter conditions |
| RW01-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW02-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW03R-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW05R-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW06-MWI | Perimeter | Semi-Annually | Monitor for changes in perimeter concentrations |
| RW06R-MWD | Perimeter | Annually | Monitor any vertical movement of groundwater into lower hydrogeologic zone |
| RW07-MWI | Perimeter | Semi-Annually | Monitor western perimeter |
| RW08-MWI | Perimeter | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW09-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW10-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW11-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW12-MWI | Performance | Semi-Annually | Near field wells to monitor trench effectiveness; well immediate upgradient to final treatment trench |
| RW13-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW15-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW16-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW18-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW19-MWI | Upgradient | Annually | Do not expect to see changing conditions because it is upgradient of all treatment trenches |
| RW21-MWI | Delineation | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW22R-MWI | Perimeter | Semi-Annually | Monitor downgradient of northwest pond area; monitor northern perimeter concentrations |
| RW23-MWI | Performance | Semi-Annually | Monitor the concentrations along the southern perimeter and immediately downgradient of operational building |
| RW24-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |
| RW25-MWI | Performance | Annually | Do not expect to see rapid changing conditions due to passive condition and slow migration of groundwater |

**TABLE 4**
**Shallow Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW01-MWS | RW02-MWS | RW03-MWS | RW03R-MWS | RW04-MWS | RW05-MWS | RW06R-MWS | RW07-MWS | RW08-MWS | RW09-MWS | RW11-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | NA | Semiannually | Not Sampled | Semiannually | Annually | Annually | Not Sampled | Not Sampled | Annually |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **2,330** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *NS* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *DNE* | *DNE* | **6,200** | *DNE* | *NS* | *DNE* | *DNE* | **81.6** | **1,080** | **14,500** | **8,790** |
| 3/28/2017-3/29/2017 | µg/L | *DNE* | *DNE* | **6,510** | *DNE* | *NS* | *DNE* | *DNE* | **74.8** | **8,710** | **12,400** | **10,500** |
| 4/25/2017-4/27/2017 | µg/L | *DNE* | *DNE* | **4,860** | *DNE* | *NS* | *DNE* | *DNE* | **86.4** | **9,520** | **12,900** | **13,100** |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | **5,380** | *DNE* | *NS* | *DNE* | *DNE* | **102** | **2,680** | **11,900** | **12,500** |
| 6/5/2017-6/8/2017 | µg/L | *DNE* | *DNE* | **5,500** | *DNE* | **58.2** | *DNE* | *DNE* | **107** | **1,870** | **13,000** | **13,500** |
| 7/10/2017-7/12/2017 | µg/L | *DNE* | *DNE* | **8,460** | *DNE* | **179** | *DNE* | *DNE* | **114** | **968** | **11,500** | **10,900** |
| 8/7/2017-8/10/2017 | µg/L | **12,200** | **6,290** | **7,730** | *DNE* | **74.7** | **550** | *DNE* | **127** | **3,190** | **9,700** | **10,800** |
| 9/1/2017-9/8/2017 | µg/L | **5,730** | **3,220** | **16,300** | *DNE* | **163** | **184** | *DNE* | **165** | **4,460** | **8,750** | **10,600** |
| 10/2/2017-10/6/2017 | µg/L | **7,730** | **5,490** | **32,100** | *DNE* | **137** | **1,410** | *DNE* | **144** | **1,950** | **8,310 ML** | **9,270** |
| 11/3/2017-11/13/2017 | µg/L | **25,200** | **1,460** | **14,100** | *DNE* | **123** | **503** | *DNE* | **227** | **1,600** | **9,290** | **18,300** |
| 12/4/2017-12/8/2017 | µg/L | **7,300** | **79.3** | **46,400** | *DNE* | **279** | **5,440** | *DNE* | **216** | **1,770** | **8,550** | **24,000** |
| 1/2/2018-1/9/2018 | µg/L | **35,200** | **2,210** | **31,500** | *DNE* | **384** | **35.7** | *DNE* | **276** | **2,600** | **9,310** | **27,700** |
| 4/8/2018-4/13/2018 | µg/L | **52,000** | **5,320** | **44,000** | *DNE* | **300** | **75.3** | *DNE* | **204** | **13,200** | **8,980** | **37,100** |
| 7/30/2018-8/3/2018 | µg/L | **24,100** | **5,470** | **25,600** | *DNE* | 7.9 J | **32.6** | **22** | **248** | **6,640** | **10,700** | **109,000** |
| 10/1/2018-10/5/2018 | µg/L | **37,000** | **5,930** | **14,900** | *DNE* | **168** | **21.7** | 3.7 J | **223** | **13,300** | **10,800** | **29,500** |
| 12/10/2018-12/14/2018* | µg/L | **13,700** | **27,400** | **23,300** | *DNE* | **23.5** | *10 U* | *10 U* | **176** | **931** | **9,200** | **28,900** |
| 3/12/2019-3/19/2019* | µg/L | **16,500** | **13,100** | **9,570** | *DNE* | **33.6** | *10 U* | *10 U* | **142** | **14,600** | **11,300** | **13,500** |
| 5/3/2019-6/7/2019* | µg/L | **16,300** | **21,900** | **18,700** | *DNE* | *10 U* | *10 U* | **20.7** | **137** | **11,300** | **14,100** | **38,900** |
| 9/10/2019-9/23/2019* | µg/L | **16,300** | **27,400** | **19,200** | *DNE* | **313** | *8.3 B* | *4.1 B* | **148** | **1,350** | **19,600** | **44,000** |
| 12/3/2019-12/11/2019 | µg/L | **10,400** | **594** | **19,200** | *DNE* | **604** | **41.6** | 4.3 J | **168** | **1,250** | **20,600** | **37,500** |
| 3/11/20-3/23/20* | µg/L | **9,810** | **269** | **16,800** | *DNE* | **37.8** | 5.4 J | 4.1 J | **124** | **10,300** | **20,700** | **28,900** |
| 6/8/20-6/30/20* | µg/L | **6,200** | **1,940** | **18,800** | *DNE* | **79.4** | 8.6 J | **19.4** | **220** | **12,000** | **26,700** | **37,200** |
| 9/9/20-9/29/20* | µg/L | **7,050** | **1,280** | *NS* | *DNE* | **75.4** | 5.9 J | 8 J | *NS* | **2,330** | **39,900** | **46,600** |
| 11/5/20-11/19/20* | µg/L | **4,140** | **9,950** | *NS* | *DNE* | **54.6** | 9.8 J | *10 U* | *NS* | **1,600** | **45,200** | **55,200** |
| 5/26/21-6/18/21* | µg/L | **3,620** | **472** | *NS* | *DNE* | *NS* | 7.0 J | *10 U* | *NS* | *NS* | *NS* | **61,000** |
| 10/4/21-10/18/21* | µg/L | **5,660** | 3.1 J | *NS* | *DNE* | *NS* | 17.8 J | *NS* | *NS* | *NS* | *NS* | *NS* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *DNE* | *NS* | *NS* | *NS* | **298** | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | **11,300** | **36,300** | *DNE* | *DNE* | *NS* | **57** | *20 U* | **406** | *NS* | *NS* | **13,500** |
| 9/9/2022-9/15/2022* | µg/L | **6,406** | **7,503** | *DNE* | **102** | *NS* | **15** | *NS* | *NS* | *NS* | *NS* | *NS* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

## TABLE 4
## Shallow Zinc Concentrations
### Rod Wire Mill Interim Measures Progress Report

| Sampling Dates | Units | RW12-MWS | RW14-MWS | RW15-MWS | RW16-MWS | RW18-MWS | RW19-MWS | RW21-MWS | RW22R-MWS | RW23-MWS | RW24-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Not Sampled | Not Sampled | Annually | Annually | Not Sampled | Not Sampled | Semiannually | Semiannually | Not Sampled |
| 5/1/2015 | µg/L | **4,290** | *DNE* | *DNE* | *DNE* | **6,470** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | **925** | *DNE* | *DNE* | *DNE* | **912** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **10,100** | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/28/2017-3/29/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **7,100** | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/27/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **6,260** | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **4,860** | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/8/2017 | µg/L | **11,400** | *DNE* | *DNE* | *DNE* | **25,500** | **3,720** | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/12/2017 | µg/L | **9,090** | *DNE* | *DNE* | *DNE* | **13,300** | **3,700** | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | **5,090** | **42,000** | **276** | *NS* | **964** | **3,360** | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | **3,980** | **43,500** | **1,080** | **25.6** | **6,160** | **2,990** | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/6/2017 | µg/L | **3,790** | **28,900** | **900** | **26.2** | **14,500** | **18,700** | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | **235,000** | **28,100** | **8,800** | **48.6** | **10,700** | **2,730** | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | **2,980** | **49,200** | **7,630** | **27.7** | **23,400** | **3,380** | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | **10,100** | **61,800** | **5,150** | **31.2** | **11,600** | **10,200** | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | **10,600** | **62,100** | **5,940** | **25** | **25,900** | **7,060** | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | **2,900** | **64,100** | **1,320** | **35.9** | **439** | **10,100** | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | **1,140** | **80,100** | **2,950** | **30.0** | **44.9** | **10,500** | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | **8,570** | **79,200** | **4,380** | 5.5 J | **12.7** | **3,390** | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | **4,640** | **65,700** | **499** | 7 J | **30** | **4,680** | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **1,550** | **69,600** | **684** | **106** | **16.9** | **3,180** | **282,000** | **58,100** | **22.4** | 5 J |
| 9/10/2019-9/23/2019* | µg/L | **5,390** | **70,500** | **134** | *10.0 U* | *4.3 B* | **2,260** | **330,000** | **188,000** | **20.6** | 8.2 J |
| 12/3/2019-12/11/2019 | µg/L | **763** | **77,500** | **378** | **22.7** | **15.2** | **2,640** | **368,000** | **112,000** | **38.6** | 6.7 J |
| 3/11/20-3/23/20* | µg/L | *NS* | **70,800** | **105** | *10 U* | 4.2 J | **5,300** | **301,000** | **213,000** | 5 J | 3.5 J |
| 6/8/20-6/30/20* | µg/L | **4,660** | **71,900** | 2.7 J | *10 U* | 4.2 J | **2,710** | **268,000** | **217,000** | 2.7 J | 3.4 J |
| 9/9/20-9/29/20* | µg/L | *NS* | **56,600** | 9.4 J | **22.3** | **22.7** | **22,600** | **298,000** | **253,000** | 6.4 J | **16.4** |
| 11/5/20-11/19/20* | µg/L | *NS* | **50,200** | 3.3 J | 3.7 J | 3.3 J | **6,190** | **325,000** | **145,000** | 5.9 J | *10 U* |
| 5/26/21-6/18/21* | µg/L | *NS* | *NS* | *NS* | 3.0 J | **20.1** | *NS* | *NS* | **169,000** | 2.8 J | *NS* |
| 10/4/21-10/18/21* | µg/L | **4,960** | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **137,000** | 6.5 J | *NS* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | **12,400** | *NS* | *NS* | *20 U* | *200 U* | *NS* | *NS* | **113,000** | *20 U* | *NS* |
| 9/9/2022-9/15/2022* | µg/L | **21,800** | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **197,000** | *10 U* | *NS* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

