VRP Eighth Progress Report

(PR-8)

Metalplate Galvanizing Facility
505 Selig Drive, SW
Atlanta, Fulton County, Georgia 30336

HSI No. 10204

Tax Parcel 14F-0082-LL-0346

Submitted:

February 12, 2016

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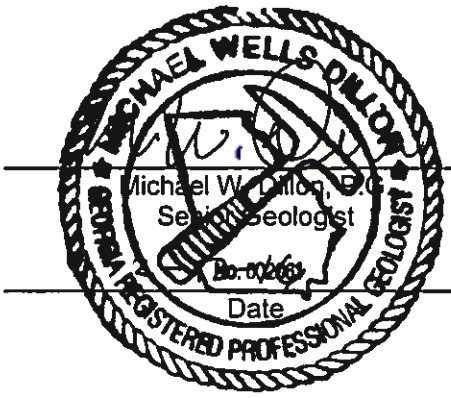
CERTIFICATION

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.



Michael W. Dillon, P.G.
Senior Geologist

No. 6266

Date

1.0 INTRODUCTION

This Progress Report (PR-8) addresses surface and groundwater sampling occurring since PR-7, improvements to the stormwater management system of the Metalplate facility, and the Selig Pond sediment evaluation recommended in PR-4 and required by Metalplate's Consent Order with EPD.

Surface water sampling shows significant reductions in zinc concentrations since Metalplate began treating its stormwater with its state-of-the-art electrocoagulator for NPDES permitting purposes. The electrocoagulator became fully operational in late 2014, and from the May 2014 surface water sampling event to the October 2015 sampling event, average detected zinc concentrations have decreased by approximately 55 percent.

At the same time, the October 2015 groundwater sampling event showed that zinc concentrations in all wells remain below Type 4 RRS, and concentrations in two wells have fallen to historic lows. That this groundwater concentration drop coincided with significant reductions in surface water zinc concentrations suggests that the reduction of zinc in stormwater via electrocoagulation may be improving groundwater. Additional sampling events will help assess this potential dynamic and its significance to the remedial plan now due with PR-9.

Taking these sample results together, surface water zinc concentrations were orders of magnitude higher than the zinc concentrations of upgradient stormwater leaving the electrocoagulator and significantly higher than the groundwater closest to the sampled surface water. And reductions in surface water concentrations were coincident with reductions in the already lower groundwater concentrations. Thus, it is beginning to appear that the release may not be driving surface water zinc concentrations. Rather, it appears possible that the remaining primary driver of surface water zinc concentrations is the presence of other zinc in the local environment as the result of activities not within the jurisdiction of the VRP or HSRA. Further, it appears possible that these surface water zinc concentrations may be driving or unrelated to groundwater concentrations.

Included with this PR-8 is a letter report from Applied Aquaculture and Environmental Technologies, LLC (A2E) on the Selig Pond sediment evaluation recommended in PR-4 that the company conducted this year. A2E concludes that its evaluation has enhanced the prior understanding of the volume of sediments within Selig pond and the distribution of zinc concentrations within those sediments. A2E recommends that the following two items be studied before any evaluation of the need for or feasibility of Selig Pond sediment remedies: (1) the mobility of the zinc in these sediments relative to local groundwater and (2) the subsequent potential for the groundwater in the vicinity of Selig Pond to affect zinc concentrations in surface water, including in particular the relative contribution from groundwater to surface water flow volume within the ditch system. Metalplate will implement A2E's recommendations in calendar year 2016 such that they, as well as the October 2016 sampling event, can be accounted for in the remediation plan now due with PR-9.

The background of the site, including site location, surrounding area, site description, and site history are documented in the groundwater monitoring report, Appendix A.

2.0 ACTIONS TAKEN SINCE LAST SUBMITTAL

2.1 Surface Water and Groundwater Sampling

Surface Water and Groundwater Sampling Report, dated February 12, 2016, is included as Appendix A. Conclusions of the surface water and groundwater sampling report are:

- Groundwater flow at the site is generally toward the southeast with a hydraulic gradient between monitoring wells MW-1 and MW-4 estimated at 0.035 ft/ft and flow velocity is estimated at 60.8 ft/year.

- The Lower South Ditch functions as a groundwater divide and Selig Pond functions as a surface impoundment. Both of these features impact the pattern of groundwater flow in the immediate vicinity.

- During the latest groundwater sampling event (October 2015), total zinc concentrations did not exceed the Type 4 RRS for total zinc (31 mg/L) in any well. The total zinc concentrations decreased in the western portion of the plume (MW-5) from 3.33 mg/L to a historic low of 0.357 mg/L, which is below the Type 1 RRS for zinc in groundwater.

- The concentration of total zinc decreased in the central portion of the plume (MW-2) from 12.0 mg/L to 6.55 mg/L—also a historic low.

- The concentration of total zinc at the upgradient portion of the plume (MW-7) decreased following the soil removal conducted at the site in August 2008 and the concentration has remained relatively stable and below the Type 4 RRS for the last six years.

- The concentrations in monitoring well MW-13D have also remained below the Type 4 RRS since the soil removal.

- Dissolved zinc concentrations in surface water continued to decrease since baseline sampling conducted prior to the October 2014 startup of the electrocoagulation system. The average of dissolved zinc concentration for the combined seven surface water samples decreased by 55 percent from May 2014 to October 2015.

- The lower concentrations may suggest that the reduction of zinc in stormwater via electrocoagulation is improving groundwater. Additional sampling events will help assess this potential dynamic and its possible significance to evaluating whether any further remediation of zinc releases may be required under the VRP due to surface water conditions.

- Effectiveness of the corrective action will continue to be monitored during annual sampling events.

2.2 Sediment Evaluation

A2E performed the sediment evaluation described in PR-4. A copy of the sediment evaluation report is included in Appendix B.

The primary objectives of this initial scope of work were to: (1) obtain a more accurate estimate of sediment volume and (2) discern any spatial distribution or layering of zinc within these sediments. Conclusions of the sediment evaluation report, February 11, 2016, are:

- With the exception of three borings along the western perimeter of the outwash, sediments were present at all boring locations.

- Layering is evident due to the softer zones encountered in all borings but could not be quantified because of limited recoveries attributable to that softness. Based solely on observation and resistance encountered with the auger, much of the apparent dry ground consists of medium to coarse grained sands. These surface sediments range in thickness from 2 to 3 feet before encountering some softer zone, presumed to consist of finer grained sands and silt.

- Zinc was detected in all sediment samples. These concentrations appear higher in the softer materials at depth, but limited recovery and the mixing action of the auger rendered determination of zinc as a function of layering inconclusive.

- Based on information obtained, A2E conservatively estimates the areal extent of the outwash sediments at approximately 0.6 acres with a potential volume on the order of 4,500 to 6,000 cubic yards.

- A2E recommends that additional assessment is necessary before full evaluation can proceed on the need for or feasibility of potential approaches to remedial actions on these sediments. Specifically, A2E recommends additional assessment of (1) the mobility of zinc in these sediments relative to local groundwater and (2) the subsequent potential for the groundwater in the vicinity of Selig Pond to affect zinc concentrations in surface water, including in particular the relative contribution from groundwater to surface water flow volume within the ditch system.

2.3 Comments to PR-7

- In January 2016, EPD provided Metalplate with comments on PR-7. A copy of the comments and Metalplate's response to the comments are included in Appendix C.

3.0 RESPONSE TO CONDITIONS IN THE APPROVAL LETTER, FEBRUARY 14, 2011

As described in PR-6, this and future progress reports will omit comments that have been resolved or completed.

3.1 Cost Estimate and Financial Assurance (Condition 1)

See Section 2.2.5 of PR-5.

3.2 Outstanding Items from EPD Comment Letter dated February 14, 2011 (Condition 2)

The following addresses outstanding items contained in EPD's comment letter of February 14, 2011.

3.2.1 Conceptual Site Model, Surface water data (Item 2) – Metalplate is currently sampling surface water on a frequency agreed with EPD in the Consent Order and in locations settled on with EPD following entry of the Consent Order. Consequently, Metalplate considers this item resolved and will remove discussion of it from future Progress Reports.

3.2.2 Conceptual Site Model, Impact of contaminated groundwater on surface water concentrations (Item 3) – A2E's sediment evaluation contributes to the resolution of this issue, as will Metalplate's implementation of A2E's recommendations in calendar year 2016

and the October 2016 sampling event. Metalplate still expects O.C.G.A. 12-8-107(g)(2) to apply.

3.2.3 Soil, continuation with corrective action on tax parcel ID 14-0059-LL-017, Aston Investment Property (Item 4) – See PR-6, Section 3.2.4; PR-5, Section 2.2.6; PR-4, Section 2.4.6; PR-3, Section 2.1.6.

3.2.4 Groundwater, additional monitoring well in the vicinity of the detention basin (Item 8) – Now that Metalplate has completed its stormwater management system upgrades and has achieved consistent, effective performance with those systems, Metalplate will report on its evaluation of the potential for such a monitoring well in PR-9.

3.3 Payment of Fees (Condition 4)

Metalplate has paid all outstanding fees within sixty days of receipt of an invoice with itemized detail for any costs to the division in reviewing the application or subsequent document that exceeds the initial application fee. The last invoice was paid on November 15, 2015 for the amount of $300.00.

3.4 Investigation of Aston property (Condition 5) – See PR-6, Section 3.5.

4.0 STATUS OF FUTURE REQUIREMENTS

4.1 Progress reports annually through February 14, 2019.

4.2 Finalize the remediation plan and provide a cost estimate for implementation of remediation and associated continuing actions. See Table 2.

4.3 February 14, 2019 - Compliance status report including certifications.

5.0 PROJECT SCHEDULE

A copy of the current project schedule is included in Table 2.

6.0 COST SUMMARY

6.1 VRP Cost

Table 1 summarizes the monthly invoiced services related to the VRP as follows:

VRP effort prior to approval (pre February 2011)	$ 46,321.07
VRP project since approval (post February 2011)	$ 366,268.99
Total VRP-related Cost	$ 412,590.06

6.2 Total Project Cost

The total project cost to date (Initial HSI listing through January 31, 2016)	$ 1,052,509.24

TABLES

TABLE 1

SUMMARY OF INVOICED SERVICES

Table 1
Metalplate Galvanizing Facility
Cost Summary as of January 31, 2016

Month/Yr	Engineering/ Testing	Legal	Administrative (EPD)
February-10	$270.00	$0.00	$0.00
March-10	$0.00	$1,827.50	$0.00
April-10	$0.00	$127.50	$0.00
May-10	$0.00	$297.50	$0.00
June-10	$0.00	$1,105.00	$0.00
July-10	$13,792.75	$7,737.50	$0.00
August-10	$2,012.84	$7,225.00	$761.72
September-10	$598.03	$319.17	$761.72
October-10	$598.03	$319.17	$761.72
November-10	$598.03	$319.17	$761.72
December-10	$733.03	$2,550.00	$761.72
January-11	$598.03	$722.50	$761.72
February-11	$4,511.36	$3,976.25	$761.72
March-11	$11,788.22	$3,976.25	$761.72
April-11	$32,289.66	$5,716.46	$0.00
May-11	$19,003.59	$10,322.50	$0.00
June-11	$2,010.00	$3,488.75	$0.00
July-11	$2,160.00	$0.00	$0.00
August-11	$15,638.23	$4,707.50	$0.00
September-11	$2,913.51	$7,052.24	$75.00
October-11	$4,399.51	$9,980.95	$225.00
November-11	$10,182.56	$6,552.50	$225.00
December-11	$2,621.82	$0.00	$225.00
January-12	$1,302.50	$430.00	$28.13
February-12	$2,101.03	$632.50	$28.13
March-12	$945.00	$1,310.00	$28.13
April-12	$12,260.35	$2,177.50	$28.13
May-12	$3,078.60	$82.50	$581.25
June-12	$8,595.00	$4,231.35	$581.25
July-12	$10,650.00	$4,231.35	$581.25
August-12	$17,828.71	$5,458.55	$581.25
September-12	$2,222.50	$0.00	$305.77
October-12	$25.00	$0.00	$305.77
November-12	$0.00	$0.00	$305.77
December-12	$0.00	$330.00	$305.77
January-13	$1,244.33	$275.00	$305.77
February-13	$21,794.86	$7,135.00	$305.77
March-13	$4,995.00	$0.00	$305.77
April-13	$0.00	$0.00	$305.77
May-13	$270.00	$0.00	$305.77
June-13	$135.00	$0.00	$305.77
July-13	$0.00	$2,197.50	$305.77
August-13	$1,147.50	$860.00	$305.77
September-13	$7,482.40	$5,345.00	$305.77
October-13	$1,012.50	$226.47	$912.50
November-13	$135.00	$2,590.00	$912.50
December-13	$4,737.50	$1,077.50	$912.50

VRP application (pre-approval)	**TOTAL**
February 2010 - January 2011	**$46,321.07**

