



January 31, 2014

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1650 Arch Street
Philadelphia, PA 19103-2029

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Blvd
Baltimore, Maryland 21230

**Subject: Interim Measures 2013 Annual Report
Former Sludge Bin Storage Area, Rod & Wire Mill**

Dear Mr. Fan and Ms. Brown:

Enclosed please find an annual progress report that summarizes activities conducted in 2013 for the interim corrective action measures at the former Rod & Wire Mill Sludge Bin Storage Area of Sparrows Point. Tasks were completed for the groundwater pump and treat Interim Measure including the following:

- Maintaining institutional controls at the former in situ leaching area,
- Groundwater treatment system monitoring, operation and maintenance,
- Semi-annual groundwater elevation monitoring, and
- Semi-annual sampling and analysis of groundwater;

Please contact me at (314) 686-5611 should questions arise during your review of the enclosed progress report.

Sincerely,

Russell Becker
Vice President, Remediation

Enclosure

Interim Measures 2013 Annual Report Former Sludge Bin Storage Area Rod and Wire Mill Area

Prepared for:


Sparrows Point LLC

1428 Sparrows Point Boulevard
Sparrows Point Maryland 21219



January 2014

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1.0 EXECUTIVE SUMMARY

Tasks were completed for the groundwater pump and treat Interim Measure at the former Rod & Wire Mill Sludge Bin Storage Area at Sparrows Point during 2013 in accordance with the scope and schedule submitted in the July 2000 Work Plan for Re- Establishment of Interim Measures, Former Sludge Bin Storage Area, Rod & Wire Mill that was approved by U. S. EPA on November 3, 2000. The interim measure tasks included:

- Maintaining institutional controls at the former in situ leaching area,
- Groundwater treatment system monitoring, operation and maintenance,
- Semi-annual groundwater elevation monitoring, and
- Semi-annual sampling and analysis of groundwater;

Specifics of the interim measures tasks completed in 2013 are as follows:

- Institutional controls were maintained at the former sludge bin storage area to minimize and manage activities that could disturb soils at the site. These controls consist of notice sign boundary markers and continuation of an authorization program to conduct work in the area.
- Operation and maintenance of the groundwater recovery wells, transfer pipeline and treatment process equipment located at the Humphreys Creek Wastewater Treatment Plant.
- Evaluation of the Interim Measure, including documentation of groundwater treatment flow, review of semi-annual groundwater elevation data, review of groundwater monitoring data and effectiveness of the Interim Measure.
- Semi-annual sampling, analysis and evaluation of the groundwater impacted by former operations at the sludge bin storage area.

A total of 2,538,611 gallons of water were extracted from the two Former Sludge Bin Storage Area groundwater pumping wells (RW15-PZM020 and RW10-PZM020) during 2013. This compares to 2,981,417 gallons extracted in 2012. The average total pumping rate for 2013 was 6,955 gallons per day (gpd), or 4.8 gallons per minute (gpm). A total of 113 pounds (lbs) of cadmium and 3646 pounds (lbs) of zinc were removed and treated during 2013. This compares to 183 lbs of cadmium and 6,442 lbs of zinc removed in 2012. The decrease in mass removal of cadmium and zinc in 2013 as compared to 2012 is due to the decrease in the concentration of the metals in pumping wells RW15-PZM020 and RW10-PZM020 and the volume of water pumped from both wells in 2013.

Recovery of intermediate zone groundwater (approximately 20 to 30 feet below the ground surface) at the average annual 2013 pumping rate of 1.88 gallons per minute (gpm) for recovery well RW10-PZM020 and 2.96 gpm for recovery well RW15-PZM020 demonstrated a radius of influence that effectively controlled groundwater movement of the intermediate zone plume.

The groundwater elevation data for the shallow zone (groundwater table surface to 15 feet below this surface), combined with the chemistry data, document a water table situation where contamination migration is effectively controlled in this groundwater zone.

Groundwater elevation data for the deeper groundwater zone (greater than 50 feet in depth) suggest that heads in this zone may not be influenced by the pump and treat system; however, the chemistry data indicate that this zone is minimally impacted.

Cadmium – Cadmium concentrations in the two pumping wells (RW10-PZM020 and RW15-PZM020) exhibited generally similar to slightly lower concentrations as observed in recent prior years. Cadmium concentrations were also similar to prior years at most of the non-pumping wells.

Zinc – Zinc concentrations for 2013 in the two pumping wells (RW10-PZM020 and RW15-PZM020) showed lower concentrations as observed in recent prior years. This trend will be monitored during 2014. Zinc concentrations were also similar to slightly lower as compared to prior years at most of the non-pumping wells, TS04-PZM023 had noted lower concentrations in 2013. An exception is noted for well RW18- PZM047 which showed an increase in concentration in the 4th quarter of 2013. This trend will be monitored in 2014 as well.

The Proposed Operating Plan for 2014 is to: maintain institutional controls at the former storage area, continue operation, maintenance, and monitoring of the groundwater pump and treat system, and complete semi-annual monitoring of groundwater consistent with procedures outlined in the approved July 2000 Work Plan and as modified in this report.

2.0 FORMER ROD AND WIRE MILL INTERIM MEASURES

This section summarizes the Interim Measures that are currently underway at the former Rod and Wire Mill Sludge Bin Storage Area:

- Institutional controls for soils have been established to provide a “Restricted Work Area” to control the exposure of on-site workers to soils in the Former Sludge Bin Storage Area.
- A groundwater monitoring network has been installed including the use of 32 wells for monitoring the performance of the groundwater pump and treat system. This monitoring network (excluding well TS04-PZM007 destroyed in 2003) was to be used to collect water level and groundwater quality data.
- A groundwater pump and treat system is operated and maintained consisting of two intermediate depth zone recovery wells (RW10-PZM020 and RW15-PZM020) that are pumped at a rate of between 5.0 and 12.0 gallons per minute (gpm) during operation. The expected normal operating rate for the treatment plant was set at a combined rate of 8.0 to 12.0 gpm with a maximum design flow of 25 gpm. Recovered groundwater is transported via a pipeline to the Humphreys Creek Wastewater Treatment Plant (HCWWTP) for subsequent treatment and discharge in accordance with the NPDES permit requirements for the facility.

3.0 MONITORING RESULTS FOR 2013

3.1 Groundwater Pump and Treat System Evaluation

The groundwater pump and treat system was evaluated with regard to: 1) the water levels measured in the various water bearing zones, and 2) the effectiveness of this system with respect to the mass of cadmium and zinc removed from groundwater.

3.1.1 Semi-Annual Water Level Monitoring

Groundwater-level measurements were manually measured semi-annually (April/May and October 2013) in all existing monitoring wells. A summary of the April/May water level measurements (depth to water and water elevation) is presented in Table 3-1; the locations of the monitoring wells are shown on Figure 3-1.

The groundwater elevation data are graphically presented as groundwater elevation contour maps in Figures 3-2 through 3-4. Figures 3-2, 3-3 and 3-4 represent the 2nd quarter (April/May) 2013 data for the shallow, intermediate and deep water bearing zones. The intermediate water bearing zone is pumped and is therefore also referred to as the intermediate pumping zone. The shallow water bearing zone (water table) includes piezometers screened to depths of approximately 15-feet below ground surface; the intermediate water bearing zone includes piezometers screened from approximately 20- to 30-foot depths; and the deep water bearing zone is defined as those piezometers screened from approximately 50- to 75-feet below ground surface. The water level results for each of these zones are discussed below.

Shallow Water Table Zone

Figure 3-2 presents the groundwater elevation contour map for the shallow water table zone, corresponding to the April/May 2013 time period when the underlying zone (intermediate pumping zone) was being pumped.

The data for the shallow groundwater zone exhibit higher groundwater elevations at wells located just to the north of the former Rod and Wire Mill structure and a slight mounding in this area. This characteristic may be indicative of localized increased infiltration in this area. Groundwater flow from this mounded area in the shallow zone is inferred to be moving radially towards the northwest and northeast. West of RW09-PZM004 inferred shallow zone groundwater movement is westward. The groundwater chemistry data (see Section 3.2 chemistry discussion) reveal that elevated zinc and cadmium concentrations in shallow groundwater are primarily associated with the area east of RW09-PZM004 and, thus, are associated with shallow groundwater flow that is away from Bear Creek. At the western edge of the monitored shallow zone (near TS04-PDM004) shallow groundwater is

inferred to be flowing toward Bear Creek. However, at this location and in nearby near-shore wells RW19- PZP000 and RW20-PZP000 both the cadmium and zinc concentrations in shallow groundwater are predominantly trace or non-detect (see Section 3.2 chemistry discussion).

Intermediate Pumping Zone

Figures 3-3 presents groundwater elevations within the intermediate pumping zone during the April/May 2013 time period. The data indicates significant drawdown surrounding the two pumping wells (RW15-PZM020 and RW10-PZM020) that comprise the groundwater recovery system. This system is maintaining a broad zone of influence extending from the pumping wells for a distance of at least 300 feet. This zone of influence is somewhat elongated and more extensive in an east to west direction. Contrary to previous years, the zone of influence is somewhat limited to the west of well RW15-PZM-020. This trend may be due to an outage of the pumping system in prior months to replace equipment and will be monitored in 2014. The zone of influence extends beyond the eastern edge of the former Rod and Wire Mill to the east.