## TABLE 4
## Shallow Zinc Concentrations
### Rod Wire Mill Interim Measures Progress Report

| Sampling Dates | Units | RW25-MWS | RWA-MWS | RWB-MWS | RWD-MWS | RWE-MWS | RWF-MWS | RWG-MWS | RWH-MWS | RWI-MWS | RWJ-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Not Sampled | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually | Not Sampled | Semiannually | Annually | Semiannually |
| 5/1/2015 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 11/1/2015 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 2/10/2017-2/14/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 3/28/2017-3/29/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 4/25/2017-4/27/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 5/22/2017-5/24/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 6/5/2017-6/8/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 7/10/2017-7/12/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 8/7/2017-8/10/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 9/1/2017-9/8/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 10/2/2017-10/6/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 11/3/2017-11/13/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 12/4/2017-12/8/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 1/2/2018-1/9/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 4/8/2018-4/13/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 7/30/2018-8/3/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 10/1/2018-10/5/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 12/10/2018-12/14/2018* | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 3/12/2019-3/19/2019* | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 5/3/2019-6/7/2019* | µg/L | **70,500** | **516** | 7.4 J | 4.7 J | **468** | **39,100** | 10 U | **367** | **25,800** | 10 U |
| 9/10/2019-9/23/2019* | µg/L | **437,000** | **1,720** | 5.5 J | 9.1 J | **422** | **34,300** | 10.0 U | **60,600** | **26,200** | **27** |
| 12/3/2019-12/11/2019 | µg/L | **11,900** | **49.7** | **38.7** | 5.4 J | **261** | **35,000** | **194** | **2,600** | **32,400** | 8.3 J |
| 3/11/20-3/23/20* | µg/L | **2,570** | 9.7 J | 6.1 J | 3.6 J | **303** | **33,900** | 2.9 J | **19,300** | **1,510** | 10 U |
| 6/8/20-6/30/20* | µg/L | **5,720** | **21.5** | 10 U | 10 U | **1,360** | **31,200** | 9.8 J | **48.9** | **211** | 4 J |
| 9/9/20-9/29/20* | µg/L | **2,780** | **182** | 5.8 J | 4.2 J | **22,100** | **44,400** | 10 U | **5,330** | NS | 2.6 J |
| 11/5/20-11/19/20* | µg/L | **9,930** | **52.1** | **11.9** | 3 J | **156** | **39,000** | 10 U | **1,310** | NS | 10 U |
| 5/26/21-6/18/21* | µg/L | NS | 6.1 J | 10 U | 10 U | **21,900** | **32,800** | NS | **3,400** | NS | 10 U |
| 10/4/21-10/18/21* | µg/L | NS | 7.6 J | 12.4 J | 10 J | **1,630** | **25,200** | NS | **6,670** | NS | **38.2** |
| 11/29/21-11/30/21* | µg/L | NS | NS | NS | NS | NS | NS | NS | NS | 2.0 J | NS |
| 2/23/22-3/28/22* | µg/L | NS | **47** | 20 U | 20 U | **174** | **33,600** | NS | **3,270** | **24,300** | 20 U |
| 9/9/2022-9/15/2022* | µg/L | NS | **628** | 5.072 J | **38** | **8,214** | **24,250** | NS | **2,468** | NS | 10 U |

**Bold indicates detection above the reporting limit**
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*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 4**
**Shallow Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RWK-MWS | RWL-MWS | RWM-MWS | RWN-MWS | RWO-MWS | RWQ-MWS | RWR-MWS | RWS-MWS |
|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | Not Sampled | Annually | Semiannually | Semiannually | Semiannually | Semiannually |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/28/2017-3/29/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/27/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/12/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/6/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **6,710** | **8,480** | 6 J | **978,000** | **2,660** | **146** | **213,000** | **10,100** |
| 9/10/2019-9/23/2019* | µg/L | **19,200** | **9,180** | 4.0 J | **964,000** | **6,790** | **147** | **245,000** | **1,980** |
| 12/3/2019-12/11/2019 | µg/L | **20,600** | **15,500** | **11.6** | **943,000** | **3,720** | **182** | **320,000** | **2,970** |
| 3/11/20-3/23/20* | µg/L | **16,400** | **861** | 4.8 J | **1,170,000** | **6,220** | **194** | **344,000** | **19,100** |
| 6/8/20-6/30/20* | µg/L | **10,400** | **16,100** | **21.8** | **884,000** | **11,100** | **149** | **327,000** | **954,000** |
| 9/9/20-9/29/20* | µg/L | **16,800** | **15,000** | 7.8 J | **1,140,000** | **5,030** | **162** | **326,000** | **60,300** |
| 11/5/20-11/19/20* | µg/L | **18,100** | **14,200** | **10.6** | **709,000** | **2,750** | **152** | **293,000** | **7,260** |
| 5/26/21-6/18/21* | µg/L | **22,200** | **16,000** | *NS* | **745,000** | **1,130** | **158** | **269,000** | **116,000** |
| 10/4/21-10/18/21* | µg/L | **18,500** | **14,900** | *NS* | *NS* | **694** | **166** | **298,000** | **36,700** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | **22,300** | **12,500** | *NS* | **548,000** | **397** | **239** | **267,000** | **97,500** |
| 9/9/2022-9/15/2022* | µg/L | **24,170** | **11,470** | *NS* | *NS* | **49** | **134** | **205,000** | **22,290** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 5**
**Shallow Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW01-MWS | RW02-MWS | RW03-MWS | RW03R-MWS | RW04-MWS | RW05-MWS | RW06R-MWS | RW07-MWS | RW08-MWS | RW09-MWS | RW11-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | NA | Semiannually | Not Sampled | Semiannually | Annually | Annually | Not Sampled | Not Sampled | Annually |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **2.8** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *NS* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *DNE* | *DNE* | **7.9** | *DNE* | *NS* | *DNE* | *DNE* | **1.8 J** | **3.8** | **22.3** | **0.78 J** |
| 3/28/2017-3/29/2017 | µg/L | *DNE* | *DNE* | **4.7** | *DNE* | *NS* | *DNE* | *DNE* | **1.7 J** | **11** | **17.5** | **1.8 J** |
| 4/25/2017-4/27/2017 | µg/L | *DNE* | *DNE* | **3.2** | *DNE* | *NS* | *DNE* | *DNE* | **1.4 J** | **7.8** | **16.6** | **5.3** |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | **3.9** | *DNE* | *NS* | *DNE* | *DNE* | **1.9 J** | **3.2** | **14.9** | **1.8 J** |
| 6/5/2017-6/8/2017 | µg/L | *DNE* | *DNE* | **4** | *DNE* | **0.7 J** | *DNE* | *DNE* | **2.3 J** | **1.7 J** | **13.9** | **0.94 J** |
| 7/10/2017-7/12/2017 | µg/L | *DNE* | *DNE* | **4.6** | *DNE* | **1.2 J** | *DNE* | *DNE* | **2.8 J** | **0.74 J** | **13.4** | **0.84 J** |
| 8/7/2017-8/10/2017 | µg/L | **1.6 J** | **12** | **5.1** | *DNE* | *3 U* | **4.9** | *DNE* | **3.1** | **2.7 J** | **12.5** | **1.3 J** |
| 9/1/2017-9/8/2017 | µg/L | **1.2 J** | **11.8** | **8.4** | *DNE* | **0.71 J** | **0.37 J** | *DNE* | **3.6** | **2.5 J** | **12.3** | **0.81 J** |
| 10/2/2017-10/6/2017 | µg/L | **1.7 J** | **9.1** | **11** | *DNE* | *3 U* | **1.2 J** | *DNE* | **3.2** | **0.96 J** | **10.6** | *3 U* |
| 11/3/2017-11/13/2017 | µg/L | **21.7** | **7.7** | **8.5** | *DNE* | **1.1 J** | *3 U* | *DNE* | **5.8** | *3 U* | **10.5** | **2.1 J** |
| 12/4/2017-12/8/2017 | µg/L | **98** | *3 U* | **11.4** | *DNE* | **1.1 J** | **8.4** | *DNE* | **6** | *3 U* | **9.2** | **2.9 J** |
| 1/2/2018-1/9/2018 | µg/L | **23.9** | **13.1** | **9.9** | *DNE* | *3 U* | *3 U* | *DNE* | **4.8** | *3 U* | **9.9** | **2.2 J** |
| 4/8/2018-4/13/2018 | µg/L | **7.6** | **16.7** | **11.8** | *DNE* | *3 U* | *3 U* | *DNE* | **4.6** | **2.2 J** | **9.8** | **4.1** |
| 7/30/2018-8/3/2018 | µg/L | **1.6 J** | **5.2** | **10.8** | *DNE* | *3 U* | *3 U* | *3 U* | **4.8** | *3 U* | **13.1** | **66.3** |
| 10/1/2018-10/5/2018 | µg/L | **0.97 J** | **3.4** | **8.7** | *DNE* | *3 U* | *3 U* | *3 U* | **4.7** | *3 U* | **22.3** | **1.2 J** |
| 12/10/2018-12/14/2018* | µg/L | **1.8 J** | **9** | **24** | *DNE* | *3 U* | *3 U* | **0.56 J** | **4.1** | *3 U* | **9.3** | **0.81 J** |
| 3/12/2019-3/19/2019* | µg/L | **2.3 J** | **3.8** | **7.7** | *DNE* | *3 U* | *3 U* | *3 U* | **2.7 J** | **2 J** | **10.2** | **2.2 J** |
| 5/3/2019-6/7/2019* | µg/L | **4.7** | **1.7 J** | **17.9** | *DNE* | *3 U* | *3 U* | *3 U* | **2.9 J** | **0.86 J** | **12** | *1.1 B* |
| 9/10/2019-9/23/2019* | µg/L | **4.3** | **1.1 J** | **16.3** | *DNE* | **0.55 J** | *3.0 U* | *3.0 U* | **3.4** | **0.39 J** | **16.7** | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | *3.9 B* | *0.55 B* | **18.8** | *DNE* | **1.8 J** | *3.0 U* | *3.0 U* | **3.0 J** | *3.0 U* | **14.3** | **1.9 J** |
| 3/11/20-3/23/20* | µg/L | **4.4** | **0.97 J** | **18.8** | *DNE* | **1.7 J** | **0.52 J** | *3 U* | **2.5 J** | **2.7 J** | **16.9** | **2 J** |
| 6/8/20-6/30/20* | µg/L | **1.6 J** | **0.61 J** | **14.5** | *DNE* | **0.99 J** | **0.53 J** | **0.98 J** | **4.5** | **0.67 J** | **15.2** | **2.5 J** |
| 9/9/20-9/29/20* | µg/L | **1.3 J** | **0.43 J** | *NS* | *DNE* | **0.62 J** | *3 U* | **0.69 J** | *NS* | *3 U* | **17** | **2.2 J** |
| 11/5/20-11/19/20* | µg/L | **1.1 J** | **0.58 J** | *NS* | *DNE* | **0.38 J** | *3 U* | **0.9 J** | *NS* | **0.37 J** | **16** | **2 J** |
| 5/26/21-6/18/21* | µg/L | **0.40 J** | *3 U* | *NS* | *DNE* | *NS* | *3 U* | *3 U* | *NS* | *NS* | *NS* | **3.4** |
| 10/4/21-10/18/21* | µg/L | *1 U* | *1 U* | *NS* | *DNE* | *NS* | *1 U* | *NS* | *NS* | *NS* | *NS* | *NS* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *DNE* | *NS* | *NS* | *NS* | **1.7** | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | *2 U* | *2 U* | *DNE* | *DNE* | *NS* | *2 U* | *2 U* | **16.6** | *NS* | *NS* | *2 U* |
| 9/9/2022-9/15/2022* | µg/L | **0.552** | **0.1269 J** | *DNE* | *0.2 U* | *NS* | **0.1181 J** | *NS* | *NS* | *NS* | *NS* | *NS* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 5**
**Shallow Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW12-MWS | RW14-MWS | RW15-MWS | RW16-MWS | RW18-MWS | RW19-MWS | RW21-MWS | RW22R-MWS | RW23-MWS | RW24-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Not Sampled | Not Sampled | Annually | Annually | Not Sampled | Not Sampled | Semiannually | Semiannually | Not Sampled |
| 5/1/2015 | µg/L | **4.4** | *DNE* | *DNE* | *DNE* | **168** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | **3.2** | *DNE* | *DNE* | *DNE* | **31.3** | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **14.8** | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/28/2017-3/29/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **6.9** | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/27/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **8.5** | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *NS* | *DNE* | *DNE* | *DNE* | *NS* | **3.6** | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/8/2017 | µg/L | **29.7** | *DNE* | *DNE* | *DNE* | **356** | **2.4 J** | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/12/2017 | µg/L | **12.6** | *DNE* | *DNE* | *DNE* | **240** | **9.7** | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | **7** | **1,780** | **12.2** | *NS* | **34.9** | **7.2** | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | **5.1** | **1,700** | **29.9** | *3 U* | **156** | **2.6 J** | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/6/2017 | µg/L | **11.3** | **1,750** | **25.3** | *3 U* | **306** | **5.2** | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | **193** | **2,390** | **63** | *3 U* | **208** | **4.4** | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | **4.2** | **2,820** | **55** | *3 U* | **410** | **4.6** | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | **11.7** | **2,800** | **40.7** | *3 U* | **218** | **4.8** | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | **11** | **3,220** | **41.2** | *3 U* | **448** | **6.6** | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | **5.2** | **3,630** | **38.5** | *3 U* | **7.1** | **1.2 J** | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | **2.3 J** | **3,840** | **78.1** | *3 U* | **1.2 J** | **3.6** | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | **15.3** | **3,730** | **94.4** | *3 U* | **1.5 J** | *3 U* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | **6.6** | **2,960** | **15.4** | *3 U* | *3 U* | *3 U* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **2.1 J** | **3,000** | **19.1** | *3 U* | *3 U* | *3 U* | **483** | **157** | *3 U* | *3 U* |
| 9/10/2019-9/23/2019* | µg/L | **3.2** | **3,450** | **7.4** | *3.0 U* | *3.0 U* | *3.0 U* | **354** | **105** | **0.88 J** | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | **2.5 J** | **3,990** | **8.5** | **0.36 J** | **1.9 J** | **1.2 J** | **433** | **70.4** | **1.3 J** | **0.43 J** |
| 3/11/20-3/23/20* | µg/L | *NS* | **3,020** | **4.3** | *3 U* | *3 U* | **0.66 J** | **378** | **62.9** | **0.52 J** | *3 U* |
| 6/8/20-6/30/20* | µg/L | **5.2** | **3,590** | *3 U* | *3 U* | *3 U* | **0.77 J** | **322** | **51.4** | *3 U* | *3 U* |
| 9/9/20-9/29/20* | µg/L | *NS* | **3,240** | **0.51 J** | *3 U* | *3 U* | **4.3** | **294** | **52.1** | *3 U* | *3 U* |
| 11/5/20-11/19/20* | µg/L | *NS* | **3,020** | *3 U* | *3 U* | *3 U* | **1.3 J** | **367** | **30.7** | *3 U* | *3 U* |
| 5/26/21-6/18/21* | µg/L | *NS* | *NS* | *NS* | *3 U* | *3 U* | *NS* | *NS* | **78.5** | *3 U* | *NS* |
| 10/4/21-10/18/21* | µg/L | *1 U* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **117** | *1 U* | *NS* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | *2 U* | *NS* | *NS* | *2 U* | *2 U* | *NS* | *NS* | **29.4** | *2 U* | *NS* |
| 9/9/2022-9/15/2022* | µg/L | **3.048** | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **56.91** | **0.1371** | *NS* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 5**
**Shallow Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW25-MWS | RWA-MWS | RWB-MWS | RWD-MWS | RWE-MWS | RWF-MWS | RWG-MWS | RWH-MWS | RWI-MWS | RWJ-MWS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Not Sampled | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually | Not Sampled | Semiannually | Annually | Semiannually |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/28/2017-3/29/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/27/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/12/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/6/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **491** | **2.3 J** | *3 U* | *3 U* | **0.57 J** | **4.2** | *3 U* | **20** | **714** | *3 U* |
| 9/10/2019-9/23/2019* | µg/L | **599** | **24** | *3.0 U* | *3.0 U* | **0.64 J** | **6.1** | *3.0 U* | **856** | **840** | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | **9.9** | **4.4** | *3.0 U* | *3.0 U* | **2.0 J** | **7.3** | *3.0 U* | **19.9** | **1,080** | *3.0 U* |
| 3/11/20-3/23/20* | µg/L | **2.7 J** | **0.6 J** | *3 U* | *3 U* | **0.91 J** | **7.7** | *3 U* | **163** | **125** | *3 U* |
| 6/8/20-6/30/20* | µg/L | **4.6** | **0.88 J** | *3 U* | **0.46 J** | **1.4 J** | **5.7** | **0.63 J** | **0.97 J** | **17.5** | *3 U* |
| 9/9/20-9/29/20* | µg/L | **7.0** | **2.9 J** | *3 U* | **0.46 J** | **8.7** | **6.0** | *3 U* | **22.4** | *NS* | *3 U* |
| 11/5/20-11/19/20* | µg/L | **8.6** | **1.5 J** | *3 U* | *3 U* | **0.44 J** | **4.6** | *3 U* | **7.0** | *NS* | *3 U* |
| 5/26/21-6/18/21* | µg/L | *NS* | **0.48 J** | *3 U* | *3 U* | **10.9** | **4.0** | *NS* | **9.9** | *NS* | *3 U* |
| 10/4/21-10/18/21* | µg/L | *NS* | *1 U* | *1 U* | *1 U* | **0.55 J** | **3.4** | *NS* | **6.8** | *NS* | **0.22 J** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **0.76 J** | *NS* |
| 2/23/22-3/28/22* | µg/L | *NS* | *2 U* | *2 U* | *2 U* | *2 U* | **4.9** | *NS* | **7.0** | **1,010** | *2 U* |
| 9/9/2022-9/15/2022* | µg/L | *NS* | **3.9** | *0.2 U* | **0.81** | **3.58** | **2.5** | *NS* | **26.3** | *NS* | *0.2 U* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 5**
**Shallow Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RWK-MWS | RWL-MWS | RWM-MWS | RWN-MWS | RWO-MWS | RWQ-MWS | RWR-MWS | RWS-MWS |
|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | Not Sampled | Annually | Semiannually | Semiannually | Semiannually | Semiannually |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/14/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/28/2017-3/29/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/27/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/12/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/6/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | *3 U* | *3 U* | *3 U* | **13,000** | **1.4 J** | **2.6 J** | **50** | *3 U* |
| 9/10/2019-9/23/2019* | µg/L | *3.0 U* | *3.0 U* | *3.0 U* | **11,100** | **1.3 J** | **2.6 J** | **41** | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | *3.0 U* | *3.0 U* | **0.36 J** | **11,200** | **7.6** | **4.4** | **42.3** | *3.0 U* |
| 3/11/20-3/23/20* | µg/L | *3 U* | **0.85 J** | *3 U* | **9,420** | **0.65 J** | **3.1** | **38.8** | *3 U* |
| 6/8/20-6/30/20* | µg/L | *3 U* | **0.52 J** | *3 U* | **6,810** | **0.46 J** | **2.9 J** | **35.5** | **1.9 J** |
| 9/9/20-9/29/20* | µg/L | **0.51 J** | **0.59 J** | *3 U* | **7,350** | **4.1** | **3.3** | **34.3** | **0.42 J** |
| 11/5/20-11/19/20* | µg/L | **0.37 J** | *3 U* | *3 U* | **6,260** | **0.53 J** | **3.2** | **33.8** | **0.39 J** |
| 5/26/21-6/18/21* | µg/L | *3 U* | *3 U* | *NS* | **4,850** | **0.85 J** | **3.4** | **35.1** | *3 U* |
| 10/4/21-10/18/21* | µg/L | *1 U* | **0.37 J** | *NS* | *NS* | *1 U* | **3.1** | **39.3** | *10 U* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | *2 U* | *2 U* | *NS* | **2260** | *2 U* | **3.3** | **28.8** | *2 U* |
| 9/9/2022-9/15/2022* | µg/L | *0.2 U* | **0.141** | *NS* | *NS* | **0.075** | **2.7** | **23.54** | **0.230** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist
*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 6**
**2022 Shallow Field Parameter Data**
**Rod Wire Mill Interim Measures Progress Report**