Table 1
Metalplate Galvanizing Facility
Cost Summary as of January 31, 2016

Month/Yr	Engineering/ Testing	Legal	Administrative (EPD)
January-14	$337.50	$4,340.00	$212.50
February-14	$10,082.43	$1,677.00	$212.50
March-14	$0.00	$0.00	$212.50
April-14	$0.00	$192.50	$212.50
May-14	$0.00	$2,508.50	$212.50
June-14	$0.00	$2,171.50	$212.50
July-14	$0.00	$532.50	$25.00
August-14	$0.00	$0.00	$25.00
September-14	$3,511.19	$349.00	$25.00
October-14	$0.00	$0.00	$43.75
November-14	$0.00	$0.00	$43.75
December-14	$0.00	$88.50	$43.75
January-15	$405.00	$984.00	$43.75
February-15	$0.00	$2,611.50	$43.75
March-15	$11,244.66	$0.00	$43.75
April-15	$0.00	$0.00	$37.50
May-15	$0.00	$0.00	$37.50
June-15	$0.00	$0.00	$37.50
July-15	$0.00	$0.00	$100.00
August-15	$0.00	$0.00	$100.00
September-15	$0.00	$0.00	$100.00
October-15	$0.00	$206.50	$0.00
November-15	$0.00	$0.00	$0.00
December-15	$5,861.04	$0.00	$0.00
January-16	$1,872.37	$0.00	$0.00

VRP Project (post-approval)	**TOTAL**
February 2011 - January 2016	**$366,268.99**

Total VRP-Related Cost	**$412,590.06**

Project Cost From Initial	**TOTAL**
HSI Listing (1994) thru Jan '16	**$1,052,509.24**

TABLE 2

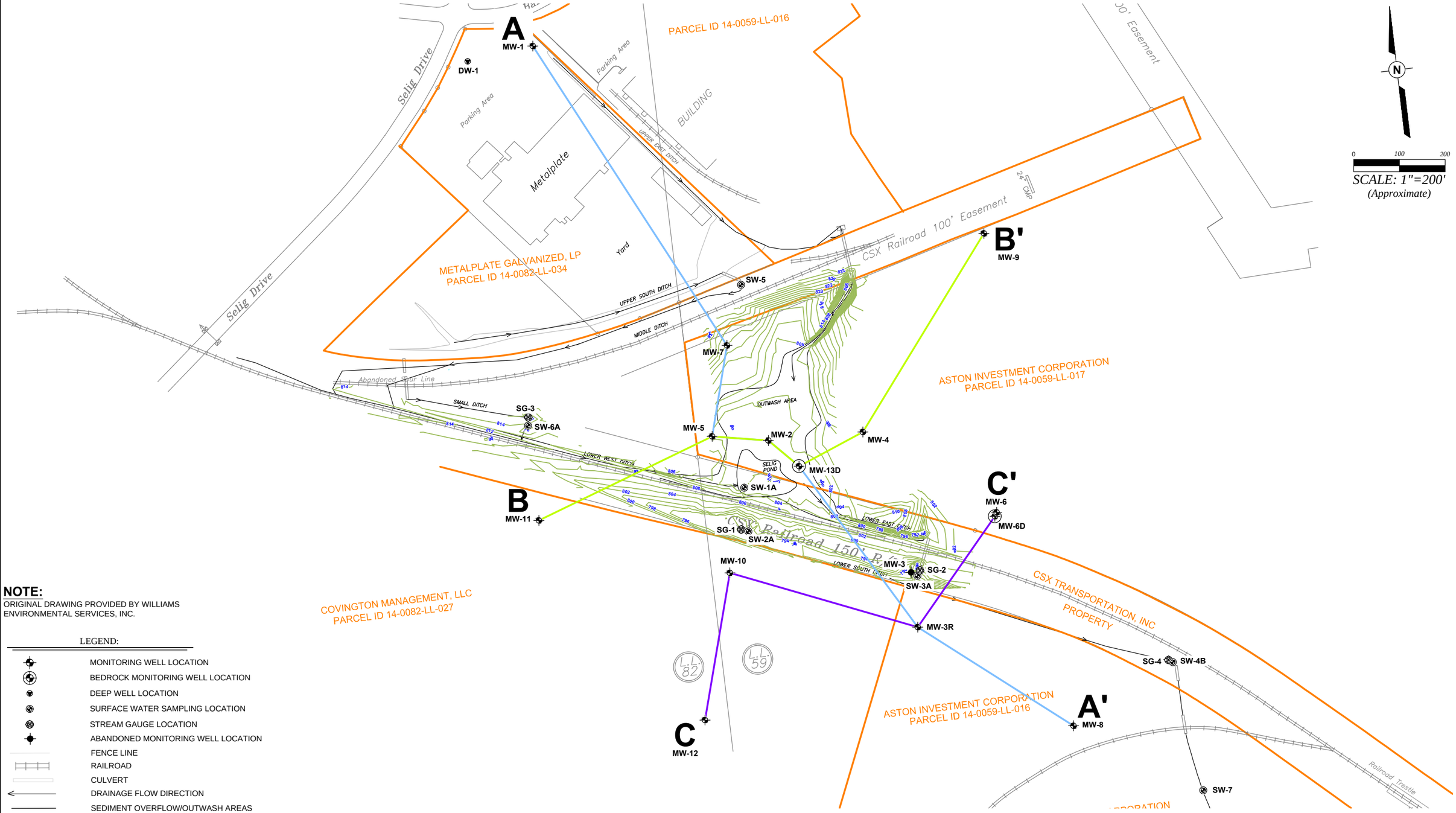
PROJECT SCHEDULE

Attachment A
Updated VIRP Milestone Schedule
Metalplate Galvanizing Facility, HSI 10204
May 13, 2014

Projected Date	Area	Action
May 2014	Sampling	Limited sampling; surface water sampling and surface water / groundwater elevation measurements (No groundwater sampling).
October 2014	Sampling	Groundwater and surface water sampling with groundwater / surface water elevation measurements. (Final groundwater and surface water sampling event before start-up date of storm water treatment system.)
February 14, 2015	VRP	Progress Report (PR-7). Should include May and October 2014 sampling events.
April 2015	VRP	Sediment evaluation as per CSM in PR-4.
August 22, 2015	SW	IGP SW Effluent limit requirements effective.
October 2015	Sampling	Post Implementation Sampling Event #1 (groundwater and surface water sampling with elevation measurements).
February 14, 2016	VRP	(PR-8). Should include results of sediment evaluation.
October 2016	Sampling	Post Implementation Sampling Event #2 (groundwater and surface water sampling with elevation measurements).
February 14, 2017	VRP	(PR-9). Should include and evaluation of Corrective Action and submittal of Final Remediation and Implementation Plan.
October 2017	Sampling	Post Implementation Sampling Event #3 (groundwater and surface water sampling with elevation measurements).
February 14, 2018	VRP	(PR-10). Should include and evaluation of Corrective Action progress.
October 2018	Sampling	Post Implementation Sampling Event #4.
February 14, 2019	VRP-CSR	Submittal of VRP CSR certifying compliance with applicable VRP standards.

- Post-Implementation sampling and reporting schedule subject to the effectiveness of the stormwater treatment system and sediment / groundwater evaluation results. If, prior to February 2017, the data clearly and convincingly shows that additional corrective action will be necessary, the Final Remedial Plan submittal date shall be moved up accordingly.

FIGURES



NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- SURFACE WATER SAMPLING LOCATION
- STREAM GAUGE LOCATION
- ABANDONED MONITORING WELL LOCATION
- FENCE LINE
- RAILROAD
- CULVERT
- DRAINAGE FLOW DIRECTION
- SEDIMENT OVERFLOW/OUTWASH AREAS

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DRAWN BY:	DRAWN DATE:
BWH	02/09/16
PROJECT NUMBER:	BILLING GROUP:
494501	PR8

METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

SITE MAP

FIGURE NUMBER
1

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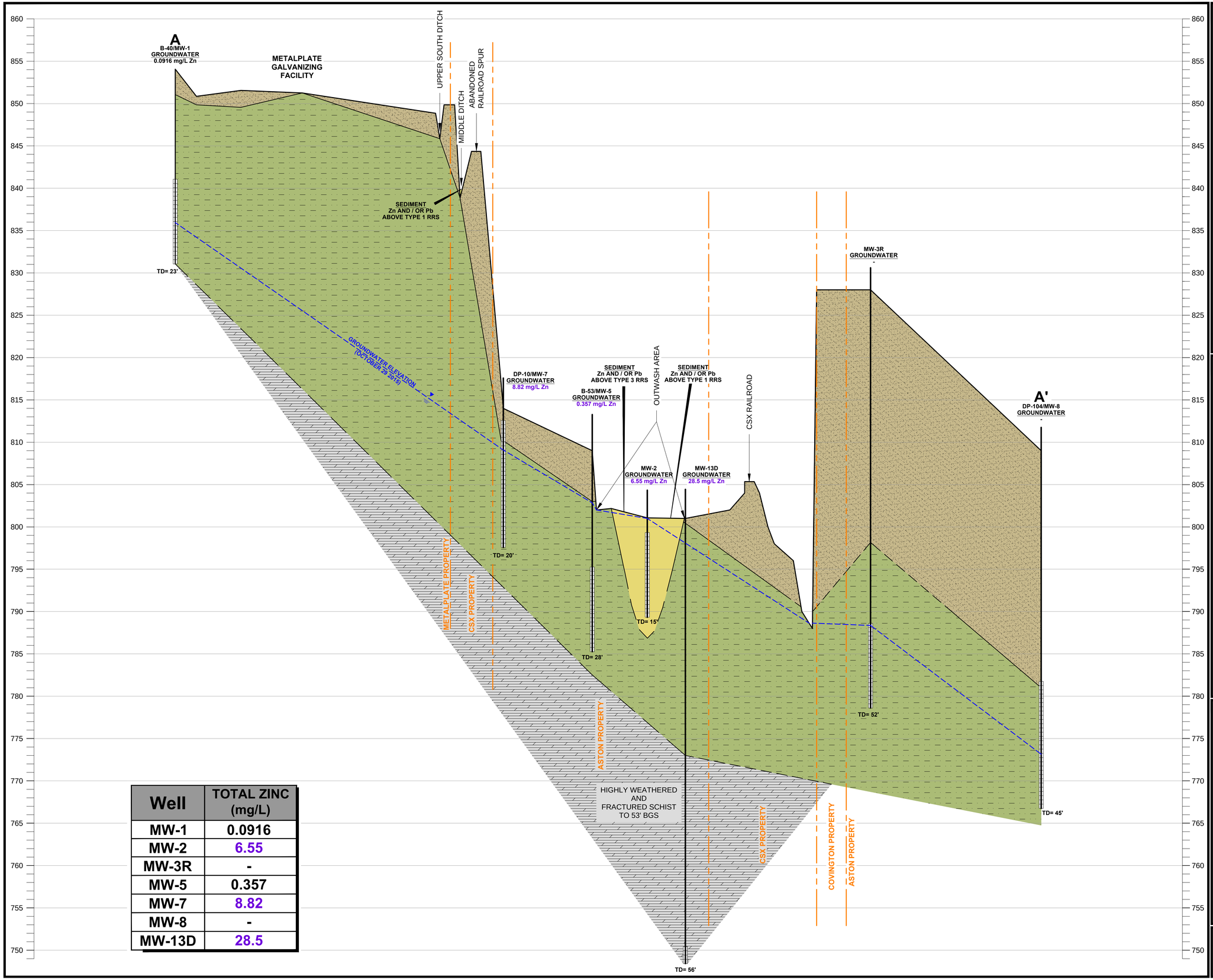

Well	TOTAL ZINC (mg/L)
MW-1	0.0916
MW-2	6.55
MW-3R	-
MW-5	0.357
MW-7	8.82
MW-8	-
MW-13D	28.5

Notes:

1. UPPER CONTACT LINES SHOW GENERALIZED SURFACE TOPOGRAPHY.
2. REFER TO FIGURE 1 FOR LOCATION OF CROSS-SECTION LINES.

LEGEND:

B-40/MW-1	SOIL BORING/MONITORING WELL LOCATION
	SEDIMENT
	NATURAL UNCONSOLIDATED SOIL OR FILL MATERIAL
	CLAYEY SILT SAPROLITE
	BEDROCK
TD= 23'	TOTAL DEPTH (ft.)
6.55 mg/L Zn	PURPLE CONCENTRATION INDICATES ABOVE TYPE 3 RRS
	SCREENED INTERVAL
RRS	RISK REDUCTION STANDARD

HORIZ. SCALE: 1"=100'
VERT. SCALE: 1"=5'
VERT. EXAGERATION: x20

METALPLATE GALVANIZING, L.P.

METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

CONCEPTUAL SITE MODEL - CROSS-SECTION A-A'

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PROJECT NUMBER:	BILLING GROUP:	FIGURE NUMBER:
494501	PR8	2

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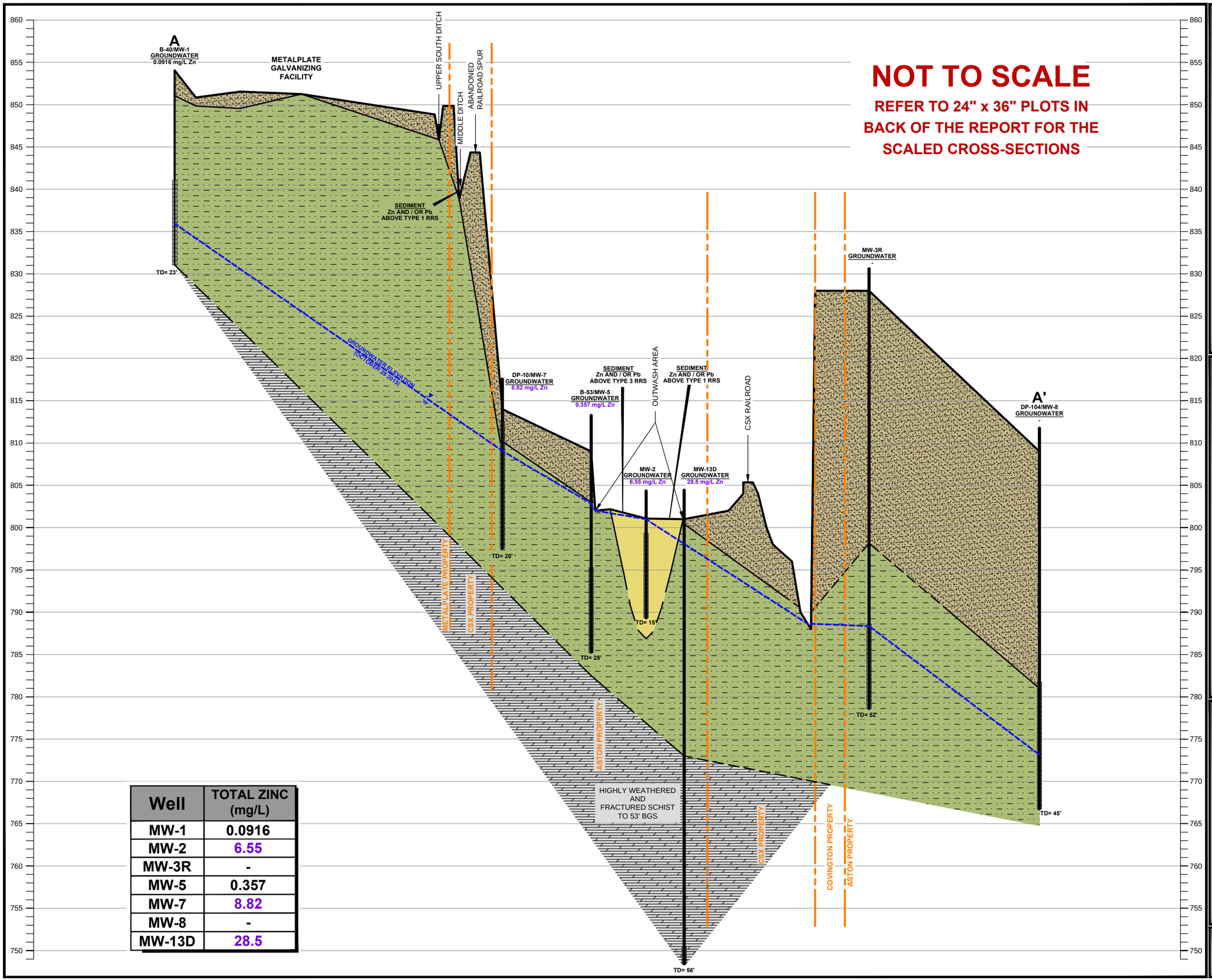

NOT TO SCALE

REFER TO 24" x 36" PLOTS IN BACK OF THE REPORT FOR THE SCALED CROSS-SECTIONS

Well	TOTAL ZINC (mg/L)
MW-1	0.0916
MW-2	6.55
MW-3R	-
MW-5	0.357
MW-7	8.82
MW-8	-
MW-13D	28.5

Notes:

1. UPPER CONTACT LINES SHOW GENERALIZED SURFACE TOPOGRAPHY.
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LEGEND:

B-40/MW-1	SOIL BORING/MONITORING WELL LOCATION
	SEDIMENT
	NATURAL UNCONSOLIDATED SOIL OR FILL MATERIAL
	CLAYEY SILT SAPROLITE
	BEDROCK
TD= 23'	TOTAL DEPTH (ft.)
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	SCREENED INTERVAL
RRS	RISK REDUCTION STANDARD

HORIZ. SCALE: 1"=100'
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METALPLATE GALVANIZING, L.P.

METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

CONCEPTUAL SITE MODEL - CROSS-SECTION A-A'

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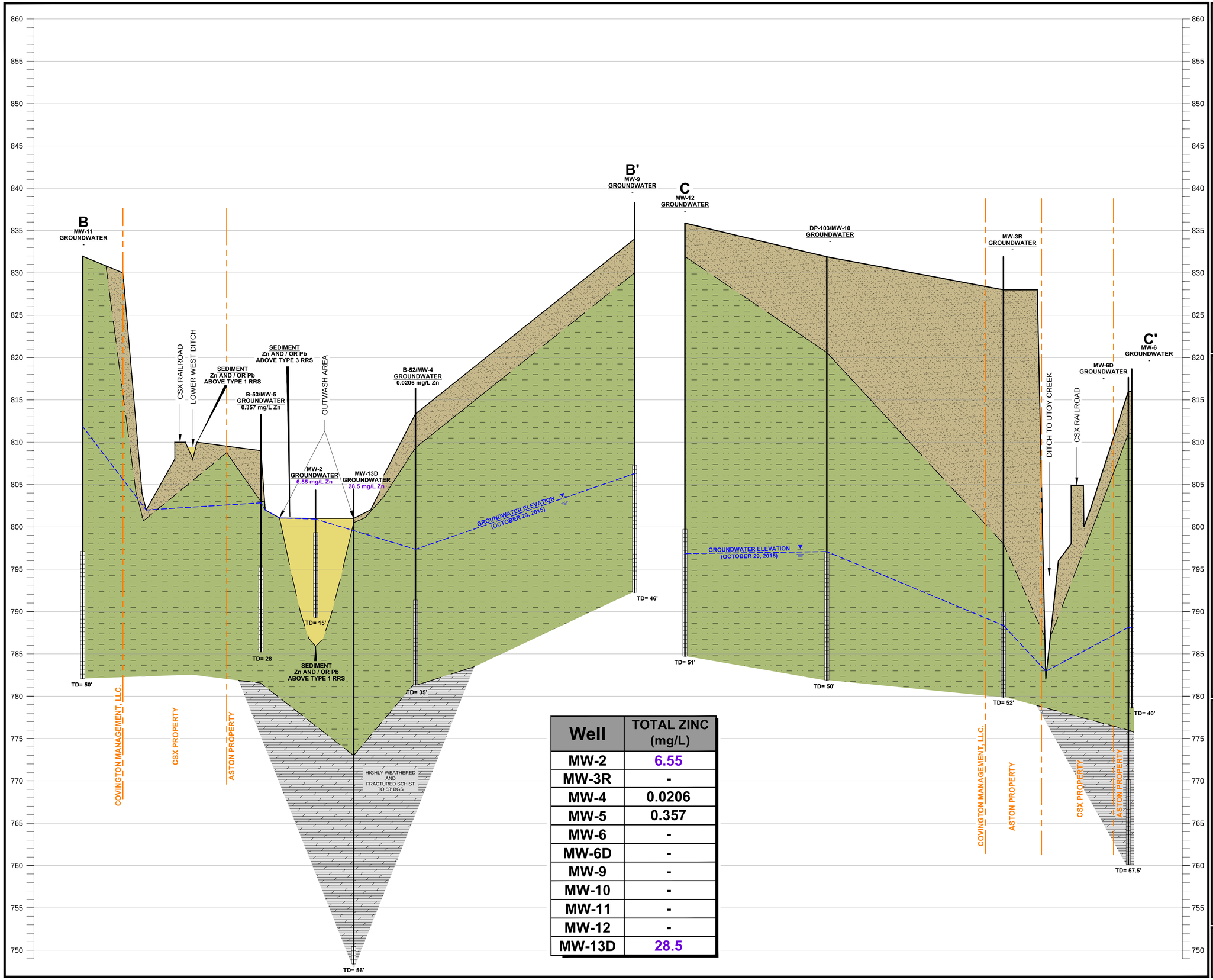
PROJECT NUMBER: 494501
BILLING GROUP: PR8
FIGURE NUMBER: 2



Well	TOTAL ZINC (mg/L)
MW-2	6.55
MW-3R	-
MW-4	0.0206
MW-5	0.357
MW-6	-
MW-6D	-
MW-9	-
MW-10	-
MW-11	-
MW-12	-
MW-13D	28.5

Notes:
1. UPPER CONTACT LINES SHOW GENERALIZED SURFACE TOPOGRAPHY.
2. REFER TO FIGURE 1 FOR LOCATION OF CROSS-SECTION LINES.

LEGEND:

MW-11	MONITORING WELL LOCATION
	SEDIMENT
	NATURAL UNCONSOLIDATED SOIL OR FILL MATERIAL
	CLAYEY SILT SAPROLITE
	BEDROCK
TD= 50'	TOTAL DEPTH (ft.)
6.55 mg/L Zn	PURPLE CONCENTRATION INDICATES ABOVE TYPE 3 RRS
	SCREENED INTERVAL
RRS	RISK REDUCTION STANDARD

HORIZ. SCALE: 1"=100'
VERT. SCALE: 1"=5'
VERT. EXAGERATION: x20

METALPLATE GALVANIZING, L.P.

METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

CONCEPTUAL SITE MODEL - CROSS-SECTION B-B' AND C-C'

PPM CONSULTANTS, INC.
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PROJECT NUMBER: 494501
BILLING GROUP: PR8
FIGURE NUMBER: 3

Z:\Metalplate Galvanizing, L.P.\494501 - Metalplate Facility Selig Pond\Fig\494501-PHB.dwg, 3 xsect-BB-CC, 2/12/2016 8:27:09 AM, brian.hicks

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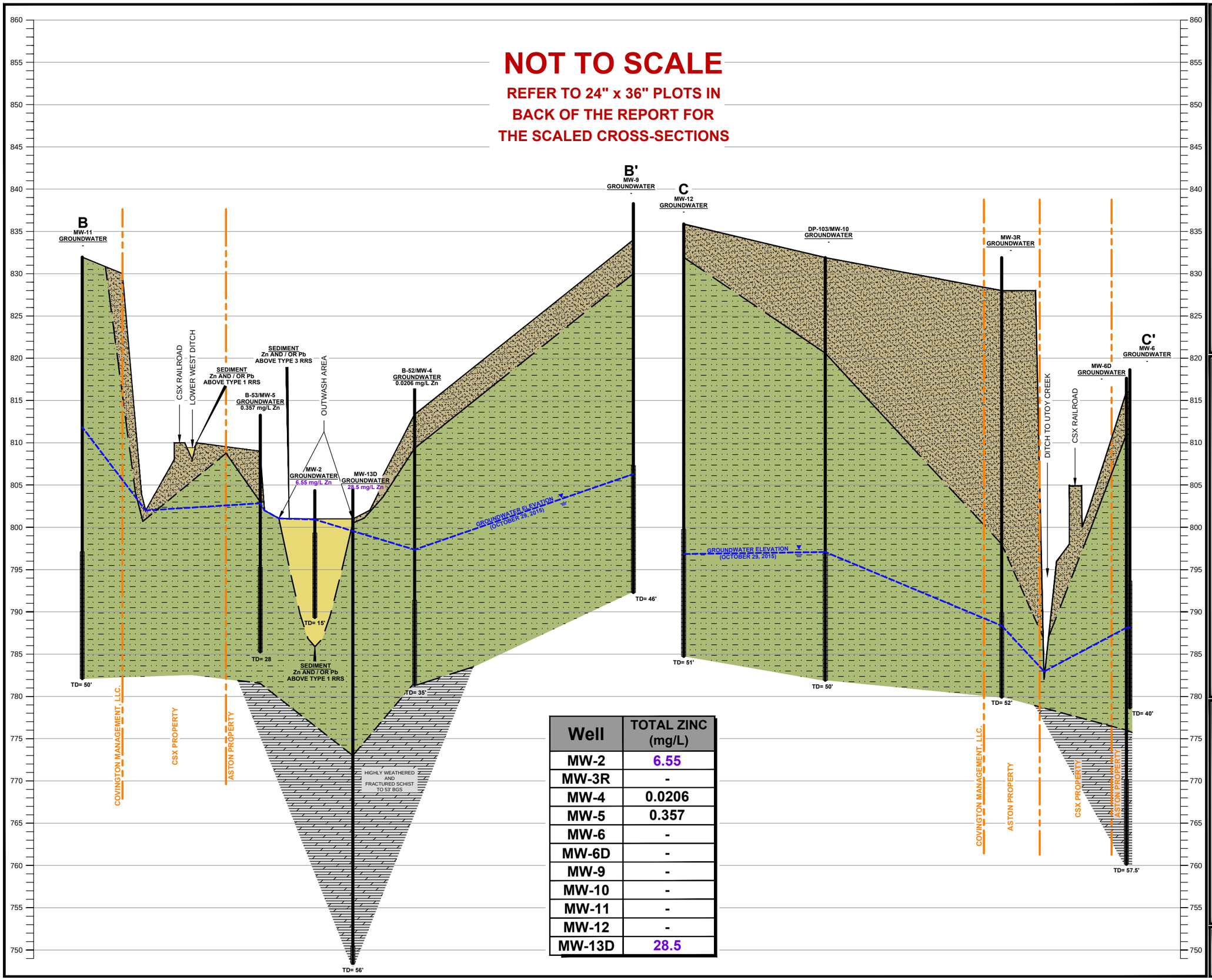

Well	TOTAL ZINC (mg/L)
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MW-9	-
MW-10	-
MW-11	-
MW-12	-
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RRS	RISK REDUCTION STANDARD

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METALPLATE GALVANIZING, L.P.