Deep Zone

Figure 3-4 presents the groundwater elevation contour map for the deep water bearing zone, corresponding to the April/May 2013 time period when the overlying zone (intermediate pumping zone) was being pumped. The data indicates a northwesterly decrease in water levels, inferring north to northwestward groundwater flow within the deep water bearing zone. Pumping the intermediate zone does not appear to affect the deep water bearing zone.

3.1.2 Evaluation of Pump and Treat System Effectiveness

A total of 2,538,611 gallons of water were extracted from the Former Rod and Wire Mill Area pumping wells and treated at the HCWWTP during 2013. The average pumping rate for the pump and treat system was 6,955 gpd, or 4.8 gpm. Average annual pumping rates of approximately 2.96 gpm were achieved in recovery well RW15-PZM020 and 1.88 gpm in RW10-PZM020. These pumping rates appear to effectively capture the most impacted groundwater beneath the Former Sludge Bin Storage Area, as revealed by Figures 3-3 discussed above.

Daily pumping records for the groundwater pump and treat system from January through December 2013 are provided in Appendix A. A summary of isolated operational outages which occurred in 2013 is provided in Appendix B. Overall, the groundwater treatment system operated as intended.

A total of 113 pounds (lbs) of cadmium and 3646 pounds (lbs) of zinc were removed and treated during 2013. This compares to 183 lbs of cadmium and 6,442 lbs of zinc removed in 2012. The decrease in mass removal of cadmium and zinc in 2013 as compared to 2012 is due to the decrease in the concentration of the metals in pumping wells RW15-PZM020 and RW10-PZM020 and the volume of water pumped from both wells in 2013.

- Treated water volume (gal):
 - RW10-PZM020: 985,416 (2013); 1,481,883 (2012)
 - RW15-PZM020: 1,553,208 (2013); 1,499,534 (2012)

- Average Cadmium and Zinc Concentrations:
 - RW10-PZM020:
 - Cd: 11.75 ppm (2013) 12 ppm (2012)
 - Zn: 373 ppm (2013) 470 ppm (2012)

 - RW15-PZM020:
 - Cd: 1.0 ppm (2013) 3.3 ppm (2012)
 - Zn: 44 ppm (2013) 51 ppm (2012)

- Treated mass (lbs):
 - RW10-PZM020:
 - Cd: 99 (2013); 142 (2012)
 - Zn: 3073 (2013); 5,805(2012)

 - RW15-PZM020:
 - Cd: 12 (2013); 41 (2012)
 - Zn: 573 (2013); 637 (2012)

The pump and treat system is removing significant amounts of cadmium and zinc from groundwater within the intermediate water bearing zone at the current pumping rates, and it is controlling groundwater flow and associated cadmium and zinc migration within the shallow zone and the intermediate water bearing zone.

3.2 Groundwater Chemistry Data

Groundwater chemistry data were collected on a semi-annual basis during the 2nd and 4th quarters. The sampling occurred during the following months of 2012:

- April/May 2013 and
- October 2013

Tables 3-2 and 3-3 present the 2013 data collected for the groundwater wells from 2013 for total cadmium and zinc, respectively. The tables also show semi-annual data from 2001 through 2012. The locations of the wells are shown in Figure 3-1. A comparison of the 2013 data with data from previous years indicates the following:

Cadmium – Cadmium concentrations in the two pumping wells (RW10-PZM020 and RW15-PZM020) have generally declined as compared to concentrations observed in recent prior years. At most of the non-pumping wells the 2013 cadmium concentrations are also similar or have slightly declined as compared to prior years. The exception noted in 2012 at RW06-PZM001 where the 2012 4th quarter cadmium concentration (25 mg/l) was unreasonably higher than historically has been observed was not repeated in 2013. Cadmium was measured at 10 mg/L and 6.4 mg/L in the 2nd and 4th quarter of 2013 respectively for this monitoring well. The deeper groundwater continued to show no impacts from overlying cadmium contamination in the shallow and intermediate groundwater zones.

Zinc – Zinc concentrations in the two pumping wells (RW10-PZM020 and RW15-PZM020) have generally declined as compared to concentrations observed in recent prior years. At most of the non- pumping wells the 2013 zinc concentrations are similar or have also declined as compared to prior years. Outliers include an increasing trend of zinc concentration in well RW17-PZM019, a 4th quarter zinc concentration of 8.95 mg/L in well RW18-PZM047 that is significantly higher than has been observed in the most recent years but is in the range observed historically and a significant decreasing trend in zinc concentration in well RW02-PZM020. These trends and the single well higher concentration result will be monitored going forward.

The analytical results from the most recent sampling event (4th quarter 2013) are depicted in plan view at the well locations in Figures 3-5 through 3-10. These figures indicate that the highest cadmium and zinc concentrations are in monitoring wells located near and east-northeast of pumping well RW10-PZM020.

4.0 PROPOSED OPERATING PLAN FOR 2014

The Proposed Operating Plan for 2014 includes the following requirements:

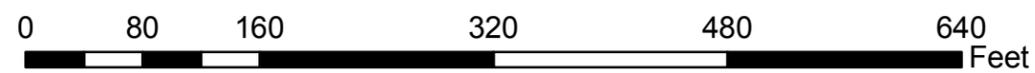
- Operation, maintenance and monitoring of the groundwater pump and treat system on a year round basis;
- Semi-annual monitoring of groundwater quality, including sampling and analysis for total cadmium and zinc from 31 monitoring wells; and
- Semi-annual groundwater level measurements and evaluation of groundwater flow characteristics;

Thirty-one wells in the monitoring network are proposed to be used to collect bi-annual groundwater samples for analysis of cadmium and zinc in 2014. Sampling and analysis will be performed at 14 shallow wells, 13 intermediate wells, and 4 deep wells located in the general area of the former Sludge Bin Storage Area. Sampling, analysis, and data validation will be performed in accordance with the November 1999 DCQAP. Water-level measurements will be collected semi-annually in conjunction with the sampling and analysis program. The routine bi-annual water level measurements will be performed manually in all 31 wells in the monitoring network.

FIGURES



Former Rod & Wire Mill Area
 Location of Groundwater Monitoring Wells



1 inch = 125 feet

Legend

-  Monitoring Wells Shallow Zone
-  Monitoring Wells Deep Zone
-  Monitoring Wells Intermediate Zone

Figure 3.1



Former Rod & Wire Mill Area
 Shallow Zone Groundwaer Elevation Contour Map

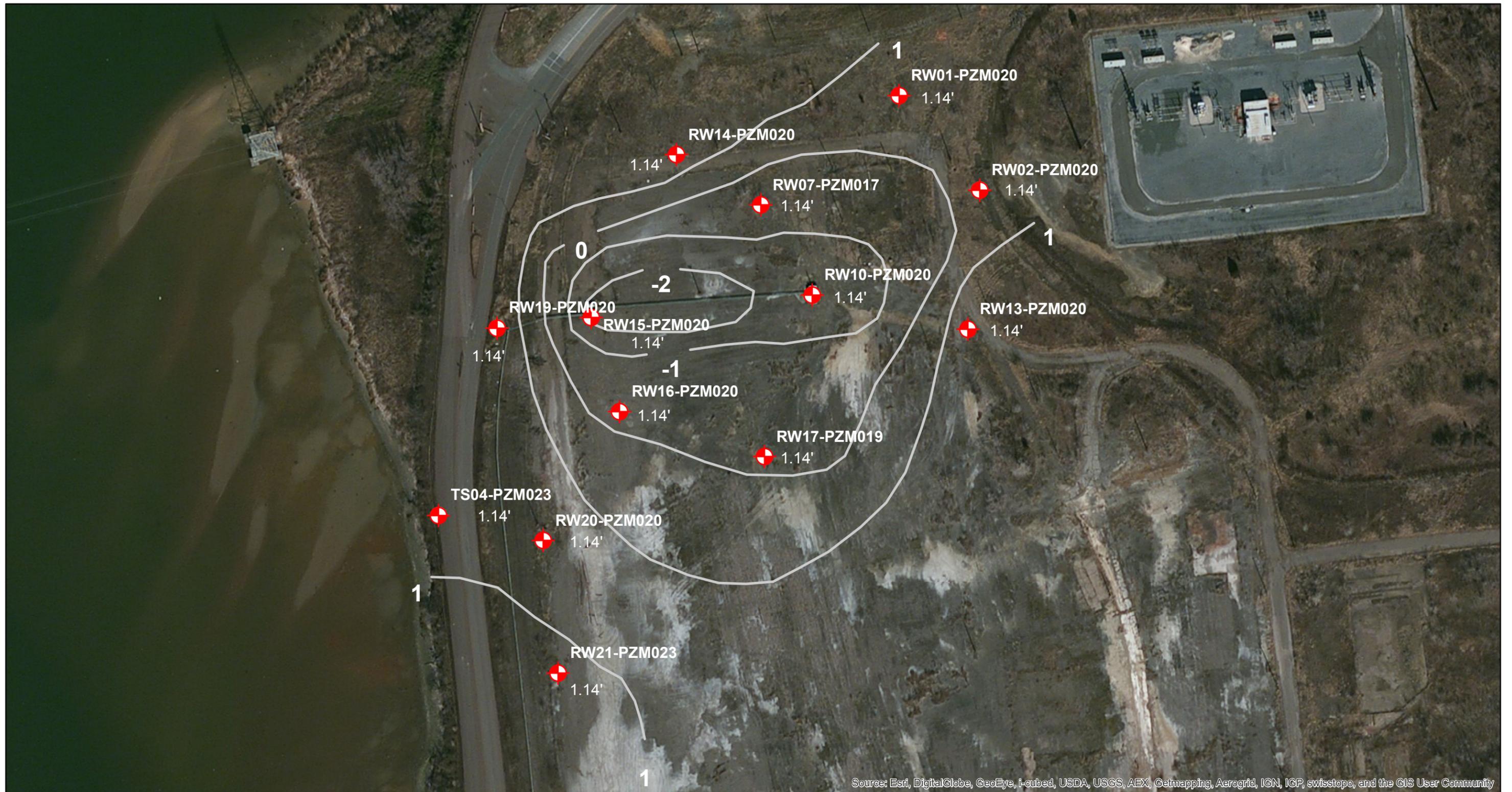
Water Levels Recorded 4/30/2013 & 5/1/2013