| | | RW01-MWS | | RW02-MWS | | RW03/03R-MWS | | RW05-MWS | | RW06R-MWS | | RW07-MWS | | RW11-MWS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 6.09 | 6.07 | 6.31 | 6.68 | *DNE* | 11.25 | 6.52 | 6.74 | 10.14 | *NS* | 9.08 | *NS* | 5.53 | *NS* |
| Specific Conductance | ms/cm | 0.928 | 1.178 | 1.54 | 1.602 | *DNE* | 3.516 | 3.21 | 3.545 | 3.29 | *NS* | 5.62 | *NS* | 1.79 | *NS* |
| Dissolved Oxygen | mg/L | NA | 1.16 | NA | 0.11 | *DNE* | 0.12 | NA | 0.2 | 5.92 | *NS* | NA | *NS* | NA | *NS* |
| ORP | mV | -42 | -9.3 | -111 | -120 | *DNE* | -127.6 | 40 | -54.9 | 94 | *NS* | -118 | *NS* | 15 | *NS* |
| Turbidity | NTU | 8.91 | 9.93 | 5.71 | 9.2 | *DNE* | 4.67 | 9.4 | 9.78 | 6.95 | *NS* | 11.54 | *NS* | 6.03 | *NS* |
| Depth To Water | ft | 8.41 | 7.98 | 8.08 | 8.22 | *DNE* | 12.04 | 7.99 | 8.15 | 7.37 | *NS* | 10.12 | *NS* | 9.58 | *NS* |

| | | RW12-MWS | | RW16-MWS | | RW18-MWS | | RW22R-MWS | | RW23-MWS | | RWA-MWS | | RWB-MWS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 5.51 | 6.38 | 10.62 | *NS* | 7.58 | *NS* | 4.2 | 5.42 | 5.17 | 5.94 | 6.63 | 7.56 | 6.06 | 8.45* |
| Specific Conductance | ms/cm | 1.75 | 3.067 | 5.99 | *NS* | 21.4 | *NS* | 2.72 | 3.03 | 0.509 | 0.899 | 3.17 | 2.244 | 1.01 | 1.058* |
| Dissolved Oxygen | mg/L | NA | 0.25 | NA | *NS* | NA | *NS* | NA | 0.29 | NA | 0.2 | NA | 0.07 | NA | 2.45* |
| ORP | mV | 10 | -47.7 | -330 | *NS* | -104 | *NS* | 2 | 85.4 | 88 | 41.9 | -220 | -175.2 | -82 | -31.0* |
| Turbidity | NTU | 9.75 | 7.81 | 6.09 | *NS* | 8.7 | *NS* | 8.8 | 4.99 | 8.1 | 9.11 | 6.72 | 2.43 | 15.4 | 10.7* |
| Depth To Water | ft | 10.51 | 10.56 | 9.19 | *NS* | 8.91 | *NS* | 15.98 | 15.12 | 9.6 | 9.71 | 10.21 | 9.34 | 18.66 | 18.63* |

| | | RWD-MWS | | RWE-MWS | | RWF-MWS | | RWH-MWS | | RWI-MWS | | RWJ-MWS | | RWK-MWS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 4.55 | 6.25 | 7.54 | 6.59 | 4.29 | 4.67 | 5.26 | 7.1 | 6.47 | *NS* | 9.83 | 11.43 | 5.73 | 5.73 |
| Specific Conductance | ms/cm | 0.92 | 1.299 | 4.51 | 1.937 | 6.14 | 6.55 | 0.921 | 0.894 | 3.06 | *NS* | 2.34 | 3.459 | 0.969 | 1.17 |
| Dissolved Oxygen | mg/L | NA | 0.15 | NA | 0.16 | NA | 0.3 | NA | 0.1 | NA | *NS* | NA | 0.04 | NA | 0.28 |
| ORP | mV | -65 | -93.1 | -193 | -53.3 | 213 | 172.9 | -128 | -150.4 | -116 | *NS* | -52 | -197.2 | 34 | 11.2 |
| Turbidity | NTU | 8.9 | 10.21 | 6.93 | 15.2 | 6.11 | 25.1 | 7.7 | 1.68 | 6.32 | *NS* | 7.61 | 1.79 | 9.1 | 3.59 |
| Depth To Water | ft | 13.65 | 12.42 | 12.77 | 12.63 | 13.42 | 11.05 | 10.74 | 10.07 | 10.05 | *NS* | 11.52 | 11.61 | 12.12 | 11.66 |

| | | RWL-MWS | | RWN-MWS | | RWO-MWS | | RWQ-MWS | | RWR-MWS | | RWS-MWS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RWG-MWS** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 5.5 | 5.6 | 5.47 | *NS* | 7.14 | 7.59 | 4.88 | 6.33 | 5.58 | 5.3 | 4.77 | 6.36 |
| Specific Conductance | ms/cm | 1.62 | 0.922 | 2.35 | *NS* | 1.64 | 1.647 | 0.465 | 0.546 | 2.42 | 2.347 | 1.3 | 1.437 |
| Dissolved Oxygen | mg/L | NA | 0.38 | NA | *NS* | NA | 0.3 | NA | 0.05 | NA | 0.17 | NA | 0.14 |
| ORP | mV | -63 | 52.8 | 41 | *NS* | -150 | -251.9 | 65 | 108 | 53 | 84 | -92 | -63.5 |
| Turbidity | NTU | 7.4 | 15 | 9.2 | *NS* | 9.54 | 11.18 | 8.69 | 4.94 | 6 | 10.76 | 6.11 | 6.5 |
| Depth To Water | ft | 11.85 | 11.57 | 12.2 | *NS* | 10.82 | 10.44 | 11.34 | 11.47 | 10.6 | 10.54 | 10.52 | 10.83 |