METALPLATE FACILITY/SELIG POND

505 SELIG DRIVE SW
ATLANTA, GEORGIA

CONCEPTUAL SITE MODEL - CROSS-SECTION B-B' AND C-C'

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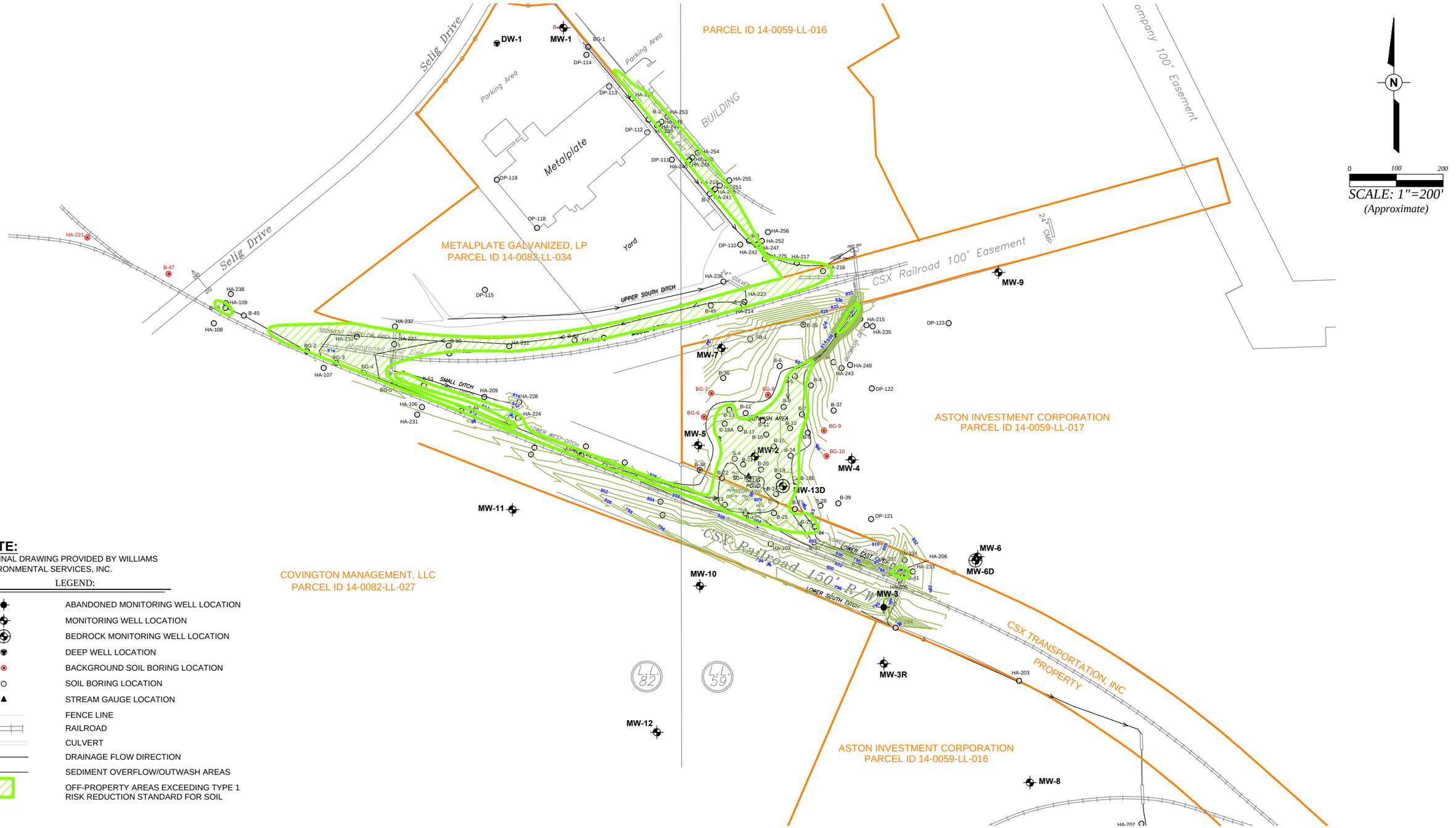
PROJECT NUMBER:	BILLING GROUP:	FIGURE NUMBER:
494501	PR8	3



NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- ABANDONED MONITORING WELL LOCATION
- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- BACKGROUND SOIL BORING LOCATION
- SOIL BORING LOCATION
- STREAM GAUGE LOCATION
- FENCE LINE
- RAILROAD
- CULVERT
- DRAINAGE FLOW DIRECTION
- SEDIMENT OVERFLOW/OUTWASH AREAS
- OFF-PROPERTY AREAS EXCEEDING TYPE 1 RISK REDUCTION STANDARD FOR SOIL

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DRAWN BY:	DRAWN DATE:
BWH	02/09/16
PROJECT NUMBER:	BILLING GROUP:
494501	PR8

METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

OFF-PROPERTY AREAS EXCEEDING TYPE 1 RRS FOR SOIL

FIGURE NUMBER
4

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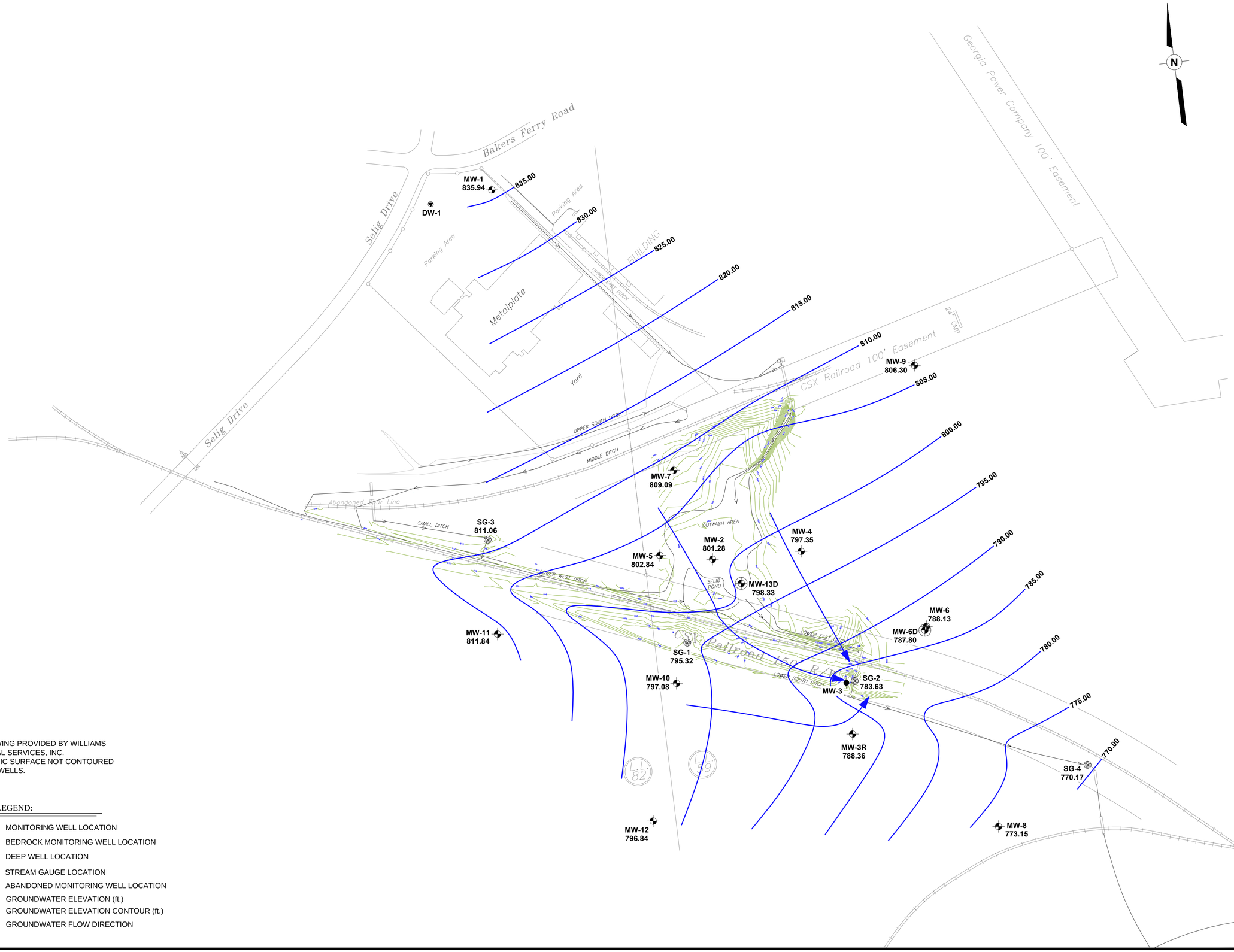

NOTES:

1. ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.
2. POTENTIOMETRIC SURFACE NOT CONTOURED FOR BEDROCK WELLS.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- STREAM GAUGE LOCATION
- ABANDONED MONITORING WELL LOCATION
- 835.94 GROUNDWATER ELEVATION (ft.)
- 770.00 GROUNDWATER ELEVATION CONTOUR (ft.)
- GROUNDWATER FLOW DIRECTION

REVISION HISTORY

DRAWN BY	DATE	DESCRIPTION	APPROVED

ENGINEER'S SEAL

GROUNDWATER / SURFACE WATER ELEVATION MAP (OCTOBER 29, 2015)

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505 SELIG DRIVE SW
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DRAWING SCALE
1" = 100'

PROJECT NUMBER	FIGURE NUMBER
494501	5
BILLING GROUP	
PR8	

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NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

⌖	MONITORING WELL LOCATION
◎	BEDROCK MONITORING WELL LOCATION
●	DEEP WELL LOCATION
⊙	SURFACE WATER SAMPLING LOCATION
✱	ABANDONED MONITORING WELL LOCATION
0.0916	TOTAL ZINC CONCENTRATION (mg/L)
2	ESTIMATED HORIZONTAL EXTENT OF ZINC IN GROUNDWATER EXCEEDING THE TYPE 1 RRS (2 mg/L)
NS	NOT SAMPLED

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PROJECT NUMBER:	BILLING GROUP:
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ATLANTA, GEORGIA

TOTAL ZINC ISOCONCENTRATION MAP - GROUNDWATER
(OCTOBER 30, 2015)

FIGURE NUMBER
6

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NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- SURFACE WATER SAMPLING LOCATION
- ABANDONED MONITORING WELL LOCATION
- **15.3** DISSOLVED ZINC CONCENTRATION (mg/L)

PPM CONSULTANTS, INC. www.ppmco.com	
DRAWN BY: BWH	DRAWN DATE: 02/09/16
PROJECT NUMBER: 494501	BILLING GROUP: PR8

METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

DISSOLVED ZINC CONCENTRATION MAP - SURFACE WATER
(OCTOBER 29, 2015)

FIGURE NUMBER
7

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APPENDICES

APPENDIX A

SURFACE WATER AND GROUNDWATER SAMPLING REPORT

FEBRUARY 12, 2016

ANNUAL GROUNDWATER AND SURFACE WATER MONITORING/CORRECTIVE ACTION EFFECTIVENESS REPORT

METALPLATE GALVANIZING, L.P.
METALPLATE GALVANIZING FACILITY
505 SELIG DRIVE SW
ATLANTA, GEORGIA 30336

HSI NO. 10204

PPM PROJECT NO. 494501-GWM15

FEBRUARY 12, 2016

Environmental Science
and Engineering

PPM CONSULTANTS

ANNUAL GROUNDWATER/SURFACE WATER MONITORING/CORRECTIVE ACTION EFFECTIVENESS REPORT

FOR

METALPLATE GALVANIZING FACILITY
505 SELIG DRIVE SW
ATLANTA, GEORGIA 30336

HSI NO. 10204

PREPARED FOR:

METALPLATE GALVANIZING, L.P.
505 SELIG DRIVE SW
ATLANTA, GEORGIA 30336

PPM PROJECT NO. 494501-GWM15

FEBRUARY 12, 2016

PREPARED BY:

MICHAEL W. DILLON, P.G.
SENIOR GEOLOGIST/
PROJECT MANAGER

REVIEWED BY:

WALTER B. HENLEY, JR., P.G.
SENIOR GEOLOGIST

PPM CONSULTANTS, INC.
5555 BANKHEAD HIGHWAY
BIRMINGHAM, ALABAMA 35210
(205) 836-5650

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FIGURES (Appendix A)

TABLES (Appendix C)

APPENDICES

CERTIFICATION

I certify that I am a qualified groundwater scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.