1 inch = 94 feet

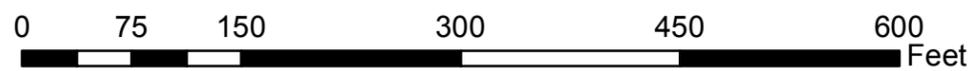
Legend

- Monitoring Wells Shallow
- Groundwater Elevation Contours Shallow Zone
- Groundwater Elevation Contours Shallow Zone Extrapolated



Former Rod & Wire Mill Area
Intermediate Zone Groundwater Elevation Contour Map

Water Levels Recorded 4/30/2013 & 5/1/2013

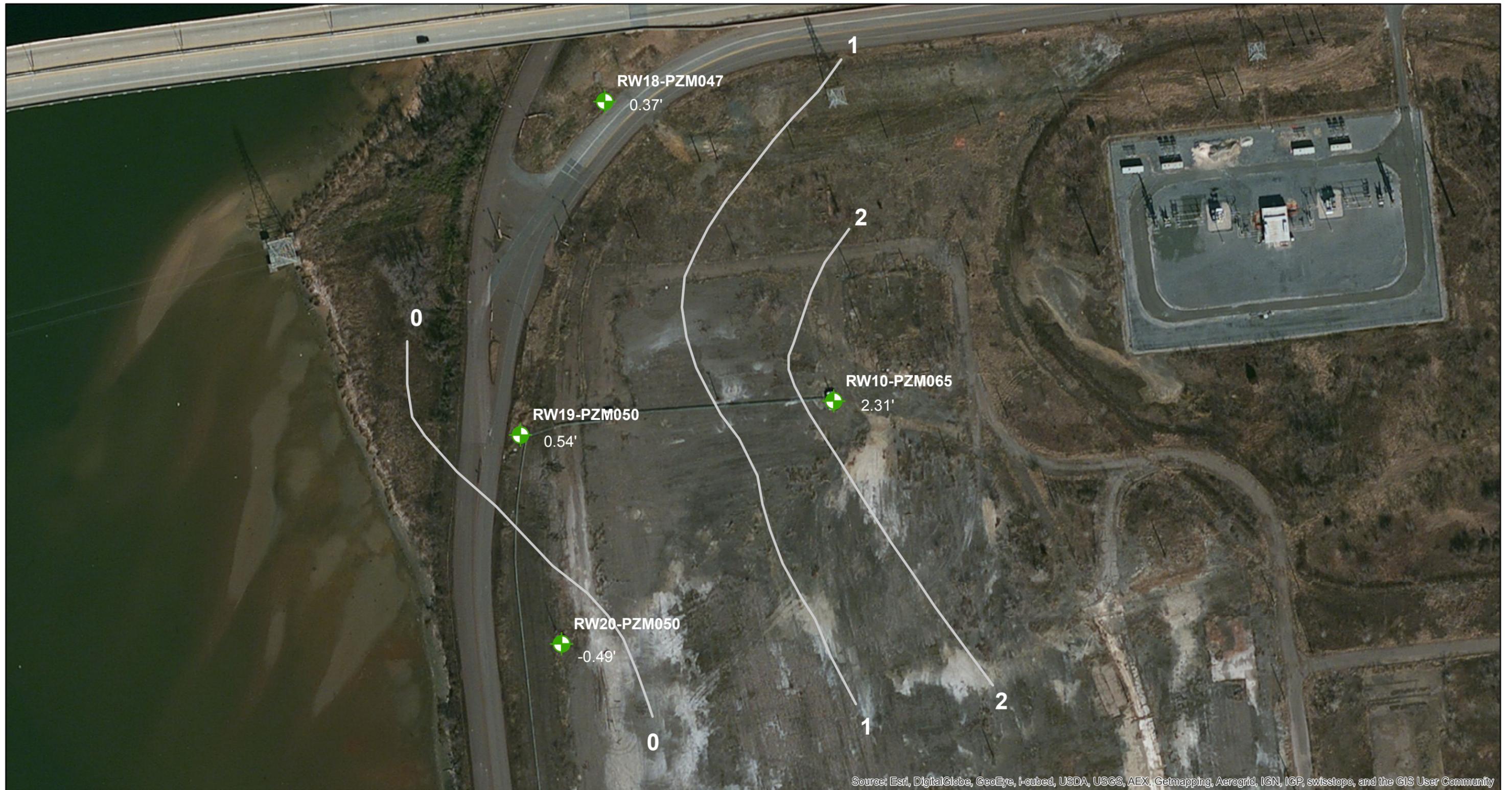


Legend

-  Monitoring Wells Intermediate
-  GW Elevation Contours Intermediate Zone

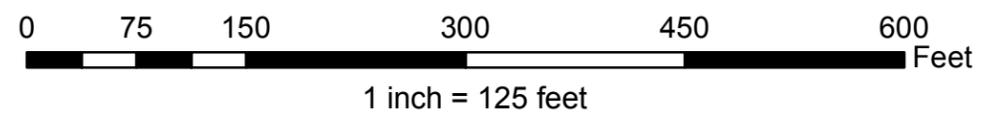


Figure 3.3



**Former Rod & Wire Mill Area
Deep Zone Groundwater Elevation Contour Map**

Water Levels Recorded 4/30/2013 & 5/1/2013



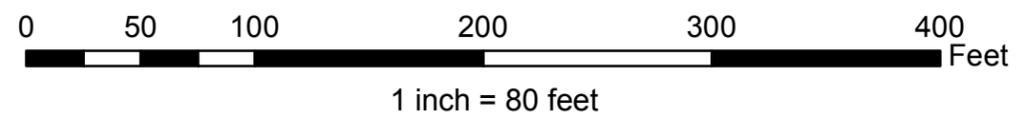
Legend

-  Monitoring Wells Deep
-  GW Elevation Contours Deep Zone



Former Rod & Wire Mill Area Cadmium Detections - Shallow Zone

Wells Sampled 10/23/2013 & 10/24/2013



Legend

-  Monitoring Wells Shallow Zone
- ND - Not Detected
- NS - Not Sampled

Figure 3.5



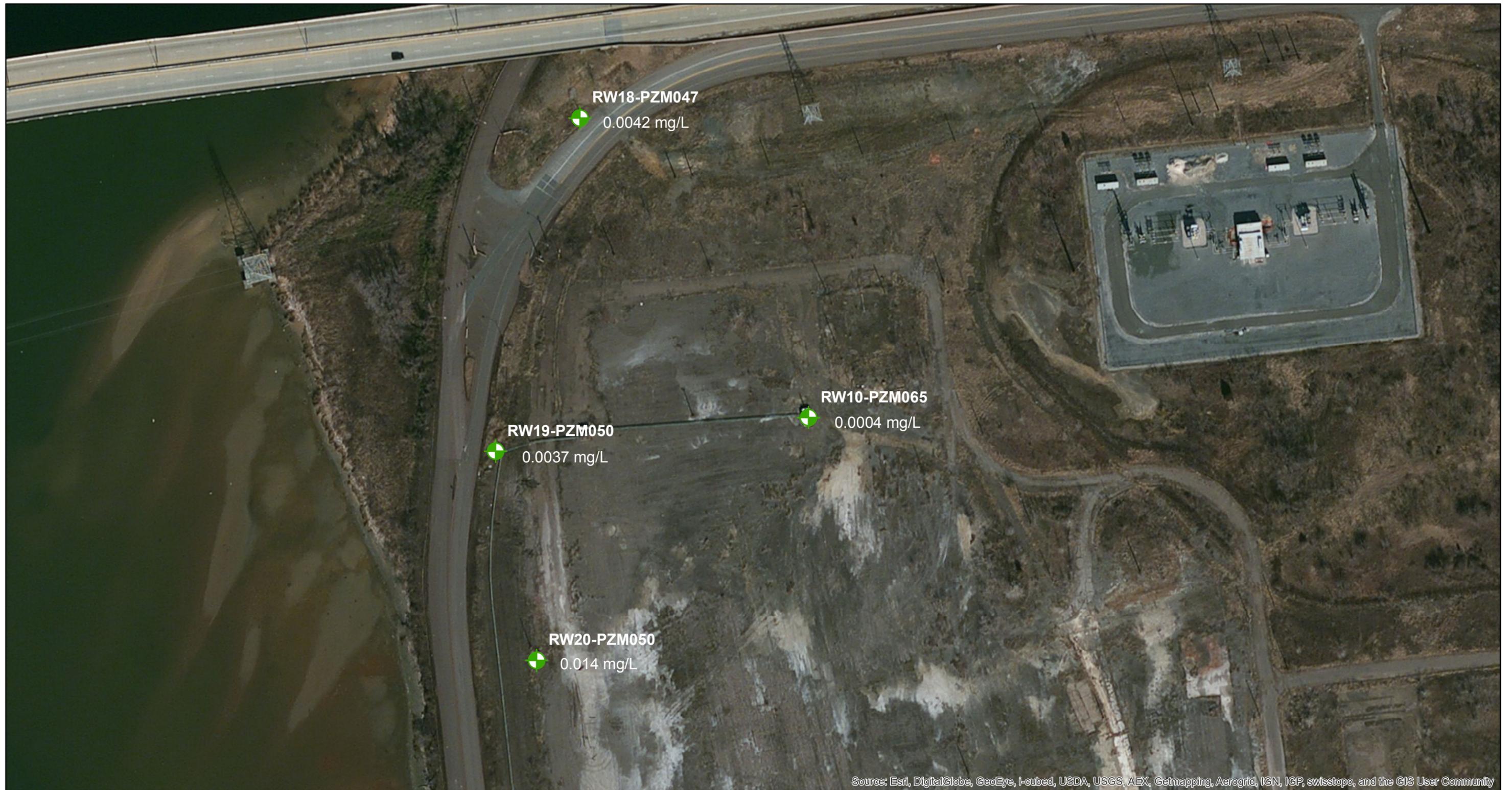
Former Rod & Wire Mill Area
Cadmium Detections - Intermediate Zone