*Wells RW04-MWS, RW08-MWS, RW09-MWS, RW14-MWS, RW15-MWS, RW19-MWS, RW21-MWS, RW24-MWS, RW25-MWS, RWG-MWS, and RWM-MWS were not sampled during either event.*

**TABLE 7**
**Intermediate Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW01-MWI | RW02-MWI | RW03-MWI | RW03R-MWI | RW05-MWI | RW05R-MWI | RW06-MWI | RW07-MWI | RW08-MWI | RW09-MWI | RW10-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | NA | Semiannually | NA | Semiannually | Semiannually | Semiannually | Annually | Annually | Annually |
| 4/1/2013 | µg/L | DNE | DNE | DNE | DNE | **136** | DNE | **2,970** | DNE | DNE | DNE | DNE |
| 10/1/2013 | µg/L | DNE | DNE | DNE | DNE | **247** | DNE | **4,720** | DNE | DNE | DNE | DNE |
| 6/1/2014 | µg/L | DNE | DNE | DNE | DNE | **2,180** | DNE | **5,480** | DNE | DNE | DNE | DNE |
| 11/1/2014 | µg/L | DNE | DNE | DNE | DNE | **592** | DNE | **7,660** | DNE | DNE | DNE | DNE |
| 5/1/2015 | µg/L | DNE | DNE | DNE | DNE | **1,300** | DNE | **5,090** | DNE | DNE | DNE | DNE |
| 11/1/2015 | µg/L | DNE | DNE | DNE | DNE | NS | DNE | **7,000** | DNE | DNE | DNE | DNE |
| 2/10/2017-2/16/2017 | µg/L | DNE | DNE | **9,740** | DNE | NS | DNE | **1,900** | **944** | **178** | **51,000** | **104,000** |
| 3/27/2017-3/30/2017 | µg/L | DNE | DNE | **9,240** | DNE | NS | DNE | **1,680** | **1,210** | **44.6** | **51,900** | **20.4** |
| 4/25/2017-4/28/2017 | µg/L | DNE | DNE | **7,830** | DNE | NS | DNE | **1,420** | **364** | **85** | **57,500** | **75,800** |
| 5/22/2017-5/24/2017 | µg/L | DNE | DNE | **2,960** | DNE | NS | DNE | **999** | **298** | **188** | **57,200** | **1,150** |
| 6/5/2017-6/9/2017 | µg/L | DNE | DNE | **2,440** | DNE | **374** | DNE | **876** | **432** | **71.9** | **51,900** | **34,600** |
| 7/10/2017-7/13/2017 | µg/L | DNE | DNE | **8,330** | DNE | **1,730** | DNE | **1,690** | **45.7** | **153** | **65,600** | **25,900** |
| 8/7/2017-8/10/2017 | µg/L | **11,600** | **18,200** | **10,900** | DNE | **1,730** | DNE | **1,340** | **62.7** | **49.8** | **55,500** | **79.7** |
| 9/1/2017-9/8/2017 | µg/L | **90** | **203** | **9,340** | DNE | **328** | DNE | **508** | **2,840** | **69.4** | **39,400** | **8,220** |
| 10/2/2017-10/9/2017 | µg/L | **13,700** | **290** | **1,810** | DNE | **349** | DNE | **615** | **23.4** | **16.9** | **49,700** | **31,000** |
| 11/3/2017-11/13/2017 | µg/L | **29** | **38.6** | **1,750** | DNE | **502** | DNE | **909** | **1,650** | **21.5** | **67,900** | **39,000** |
| 12/4/2017-12/8/2017 | µg/L | **41,000** | **186** | **6,270** | DNE | **205** | DNE | **1,360** | **39.8** | **21.4** | **44,500** | **158** |
| 1/2/2018-1/9/2018 | µg/L | **104** | **573** | **12,700** | DNE | **173** | DNE | **1,950** | **70.6** | **108** | **54,700** | **26.5** |
| 4/8/2018-4/13/2018 | µg/L | **576** | **452** | **6,920** | DNE | **402** | DNE | **27,900** | **756** | **1,050** | **38,400** | **13,500** |
| 7/30/2018-8/3/2018 | µg/L | **9,710** | **5,030** | **9,710** | DNE | **282** | DNE | **191** | **26,300** | **2,540** | **54,700** | **17,600** |
| 10/1/2018-10/5/2018 | µg/L | **143** | **3,240** | **13,000** | DNE | **110** | DNE | **90,100** | **12,200** | **256** | **53,800** | **16,600** |
| 12/10/2018-12/14/2018* | µg/L | **3,880** | **25,300** | **14,900** | DNE | **177** | DNE | **99,600** | **86,000** | **11** | **66,600** | **2,520** |
| 3/12/2019-3/19/2019* | µg/L | **2,460** | **21,500** | **6,720** | DNE | **7.5 J** | DNE | **122,000** | **24,200** | 10 U | **57,500** | **591** |
| 5/3/2019-6/7/2019* | µg/L | **5,670** | **56,600** | **13,300** | DNE | Abandoned | **66,800** | **108,000** | **136,000** | 10 U | **64,200** | **5,560** |
| 9/10/2019-9/23/2019* | µg/L | **5,940** | **72,000** | **10,500** | DNE | Abandoned | **71,700** | **122,000** | **48,300** | 11.2 B | **53,300** | **7,730** |
| 12/3/2019-12/11/2019 | µg/L | **2,060** | **17,200** | **16,200** | DNE | Abandoned | **83,400** | **116,000** | **16,600** | **48.9** | **82,000** | **6,020** |
| 3/11/20-3/23/20* | µg/L | **8,120** | **14,100** | **12,900** | DNE | Abandoned | **70,700** | **117,000** | **39,000** | **33.4** | **65,600** | NS |
| 6/8/20-6/30/20* | µg/L | **13,700** | **34,900** | **19,400** | DNE | Abandoned | **76,600** | **94,400** | **400** | **4.5 J** | **77,800** | **940** |
| 9/9/20-9/29/20* | µg/L | **3.7 J** | **123** | Destroyed | DNE | Abandoned | **80,000** | **111,000** | NS | **5.4 J** | **79,100** | **1,090** |
| 11/5/20-11/19/20* | µg/L | **15,200** | **20,200** | Destroyed | DNE | Abandoned | **68,200** | **79.7** | NS | **28.3** | **73,700** | **550** |
| 5/26/21-6/18/21* | µg/L | **26,600** | **104** | Destroyed | DNE | Abandoned | **79,000** | **109,000** | NS | **2.6 J** | **93,600** | **6,130** |
| 10/4/21-10/18/21* | µg/L | **24,000** | **433** | Destroyed | DNE | Abandoned | 200 U | **85,500** | **53,900** | NS | NS | NS |
| 11/29/21-11/30/21* | µg/L | NS | NS | Destroyed | DNE | Abandoned | **50,700** | NS | NS | NS | NS | NS |
| 2/23/22-3/28/22* | µg/L | **37,300** | **751** | Destroyed | DNE | Abandoned | **55,200** | 200 U | **65,300** | 20 U | **63,000** | **7,440** |
| 9/9/2022-9/15/2022* | µg/L | **29,010** | **8,598** | Destroyed | **3,063** | Abandoned | **60,560** | **97,570** | **47,770** | NS | NS | NS |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 7**
**Intermediate Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW11-MWI | RW12-MWI | RW13-MWI | RW15-MWI | RW16-MWI | RW18-MWI | RW19-MWI | RW21-MWI | RW22-MWI | RW22R-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Annually | Semiannually | Annually | Annually | Annually | Annually | Annually | Annually | NA | Semiannually |
| 4/1/2013 | µg/L | **249,000** | **263,000** | *DNE* | *DNE* | *DNE* | **996,000** | *DNE* | *DNE* | *NS* | *DNE* |
| 10/1/2013 | µg/L | **284,000** | **201,000** | *DNE* | *DNE* | *DNE* | **85,400** | *DNE* | *DNE* | *NS* | *DNE* |
| 6/1/2014 | µg/L | **229,000** | **296,000** | *DNE* | *DNE* | *DNE* | **2,220,000** | *DNE* | *DNE* | *NS* | *DNE* |
| 11/1/2014 | µg/L | **250,000** | **295,000** | *DNE* | *DNE* | *DNE* | **1,890,000** | *DNE* | *DNE* | *NS* | *DNE* |
| 5/1/2015 | µg/L | **1,120,000** | **291,000** | *DNE* | *DNE* | *DNE* | **708,000** | *DNE* | *DNE* | *NS* | *DNE* |
| 11/1/2015 | µg/L | *NS* | **387,000** | *DNE* | *DNE* | *DNE* | **576,000** | *DNE* | *DNE* | *NS* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | **368,000** | **249,000** | *DNE* | *DNE* | *DNE* | **728,000** | **5,900,000** | *DNE* | *NS* | *DNE* |
| 3/27/2017-3/30/2017 | µg/L | **301,000** | **216,000** | *DNE* | *DNE* | *DNE* | **592,000** | **4,650,000** | *DNE* | *NS* | *DNE* |
| 4/25/2017-4/28/2017 | µg/L | **288,000** | **188,000** | *DNE* | *DNE* | *DNE* | **633,000** | **7,010,000** | *DNE* | *NS* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | **336,000** | **232,000** | *DNE* | *DNE* | *DNE* | **246,000** | **5,370,000** | *DNE* | *NS* | *DNE* |
| 6/5/2017-6/9/2017 | µg/L | **201,000** | **226,000** | *DNE* | *DNE* | *DNE* | **694,000** | **6,720,000** | *DNE* | **303** | *DNE* |
| 7/10/2017-7/13/2017 | µg/L | **192,000** | **219,000** | *DNE* | *DNE* | *DNE* | **575,000** | **5,330,000** | *DNE* | **103** | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | **147,000** | **156,000** | **308,000** | **3,210** | *DNE* | **290,000** | **3,360,000** | *DNE* | *NS* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | **134,000** | **156,000** | **1,160** | **71.1** | **20,200** | **382,000** | **2,500,000** | *DNE* | **43,000** | *DNE* |
| 10/2/2017-10/9/2017 | µg/L | **111,000** | **150,000** | **204,000** | **295** | **2,000** | **393,000** | **3,670,000** | *DNE* | **16,100** | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | **207,000** | **140,000** | **172,000** | **825** | **441** | **323,000** | **3,400,000** | *DNE* | **3,700** | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | **197,000** | **157,000** | **237** | **1,070** | **19,200** | **369,000** | **3,970,000** | *DNE* | **19,500** | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | **225,000** | **117,000** | **8,600** | **5,540** | **16,200** | **370,000** | **3,840,000** | *DNE* | **27,200** | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | **215,000** | **103,000** | **201,000** | **252** | **11,200** | **396,000** | **4,190,000** | *DNE* | **44,700** | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | **15,700** | **2,410** | **274,000** | **18,600** | **1,230** | **330,000** | **4,880,000** | *DNE* | **73,300** | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | **174,000** | **14,300** | **33.4** | **736** | **320** | **247,000** | **5,880,000** | *DNE* | **47,100** | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | **176,000** | **109,000** | **116** | **6,540** | **6 J** | **318,000** | **7,580,000** | *DNE* | **68,100** | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | **142,000** | **110,000** | **328,000** | **109,000** | **4.7 J** | **822,000** | **3,770,000** | *DNE* | **81,100** | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **121,000** | **111,000** | **97.7** | **16,400** | **4.9 J** | **279,000** | **7,280,000** | **624,000** | *NS* | **1,030** |
| 9/10/2019-9/23/2019* | µg/L | **120,000** | **104,000** | **122** | **168,000** | **13.1** | **640,000** | **3,460,000** | **570,000** | *NS* | **983** |
| 12/3/2019-12/11/2019 | µg/L | **173,000** | **43,500** | **246,000** | **179,000** | **22.7** | **849,000** | **5,690,000** | **539,000** | *NS* | **3,000** |
| 3/11/20-3/23/20* | µg/L | **151,000** | *NS* | **250,000** | **17.9** | **16.2** | **545,000** | **6,050,000** | **648,000** | *Abandoned* | **1,810** |
| 6/8/20-6/30/20* | µg/L | **128,000** | **86,400** | **27** | **5.8 J** | **7.3 J** | **252,000** | **6,450,000** | **470,000** | *Abandoned* | **4,350** |
| 9/9/20-9/29/20* | µg/L | *NS* | *NS* | **296,000** | **3,210** | **63.1** | **753,000** | **6,220,000** | **536,000** | *Abandoned* | **5,340** |
| 11/5/20-11/19/20* | µg/L | **166,000** | *NS* | **19.8** | **137** | **10.2** | **534,000** | **3,930,000** | **562,000** | *Abandoned* | **4,520** |
| 5/26/21-6/18/21* | µg/L | **188,000** | *NS* | **363,000** | **16,400** | **62.4** | **4,380** | **212,000** | **527,000** | *Abandoned* | **7,730** |