Michael W. Dillon, P.G. – PG002061
Senior Geologist

Date

1.0 INTRODUCTION

PPM Consultants, Inc. (PPM) was retained by Metalplate Galvanizing, L. P. (Metalplate) to conduct annual groundwater and surface water sampling and to prepare an annual corrective action effectiveness report for the Metalplate Galvanizing Facility/Selig Pond site located at 505 Selig Drive Southwest, Atlanta, Fulton County, Georgia (Georgia Hazardous Site Inventory Number 10204). These activities were conducted in accordance with the Georgia Environmental Protection Division (EPD) approved corrective action plan (CAP) dated August 27, 2007.

The purpose of these activities is to gauge the effectiveness of corrective action on site soils, which included source removal and subsequent site restoration, and ongoing treatment of the facility's storm water with the use of an electrocoagulation system. The electrocoagulation system was installed and began operation in October 2014. This report provides a description of the site, summarizes the results of previous investigations, describes conducted field activities, and presents analytical results and findings from the October 2015 groundwater/surface water sampling event. The constituent of interest (COI) for the site groundwater and surface water is zinc.

2.0 BACKGROUND

2.1 SITE LOCATION

The Metalplate facility is located at 505 Selig Drive Southwest in Atlanta, Fulton County, Georgia. The geographic coordinates of the site are 33° 44' 43" north latitude and 84° 32' 44" west longitude (**Figure 1, Site Location Map, Appendix A, Figures**).

2.2 SURROUNDING AREA

The facility is surrounded entirely by property that has been either developed for industrial or commercial purposes, or is undeveloped. The properties located to the north of the facility are industrial and undeveloped. The property west of the facility is industrial. Property to the east of the facility is commercial/industrial. The properties to the south of the facility are railroad property, undeveloped property, and commercial/industrial property. The site includes the property where the Metalplate facility is located and adjacent properties to the south, southeast, and east owned by Aston Investment

Corporation (Aston), Commercial Development, Stonehenge Management Company, and CSX Transportation, Inc. (CSXT).

2.3 SITE DESCRIPTION

The site is mostly comprised of the drainage area just south of the facility and includes several ditches/drainages and a pond (**Figure 2, Site Map**). These include portions of the drainage ditches located near the eastern and southern property boundaries of the Metalplate property (Upper East Ditch and Upper South Ditch), portions of the drainage ditches on CSXT property (Middle Ditch, Small Ditch, Lower West Ditch, and Lower East Ditch), portions of the drainage ditch on Aston property (Outwash Ditch), and an alluvial fan depositional area (Outwash Area) located on Aston property. The site also includes Selig Pond that is approximately 30,000-square feet in area and is located on both Aston and CSXT properties (**Figure 2**). According to the topographic map of the area, elevations at the site generally range from 800 to 880 feet above mean sea level (amsl) (**Figure 1**).

2.4 SITE HISTORY

Following is a brief summary of the history of the site:

Atlantic Steel was the former owner of the present Metalplate property from 1966 to 1974. Atlantic Steel operated the galvanizing facility from 1966 to 1970. The assets of the galvanizing facility were sold to Metalplate in 1970 whereby Metalplate became the operator. The property was subsequently sold to Metalplate in 1974.

2.4.1 Sampling Event – March 28, 1984

Craig-Lynes Chemical Management, Inc. collected five water and/or sludge samples from within and in the vicinity of Selig Pond (**Figure 2**) as part of the Form 103 C (Notification of Hazardous Waste Site) reporting requirements to the United States Environmental Protection Agency (USEPA). One sample was also collected from a smaller pond on the south side of the railroad tracks.

The samples were analyzed for total concentrations of the eight Resource, Conservation, and Recovery Act (RCRA) metals and pH. Two samples were also analyzed for total organic carbon (TOC). The results of the sampling event indicated that elevated concentrations of lead were present in water and/or sludge in the area of Selig Pond. More

information regarding this sampling event can be found in the Compliance Status Report (CSR), revised May 29, 2008.

2.4.2 Sampling Event – March 12, 1986

On March 12, 1986, USEPA representatives collected soil samples from the Lower West Ditch leading into Selig Pond, from within Selig Pond, from a location upgradient of Selig Pond, and from just below the CSXT railroad spur. Representatives for Metalplate were provided with splits of the samples. The split samples were analyzed for total lead and zinc and RCRA metals according to the extraction procedure (EP) toxicity leaching protocol. The results of the sampling event revealed elevated concentrations of lead and zinc in soil. Additional information can be found in the CSR.

2.4.3 Compliance Status Investigation – February 2000 through May 2008

A Compliance Status Investigation (CSI) was performed between February 28, 2000 and May 28, 2004, by Williams Environmental Services, Inc. (Williams) and continued by PPM between March 12, 2007 and May 16, 2008. The investigation was prompted by the site being placed on the state hazardous site inventory list based on an exceedance of the Reportable Quantities Screening Method (RQSM) threshold score for soil. The RQSM threshold was not exceeded for groundwater.

The purpose of the investigation was to determine the compliance status of the site compared with applicable risk reduction standards (RRSs) established under the Georgia Hazardous Site Response Act (HSRA). Other objectives of the study were to investigate the nature and horizontal and vertical extent of regulated COI in the soil, groundwater, and surface water, identify human and environmental receptors potentially exposed to the release, and define the properties affected by the release.

During the investigation, soil was evaluated by collection and analysis of soil samples from 147 soil borings advanced during and prior to the CSI. A total of 12 shallow Type II monitoring wells (MW-1 through MW-12) and two bedrock Type III monitoring wells (MW-6D and MW-13D) were installed for the evaluation of groundwater. Surface water was evaluated by collection and analysis of surface water samples from 16 locations.

The horizontal and vertical extent of COI concentrations in soil and groundwater above upper background limits (UBLs) was defined in all directions at the site during the CSI. At certain locations, lead and zinc concentrations in soil and concentrations of zinc in

groundwater exceeded Type 1, 2, 3, and 4 RRSs. The results of the CSI can be found in the revised CSR submitted on May 29, 2008.

2.4.4 Soil Removal – August 11, 2008 through August 20, 2008

During the soil removal, a total of approximately 1,555 tons (estimated 1,037 cubic yards) of soil was excavated from the facility property, transported, and disposed. Soil with visible impact (discoloration) was excavated from the entire length of both the Upper East Ditch and the Upper South Ditch located on the facility property. Confirmation samples confirmed that soil with concentrations of COI above Type 4 RRSs was removed from the excavations. The excavations were a minimum of 1 foot deep and a maximum of approximately 7 feet deep.

Site restoration activities were performed by Metalplate following the soil removal. The Upper East Ditch and Upper South Ditch were reconstructed and a detention basin was constructed connecting the two ditches. The restoration was part of the Best Management Practice (BMP) for the facility's Storm Water Pollution Prevention Plan (SWPPP). These measures are expected to decrease sediment loads leaving the property and decrease COI concentrations in storm water, surface water, and groundwater.

2.4.5 Voluntary Investigation and Remediation Plan and Application

A Voluntary Investigation and Remediation Plan and Application was prepared by MACTEC and submitted to the EPD on August 9, 2010. In response, the EPD in letters dated February 14, 2011, accepted the Metalplate Galvanizing Facility property as a participant in the Voluntary Remediation Program Act (VRPA) and requested items to be included in future semi-annual VRP progress reports.

2.4.6 Screening Level Ecological Risk Assessment

A Screening Level Ecological Risk Assessment (SLERA) was prepared by MACTEC and submitted to the EPD on August 9, 2010. In response, the EPD in a letter dated February 14, 2011, requested a revised SLERA, a Baseline Ecological Risk Assessment (BERA), Remedial Goal Options (RGOs), and a schedule for submittal of a sediment corrective action plan by May 16, 2011. The EPD also stated that semi-annual groundwater and surface water sampling results should be submitted with the required VRP progress reports. By a June 29, 2012 letter, EPD concurred that ecological considerations would not require corrective action on sediments.

2.4.7 Groundwater Monitoring

Baseline groundwater monitoring was conducted at the site between September 8, 2008 and September 10, 2008, shortly after the soil removal corrective action activities were complete. The sampling was conducted to establish baseline concentrations for the purpose of determining corrective action effectiveness. The results of the baseline groundwater sampling were presented in the Soil Removal Report.

Periodic groundwater monitoring events have been conducted to monitor plume stability and effectiveness of the corrective action. The results of these events have been presented in groundwater monitoring/corrective action effectiveness reports and VRP progress reports.

In correspondence dated November 8, 2013, the EPD provided a proposed VRP schedule after meeting with Metalplate representatives on October 21, 2013. The schedule (EPD Proposed Milestone Dates for Project Implementation, November 8, 2013) requested surface water sampling and collection of water elevation data to be conducted in April 2014. The schedule requested annual groundwater sampling, surface water sampling, and water elevation data collection to be conducted in October each year through 2018. Annual VRP Progress Reports were required to be submitted to the EPD in February each year following the October sampling events; with the exception of February 2019 in which a Compliance Status Report should be submitted. The schedule was adopted in the 2014 Consent Order discussed in **Section 2.4.8**. Results of the groundwater and surface water sampling activities conducted during each previous period will be included in the annual progress reports. During the annual groundwater sampling events, groundwater from monitoring wells MW-1, MW-2, MW-4, MW-5, MW-7, and MW13D will be sampled and analyzed.

2.4.8 2014 Consent Order and New Storm Water Treatment Plan

As a result of discussions between EPD and Metalplate regarding the company's commitment to install a state-of-the-art electrocoagulation storm water treatment system, and that system's potential impact on the appropriate timing of VRP-related obligations, Metalplate and EPD entered a Consent Order revising and extending VRP milestones through February 14, 2019. The Consent Order became effective on September 4, 2014. The facility installed the electrocoagulation system in the fall of 2014, and it began

operating in October 2014. As a result, the facility has seen significant reductions of zinc in its discharged storm water, consistently below applicable thresholds.

3.0 INVESTIGATIVE METHODOLOGY

3.1 GROUNDWATER/SURFACE WATER ELEVATION SURVEY

Site groundwater flow direction was estimated through groundwater and surface water elevation surveys conducted on October 29, 2015. Depth to groundwater measurements within the wells were accomplished with the use of a water level indicator capable of measuring the water depth to within +/- 0.01 feet. The indicator probe was cleaned prior to use at each well location by means of a phosphate-free soap rinse and a rinse with distilled water. The well casing elevations and groundwater depths were used to calculate groundwater elevations for the purpose of determining groundwater flow direction. Surface water elevations were measured at select locations of the site with the aid of stream gauges.

3.2 GROUNDWATER SAMPLING

Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-4, MW-5, MW-7, and MW-13D on October 30, 2015. The wells were sampled in general accordance with Region 4 EPA Science and Ecosystem Support Division operating procedure No. SESDPROC-301-R1.

Groundwater samples were collected using low flow/low volume groundwater sampling techniques. Depths to groundwater were measured in the monitoring wells using a water level indicator. Depths to water, well diameter, and total well depths from the monitoring wells were used to calculate well volumes. Purging and sampling was accomplished using a variable speed submersible pump or peristaltic pump and dedicated polyethylene tubing and silicone tubing. The intake of the polyethylene tubing for the peristaltic pump or intake of the submersible pump was placed at an approximate depth that correlated to the center of the monitoring well screened interval. In some cases, the top of water within the well could be below the top of screen. In these cases, the intake was placed approximately at the center of the screened water column.

In correspondence dated January 12, 2016, the EPD raised a question about the placement of pumps relative to screened intervals. A detailed response was submitted on January 21,

2016, and it concluded that pump placement for recent sampling events has been generally in the center of the screened interval. Going forward, the depth of the pump intakes will be recorded more precisely so that it is more clear that they have been placed in the center of the saturated portion of the screen. Purging rates were less than <0.1 gallons per minute (gpm).

Temperature, pH, specific conductivity, oxidation-reduction potential (ORP), and turbidity were measured during purging using a flow-through cell. The wells were purged until these field parameters had equilibrated and an attempt was made to collect samples when the turbidity was less than 10 nephelometric turbidity units (NTUs). The groundwater samples from monitoring wells MW-1 and MW-5 were collected with turbidity levels greater than 10 NTUs after attempts to obtain lower turbidity levels were unsuccessful. The higher turbidity level was attributed to possible suspended mica. Field measurements were recorded on groundwater sampling field logs found in **Appendix B, Groundwater Sampling Field Logs** and are summarized in **Table 1, Intrinsic Groundwater Parameters, Appendix C, Tables**.