Wells Sampled 10/23/2013 & 10/24/2013

Legend

 Monitoring Wells Intermediate Zone





Former Rod & Wire Mill Area
Cadmium Detections - Deep Zone

Wells Sampled 10/23/2013 & 10/24/2013



1 inch = 125 feet

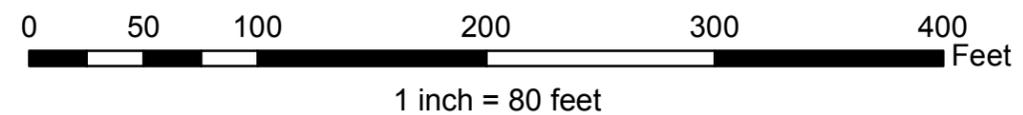
Legend

 Monitoring Wells Deep Zone



Former Rod & Wire Mill Area Zinc Detections - Shallow Zone

Wells Sampled 10/23/2013 & 10/24/2013



Legend

-  Monitoring Wells Shallow Zone
- ND - Not Detected
- NS - Not Sampled

Figure 3.8

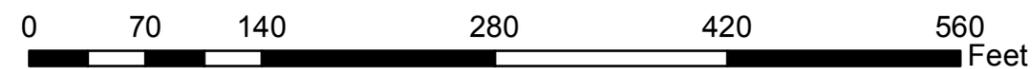


Former Rod & Wire Mill Area
Zinc Detections - Intermediate Zone

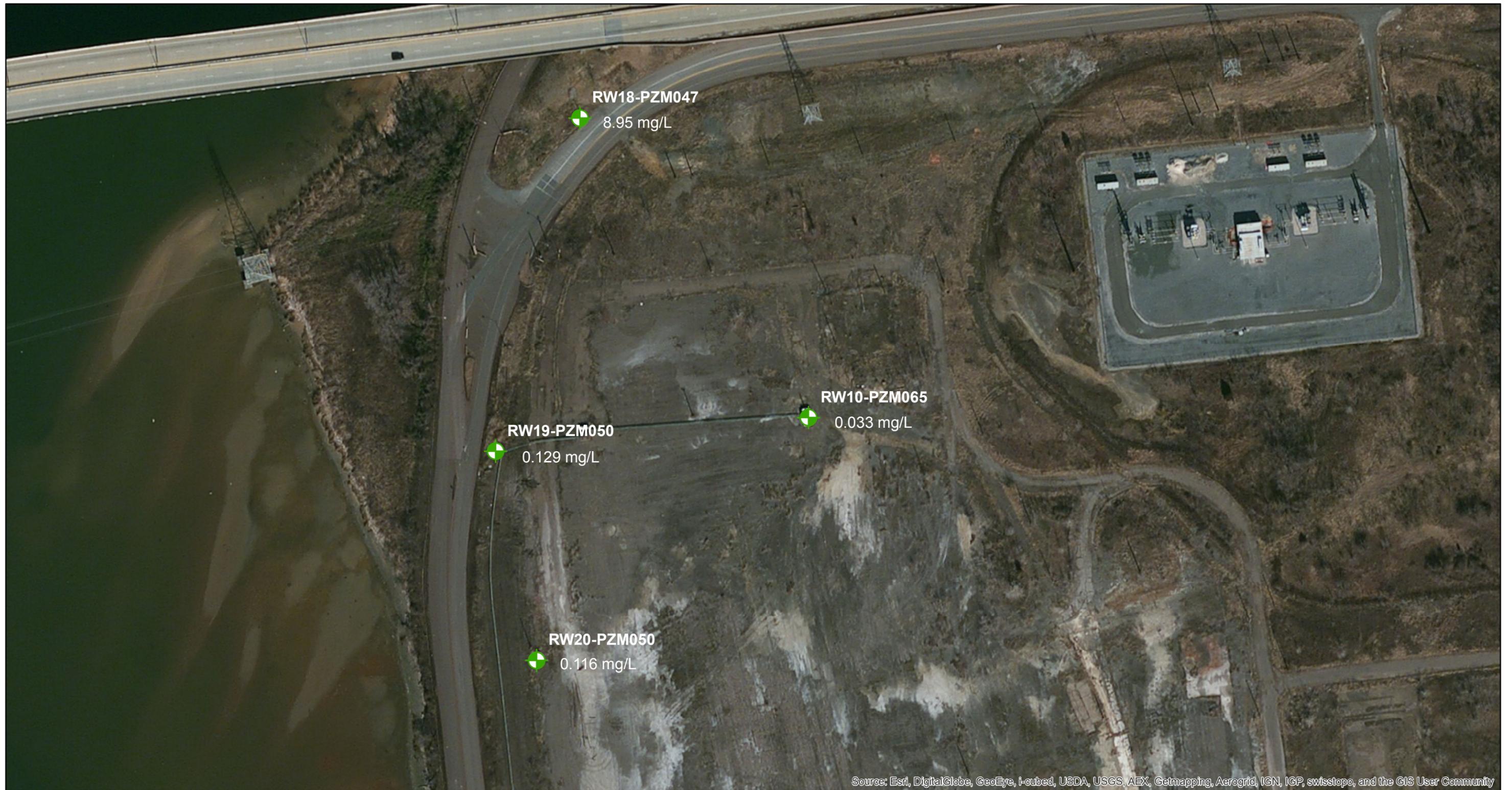
Wells Sampled 10/23/2013 & 10/24/2013

Legend

 Monitoring Wells Intermediate Zone

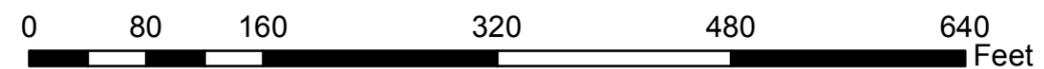


1 inch = 110 feet



Former Rod & Wire Mill Area
Zinc Detections - Deep Zone

Wells Sampled 10/23/2013 & 10/24/2013



1 inch = 125 feet

Legend

Monitoring Wells Deep Zone

TABLES

Table 3-1

2013 Water Level Elevation Data

Well Number	Top of Casing Elevation (ft)	Date		
		Date	Depth to Water	Water Level Elevation (ft)
RW01-PZM020	12.72	05/01/2013	12.60	0.12
RW02-PZM000	12.37	05/01/2013	3.32	9.05
RW02-PZM020	13.00	05/01/2013	12.88	0.12
RW03-PZM003	10.83	05/01/2013	3.08	7.75
RW04-PZM003	11.09	05/01/2013	4.19	6.90
RW05-PZP001	11.04	05/01/2013	5.38	NM
RW06-PZM001	12.17	05/01/2013	4.31	7.86
RW07-PZM004	15.27	05/01/2013	6.30	8.97
RW07-PZM017	12.95	05/01/2013	13.00	-0.05
RW08-PZM003	11.35	05/01/2013	3.62	7.73
RW09-PZM004	15.22	05/01/2013	5.18	10.04
RW10-PZM004	12.34	05/01/2013	1.95	10.39
RW10-PZM020	12.46	05/01/2013	13.65	-1.19
RW10-PZM065	12.34	05/01/2013	10.03	2.31
RW11-PZM004	15.35	05/01/2013	5.23	10.12
RW12-PZM004	15.37	05/01/2013	6.26	9.11
RW13-PZM020	14.62	05/01/2013	13.03	1.59
RW14-PZM020	15.15	05/01/2013	13.60	1.55
RW15-PZM020	12.70	05/01/2013	14.73	-2.03
RW16-PZM020	13.84	04/30/2013	13.92	-0.08
RW17-PZM019	13.67	04/30/2013	13.75	-0.08
RW18-PZM047	15.68	04/30/2013	15.31	0.37
RW19-PZM020	13.49	04/30/2013	11.55	1.94
RW19-PZM050	12.99	04/30/2013	12.45	0.54
RW19-PZP000	13.49	04/30/2013	9.04	4.45
RW20-PZM020	13.47	04/30/2013	12.20	1.27
RW20-PZM050	13.03	04/30/2013	13.52	-0.49
RW20-PZP000	12.82	04/30/2013	4.38	8.44
RW21-PZM023	12.91	04/30/2013	12.85	0.06
TS04-PDM004	13.71	04/30/2013	10.6	NM
TS04-PPM007*	10.22	04/30/2013		NM
TS04-PZM023	10.09	04/30/2013	8.95	1.14

NM- No Measurement

* Microbac report indicates well was destroyed in 2003, possibly by a plow.

Table 3-1

2013 Water Level Elevation Data

Well Number	Top of Casing Elevation (ft)			
		Date	Depth to Water	Water Level Elevation (ft)
RW01-PZM020	12.72	10/23/2013	12.60	0.12
RW02-PZM000	12.37	10/23/2013	3.65	8.72
RW02-PZM020	13.00	10/23/2013	13.50	-0.50
RW03-PZM003	10.83	10/23/2013	3.10	7.73
RW04-PZM003	11.09	10/23/2013	3.90	7.19
RW05-PZP001	11.04	10/23/2013	5.29	5.75
RW06-PZM001	12.17	10/23/2013	4.80	7.37
RW07-PZM004	15.27	10/23/2013	6.92	8.35
RW07-PZM017	12.95	10/23/2013	NM	NM
RW08-PZM003	11.35	10/23/2013	4.21	7.14
RW09-PZM004	15.22	10/23/2013	5.78	9.44
RW10-PZM004	12.34	10/27/2013	2.15	10.19
RW10-PZM020	12.46	10/23/2013	NM	NM
RW10-PZM065	12.34	10/23/2013	10.21	2.13
RW11-PZM004	15.35	10/24/2013	6.57	8.78
RW12-PZM004	15.37	10/23/2013	7.04	8.33
RW13-PZM020	14.62	10/23/2013	13.80	0.82
RW14-PZM020	15.15	10/23/2013	14.33	0.82
RW15-PZM020	12.70	10/24/2013	14.47	-1.77
RW16-PZM020	13.84	10/24/2013	14.64	-0.80
RW17-PZM019	13.67	10/24/2013	14.64	-0.97
RW18-PZM047	15.68	10/24/2013	15.62	0.06
RW19-PZM020	13.49	10/24/2013	14.23	-0.74
RW19-PZM050	12.99		??	#VALUE!
RW19-PZP000	13.49	10/24/2013	4.00	9.49