| 10/4/21-10/18/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | **9,800** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | *NS* |
| 2/23/22-3/28/22* | µg/L | **141,000** | **81,000** | **435,000** | **49,300** | **120** | **434,000** | **3,090,000** | **5,070,000** | *Abandoned* | **21,700** |
| 9/9/2022-9/15/2022* | µg/L | *NS* | **99,550** | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | **38,920** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 7**
**Intermediate Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW23-MWI | RW24-MWI | RW25-MWI | RWA-MWI | RWB-MWI | RWD-MWI | RWE-MWI | RWF-MWI | RWG-MWI | RWH-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Annually | Annually | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually | Annually | Semiannually |
| 4/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/27/2017-3/30/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/28/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **109,000** | **650,000** | **413,000** | **375,000** | **18** | **36,200** | **112,000** | **41,900** | **332** | **226,000** |
| 9/10/2019-9/23/2019* | µg/L | **125,000** | **635,000** | **7,000** | **349,000** | **29.2** | **41,900** | **109,000** | **42,300** | **291** | **378,000** |
| 12/3/2019-12/11/2019 | µg/L | **111,000** | **538,000** | **462,000** | **396,000** | **47.8** | **52,600** | **118,000** | **58,800** | **362** | **502,000** |
| 3/11/20-3/23/20* | µg/L | **100,000** | **466,000** | **355,000** | **521,000** | **8.9 J** | **50,400** | **102,000** | **90,400** | **411** | **406,000** |
| 6/8/20-6/30/20* | µg/L | **116,000** | **378,000** | **443,000** | **441,000** | **8.4 J** | **59,300** | **114,000** | **108,000** | **465** | **474,000** |
| 9/9/20-9/29/20* | µg/L | **105,000** | **364,000** | **477,000** | **452,000** | **15.2** | **69,300** | **110,000** | **134,000** | **545** | **477,000** |
| 11/5/20-11/19/20* | µg/L | **95,600** | **258,000** | **445,000** | **406,000** | **13.5** | **64,200** | **80,800** | **110,000** | **522** | **618,000** |
| 5/26/21-6/18/21* | µg/L | **124,000** | **292,000** | **338,000** | **468,000** | **13.6** | **81,900** | **102,000** | **133,000** | *NS* | **578,000** |
| 10/4/21-10/18/21* | µg/L | **110,000** | *NS* | *NS* | **328,000** | **19.1 J** | **53,400** | **68,000** | **82,500** | *NS* | **388,000** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | **319** | *NS* |
| 2/23/22-3/28/22* | µg/L | **85,000** | **263,000** | **376,000** | **415,000** | **16.7** | **47,200** | **62,700** | **86,800** | **1,090** | **287,000** |
| 9/9/2022-9/15/2022* | µg/L | **1,113,200** | *NS* | *NS* | **340,500** | **18.9** | **49,020** | **58,890** | **89,070** | *NS* | **328,000** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 7**
**Intermediate Zinc Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RWI-MWI | RWJ-MWI | RWK-MWI | RWL-MWI | RWM-MWI | RWO-MWI | RWP-MWI | RWQ-MWI | RWR-MWI | RWS-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Annually | Semiannually | Semiannually | Semiannually | Annually | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually |
| 4/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/27/2017-3/30/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/28/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **632,000** | **1,580** | **21,100** | **169,000** | **162,000** | **249,000** | **3,210,000** | **357,000** | **2,560,000** | **797,000** |
| 9/10/2019-9/23/2019* | µg/L | **519,000** | **2,150** | **25,100** | **142,000** | **159,000** | **214,000** | **3,570,000** | **270,000** | **3,620,000** | **1,040,000** |
| 12/3/2019-12/11/2019 | µg/L | **554,000** | **3,140** | **21,600** | **124,000** | **152,000** | **204,000** | **3,880,000** | **258,000** | **4,050,000** | **946,000** |
| 3/11/20-3/23/20* | µg/L | **875,000** | **3,430** | **30,300** | **121,000** | **139,000** | **202,000** | **3,860,000** | **312,000** | **814,000** | **1,070,000** |
| 6/8/20-6/30/20* | µg/L | **775,000** | **805** | **21,400** | **96,300** | **128,000** | **223,000** | **3,160,000** | **255,000** | **2,530,000** | **74,300** |
| 9/9/20-9/29/20* | µg/L | *NS* | **744** | **36,800** | **116,000** | **138,000** | **204,000** | **3,810,000** | **280,000** | **1,830,000** | **760,000** |
| 11/5/20-11/19/20* | µg/L | *NS* | **1,060** | **26,500** | **126,000** | **125,000** | **155,000** | **3,520,000** | **257,000** | **996,000** | **919,000** |
| 5/26/21-6/18/21* | µg/L | **542,000** | **1,990** | **34,600** | **110,000** | **150,000** | **208,000** | **3,990,000** | **286,000** | **1,400,000** | **858,000** |
| 10/4/21-10/18/21* | µg/L | *NS* | **2,840** | **23,700** | **97,000** | *NS* | *200 U* | **14,300** | **256,000** | **48,000** | **649,000** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | **1,380** | **526** | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22* | µg/L | **424,000** | **6,330** | **19,600** | **75,200** | **94,900** | **114,000** | **2,530,000** | **221,000** | **599,000** | **633,000** |
| 9/9/2022-9/15/2022* | µg/L | *NS* | **1,325** | **16,940** | **79,440** | *NS* | **180,000** | **2,709,000** | **216,500** | **912,000** | **228,900** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 8**
**Intermediate Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW01-MWI | RW02-MWI | RW03-MWI | RW03R-MWI | RW05-MWI | RW05R-MWI | RW06-MWI | RW07-MWI | RW08-MWI | RW09-MWI | RW10-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Semiannually | NA | Semiannually | NA | Semiannually | Semiannually | Semiannually | Annually | Annually | Annually |
| 4/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **0.75** | *DNE* | **13.1** | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **1.2** | *DNE* | **24.8** | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **4.1** | *DNE* | **63.2** | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **1.8** | *DNE* | **40.9** | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | **13.3** | *DNE* | **27.6** | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *NS* | *DNE* | **41.9** | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | *DNE* | *DNE* | **189** | *DNE* | *NS* | *DNE* | **12.5** | **1.2 J** | **0.49 J** | **3.1** | **446** |
| 3/27/2017-3/30/2017 | µg/L | *DNE* | *DNE* | **196** | *DNE* | *NS* | *DNE* | **9.2** | **4.6** | **0.39 J** | **4** | *3 U* |
| 4/25/2017-4/28/2017 | µg/L | *DNE* | *DNE* | **192** | *DNE* | *NS* | *DNE* | **14** | *3 U* | *3 U* | **5** | **198** |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | **84** | *DNE* | *NS* | *DNE* | **20.4** | **1.1 J** | **1.5 J** | **11.1** | **2.5 J** |
| 6/5/2017-6/9/2017 | µg/L | *DNE* | *DNE* | **37.4** | *DNE* | **1.9 J** | *DNE* | **14.3** | **0.91 J** | **0.48 J** | **8.1** | **27.2** |
| 7/10/2017-7/13/2017 | µg/L | *DNE* | *DNE* | **138** | *DNE* | **17.5** | *DNE* | **10.2** | **1.2 J** | **1.3 J** | **12.9** | **16.3** |
| 8/7/2017-8/10/2017 | µg/L | **194** | **511** | **227** | *DNE* | **19.3** | *DNE* | **10.1** | **1 J** | **0.86 J** | **18.5** | *3 U* |
| 9/1/2017-9/8/2017 | µg/L | **0.51 J** | **3 J** | **214** | *DNE* | **3.7** | *DNE* | **4.5** | **11** | **0.77 J** | **9.1** | **17.7** |
| 10/2/2017-10/9/2017 | µg/L | **145** | **2.4 J** | **20.2** | *DNE* | **4.2** | *DNE* | **4.2** | *3 U* | *3 U* | **12** | **24.6** |
| 11/3/2017-11/13/2017 | µg/L | *3 U* | *3 U* | **25.2** | *DNE* | **4.9** | *DNE* | **5.4** | **5.1** | **0.88 J** | **8.8** | **63.7** |
| 12/4/2017-12/8/2017 | µg/L | **37.5** | **2.3 J** | **154** | *DNE* | **2.7 J** | *DNE* | **7.1** | **1.7 J** | **1.8 J** | **7.7** | *3 U* |
| 1/2/2018-1/9/2018 | µg/L | **2.4 J** | **14.5** | **259** | *DNE* | **2.2 J** | *DNE* | **8.4** | *3 U* | *3 U* | **2.1 J** | *3 U* |
| 4/8/2018-4/13/2018 | µg/L | **16.5** | **3** | **128** | *DNE* | **2.6 J** | *DNE* | **89.2** | **1.3 J** | **6.2** | **1.8 J** | **44.4** |
| 7/30/2018-8/3/2018 | µg/L | **250** | **79.9** | **236** | *DNE* | **1.3 J** | *DNE* | *3 U* | **52.9** | **14.1** | *3 U* | **44.7** |
| 10/1/2018-10/5/2018 | µg/L | *3 U* | **18** | **346** | *DNE* | *3 U* | *DNE* | **629** | **28.7** | **0.92 J** | **3.7** | **10.8** |
| 12/10/2018-12/14/2018* | µg/L | **9.3** | **191** | **342** | *DNE* | **0.76 J** | *DNE* | **752** | **344** | *3 U* | **0.96 J** | *3 U* |
| 3/12/2019-3/19/2019* | µg/L | *3 U* | **98.3** | **213** | *DNE* | *3 U* | *DNE* | **876** | **29.5** | *3 U* | **2 J** | **0.38 J** |
| 5/3/2019-6/7/2019* | µg/L | **19.4** | **785** | **449** | *DNE* | *Abandoned* | **2,570** | **885** | **453** | *3 U* | **3.8** | **0.86 J** |
| 9/10/2019-9/23/2019* | µg/L | **20.6** | **873** | **344** | *DNE* | *Abandoned* | **2,820** | **793** | **48.7** | *3.0 U* | **5.6** | **8.4** |
| 12/3/2019-12/11/2019 | µg/L | **8.8** | **277** | **546** | *DNE* | *Abandoned* | **2,700** | **673** | **38.1** | **0.59 J** | *4.2 B* | **13.9** |
| 3/11/20-3/23/20* | µg/L | **49.3** | **136** | **451** | *DNE* | *Abandoned* | **1,960** | **690** | **36** | *3 U* | **10.6** | *NS* |
| 6/8/20-6/30/20* | µg/L | **117** | **398** | **581** | *DNE* | *Abandoned* | **1,930** | **582** | **1.7 J** | **0.47 J** | **16.5** | **0.67 J** |
| 9/9/20-9/29/20* | µg/L | *3 U* | **0.69 J** | *Destroyed* | *DNE* | *Abandoned* | **1,650** | **530** | *NS* | **0.39 J** | **10.7** | **0.77 J** |
| 11/5/20-11/19/20* | µg/L | **162** | **208** | *Destroyed* | *DNE* | *Abandoned* | **1,790** | **0.66 J** | *NS* | **0.56 J** | **10.3** | **0.55 J** |
| 5/26/21-6/18/21* | µg/L | **277** | **0.58 J** | *Destroyed* | *DNE* | *Abandoned* | **1,570** | **616** | *NS* | **0.38 J** | **16** | **11.1** |
| 10/4/21-10/18/21* | µg/L | **322** | *1 U* | *Destroyed* | *DNE* | *Abandoned* | **1,470** | **604** | **49.1** | *NS* | *NS* | *NS* |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *Destroyed* | *DNE* | *Abandoned* | **16.8** | *NS* | *NS* | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22 | µg/L | **565** | *2 U* | *Destroyed* | *DNE* | *Abandoned* | **1,660** | **626** | **107** | *200 U* | *2 U* | **13.3** |
| 9/9/2022-9/15/2022* | µg/L | **574.1** | **17.42** | *Destroyed* | **9.595** | *Abandoned* | **1,243** | **610.6** | **42.71** | *NS* | *NS* | *NS* |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