Groundwater samples were obtained through dedicated polyethylene tubing prior to reaching the flow-through cell and were placed in polyethylene containers, one containing nitric acid (HNO_3) for analysis of total zinc and one with no preservative for analysis of dissolved zinc. Each container was filled with the sample, promptly capped, and appropriately labeled to indicate the sample origin. Containers were subsequently placed in an iced cooler for preservation during shipment to the laboratory. Disposable, nitrile gloves were worn during the sample collection and changed between each sample acquisition.

3.3 SURFACE WATER SAMPLING

Surface water samples were collected from sample locations SW-1A, SW-2A, SW-3A, SW-4B, SW-5, SW-6A, and SW-7 on October 29, 2015. Surface water was sampled in general accordance with Region 4 EPA Science and Ecosystem Support Division operating procedure No. SESDPROC-201-R3.

Surface water samples were collected from downstream to upstream locations by directly dipping the sample container into the water at each sampling location. The sample containers were dipped into the stream in the upstream direction of sampling personnel. Precautions were made to ensure that bottom sediment was not disturbed and that samples

collected were representative of the surface water body. The weather condition during the time of sampling was sunny and 60 °F on October 29, 2015.

3.4 LABORATORY ANALYSIS

Analytical Environmental Services, Inc. (AES) of Atlanta, Georgia (NELAC Certification No. E87582) analyzed the groundwater and surface water samples. Samples were submitted using chain-of-custody protocol. Groundwater samples were analyzed for total zinc and dissolved zinc per EPA Method 6010C. Surface water samples were analyzed for dissolved zinc per EPA Method 6010C and total hardness per EPA Method 2340B.

4.0 FINDINGS

4.1 GROUNDWATER/SURFACE ELEVATIONS

Groundwater elevations, surface water elevations, and known ground surface elevations were utilized to contour the top of groundwater and determine groundwater flow direction. The elevations and groundwater flow pattern are shown on **Figure 3, Groundwater/Surface Water Elevation Map (October 29, 2015)**. The groundwater flow on October 29, 2015 was to the southeast at an average gradient of 0.035 feet per foot (ft/ft) (measured from MW-1 to MW-4). Groundwater elevations are provided in the **Table 2, Groundwater/Surface Water Elevation Summary**, and shown on **Figure 3**.

The groundwater flow velocity (V) can be determined using the horizontal hydraulic conductivity, hydraulic gradient, and effective porosity. Site values for horizontal hydraulic conductivity and hydraulic gradient were determined from the data collected during the CSI, and groundwater monitoring events, respectively. Effective porosity can be estimated from published literature based on the presence of silt and sand.

The groundwater flow velocity (V) is calculated from the equation:

$$V = k * \frac{i}{n_e}$$

Where:

- k = hydraulic conductivity = 9.25E-04 ft/min (average from slug tests in soil)

- i = hydraulic gradient = 0.035 (average from monitoring well MW-1 to MW-4 on October 29, 2015)
- ne = effective porosity = 0.28 (combination of silt and sand from Groundwater Hydrology and Hydraulics, D. B. McWhorter and D. K. Sunada, 1977).

Using the assumptions listed above, the average groundwater flow velocity at the site is approximately 0.167 feet per day (ft/day) or 60.8 feet per year (ft/year).

4.2 TOTAL ZINC CONCENTRATIONS IN GROUNDWATER

Total zinc concentrations for the baseline groundwater sampling event conducted at the time of the Soil Removal (September 2008) and the two latest groundwater sampling events are summarized below and included in **Table 3, Groundwater Analytical Summary**. Groundwater analytical reports are included in **Appendix D, Groundwater/Surface Water Analytical Results**.

Total Zinc Concentrations in Groundwater for Baseline and Current Sampling Events (mg/L)

Well I.D.	September 2008 (Baseline)	October 2014	October 2015
MW-1	0.372	<0.020	0.0916
MW-2	11.0	12.0	6.55
MW-3	**62.5**	--	--
MW-3R	--	--	--
MW-4	<0.020	<0.020	0.0206
MW-5	14.1	3.33	0.357
MW-6	0.028	--	--
MW-6D	0.0493	--	--
MW-7	**48.8**	9.26	8.82
MW-8	<0.020	--	--
MW-9	<0.020	--	--
MW-10	<0.020	--	--
MW-11	<0.020	--	--
MW-12	<0.020	--	--
MW-13D	9.12	8.90	28.5

Bold – indicates above a Type 4 RRS [31 milligrams per liter (mg/L)]

Historic low total zinc and dissolved zinc concentrations were observed in groundwater samples collected at monitoring wells MW-2 and MW-5. The lower concentrations may

suggest that the reduction of zinc in stormwater via electrocoagulation is improving groundwater. Additional sampling events will help assess this potential dynamic.

The plume extends from the facility toward the southeast and is horizontally defined to the northwest by monitoring well MW-1, to the northeast by MW-4, and to the west by MW-5. The Lower South Ditch also appears to function as a hydraulic divide (or barrier) to the southeast, south, and southwest.

Total zinc concentrations in groundwater for the October 2015 event are shown on **Figure 4, Total Zinc Isoconcentration Map - Groundwater (October 30, 2015)**. A graph showing total zinc concentrations versus time is shown on **Figure 5, Total Zinc Concentration vs. Time - Groundwater**.

4.3 DISSOLVED ZINC CONCENTRATIONS IN SURFACE WATER

Dissolved zinc concentrations for surface water sampling events conducted on October 29, 2015, are provided below and are included in **Table 4, Surface Water Analytical Summary**. Analytical reports are included in **Appendix D, Groundwater/Surface Water Analytical Results**.

Dissolved Zinc Concentrations in Surface Water for Baseline and Current Sampling Events (mg/L)

Sample I.D.	May 2014 (Baseline)	October 2014	October 2015
SW-1A	211	16.6	15.3
SW-2A	180	172	138
SW-3A	36.2	20.5	22.9
SW-4A	78.8	--	--
SW-4B	--	71.8	10.0
SW-5	128	6.92	18.1
SW-6	235	--	--
SW-6A	--	247	159
SW-7	38.4	45.9	41.8

Dissolved zinc concentrations in surface water continued to decrease since baseline sampling conducted prior to startup of the electrocoagulation system (October 2014). The average dissolved zinc concentrations for the seven surface water samples decreased by 55 percent from May 2014 to October 2015. Dissolved zinc concentrations for the surface

water sampling events are shown on **Figure 6, Dissolved Zinc Concentration Map – Surface Water (October 29, 2015)**. A graph showing dissolved zinc concentrations versus time is shown on **Figure 7, Dissolved Zinc Concentration vs. Time – Surface Water**.

4.4 EVALUATION OF THE EFFECTIVENESS OF CORRECTIVE ACTION

All groundwater samples showed zinc concentrations below Type 4 RRS. Historic low total zinc and dissolved zinc concentrations were observed in groundwater samples collected at monitoring wells MW-2 and MW-5 located in the central and western portions of the plume respectively. The lower concentrations may be an incidental benefit of the storm water treatment efforts utilizing the electrocoagulation system that has been in operation since October 2014. Following the soil removal conducted in August 2008, the concentration of total zinc at the upgradient portion of the plume (MW-7) decreased and the concentration has remained relatively stable and below the Type 4 RRS for the last six years. The zinc concentration in MW-13D increased following the soil removal but has also remained below the Type 4 RRS since the soil removal.

Dissolved zinc concentrations in surface water continued to decrease since the May 2014 baseline sampling was conducted prior to the startup of the electrocoagulation system in October 2014. The average dissolved zinc concentrations for the seven surface water samples decreased by 55% from May 2014 to October 2015.

5.0 CONCLUSIONS

The general direction of groundwater flow at the site is toward the southeast. The hydraulic gradient between monitoring wells MW-1 and MW-4 is estimated at 0.035 ft/ft and flow velocity is estimated at 60.8 ft/year. The Lower South Ditch functions as a groundwater divide and the Selig Pond functions as a surface impoundment. Both of these features impact the pattern of groundwater flow in the immediate vicinity as has been reflected in **Figure 3**.

During the latest groundwater sampling event (October 2015), total zinc concentrations did not exceed the Type 4 RRS for total zinc (31 mg/L) in any well. The total zinc concentrations decreased in the western portion of the plume (MW-5) from 3.33 mg/L to a historic low of 0.357 mg/L, which is below the Type 1 RRS for zinc in groundwater. The concentration of total zinc decreased in the central portion of the plume (MW-2) from 12.0

mg/L to a historic low of 6.55 mg/L. The concentration of total zinc at the upgradient portion of the plume (MW-7) decreased following the soil removal conducted at the site in August 2008 and the concentration has remained relatively stable and below the Type 4 RRS for the last six years. The concentrations in monitoring well MW-13D has also remained below the Type 4 RRS since the soil removal.

Dissolved zinc concentrations in surface water continued to decrease since the May 2014 baseline sampling was conducted prior to the startup of the electrocoagulation system in October 2014. The average dissolved zinc concentrations for the combined seven surface water samples decreased by 55% from May 2014 to October 2015.

Effectiveness of the soils corrective action and stormwater electrocoagulation on groundwater and surface water zinc concentrations will continue to be monitored during annual sampling events.

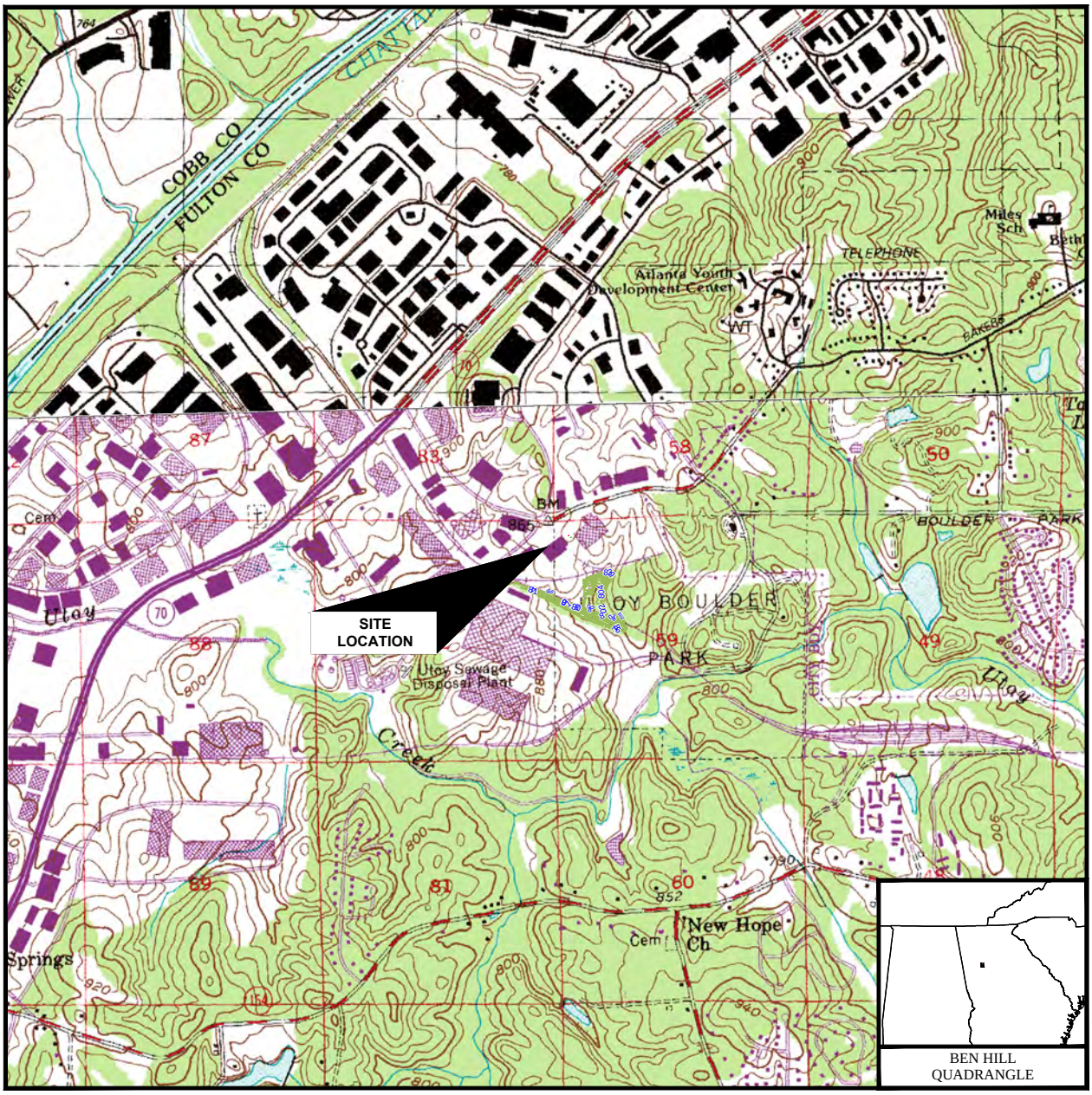
PPM anticipates that Metalplate's continued use of the electrocoagulation system for treatment of storm water may continue to have positive impact on surface water and groundwater zinc concentrations at the site. Future sampling events will help assess this potential dynamic and its possible significance to evaluating whether any further remediation of zinc releases may be required under the VRP due to surface water conditions.