RW20-PZM020	13.47	10/24/2013	14.32	-0.85
RW20-PZM050	13.03	10/24/2013	12.23	0.80
RW20-PZP000	12.82	10/24/2013	4.28	8.54
RW21-PZM023	12.91	10/24/2013	13.65	-0.74
TS04-PDM004	13.71	10/24/2013	10.48	3.23
TS04-PPM007*	10.22	NM	NM	NM
TS04-PZM023	10.09	10/24/2013	11.30	-1.21

NM- No Measurement

* Microbac report indicates well was destroyed in 2003, possibly by a plow.

Table 3-2 Summary of Cadmium Monitoring Data for 2012 and Comparison with Prior Years

New Well Designation	Former Well Designation	2008		2009		2010		2011		2012		2013		UNITS
		2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	
RW02-PZM000	RW-3	0.057	0.30	0.17	0.15	0.11	0.033	0.11	0.11	0.11	0.31	0.141	0.025	mg/L
RW03-PZM003	RW-92	0.21	0.30	0.28	0.05	0.50	0.012	3.6	1.6	6.4	3.9	3.160	3.35	mg/L
RW04-PZM003	RW-91	0.69	0.18	0.38	0.20	0.65	0.72	0.78	0.64	0.61	0.69	1.080	0.906	mg/L
RW05-PZP001	RW-96	0.11	0.069	0.028	0.013	0.092	0.042	0.032	0.049	NS	NS	0.069	0.032	mg/L
RW06-PZM001	RW 94	1.5	16	3	1.5	1.4	24 (a)	2.3	1.7	4.9	25 (a)	10.0	6.4	mg/L
RW07-PZM004	RW-7	0.005	0.018	0.035	0.075	0.0059	0.035	<0.00050	<0.00050	<0.00050	0.00095	0.003	0.001	mg/L
RW08-PZM003	RW-88	19	20	21	18	18	18	21	16	22	6	20.7	12.3	mg/L
RW09-PZM004	New Well "X"	0.0003	0.0011	0.00079	0.00099	<0.00050	0.00084	0.00052	<0.00050	0.00068	<0.00050	0.0004	0.0008	mg/L
RW10-PZM004	RW-26	0.0003	0.0032	0.00098	0.0005	<0.00050	<0.00050	<0.00050	11	0.0013	<0.00050	0.0001	0.0001	mg/L
RW11-PZM004	New Well "Y"	19	41	16	35	22	23	20	25	35	NS	28.5	30.2	mg/L
RW12-PZM004	New Well "Z"	0.069	0.11	0.05	0.044	0.090	0.11	0.38	0.21	1.30	1.60	1.27	2.47	mg/L
RW19-PZP000		0.0005	0.00085	0.0033	0.0033	<0.00050	<0.00050	0.001	<0.00050	0.0017	<0.00050	<0.00001	<0.00001	mg/L
RW20-PZP000	RW-8	0.0003	0.025	0.0014	0.0013	<0.00050	<0.00050	<0.00050	<0.00050	0.0010	<0.00050	0.00064	0.0002	mg/L
TS04-PDM004	TS-04-PD	0.00057	0.0016	0.0028	0.0014	0.00085	0.0013	<0.00050	<0.00050	<0.00050	<0.00050	0.00034	0.00033	mg/L
TS04-PPM007	TS-04-PP	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	mg/L
RW01-PZM020	RW-1	0.32	0.36	0.37	0.13	0.20	0.061	0.4	0.27	0.22	0.30	0.054	0.064	mg/L
RW02-PZM020	RW-2	0.093	0.35	0.30	0.10	0.021	0.068	0.13	0.17	0.12	0.12	0.073	0.059	mg/L
RW07-PZM017	RW-6	15	14	7.0	6.5	3.6	10	8.9	10	5.1	7	4.30	3.50	mg/L
RW10-PZM020	RW-27	10	8.9	10.0	9.8	8.6	10	10	10	13	10	13.0	10.5	mg/L
RW13-PZM020	RW-4	0.0003	0.0091	0.0110	0.0085	0.0032	0.0027	0.00062	0.0093	<0.00050	<0.00050	0.0047	0.050	mg/L
RW14-PZM020	New Well "A"	1.3	1.0	0.42	0.83	0.90	0.69	0.57	0.54	0.45	0.43	0.438	0.903	mg/L
RW15-PZM020	RW-24R	1.6	1.4	1.6	1.3	0.33	1.1	1	0.96	5.5	1.10	1.16	0.96	mg/L
RW16-PZM020	New Well "B"	0.005	0.027	0.022	0.011	0.0065	0.055	<0.00050	0.0016	1.3	0.11	1.42	1.40	mg/L
RW17-PZM019	New Well "C"	5.8	4.5	5.6	5.7	6.1	6.1	6.2	5.7	6.4	5.0	7.43	8.57	mg/L
RW19-PZM020	RW-12	0.094	0.11	0.11	0.13	0.061	0.096	<0.00050	0.029	0.011	0.013	0.013	0.024	mg/L
RW20-PZM020	RW-9B	0.005	0.046	0.019	0.0011	0.0026	<0.0050	<0.00050	0.0031	0.013	0.0038	0.048	0.011	mg/L
RW21-PZM023	RW-32	1.9	1.9	1.8	1.7	1.7	1.8	3.9	1.8	1.8	1.9	1.26	1.22	mg/L
TS04-PZM023	New Well "D"	0.19	0.17	0.13	0.28	0.39	0.31	0.25	0.015	0.0072	0.006	0.0008	0.001	mg/L
RW10-PZM065	RW-28	0.0003	0.0031	0.0025	0.0028	<0.00050	<0.00050	<0.00050	10	0.0013	<0.00050	0.0002	0.0004	mg/L
RW18-PZM047	RW-22	0.005	0.0051	0.0037	0.0024	0.0037	0.0034	0.0022	0.00079	<0.00050	<0.00050	0.0002	0.0042	mg/L
RW19-PZM050	RW-13	0.002	0.0016	0.0061	0.014	0.0044	0.0041	0.0027	0.0034	0.0017	<0.00050	0.00063	0.0037	mg/L
RW20-PZM050	RW-10	0.0003	0.0019	0.0050	0.022	0.029	<0.00050	0.001	<0.00050	0.0013	0.0012	0.00027	0.014	mg/L