## TABLE 8
## Intermediate Cadmium Concentrations
### Rod Wire Mill Interim Measures Progress Report

| Sampling Dates | Units | RW11-MWI | RW12-MWI | RW13-MWI | RW15-MWI | RW16-MWI | RW18-MWI | RW19-MWI | RW21-MWI | RW22-MWI | RW22R-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Annually | Semiannually | Annually | Annually | Annually | Annually | Annually | Annually | NA | Semiannually |
| 4/1/2013 | µg/L | **438** | **4,300** | *DNE* | *DNE* | *DNE* | **73.1** | *DNE* | *DNE* | *NS* | *DNE* |
| 10/1/2013 | µg/L | **903** | **3,500** | *DNE* | *DNE* | *DNE* | **59.4** | *DNE* | *DNE* | *NS* | *DNE* |
| 6/1/2014 | µg/L | **361** | **4,740** | *DNE* | *DNE* | *DNE* | **134** | *DNE* | *DNE* | *NS* | *DNE* |
| 11/1/2014 | µg/L | **405** | **5,090** | *DNE* | *DNE* | *DNE* | **138** | *DNE* | *DNE* | *NS* | *DNE* |
| 5/1/2015 | µg/L | **25,000** | **6,000** | *DNE* | *DNE* | *DNE* | **113** | *DNE* | *DNE* | *NS* | *DNE* |
| 11/1/2015 | µg/L | *NS* | **9,780** | *DNE* | *DNE* | *DNE* | **47.2** | *DNE* | *DNE* | *NS* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | **1,690** | **4,740** | *DNE* | *DNE* | *DNE* | **70.3** | **3,760** | *DNE* | *NS* | *DNE* |
| 3/27/2017-3/30/2017 | µg/L | **1,490** | **3,530** | *DNE* | *DNE* | *DNE* | **63.8** | **3,450** | *DNE* | *NS* | *DNE* |
| 4/25/2017-4/28/2017 | µg/L | **1,800** | **2,730** | *DNE* | *DNE* | *DNE* | **119** | **3,380** | *DNE* | *NS* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | **2,600** | **3,820** | *DNE* | *DNE* | *DNE* | **92** | **2,770** | *DNE* | *NS* | *DNE* |
| 6/5/2017-6/9/2017 | µg/L | **218** | **2,260** | *DNE* | *DNE* | *DNE* | **65.1** | **2,280** | *DNE* | **0.35 J** | *DNE* |
| 7/10/2017-7/13/2017 | µg/L | **518** | **2,730** | *DNE* | *DNE* | *DNE* | **61.7** | **2,550** | *DNE* | *3 U* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | **163** | **2,220** | **31,800** | **10.1** | *DNE* | **74.4** | **1,670** | *DNE* | *NS* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | **274** | **1,820** | **66** | *3 U* | **1.7 J** | **72.2** | **1,320** | *DNE* | **2.3 J** | *DNE* |
| 10/2/2017-10/9/2017 | µg/L | **125** | **1,510** | **28,700** | *3 U* | *3 U* | **43.7** | **1,710** | *DNE* | *3 U* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | **1,460** | **1,380** | **24,500** | *3 U* | *3 U* | **66.6** | **1,770** | *DNE* | **3.8** | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | **1,380** | **1,450** | **44.2** | **0.97 J** | **1.9 J** | **51.5** | **1,710** | *DNE* | **15.2** | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | **1,400** | **1,270** | **1,240** | **1.6 J** | **1.2 J** | **63.5** | **1,880** | *DNE* | **4.1** | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | **1,660** | **121** | **19,400** | *3 U* | **1.1 J** | **55.8** | **1,700** | *DNE* | *3 U* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | **4.7** | **134** | **21,000** | **15.3** | *3 U* | **35.1** | **1,560** | *DNE* | *3 U* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | **133** | **86.3** | **12.6** | *3 U* | *3 U* | **14.5** | **1,610** | *DNE* | *3 U* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | **1,160** | **1,220** | **3.2** | **12.9** | *3 U* | **44.7** | **1,900** | *DNE* | *3 U* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | **98.9** | **768** | **29,200** | **402** | *3 U* | **80.3** | **1,320** | *DNE* | *3 U* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **586** | **1,520** | **51.1** | **64.2** | *3 U* | **38.0** | **2,420** | **50.2** | *NS* | *3 U* |
| 9/10/2019-9/23/2019* | µg/L | **517** | **1,780** | **12.8** | **589** | *3.0 U* | **50.4** | **1,580** | **23** | *NS* | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | **476** | **420** | **22,500** | **605** | **0.36 J** | **87.6** | **1,500** | **33.1** | *NS* | *3.0 U* |
| 3/11/20-3/23/20* | µg/L | **365** | *NS* | **24,700** | **0.5 J** | **0.36 J** | **36.8** | **1,400** | **39.8** | *Abandoned* | *3 U* |
| 6/8/20-6/30/20* | µg/L | **75.1** | **716** | **15.4** | *3 U* | *3 U* | **16** | **3,390** | **34** | *Abandoned* | **2 J** |
| 9/9/20-9/29/20* | µg/L | *NS* | *NS* | **23,900** | **8** | *3 U* | **43.1** | **1,630** | **29.4** | *Abandoned* | **2.4 J** |
| 11/5/20-11/19/20* | µg/L | **179** | *NS* | **6.1** | **0.91 J** | *3 U* | **42.1** | **1,540** | **27.8** | *Abandoned* | **1.6 J** |
| 5/26/21-6/18/21* | µg/L | **175** | *NS* | **26,400** | **43.6** | **0.42 J** | *3 U* | **112** | **34.2** | *Abandoned* | **3.4** |
| 10/4/21-10/18/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | **2.5 J** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | *NS* |
| 2/23/22-3/28/22 | µg/L | **194** | **1,080** | **23,700** | **169** | *2 U* | **31.7** | **109** | **32.7** | *Abandoned* | **3.4** |
| 9/9/2022-9/15/2022* | µg/L | *NS* | **1,396** | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *Abandoned* | **5.722** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 8**
**Intermediate Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RW23-MWI | RW24-MWI | RW25-MWI | RWA-MWI | RWB-MWI | RWD-MWI | RWE-MWI | RWF-MWI | RWG-MWI | RWH-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Semiannually | Annually | Annually | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually | Annually | Semiannually |
| 4/1/2013 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 10/1/2013 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 6/1/2014 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 11/1/2014 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 5/1/2015 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 11/1/2015 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 2/10/2017-2/16/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 3/27/2017-3/30/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 4/25/2017-4/28/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 5/22/2017-5/24/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 6/5/2017-6/9/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 7/10/2017-7/13/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 8/7/2017-8/10/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 9/1/2017-9/8/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 10/2/2017-10/9/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 11/3/2017-11/13/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 12/4/2017-12/8/2017 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 1/2/2018-1/9/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 4/8/2018-4/13/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 7/30/2018-8/3/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 10/1/2018-10/5/2018 | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 12/10/2018-12/14/2018* | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 3/12/2019-3/19/2019* | µg/L | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 5/3/2019-6/7/2019* | µg/L | **2,270** | **1,580** | **507** | **6,830** | 3 U | **395** | **700** | **859** | **23** | **92** |
| 9/10/2019-9/23/2019* | µg/L | **2,800** | **1,540** | **9.9** | **7,740** | 3.0 U | **514** | **656** | **1,020** | **15.4** | **1,380** |
| 12/3/2019-12/11/2019 | µg/L | **2,680** | **1,250** | **622** | **9,020** | 3.0 U | **586** | **707** | **1,340** | **26.0** | **3,580** |
| 3/11/20-3/23/20* | µg/L | **2,600** | **1,190** | **633** | **12,600** | 3 U | **555** | **664** | **2,010** | **38.2** | **3,210** |
| 6/8/20-6/30/20* | µg/L | **2,740** | **1,050** | **652** | **10,200** | 3 U | **515** | **609** | **2,580** | **26.7** | **4,610** |
| 9/9/20-9/29/20* | µg/L | **2,500** | **922** | **708** | **7,630** | **0.59 J** | **541** | **584** | **3,170** | **38.2** | **4,330** |
| 11/5/20-11/19/20* | µg/L | **2,340** | **842** | **703** | **10,100** | 3 U | **596** | **527** | **3,330** | **40.0** | **6,650** |
| 5/26/21-6/18/21* | µg/L | **2,870** | **890** | **626** | **11,700** | **0.34 J** | **713** | **530** | **3,710** | NS | **6,760** |
| 10/4/21-10/18/21* | µg/L | **2,590** | NS | NS | **8,510** | 1 U | **536** | **497** | **2,610** | NS | **4,220** |
| 11/29/21-11/30/21* | µg/L | NS | NS | NS | NS | NS | NS | NS | NS | **1.8** | NS |
| 2/23/22-3/28/22 | µg/L | **2,610** | **1,200** | **926** | **9,840** | 2 U | **567** | **438** | **2,590** | **8.6** | **5,150** |
| 9/9/2022-9/15/2022* | µg/L | **2,844** | NS | NS | **8,587** | **0.062 J** | **487.9** | **398.8** | **2,263** | NS | **2,520** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 8**
**Intermediate Cadmium Concentrations**
**Rod Wire Mill Interim Measures Progress Report**