6.0 RECOMMENDATIONS

PPM recommends continuation of annual groundwater and surface water sampling in accordance with the schedule provided in the 2014 Consent Order.

APPENDICES

APPENDIX A – FIGURES



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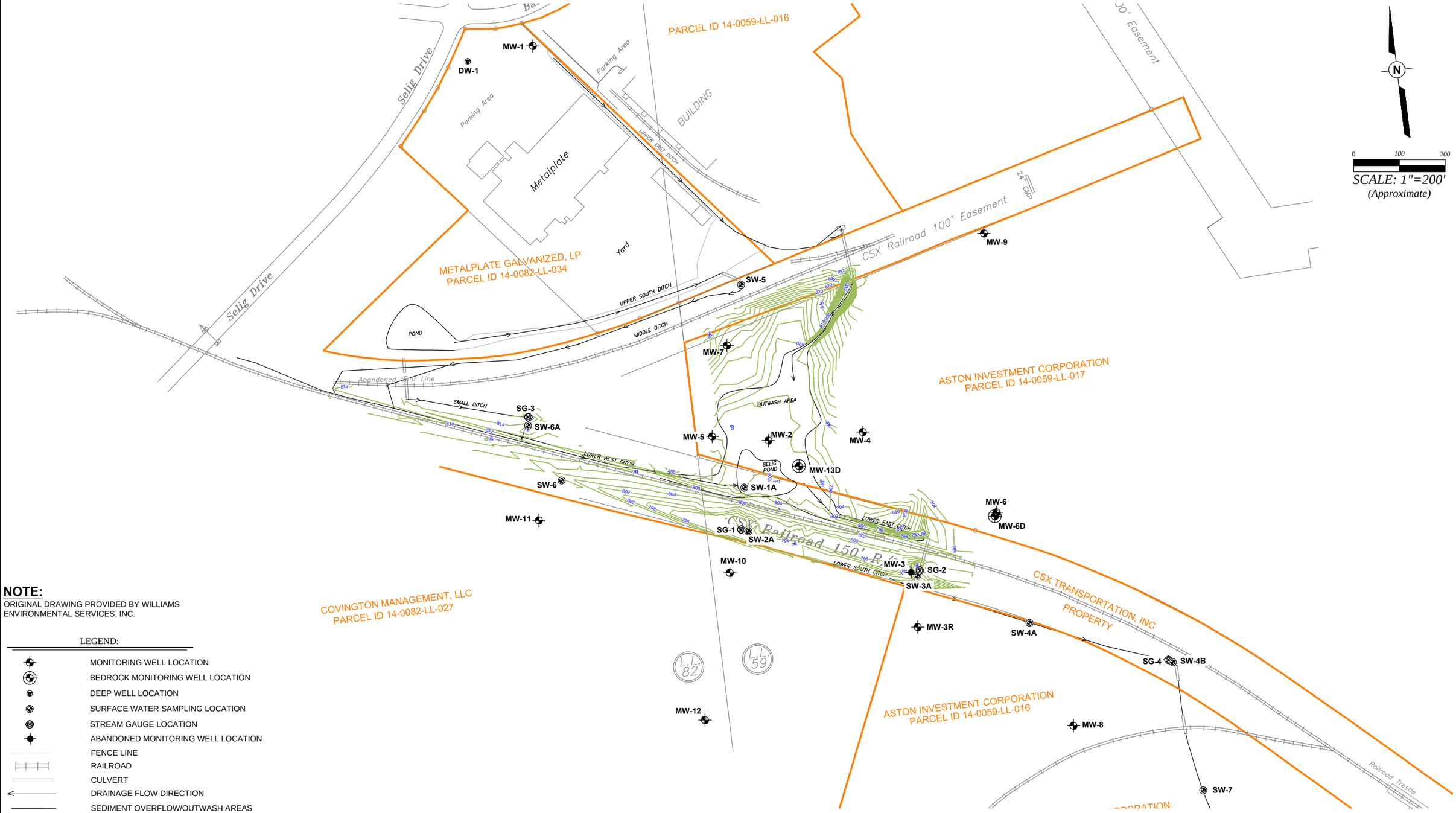
PPM CONSULTANTS, INC. www.ppmco.com		METALPLATE GALVANIZING, L.P. **METALPLATE FACILITY/SELIG POND** 505 SELIG DRIVE SW ATLANTA, GEORGIA	SITE LOCATION MAP
DRAWN BY: BWH	DRAWN DATE: 11/23/15		FIGURE NUMBER 1
PROJECT NUMBER: 494501	BILLING GROUP: GWM15		

Z:\Metalplate Galvanizing, L.P\494501 - Metalplate Facility Selig Pond\Gwm15\494501-Gwm15.dwg, 1 sim, 2/12/2016 7:12:59 AM, brian hicks



NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- SURFACE WATER SAMPLING LOCATION
- STREAM GAUGE LOCATION
- ABANDONED MONITORING WELL LOCATION
- FENCE LINE
- RAILROAD
- CULVERT
- DRAINAGE FLOW DIRECTION
- SEDIMENT OVERFLOW/OUTWASH AREAS

PPM CONSULTANTS, INC.
www.ppmco.com

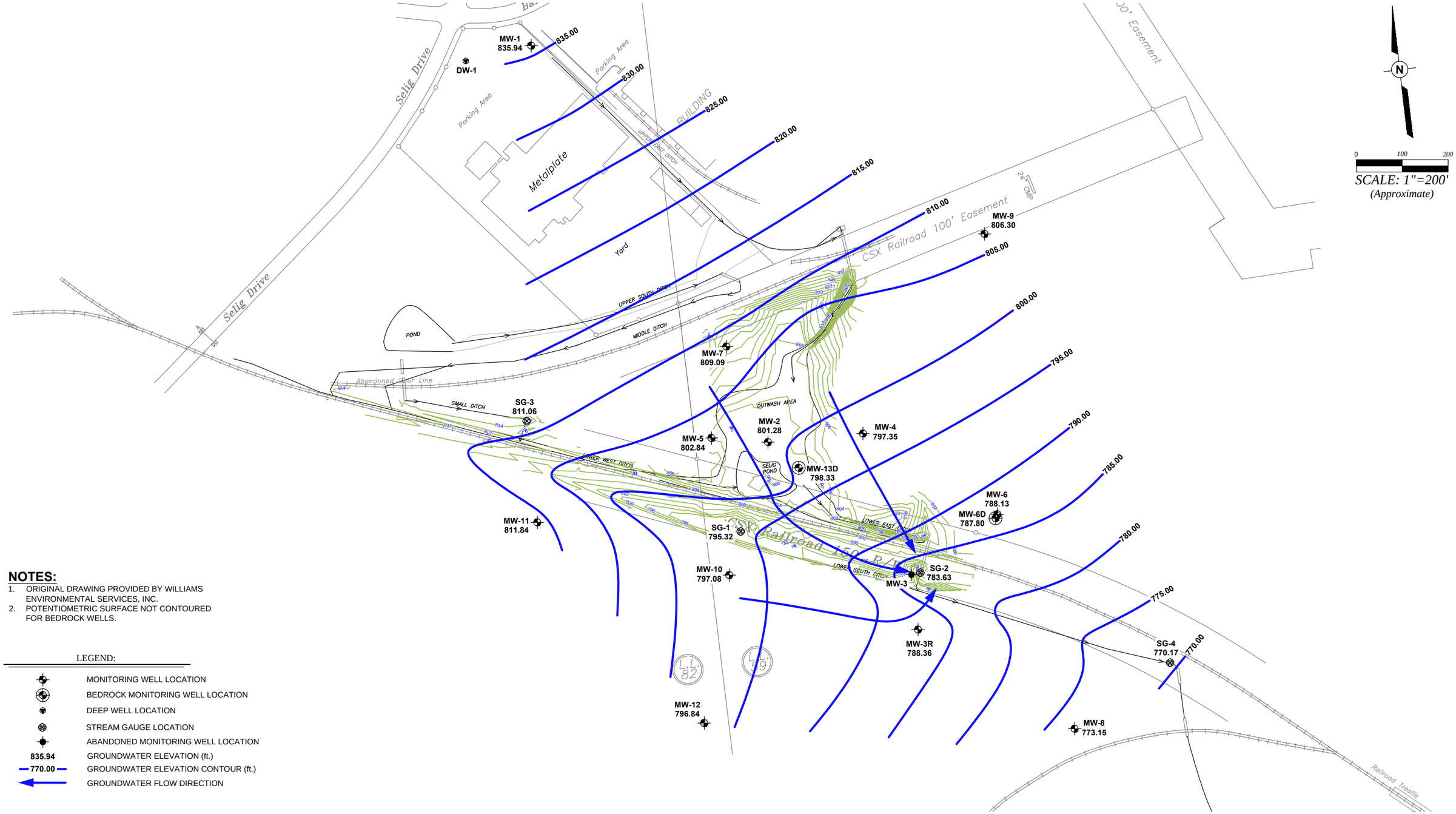
DRAWN BY:	DRAWN DATE:
BWH	11/23/15
PROJECT NUMBER:	BILLING GROUP:
494501	GWM15

METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

SITE MAP

FIGURE NUMBER
2

Z:\Metalplate Galvanizing, LP\494501 - Metalplate Facility, Selig Pond\Gwm15\494501-Gwm15.dwg, 2.sm, 2/12/2016 7:13:04 AM, brian hicks



NOTES:

1. ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.
2. POTENTIOMETRIC SURFACE NOT CONTOURED FOR BEDROCK WELLS.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- STREAM GAUGE LOCATION
- ABANDONED MONITORING WELL LOCATION
- 835.94 — GROUNDWATER ELEVATION (ft.)
- 770.00 — GROUNDWATER ELEVATION CONTOUR (ft.)
- GROUNDWATER FLOW DIRECTION

PPM CONSULTANTS, INC. www.ppmco.com	
DRAWN BY: BWH	DRAWN DATE: 11/23/15
PROJECT NUMBER: 494501	BILLING GROUP: GWM15

METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

GROUNDWATER / SURFACE WATER ELEVATION MAP
(OCTOBER 29, 2015)

FIGURE NUMBER
3

Z:\Metalplate Galvanizing, L.P\494501 - Metalplate Facility Selig Pond\Gwm15\494501-Gwm15.dwg, 3 GW, 2/12/2016 7:13:13 AM, brian.hicks

NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- SURFACE WATER SAMPLING LOCATION
- ABANDONED MONITORING WELL LOCATION
- 0.0916 — TOTAL ZINC CONCENTRATION (mg/L)
- 2 — ESTIMATED HORIZONTAL EXTENT OF ZINC IN GROUNDWATER EXCEEDING THE TYPE 1 RRS (2 mg/L)
- NS — NOT SAMPLED