Table 3-3 Summary of Zinc Monitoring Data for 2012 and Comparison with Prior Years

New Well Designation	Former Well Designation	2001		2002		2003		2004		2005		2006		2007		Unit
		1st Q	3rd Q	1st Q	3rd Q	1st Q	3rd Q	1st Q	3rd Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	Unit
<i>Shallow (Water Table) Monitoring Wells</i>																
RW02-PZM000	RW-3	18	29	26	13	14	3.7	12	13	16	17	5.1	0.97	20	1.1	mg/L
RW03-PZM003	RW-92	250	240	160	170	250	200	240	190	210	150	170	37	170	120	mg/L
RW04-PZM003	RW-91	12	9.3	7.1	6.2	12	13	14	16	13	13	6.3	13	9.5	10	mg/L
RW05-PZP001	RW-96	0.82	6.1	3.4	3.7	1.2	0.56	1.8	5.2	0.87	3.9	3.0	1.3	2.9	0.64	mg/L
RW06-PZM001	RW-94	19	14	15	21	17	25	20	39	23.0	47	26	15	32	19	mg/L
RW07-PZM004	RW-7	Note 2	1.1	2.9	8.7	3.5	3.2	1.5	2	0.31	0.94	9.1	4.0	13	3.9	mg/L
RW08-PZM003	RW-88	870	850	820	660	750	610	700	590	650	460	460	420	420	560	mg/L
RW09-PZM004	New Well "X"	Note 1	2.8	8.5	1.9	5.1	3.2	2.0	4.3	0.043	0.07	0.040	0.042	0.039	0.04	mg/L
RW10-PZM004	RW-26	5.9	5.5	6.1	0.41	0.54	0.62	0.33	0.55	0.02	0.18	0.032	0.18	0.045	0.07	mg/L
RW11-PZM004	New Well "Y"	Note 1	1300	2800	3200	3500	3500	1900	2300	1400	2800	2700	2000	1800	2800	mg/L
RW12-PZM004	New Well "Z"	Note 1	92	21	14	64	190	150	220	200	220	130	5.9	93	180	mg/L
RW19-PZP000	RW-8		0.088	0.038	0.025	0.067	0.14	0.053	0.064	0.022	0.027	0.020	0.046	0.02	0.02	mg/L
RW20-PZP000	RW20-PZP000		0.044	0.046	0.036	0.01	0.081	0.040	0.13	0.01	0.02	0.02	0.025	0.023	0.03	mg/L
TS04-PDM004	TS04-PDM004		5.5	15	1.6	3.8	8.2	4.3	14	0.240	15	0.31	0.17	0.24	0.05	mg/L
TS04-PPM007	TS04-PPM007		0.35	0.072	0.037	NS	mg/L									
<i>Intermediate (Sand 2) Monitoring Wells</i>																
RW01-PZM020	RW-1	330	27	89	150	140	74	58	110	170	140	100	160	100	150	mg/L
RW02-PZM020	RW-2	2200	48	13	2500	2800	3100	3300	3300	3200	2800	2700	2700	45	2900	mg/L
RW07-PZM017	RW-6	480	430	780	770	700	540	440	580	430	530	600	590	520	570	mg/L
RW10-PZM020	RW-27	410	600	480	580	540	630	550	630	690	210	560	600	580	520	mg/L
RW13-PZM020	RW-4	Note 2	120	15	3.4	3.2	0.16	0.12	0.16	0.059	0.081	0.030	0.048	0.037	0.07	mg/L
RW14-PZM020	New Well "A"	Note 1	390	480	370	490	450	440	440	440	340	390	380	340	350	mg/L
RW15-PZM020	RW-24R	490	330	170	120	150	190	170	150	91	52	120	47	39	33	mg/L
RW16-PZM020	New Well "B"	Note 1	13	90	110	110	120	97	91	100	85	80	80	81	70	mg/L
RW17-PZM019	New Well "C"	Note 1	170	25	37	29	20	300	210	220	170	96	76	6.3	46	mg/L
RW19-PZM020	RW-12	3.4	0.91	13	14	1.8	6.0	13	24	26	24	20	24	19	22	mg/L
RW20-PZM020	RW-9B	180	190	160	62	97	150	160	130	150	120	130	120	130	83	mg/L
RW21-PZM023	RW-32	Note 2	63	60	60	58	58	58	50	39	35	29	27	25	22	mg/L
TS04-PZM023	New Well "D"	Note 1	220	94	110	78	25	34	34	39	35	32	27	15	17	mg/L
<i>Deep (Sand 3) Monitoring Wells</i>																
RW10-PZM065	RW-28		0.096	0.11	0.12	0.01	0.074	0.01	0.065	0.031	0.022	0.031	0.057	0.024	0.23	mg/L
RW18-PZM047	RW-22		15	7	5.8	9.2	13	26	15	7.3	12	6.9	4.9	4.7	2.9	mg/L
RW19-PZM050	RW-13		0.53	0.43	0.42	0.19	0.23	0.24	0.087	0.092	0.051	0.19	0.22	0.086	0.05	mg/L
RW20-PZM050	RW-10		0.057	0.38	0.042	0.25	0.33	0.42	0.19	0.29	0.081	0.32	0.11	0.2	0.2	mg/L

Table 3-3 Summary of Zinc Monitoring Data for 2012 and Comparison with Prior Years

New Well Designation	Former Well Designation	2008		2009		2010		2011		2012		2013		Unit
		2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	2nd Q	4th Q	Unit
RW02-PZM000	RW-3	2.6	14	8	4.5	4.2	1.1	4.3	3.9 (B2)	5	13	6.1	0.76	mg/L
RW03-PZM003	RW-92	140	130	150	110	140	0.13	140	110 (B2)	180	130	155	131	mg/L
RW04-PZM003	RW-91	15	4.9	9.5	5.5	16	14	14	12 (B2)	13	12	21.9	17.3	mg/L
RW05-PZP001	RW-96	6.2	2.3	0.76	0.35	3.7	1.2	1	1.4 (B2)	NS	NS	2.72	0.97	mg/L
RW06-PZM001	RW-94	23	110	26	36	14	160 (a)	17	14 (B2)	40	160	64.4	47.8	mg/L
RW07-PZM004	RW-7	9.7	4.5	19.0	33	3.8	23	3.6	0.065 (B1)	0.15	0.17	2.27	0.22	mg/L
RW08-PZM003	RW-88	370	420	410	390	370	390	380	320 (B2)	370	330	396	399	mg/L
RW09-PZM004	New Well "X"	0.02	0.0086	0.0063	0.02	0.019	0.011	0.058	0.024 (B1)	0.024	0.0078	0.033	0.060	mg/L
RW10-PZM004	RW-26	0.067	0.028	0.018	0.057	<0.0050	0.020	0.018	460 (B2) (a)	0.11	0.03	0.017	0.016	mg/L
RW11-PZM004	New Well "Y"	1600	3700	1400	3500	2400	2100	1900	2200 (B2)	3700	1800	2620	2950	mg/L
RW12-PZM004	New Well "Z"	4.3	5.8	2.3	1.7	3.8	5.6	24	14 (B2)	110	110	90	187	mg/L
RW19-PZP000	RW-8	0.01	0.023	0.010	0.054	0.0073	0.014	0.067	0.025 (B1)	0.15	0.044 (B1)	<0.005	0.006	mg/L
RW20-PZP000	RW20-PZP000	0.01	100	0.022	0.02	0.0053	0.0068	0.031	0.0081 (B1)	0.0095	<0.00050	0.019	<0.005	mg/L
TS04-PDM004	TS04-PDM004	0.15	0.12	0.033	0.02	0.021	0.12	0.039	0.027 (B1)	0.26	0.41	0.227	0.218	mg/L
TS04-PPM007	TS04-PPM007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	mg/L
RW01-PZM020	RW-1	130	120	140	150	94	150	130	95 (B2)	70	100	131	93.7	mg/L
RW02-PZM020	RW-2	1500	2200	2300	800	330	3300	3100	2600	3000	2600	996	85.4	mg/L
RW07-PZM017	RW-6	520	550	310	300	230	420	390	410 (B2)	260	330	263	201	mg/L
RW10-PZM020	RW-27	510	530	540	550	500	530	510	450 (B2)	470	470	326	420	mg/L
RW13-PZM020	RW-4	0.029	0.017	0.020	0.076	<0.0050	<0.0050	0.028	0.07 (B1)	0.67	0.76	2.95	2.69	mg/L
RW14-PZM020	New Well "A"	290	310	150	260	260	300	290	280 (B2)	280	260	249	284	mg/L
RW15-PZM020	RW-24R	34	33	47	28	65	29	32	37 (B2)	56	46	47.8	39.5	mg/L
RW16-PZM020	New Well "B"	69	69	71	66	60	61	61	59	43	53	36	33	mg/L
RW17-PZM019	New Well "C"	42	34	42	40	48	46	48	45 (B2)	62	47	95.1	147	mg/L
RW19-PZM020	RW-12	17	14	14	17	11	10	0.2	5.6 (B2)	4.6	5	2.97	4.72	mg/L
RW20-PZM020	RW-9B	52	2.0	120.0	0.16	2.0	56	120	100 (B2) (a)	130	100	99.6	98	mg/L
RW21-PZM023	RW-32	22	21	20	19	19	20	42	20 (B2)	21	21	14.7	15.6	mg/L
TS04-PZM023	New Well "D"	140	5.4	4.0	12.0	19	16	9	8.7 (B2)	5.2	2.6	0.136	0.247	mg/L
RW10-PZM065	RW-28	0.042	0.015	0.053	0.084	<0.0050	<0.0050	0.015	460 (B2) (a)	0.046	0.043 (B1)	0.018	0.033	mg/L
RW18-PZM047	RW-22	1.8	6.9	1.2	1.1	3.9	5.7	3.3	0.48 (B2)	0.52	0.4	0.257	8.95	mg/L
RW19-PZM050	RW-13	0.33	0.22	0.54	0.17	0.092	0.19	0.15	0.16 (B1)	0.076	0.052 (B1)	0.048	0.129	mg/L
RW20-PZM050	RW-10	0.31	0.041	0.14	110*	36	0.22	1	0.011 (B1)	0.12	0.031	0.112	0.116	mg/L