| Sampling Dates | Units | RWI-MWI | RWJ-MWI | RWK-MWI | RWL-MWI | RWM-MWI | RWO-MWI | RWP-MWI | RWQ-MWI | RWR-MWI | RWS-MWI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2022 Sampling Frequency | | Annually | Semiannually | Semiannually | Semiannually | Annually | Semiannually | Semiannually | Semiannually | Semiannually | Semiannually |
| 4/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2013 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2014 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/1/2015 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 2/10/2017-2/16/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/27/2017-3/30/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/25/2017-4/28/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/22/2017-5/24/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 6/5/2017-6/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/10/2017-7/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 8/7/2017-8/10/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 9/1/2017-9/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/2/2017-10/9/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 11/3/2017-11/13/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/4/2017-12/8/2017 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 1/2/2018-1/9/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 4/8/2018-4/13/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 7/30/2018-8/3/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 10/1/2018-10/5/2018 | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 12/10/2018-12/14/2018* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 3/12/2019-3/19/2019* | µg/L | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* | *DNE* |
| 5/3/2019-6/7/2019* | µg/L | **8,050** | **61.2** | **33.5** | **1,230** | **1,080** | **68** | **2,810** | **26.2** | **440** | *3 U* |
| 9/10/2019-9/23/2019* | µg/L | **8,120** | **11.8** | **56.5** | **1,240** | **1,200** | **72.1** | **6,990** | *3.0 U* | **535** | *3.0 U* |
| 12/3/2019-12/11/2019 | µg/L | **8,270** | **45.7** | **99.5** | **1,280** | **1,230** | **55.4** | **8,910** | **2.9 J** | **650** | **1.6 J** |
| 3/11/20-3/23/20* | µg/L | **13,300** | **30.0** | **89.1** | **1,170** | **1,120** | **54.3** | **5,560** | **1.9 J** | **340** | *3 U* |
| 6/8/20-6/30/20* | µg/L | **10,800** | **2.1 J** | **76.9** | **1,140** | **1,040** | **66.2** | **7,090** | **3.7** | **508** | **0.58 J** |
| 9/9/20-9/29/20* | µg/L | *NS* | **2.3 J** | **79.1** | **1,210** | **1,060** | **57.8** | **7,220** | **4.2** | **425** | **1.8 J** |
| 11/5/20-11/19/20* | µg/L | *NS* | **2.4 J** | **74.4** | **1,160** | **1,120** | **27.9** | **7,700** | **2.9 J** | **398** | **1.7 J** |
| 5/26/21-6/18/21* | µg/L | **6,810** | **31.3** | **97.8** | **1,290** | **1,220** | **35.8** | **8,430** | **6.1** | **367** | **0.86 J** |
| 10/4/21-10/18/21* | µg/L | *NS* | **49.1** | **77.6** | **1,230** | *NS* | **31.4** | **4,370** | **10.6** | **753** | **4.7 J** |
| 11/29/21-11/30/21* | µg/L | *NS* | *NS* | *NS* | *NS* | *NS* | **10.1** | **2.0** | *NS* | *NS* | *NS* |
| 2/23/22-3/28/22 | µg/L | **5,230** | **52.8** | **62.8** | **1,230** | **1,250** | **26.3** | **5,340** | **23.3** | **295** | *20 U* |
| 9/9/2022-9/15/2022* | µg/L | *NS* | **18** | **73** | **819** | *NS* | **27.3** | **6,136** | *2 U* | **340** | **25.7** |

**Bold indicates detection above the reporting limit**
NS = Not Sampled
DNE = Did Not Exist

*Indicates concentrations are for dissolved metals. All other events show total metals.

**TABLE 9**

**2022 Intermediate and Deep Field Parameter Data**

**Rod Wire Mill Interim Measures Progress Report**

| | | RW01-MWI | | RW02-MWI | | RW03/03R-MWI | | RW05-MWI | | RW06R-MWI | | RW06R-MWD | | RW07-MWI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 5.9 | 6.17 | 7.12 | 6.8 | *DNE* | 6.17 | 6.1 | 6.28 | 5.29 | 5.7 | 6.19 | *NS* | 6.05 | 5.79 |
| Specific Conductance | ms/cm | 5.31 | 7.24 | 2.67 | 4.27 | *DNE* | 5.79 | 3.63 | 4.075 | 2.5 | 2.658 | 0.205 | *NS* | 2.77 | 3.321 |
| Dissolved Oxygen | mg/L | NA | 0.67 | NA | 0.12 | *DNE* | 0.24 | NA | 0.2 | NA | 0.22 | 1.1 | *NS* | NA | 0.09 |
| ORP | mV | -103 | -85.2 | -147 | -144.8 | *DNE* | -67.4 | -85 | -87 | 47 | 16 | -42 | *NS* | -56 | -66.8 |
| Turbidity | NTU | 8.1 | 3.24 | 7.71 | 10.4 | *DNE* | 10.3 | 7.82 | 10.8 | 8.99 | 4.73 | 8.6 | *NS* | 18.5 | 10.42 |
| Depth To Water | ft | 8.9 | 8.21 | 8.39 | 8.8 | *DNE* | 12.62 | 11.61 | 11.65 | 10.55 | 10.8 | 11.39 | *NS* | 11.8 | 12.29 |

| | | RW08-MWI | | RW09-MWI | | RW10-MWI | | RW11-MWI | | RW12-MWI | | RW13-MWI | | RW15-MWI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 3.96 | *NS* | 5.9 | *NS* | 5.48 | *NS* | 5.98 | *NS* | 3.41 | 6.38 | 5.96 | *NS* | 6.66 | *NS* |
| Specific Conductance | ms/cm | 1.3 | *NS* | 0.473 | *NS* | 1.44 | *NS* | 1.77 | *NS* | 0.808 | 1.808 | 3.89 | *NS* | 1.61 | *NS* |
| Dissolved Oxygen | mg/L | NA | *NS* | NA | *NS* | 0.64 | *NS* | NA | *NS* | NA | 0.44 | NA | *NS* | NA | *NS* |
| ORP | mV | 27 | *NS* | -53 | *NS* | -62 | *NS* | -47 | *NS* | 66 | -64.5 | -94 | *NS* | -93 | *NS* |
| Turbidity | NTU | 9.11 | *NS* | 8.05 | *NS* | 11 | *NS* | 8.11 | *NS* | 5.41 | 3.5 | 8.09 | *NS* | 8.63 | *NS* |
| Depth To Water | ft | 11.34 | *NS* | 11.92 | *NS* | 12.4 | *NS* | 11.34 | *NS* | 12.51 | 12.28 | 12.96 | *NS* | 12.3 | *NS* |

| | | RW16-MWI | | RW18-MWI | | RW19-MWI | | RW21-MWI | | RW22R-MWI | | RW23-MWI | | RW24-MWI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 7.79 | *NS* | 5.62 | *NS* | 4.97 | *NS* | 3.93 | *NS* | 4.01 | 5.67 | 4.89 | 5.5 | 5.57 | *NS* |
| Specific Conductance | ms/cm | 0.62 | *NS* | 3.43 | *NS* | 0.28 | *NS* | 4.61 | *NS* | 4.55 | 5.66 | 1.42 | 2.689 | 3.26 | *NS* |
| Dissolved Oxygen | mg/L | NA | *NS* | NA | *NS* | NA | *NS* | NA | *NS* | NA | 0.21 | NA | 0.39 | NA | *NS* |
| ORP | mV | -3 | *NS* | -36 | *NS* | -53 | *NS* | -38 | *NS* | -36 | -33.4 | 10 | 9.6 | 3 | *NS* |
| Turbidity | NTU | 8.82 | *NS* | 9.1 | *NS* | 5.62 | *NS* | 7.1 | *NS* | 8.08 | 6.47 | 5.69 | 8.94 | 10.1 | *NS* |
| Depth To Water | ft | 10.84 | *NS* | 12.57 | *NS* | 11.18 | *NS* | 13.94 | *NS* | 16.14 | 15.08 | 13.43 | 13.55 | 11.42 | *NS* |

| | | RW25-MWI | | RWA-MWI | | RWB-MWI | | RWD-MWI | | RWE-MWI | | RWF-MWI | | RWG-MWI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RWG-MWS** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 5.8 | *NS* | 4.27 | 5.01 | 7.36 | 6.05 | 3.59 | 5.33 | 5.38 | 5.59 | 5.94 | 6.16 | 3.16 | *NS* |
| Specific Conductance | ms/cm | 0.486 | *NS* | 3.06 | 2.885 | 1 | 1.143 | 2.4 | 2.748 | 3.07 | 3.587 | 7.03 | 7.17 | 7.52 | *NS* |
| Dissolved Oxygen | mg/L | NA | *NS* | 2.11 | 0.43 | NA | 0.33 | NA | 0.43 | NA | 0.49 | NA | 0.84 | NA | *NS* |
| ORP | mV | 96 | *NS* | 102 | 145.5 | -90 | -45.7 | 58 | 75.3 | -4 | 25.6 | -86 | -86.9 | -53 | *NS* |
| Turbidity | NTU | 8.73 | *NS* | 7.9 | 10.04 | 10.4 | 14.9 | 4.5 | 10.6 | 7.91 | 9.17 | 6.41 | 21.9 | 8.3 | *NS* |
| Depth To Water | ft | 10.86 | *NS* | 10.23 | 9.53 | 19.02 | 18.21 | 14.95 | 13.9 | 13.16 | 12.82 | 12.59 | 10.83 | 9.93 | *NS* |

**TABLE 9**
**2022 Intermediate and Deep Field Parameter Data**
**Rod Wire Mill Interim Measures Progress Report**

| | | RWH-MWI | | RWI-MWI | | RWJ-MWI | | RWK-MWI | | RWL-MWI | | RWM-MWI | | RWO-MWI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RWG-MWS** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 4.31 | 5.92 | 6.15 | *NS* | 6.84 | 7.47 | 6.37 | 6.6 | 5.77 | 6.24 | 5.2 | *NS* | 4.61 | 6.36 |
| Specific Conductance | ms/cm | 3.53 | 3.328 | 2.68 | *NS* | 2.49 | 2.566 | 2.49 | 2.374 | 2.33 | 2.573 | 1 | *NS* | 0.303 | 2.833 |
| Dissolved Oxygen | mg/L | NA | 0.05 | NA | *NS* | NA | 0.02 | NA | 0.1 | NA | 0.29 | NA | *NS* | NA | 0.36 |
| ORP | mV | -65 | -46.8 | 165 | *NS* | -132 | -185.9 | -52 | -77.8 | -3 | -76.3 | -9 | *NS* | 43 | -49.0 |
| Turbidity | NTU | 6.94 | 4.64 | 8.95 | *NS* | 7.14 | 4.97 | 9.26 | 4.72 | 9.92 | 10.3 | 8.5 | *NS* | 7.2 | 2.22 |
| Depth To Water | ft | 11.21 | 10.76 | 12.38 | *NS* | 13.82 | 13.36 | 14.3 | 13.16 | 14.53 | 13.57 | 13.99 | *NS* | 10.65 | 10.43 |

| | | RWP-MWI | | RWQ-MWI | | RWR-MWI | | RWS-MWI | |
|---|---|---|---|---|---|---|---|---|---|
| **RWG-MWS** | **Units** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** | **Mar-22** | **Sep-22** |
| pH | s.u. | 5.2 | 4.71 | 4.37 | 5.54 | 5.36 | 5.55 | 4.4 | 5.5 |
| Specific Conductance | ms/cm | 8.37 | 8.56 | 2.78 | 3.664 | 3.14 | 4.174 | 2.08 | 7.48 |
| Dissolved Oxygen | mg/L | NA | 0.45 | NA | 0.24 | NA | 0.4 | NA | 0.42 |
| ORP | mV | 136 | 184.2 | -41 | -326 | -31 | 34.8 | -28 | -14.3 |
| Turbidity | NTU | 5.92 | 16.5 | 8.68 | 4.71 | 5.9 | 10.31 | 6.15 | 13.7 |
| Depth To Water | ft | 13.44 | 13.16 | 16.05 | 15.57 | 12.7 | 11.95 | 16.58 | 16.13 |