APPENDIX A

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
1/1/2013	4177	2,741	4.8
1/2/2013	3279	2,219	3.8
1/3/2013	3920	2,714	4.6
1/4/2013	3843	2,781	4.6
1/5/2013	3676	2,668	4.4
1/6/2013	3733	2,588	4.4
1/7/2013	4365	3,023	5.1
1/8/2013	3790	2,656	4.5
1/9/2013	3648	2,587	4.3
1/10/2013	3630	2,616	4.3
1/11/2013	3532	2,543	4.2
1/12/2013	3663	2,640	4.4
1/13/2013	3542	2,550	4.2
1/14/2013	2865	2,063	3.4
1/15/2013	3671	2,648	4.4
1/16/2013	4197	3,073	5.0
1/17/2013	3604	2,595	4.3
1/18/2013	3593	2,584	4.3
1/19/2013	3504	2,557	4.2
1/20/2013	3449	2,584	4.2
1/21/2013	2897	2,170	3.5
1/22/2013	390	288	0.5
1/23/2013	-	-	0.0
1/24/2013	-	-	0.0
1/25/2013	-	-	0.0
1/26/2013	-	-	0.0
1/27/2013	-	-	0.0
1/28/2013	-	-	0.0
1/29/2013	863	-	0.6
1/30/2013	2730	-	1.9
1/31/2013	-	-	0.0

Monthly totals

80,561

54,888

135,449 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
2/1/2013	0	-	0.0
2/2/2013	0	-	0.0
2/3/2013	0	-	0.0
2/4/2013	0	-	0.0
2/5/2013	0	-	0.0
2/6/2013	0	-	0.0
2/7/2013	0	-	0.0
2/8/2013	0	-	0.0
2/9/2013	0	-	0.0
2/10/2013	0	-	0.0
2/11/2013	0	-	0.0
2/12/2013	0	-	0.0
2/13/2013	0	-	0.0
2/14/2013	0	-	0.0
2/15/2013	0	-	0.0
2/16/2013	0	-	0.0
2/17/2013	0	-	0.0
2/18/2013	0	-	0.0
2/19/2013	0	-	0.0
2/20/2013	0	-	0.0
2/21/2013	0	-	0.0
2/22/2013	0	-	0.0
2/23/2013	0	-	0.0
2/24/2013	0	-	0.0
2/25/2013	0	-	0.0
2/26/2013	0	-	0.0
2/27/2013	0	-	0.0
2/28/2013	0	-	0.0
			0.0
			0.0
Monthly totals			0.0

0 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
3/1/2013	0	-	0.0
3/2/2013			0.0
3/3/2013			0.0
3/4/2013			0.0
3/5/2013			0.0
3/6/2013			0.0
3/7/2013			0.0
3/8/2013			0.0
3/9/2013			0.0
3/10/2013			0.0
3/11/2013			0.0
3/12/2013			0.0
3/13/2013			0.0
3/14/2013			0.0
3/15/2013			0.0
3/16/2013			0.0
3/17/2013			0.0
3/18/2013			0.0
3/19/2013			0.0
3/20/2013	3602	-	2.5
3/21/2013	5548	-	3.9
3/22/2013	5339	-	3.7
3/23/2013	5347	-	3.7
3/24/2013	5192	-	3.6
3/25/2013	5684	13	4.0
3/26/2013	4560	-	3.2
3/27/2013	5061	-	3.5
3/28/2013	5012	-	3.5
3/29/2013	5165	-	3.6
3/30/2013	5241	-	3.6
3/31/2013	5103	-	3.5

Monthly totals

60,854

13

60,867 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
4/1/2013	5894	-	4.1
4/2/2013	5079	-	3.5
4/3/2013	4172	-	2.9
4/4/2013	5334	-	3.7
4/5/2013	5043	-	3.5
4/6/2013	4852	-	3.4
4/7/2013	5242	-	3.6
4/8/2013	4645	-	3.2
4/9/2013	4991	-	3.5
4/10/2013	6198	2,702	6.2
4/11/2013	5679	2,862	5.9
4/12/2013	5507	2,883	5.8
4/13/2013	5120	2,934	5.6
4/14/2013	4771	2,802	5.3
4/15/2013	4134	2,484	4.6
4/16/2013	4683	2,840	5.2
4/17/2013	4559	2,788	5.1
4/18/2013	4651	2,876	5.2
4/19/2013	4598	2,730	5.1
4/20/2013	4594	2,728	5.1
4/21/2013	4607	2,711	5.1
4/22/2013	4789	3,263	5.6
4/23/2013	5482	3,248	6.1
4/24/2013	6131	3,802	6.9
4/25/2013	4555	3,019	5.3
4/26/2013	5145	3,430	6.0
4/27/2013	5171	3,408	6.0
4/28/2013	5123	3,456	6.0
4/29/2013	6101	3,874	6.9
4/30/2013	4879	3,149	5.6

Monthly totals

151,729

63,989

215,718 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
5/1/2013	4533	3,232	5.4
5/2/2013	4996	4,242	6.4
5/3/2013	4429	3,760	5.7
5/4/2013	4733	3,932	6.0
5/5/2013	4586	3,660	5.7
5/6/2013	4836	3,300	5.7
5/7/2013	5112	3,327	5.9
5/8/2013	5892	3,889	6.8
5/9/2013	4798	3,238	5.6
5/10/2013	4928	3,330	5.7
5/11/2013	5008	3,344	5.8
5/12/2013	4764	2,982	5.4
5/13/2013	4133	2,617	4.7
5/14/2013	4880	3,087	5.5
5/15/2013	4866	2,988	5.5
5/16/2013	4797	2,832	5.3
5/17/2013	5411	3,249	6.0
5/18/2013	4849	2,997	5.4
5/19/2013	5103	3,049	5.7
5/20/2013	5576	3,205	6.1
5/21/2013	5147	2,984	5.6
5/22/2013	5009	2,630	5.3
5/23/2013	5294	3,525	6.1
5/24/2013	5275	3,923	6.4
5/25/2013	5222	3,523	6.1
5/26/2013	5393	3,373	6.1
5/27/2013	5908	3,892	6.8
5/28/2013	4808	3,202	5.6
5/29/2013	4437	2,903	5.1
5/30/2013	4641	3,688	5.8
5/31/2013	4740	2,560	5.1

Monthly totals

154,104

102,463

256,567 Gallons

Collection Date	Well #24 gpd	Well #27 gpd	MP 214 Total (gpm)
6/1/2013	4905	3,271	5.7
6/2/2013	4475	3,063	5.2
6/3/2013	4338	2,982	5.1
6/4/2013	4613	3,169	5.4
6/5/2013	5187	3,509	6.0
6/6/2013	4461	3,024	5.2
6/7/2013	4497	3,042	5.2
6/8/2013	4498	3,045	5.2
6/9/2013	4410	2,988	5.1
6/10/2013	3740	2,534	4.4
6/11/2013	4422	3,703	5.6
6/12/2013	4370	3,984	5.8
6/13/2013	4788	3,528	5.8
6/14/2013	5223	3,373	6.0
6/15/2013	5419	3,231	6.0
6/16/2013	5387	3,119	5.9
6/17/2013	5659	3,431	6.3
6/18/2013	5352	3,180	5.9
6/19/2013	5139	2,920	5.6
6/20/2013	5522	3,113	6.0
6/21/2013	5485	3,017	5.9
6/22/2013	5331	3,025	5.8
6/23/2013	5334	3,012	5.8
6/24/2013	6152	3,399	6.6
6/25/2013	5510	3,695	6.4
6/26/2013	5372	3,573	6.2
6/27/2013	5330	3,613	6.2
6/28/2013	5361	3,713	6.3
6/29/2013	4904	3,372	5.7
6/30/2013	5079	3,384	5.9

Monthly totals

150,263

98,012

248,275 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
7/1/2013	4805	3,159	5.5
7/2/2013	5025	3,203	5.7
7/3/2013	5919	6,330	8.5
7/4/2013	4829	6,144	7.6
7/5/2013	4819	6,018	7.5
7/6/2013	4981	6,001	7.6
7/7/2013	4880	5,740	7.4
7/8/2013	4229	4,639	6.2
7/9/2013	5093	5,261	7.2
7/10/2013	5106	5,067	7.1
7/11/2013	5150	5,005	7.1
7/12/2013	5323	5,087	7.2
7/13/2013	5242	4,974	7.1
7/14/2013	5244	5,005	7.1
7/15/2013	5598	5,050	7.4
7/16/2013	5370	4,666	7.0
7/17/2013	4704	4,048	6.1
7/18/2013	5174	4,448	6.7
7/19/2013	5208	4,488	6.7
7/20/2013	5232	4,438	6.7
7/21/2013	5384	4,464	6.8
7/22/2013	6205	5,199	7.9
7/23/2013	5328	4,454	6.8
7/24/2013	4821	3,915	6.1
7/25/2013	5407	249	3.9
7/26/2013	4718	-	3.3
7/27/2013	5044	-	3.5
7/28/2013	5019	-	3.5
7/29/2013	4879	-	3.4
7/30/2013	5054	-	3.5
7/31/2013	5957	-	4.1

Monthly totals

159,747

117,052

276,799 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
8/1/2013	4987		3.5
8/2/2013	5026		3.5
8/3/2013	5068		3.5
8/4/2013	5025		3.5
8/5/2013	4196		2.9
8/6/2013	5708		4.0
8/7/2013	6555		4.6
8/8/2013	6551		4.5
8/9/2013	6440		4.5
8/10/2013	6520		4.5
8/11/2013	6257		4.3
8/12/2013	6849		4.8
8/13/2013	6537		4.5
8/14/2013	5506		3.8
8/15/2013	6318		4.4
8/16/2013	6192		4.3
8/17/2013	6176		4.3
8/18/2013	6202		4.3
8/19/2013	7860		5.5
8/20/2013	6788		4.7
8/21/2013	6345		4.4
8/22/2013	6471		4.5
8/23/2013	6726		4.7
8/24/2013	6495		4.5
8/25/2013	6734		4.7
8/26/2013	5293		3.7
8/27/2013	6119		4.2
8/28/2013	7336		5.1
8/29/2013	5812		4.0
8/30/2013	6056		4.2
8/31/2013	6122		4.3

Monthly totals

190,270

0

190,270 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
9/1/2013	6109		4.2
9/2/2013	4894		3.4
9/3/2013	5965		4.1
9/4/2013	5849		4.1
9/5/2013	5869		4.1
9/6/2013	5910		4.1
9/7/2013	5903		4.1
9/8/2013	5787		4.0
9/9/2013	6345		4.4
9/10/2013	5815		4.0
9/11/2013	4642	3,442	5.6
9/12/2013	6303	5,784	8.4
9/13/2013	5640	5,310	7.6
9/14/2013	5620	5,181	7.5
9/15/2013	5613	5,011	7.4
9/16/2013	6253	4,884	7.7
9/17/2013	7206	5,784	9.0
9/18/2013	6222	4,687	7.6
9/19/2013	7616	5,319	9.0
9/20/2013	7308	5,116	8.6
9/21/2013	6981	5,060	8.4
9/22/2013	5902	5,005	7.6
9/23/2013	4900	4,750	6.7
9/24/2013	4888	4,887	6.8
9/25/2013	5743	5,830	8.0
9/26/2013	4793	4,750	6.6
9/27/2013	4766	4,724	6.6
9/28/2013	4987	4,740	6.8
9/29/2013	4993	4,796	6.8
9/30/2013	4088	3,967	5.6

Monthly totals

172,910

99,027

271,937 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
10/1/2013	4904	4,678	6.7
10/2/2013	5214	4,752	6.9
10/3/2013	5133	4,693	6.8
10/4/2013	5100	4,688	6.8
10/5/2013	5225	4,633	6.8
10/6/2013	5433	4,493	6.9
10/7/2013	3128	2,633	4.0
10/8/2013	0	-	0.0
10/9/2013	600	561	0.8
10/10/2013	3794	3,875	5.3
10/11/2013	4476	4,904	6.5
10/12/2013	4946	4,789	6.8
10/13/2013	5075	4,725	6.8
10/14/2013	5889	8,446	10.0
10/15/2013	4989	4,811	6.8
10/16/2013	4276	5,089	6.5
10/17/2013	5297	6,348	8.1
10/18/2013	4864	5,841	7.4
10/19/2013	5334	6,421	8.2
10/20/2013	4845	5,938	7.5
10/21/2013	4664	5,757	7.2
10/22/2013	4900	6,061	7.6
10/23/2013	5727	6,913	8.8
10/24/2013	5465	5,804	7.8
10/25/2013	4418	5,705	7.0
10/26/2013	4780	5,494	7.1
10/27/2013	4957	5,780	7.5
10/28/2013	3909	4,493	5.8
10/29/2013	4910	5,490	7.2
10/30/2013	4823	5,397	7.1
10/31/2013	4836	5,433	7.1

Monthly totals

141,911

154,645

296,556 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
11/1/2013	4753	5,454	7.1
11/2/2013	4799	5,377	7.1
11/3/2013	5368	5,482	7.5
11/4/2013	5800	5,370	7.8
11/5/2013	5230	5,028	7.1
11/6/2013	5087	5,002	7.0
11/7/2013			0.0
11/8/2013	920	883	1.3
11/9/2013	4996	5,489	7.3
11/10/2013	5923	6,616	8.7
11/11/2013	4773	5,555	7.2
11/12/2013	4632	5,314	6.9
11/13/2013	4242	4,521	6.1
11/14/2013	5161	5,513	7.4
11/15/2013	5201	5,464	7.4
11/16/2013	5164	5,362	7.3
11/17/2013	5170	5,500	7.4
11/18/2013	4788	5,066	6.8
11/19/2013	4974	5,376	7.2
11/20/2013	5678	6,183	8.2
11/21/2013	4863	5,289	7.1
11/22/2013	4948	5,240	7.1
11/23/2013	4901	5,098	6.9
11/24/2013	4805	4,949	6.8
11/25/2013	4146	4,270	5.8
11/26/2013	4894	5,040	6.9
11/27/2013	4811	4,967	6.8
11/28/2013	4974	5,050	7.0
11/29/2013	4881	4,997	6.9
11/30/2013	4965	5,114	7.0

Monthly totals

140,847

148,569

289,416 Gallons

Date	Well #24	Well #27	MP 214
	gpd	gpd	Total (gpm)
12/1/2013	4813	4,956	6.8
12/2/2013	4991	5,138	7.0
12/3/2013	5133	5,036	7.1
12/4/2013	5000	5,019	7.0
12/5/2013	4719	5,016	6.8
12/6/2013	4753	4,980	6.8
12/7/2013	4750	4,890	6.7
12/8/2013	4790	4,932	6.8
12/9/2013	5502	5,670	7.8
12/10/2013	4773	4,891	6.7
12/11/2013	4115	4,079	5.7
12/12/2013	4874	4,798	6.7
12/13/2013	4931	4,725	6.7
12/14/2013	4969	4,726	6.7
12/15/2013	4808	4,534	6.5
12/16/2013	4836	4,549	6.5
12/17/2013	4852	4,607	6.6
12/18/2013	5588	5,406	7.6
12/19/2013	4830	4,479	6.5
12/20/2013	4941	4,629	6.6
12/21/2013	4895	4,613	6.6
12/22/2013	4923	4,629	6.6
12/23/2013	4073	3,828	5.5
12/24/2013	4860	4,577	6.6
12/25/2013	4855	4,577	6.6
12/26/2013	4742	4,584	6.5
12/27/2013	4776	4,634	6.5
12/28/2013	4717	4,578	6.5
12/29/2013	4849	4,672	6.6
12/30/2013	4744	4,538	6.4
12/31/2013	4610	4,468	6.3

Monthly totals

150,012

146,758

296,770 Gallons

APPENDIX B

2013 OPERATIONAL HISTORY OF THE ROD AND WIRE MILL

INTERM MEASURE TREATMENT SYSTEM

- 1/22-1/28 Treatment system not operating due to frozen caustic feed system
- 1/28 Groundwater recovery well 24 returned to service
- 1/30-3/20 Treatment system down to replace well pumps and associated piping
- 10/7-10/10 Treatment system down due to leak in caustic feed system and associated repair
- 11/6-11/8 Treatment system down due to leak in caustic feed system and associated repair