**TABLE 10**
**Statistically Significant Trends**
**Rod Wire Mill 2022 Interim Measure Progress Report**

| Zone | Well ID | Monitoring Area | Parameter Name | Statistical Trend |
|---|---|---|---|---|
| Shallow | RW01-MWS | Perimeter | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW02-MWS | Perimeter | Cadmium | Downward |
| | RW05-MWS | Perimeter | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW07-MWS | Perimeter | Cadmium | Upward |
| | | | Zinc | Upward |
| | RW11-MWS | Interior | Zinc | Upward |
| | RW12-MWS | Interior | Cadmium | Downward |
| | RW16-MWS | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW18-MWS | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWB-MWS | Perimeter | Cadmium | Downward |
| | RWF-MWS | Perimeter | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWJ-MWS | Focused | Cadmium | Downward |
| | RWK-MWS | Focused | Cadmium | Downward |
| | | | Zinc | Upward |
| | RWL-MWS | Focused | Cadmium | Downward |
| | RWN-MWS | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWO-MWS | Delineation | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWR-MWS | Upgradient | Cadmium | Downward |

**TABLE 10**
**Statistically Significant Trends**
**Rod Wire Mill 2022 Interim Measure Progress Report**

| Zone | Well ID | Monitoring Area | Parameter Name | Statistical Trend |
|---|---|---|---|---|
| Intermediate | RW01-MWI | Perimeter | Cadmium | Upward |
| | | | Zinc | Upward |
| | RW05R-MWI | Perimeter | Cadmium | Downward |
| | RW06-MWI | Perimeter | Cadmium | Upward |
| | | | Zinc | Upward |
| | RW07-MWI | Perimeter | Cadmium | Upward |
| | | | Zinc | Upward |
| | RW08-MWI | Perimeter | Zinc | Downward |
| | RW09-MWI | Interior | Zinc | Upward |
| | RW10-MWI | Interior | Cadmium | Downward |
| | RW11-MWI | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW16-MWI | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW18-MWI | Interior | Cadmium | Downward |
| | RW19-MWI | Upgradient | Cadmium | Downward |
| | RW22R-MWI | Perimeter | Cadmium | Upward |
| | | | Zinc | Upward |
| | RW24-MWI | Interior | Cadmium | Downward |
| | | | Zinc | Downward |
| | RW25-MWI | Interior | Cadmium | Upward |
| | RWB-MWI | Perimeter | Cadmium | Downward |
| | RWE-MWI | Perimeter | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWF-MWI | Perimeter | Cadmium | Upward |
| | RWG-MWI | Perimeter | Zinc | Upward |
| | RWH-MWI | Delineation | Cadmium | Upward |
| | RWL-MWI | Focused | Zinc | Downward |
| | RWM-MWI | Interior | Zinc | Downward |
| | RWO-MWI | Delineation | Cadmium | Downward |
| | | | Zinc | Downward |
| | RWQ-MWI | Delineation | Zinc | Downward |
| | RWR-MWI | Upgradient | Zinc | Downward |
| | RWS-MWI | Upgradient | Cadmium | Upward |
| | | | Zinc | Downward |

*Note: Cadmium and zinc in all wells underwent trend testing. If the result of the testing was that no upward or downward trend was identified for a parameter at a particular well, it was not included in this table.*

# TABLE 11
## Average Historical Shallow Zone Concentrations
Rod Wire Mill Interim Measure Progress Report

| Shallow Zone Cadmium Concentration (µg/L) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Group** | **Well** | **2015** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **% Change from Earliest Yearly Average** |
| Upgradient | RW19-MWS | NA | 6.4 | 3.4 | 1.4 | 1.8 | NS | NS | NA |
| Interior | RW09-MWS | NA | 14.0 | 13.0 | 13.3 | 16.3 | NS | NS | NA |
| | RW11-MWS | NA | 1.8 | 15.0 | 1.8 | 2.2 | 3.4 | 1.0 | -45% |
| | RW12-MWS | 3.8 | 37.6 | 9.3 | 3.6 | 5.2 | 0.5 | 3.0 | -20% |
| | RW14-MWS | NA | 2,088 | 3,440 | 3,350 | 3,218 | NS | NS | NA |
| | RW15-MWS | NA | 37.1 | 59.1 | 12.6 | 2.0 | NS | NS | NA |
| | RW16-MWS | NA | 1.5 | 1.5 | 1.2 | 1.5 | 1.5 | 1.0 | -33% |
| | RW18-MWS | 100 | 244 | 137 | 1.6 | 1.5 | 1.5 | 1.0 | -99% |
| Perimeter | RW01-MWS | NA | 24.8 | 7.2 | 3.2 | 2.1 | 0.5 | 0.6 | -98% |
| | RW02-MWS | NA | 8.4 | 9.4 | 2.0 | 0.6 | 1.0 | 0.1 | -99% |
| | RW03-MWS | NA | 6.6 | 12.9 | 15.2 | 16.7 | NS | NS | NA |
| | RW04-MWS | 2.8 | 1.1 | 1.5 | 1.3 | 0.9 | NS | NS | NA |
| | RW05-MWS | NA | 3.3 | 1.5 | 1.5 | 1.0 | 1.0 | 0.1 | -97% |
| | RW06R-MWS | NA | NA | 1.2 | 1.5 | 1.0 | 1.5 | 1.0 | -14% |
| | RW07-MWS | NA | 3.1 | 4.6 | 3.0 | 3.5 | 1.7 | 16.6 | 443% |
| | RW08-MWS | NA | 3.4 | 1.4 | 1.2 | 1.3 | NS | NS | NA |

| Shallow Zone Zinc Concentration (µg/L) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Group** | **Well** | **2015** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **% Change from Earliest Yearly Average** |
| Upgradient | RW19-MWS | NA | 6,082 | 8,226 | 3,190 | 9,200 | NS | NS | NA |
| Interior | RW09-MWS | NA | 10,982 | 9,856 | 16,400 | 33,125 | NS | NS | NA |
| | RW11-MWS | NA | 12,933 | 46,100 | 33,475 | 41,975 | 61,000 | 13,500 | 4% |
| | RW12-MWS | 2,608 | 38,761 | 6,516 | 3,086 | 4,660 | 4,960 | 17,100 | 556% |
| | RW14-MWS | NA | 38,340 | 69,380 | 70,825 | 62,375 | NS | NS | NA |
| | RW15-MWS | NA | 3,737 | 4,002 | 424 | 30 | NS | NS | NA |
| | RW16-MWS | NA | 32 | 26.6 | 35.2 | 9.0 | 3.0 | 10.0 | -69% |
| | RW18-MWS | 3,691 | 13,503 | 7,648 | 17.3 | 8.6 | 20.1 | 100.0 | -97% |
| Perimeter | RW01-MWS | NA | 11,632 | 32,460 | 14,875 | 6,800 | 4,640 | 8,853 | -24% |
| | RW02-MWS | NA | 3,308 | 9,146 | 15,749 | 3,360 | 238 | 21,902 | 562% |
| | RW03-MWS | NA | 13,958 | 27,920 | 16,668 | 17,800 | NS | NS | NA |
| | RW04-MWS | 2,330 | 145 | 180 | 239 | 62 | NS | NS | NA |
| | RW05-MWS | NA | 1,617 | 34.3 | 14.2 | 7.4 | 12.4 | 35.7 | -98% |
| | RW06R-MWS | NA | NA | 9.9 | 8.8 | 9.1 | 5.0 | 10.0 | 1% |
| | RW07-MWS | NA | 131 | 230 | 149 | 172 | 298 | 406.0 | 209% |
| | RW08-MWS | NA | 3,436 | 7,320 | 7,125 | 6,558 | NS | NS | NA |

Positive % change
Negative % change
NA = Not Applicable
NS = Not Sampled

# TABLE 12
## Average Historical Intermediate Zone Concentrations
Rod Wire Mill Interim Measure Progress Report

| Average Cadmium Concentration (µg/L) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Group** | **Well** | **2015** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **% Change from Earliest Yearly Average** |
| Upgradient | RW19-MWI | NA | 2,397 | 1,748 | 1,705 | 1,990 | 112 | 109 | -95% |
| Interior | RW09-MWI | NA | 9.1 | 2.0 | 3.2 | 12.0 | 16.0 | 1 | -89% |
| | RW10-MWI | NA | 72.8 | 20.6 | 5.9 | 0.7 | 11.1 | 13 | -82% |
| | RW11-MWI | 25,000 | 1,065 | 872 | 419 | 206 | 175 | 194 | -99% |
| | RW12-MWI | 7,890 | 2,563 | 578 | 1,122 | 716 | NS | 1,238 | -84% |
| | RW13-MWI | 44,500 | 17,022 | 8,334 | 12,941 | 12,155 | 26,400 | 23,700 | -47% |
| | RW15-MWI | NA | 3.1 | 6.8 | 415 | 2.7 | 43.6 | 169 | 5327% |
| | RW16-MWI | NA | 1.7 | 1.4 | 1.2 | 1.2 | 0.42 | 1 | -39% |
| | RW18-MWI | 80.1 | 70.9 | 79.8 | 64.1 | 34.5 | 1.5 | 32 | -60% |
| Perimeter | RW01-MWI | NA | 75.7 | 59.2 | 12.6 | 82.5 | 299.5 | 570 | 652% |
| | RW02-MWI | NA | 104 | 59.5 | 508 | 186 | 1 | 9 | -91% |
| | RW03-MWI | NA | 134 | 285 | 388 | 516 | NS | 9.6 | -93% |
| | RW06-MWI | 34.8 | 10.2 | 292 | 807 | 451 | 610 | 618 | 1679% |
| | RW07-MWI | NA | 2.8 | 93.9 | 142 | 18.9 | 49.1 | 74.9 | 2573% |
| | RW08-MWI | NA | 1.0 | 4.8 | 1.3 | 0.7 | 0.38 | 1.0 | -4% |

| Average Zinc Concentration (µg/L) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Group** | **Well** | **2015** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **% Change from Earliest Yearly Average** |
| Upgradient | RW19-MWI | NA | 4,716,364 | 5,278,000 | 5,050,000 | 5,662,500 | 212,000 | 3,090,000 | -34% |
| Interior | RW09-MWI | NA | 53,827 | 52,740 | 64,250 | 74,050 | 93,600 | 63,000 | 17% |
| | RW10-MWI | NA | 29,084 | 10,143 | 4,975 | 860 | 6,130 | 7,440 | -74% |
| | RW11-MWI | 1,120,000 | 225,636 | 158,940 | 139,000 | 148,333 | 188,000 | 141,000 | -87% |
| | RW12-MWI | 339,000 | 189,909 | 68,142 | 92,125 | 86,400 | NS | 90,275 | -73% |
| | RW13-MWI | 658,000 | 137,079 | 96,762 | 143,555 | 136,512 | 363,000 | 435,000 | -34% |
| | RW15-MWI | NA | 1,094 | 6,374 | 118,100 | 843 | 16,400 | 49,300 | 4405% |
| | RW16-MWI | NA | 10,460 | 5,861 | 11.4 | 29.8 | 62.4 | 120 | -99% |
| | RW18-MWI | 642,000 | 475,000 | 332,400 | 647,500 | 521,000 | 4,380 | 434,000 | -32% |
| Perimeter | RW01-MWI | NA | 13,284 | 3,107 | 4,033 | 9,256 | 25,300 | 33,155 | 150% |
| | RW02-MWI | NA | 3,784 | 6,839 | 41,825 | 17,331 | 269 | 4,675 | 24% |
| | RW03-MWI | NA | 6,419 | 10,866 | 11,680 | 16,150 | NS | 3,063 | -52% |
| | RW06-MWI | 6,045 | 1,209 | 43,988 | 117,000 | 80,620 | 97,250 | 48,835 | 708% |
| | RW07-MWI | NA | 719 | 25,985 | 56,275 | 19,700 | 53,900 | 65,300 | 8981% |
| | RW08-MWI | NA | 81.8 | 800 | 16.0 | 17.9 | 2.6 | 10 | -88% |

Positive % change
Negative % change
NA = Not Applicable
NS = Not Sampled

The RW13-MWI concentrations for 2015 are actually results for a sample from RW-057-PZ, a PDI piezometer existing in November 2015 at a location within a few feet of the current location of RW13-MWI.