PPM CONSULTANTS, INC.
www.ppmco.com

DRAWN BY:	DRAWN DATE:
BWH	11/23/15
PROJECT NUMBER:	BILLING GROUP:
494501	GWM15

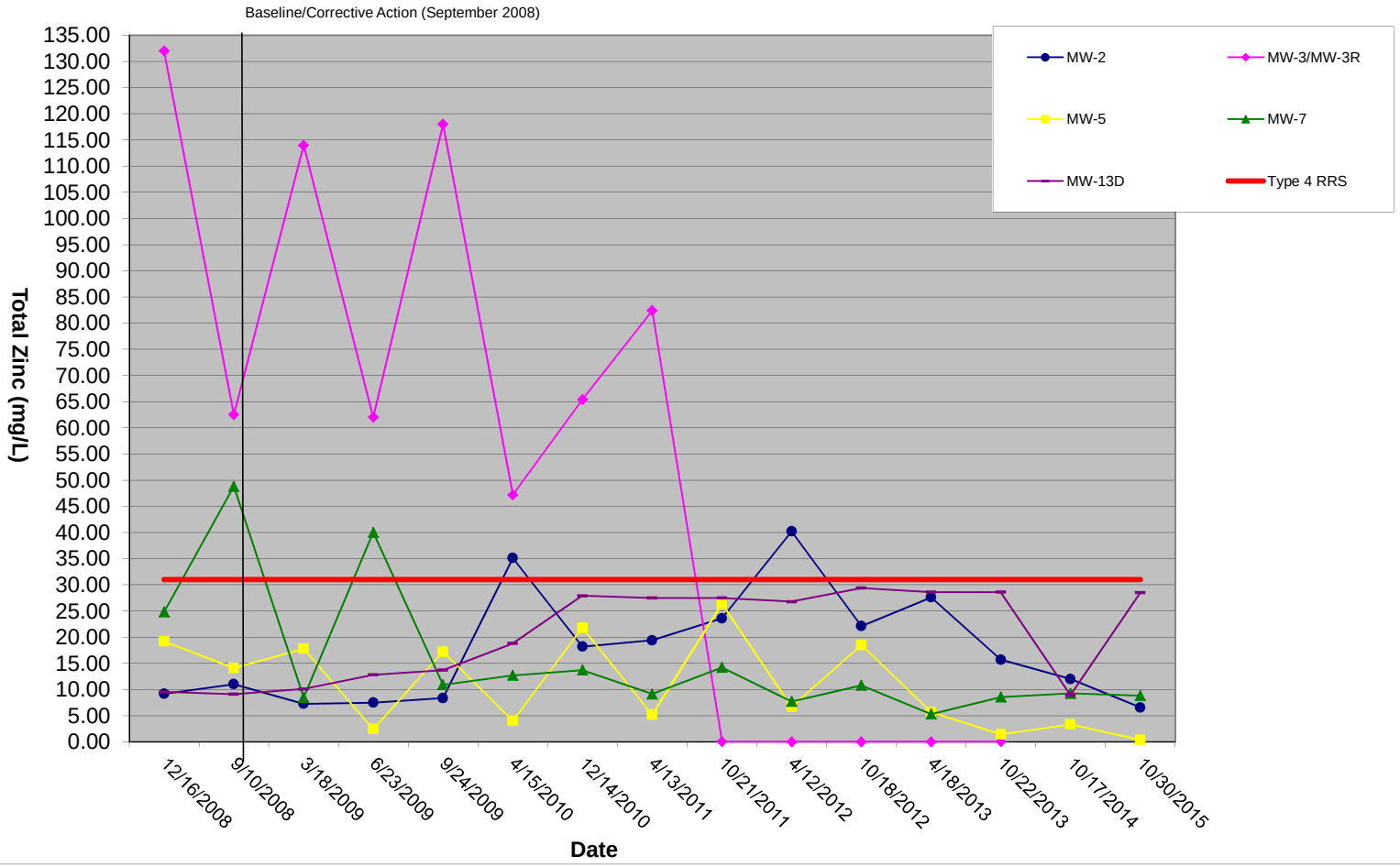
METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

TOTAL ZINC ISOCONCENTRATION MAP - GROUNDWATER
(OCTOBER 30, 2015)

FIGURE NUMBER
4

Z:\Metalplate Galvanizing, L.P\494501 - Metalplate Facility Selig Pond\Gwm15\494501-Gwm15.dwn, 4 Zinc, 2/12/2016 7:13:22 AM, brian hicks

FIGURE 5
Total Zinc Concentration vs Time- Groundwater



	Baseline														
	Dec-08	Sep-08	Mar-09	Jun-09	Sep-09	Apr-10	Dec-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Oct-14	Oct-15
MW-2	9.17	11.0	7.25	7.48	8.36	35.1	18.2	19.4	23.6	40.2	22.1	27.6	15.7	12.0	6.55
MW-3/MW-3R	132	62.5	114	62.0	118	47.2	65.4	82.4	0.0387	<0.020	<0.020	<0.020	0.0251		
MW-5	19.2	14.1	17.8	2.44	17.2	4.00	21.8	5.19	26.4	6.71	18.5	5.7	1.44	3.33	0.357
MW-7	24.8	48.8	8.46	40.0	10.9	12.7	13.7	9.13	14.2	7.70	10.8	5.3	8.54	9.26	8.82
MW-13D	9.53	9.12	10.1	12.8	13.7	18.8	27.9	27.5	27.5	26.8	29.4	28.6	28.6	8.90	28.50
Type 4 RRS	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31

Not Applicable

NOTE:
ORIGINAL DRAWING PROVIDED BY WILLIAMS ENVIRONMENTAL SERVICES, INC.

LEGEND:

- MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP WELL LOCATION
- SURFACE WATER SAMPLING LOCATION
- ABANDONED MONITORING WELL LOCATION
- **15.3** DISSOLVED ZINC CONCENTRATION (mg/L)

PPM CONSULTANTS, INC. www.ppmco.com	
DRAWN BY: BWH	DRAWN DATE: 11/23/15
PROJECT NUMBER: 494501	BILLING GROUP: GWM15

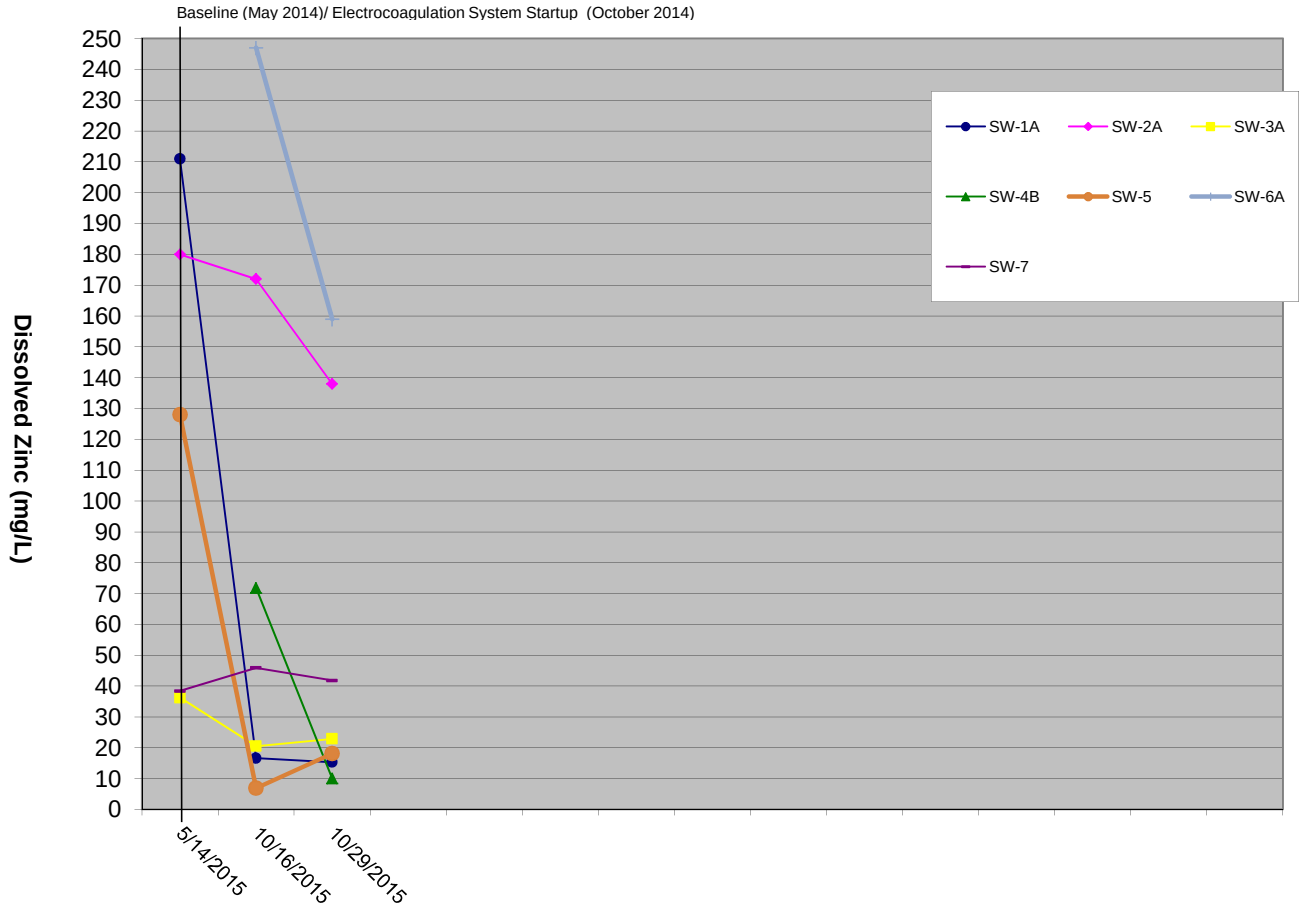
METALPLATE GALVANIZING, L.P.
METALPLATE FACILITY/SELIG POND
505 SELIG DRIVE SW
ATLANTA, GEORGIA

DISSOLVED ZINC CONCENTRATION MAP - SURFACE WATER
(OCTOBER 29, 2015)

FIGURE NUMBER
6

Z:\Metalplate Galvanizing, L.P.\494501 - Metalplate Facility Selig Pond\Gwm15\494501-Gwm15.dwn, 6 Zinc, 2/12/2016 7:13:30 AM, brian hicks

FIGURE 7
Dissolved Zinc Concentration vs Time - Surface Water



			Baseline												
	May-15	Oct-15	Oct-15												
SW-1A	211	16.6	15.3												
SW-2A	180	172	138												
SW-3A	36.2	20.5	22.9												
SW-4B		71.8	10												
SW-5	128	6.92	18.1												
SW-6A		247	159												
SW-7	38.4	45.9	41.8												

APPENDIX B – GROUNDWATER SAMPLING FIELD LOGS

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~60°F
WELL I.D.:	MW-1		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	855.16
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	18.12'
Well Depth (ft-BTOC)	23.01'	Well Volume (gal)	0.80 gal
Water Column (ft)	4.89'	Screened Interval (ft-BGS)	13-23

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LDPE 0.25" I.D.
Time of Sampling	10:30
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~20' BTOC

WATER QUALITY PARAMETERS

	Initial						
Time	10:15	10:20	10:25	10:30			
Depth to water (ft-BTOC)	18.12	18.94	19.60	19.77			
Amount Purged	—	<0.25G	<0.5G	<1.0G			
Temperature (°C)	17.91	18.42	18.49	18.51			
Sp. Cond. (uS/cm)	147	127	120	116			
pH (S.U.)	5.92	5.76	5.76	5.74			
ORP (mV)	197.0	208.9	219.3	223.0			
Turbidity (NTU)	11.7	6.23	15.7	20.9			

LABORATORY DATA

Sample I.D.	MW-1	Sample Time:	10:30
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS: * Well was starting to go DRY and turbidity was rising - Went ahead and collected Sample @ 10:30

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~65°F
WELL I.D.:	MW-2		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	805.55
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	3.05'
Well Depth (ft-BTOC)	15.39'	Well Volume (gal)	2.01 gal
Water Column (ft)	12.34'	Screened Interval (ft-BGS)	2-12

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LDPE 0.25" I.D.
Time of Sampling	08:15
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~10'

WATER QUALITY PARAMETERS

	Initial						
Time	08:00	08:05	08:10	08:15			
Depth to water (ft-BTOC)	3.05'	3.50	3.98	4.02			
Amount Purged	—	<0.25 G	<0.5 G	~0.75 G			
Temperature (°C)	18.14	18.29	18.28	18.28			
Sp. Cond. (uS/cm)	164	188	191	190			
pH (S.U.)	4.61	4.83	4.83	4.84			
ORP (mV)	326.0	377.1	375.3	372.2			
Turbidity (NTU)	14.3	10.4	5.22	4.58			

LABORATORY DATA

Sample I.D.	MW-2	Sample Time:	08:15	
Analyte	Total Zinc/Dissolved Zinc			
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)			

REMARKS AND OBSERVATIONS: * DUP from MW-2 *

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~65°F
WELL I.D.:	MW-4		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	814.78
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	19.00'
Well Depth (ft-BTOC)	29.32'	Well Volume (gal)	1.68 gal
Water Column (ft)	10.32'	Screened Interval (ft-BGS)	18-28

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LDPE 0.25" I.D.
Time of Sampling	07:25
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~25' BTOC

WATER QUALITY PARAMETERS

	Initial						
Time	06:55	07:00	07:05	07:15	07:25		
Depth to water (ft-BTOC)	19.00	19.62	19.69	19.71	19.71		
Amount Purged	—	<0.25 G	<0.5 G	~1.0 G	~1.5 G		
Temperature (°C)	15.40	15.61	15.74	15.75	15.75		
Sp. Cond. (uS/cm)	68	63	54	51	50		
pH (S.U.)	6.53	6.38	6.17	6.15	6.14		
ORP (mV)	128.2	142.5	164.8	171.0	172.3		
Turbidity (NTU)	106.1	84.1	37.1	8.23	3.99		

LABORATORY DATA

Sample I.D.	MW-4	Sample Time:	07:25
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS:

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~65°F
WELL I.D.:	MW-5		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	813.26
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	9.32'
Well Depth (ft-BTOC)	27.40'	Well Volume (gal)	2.95 gal
Water Column (ft)	18.08'	Screened Interval (ft-BGS)	15-25

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LDPE 0.25" I.D.
Time of Sampling	09:50
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~20' BTOC

WATER QUALITY PARAMETERS

	Initial						
Time	09:20	09:30	09:40	09:50			
Depth to water (ft-BTOC)	9.32	9.72	9.80	9.89			
Amount Purged	—	<0.25G	<0.75G	~1.5G			
Temperature (°C)	16.37	16.63	16.69	16.70			
Sp. Cond. (uS/cm)	1215	1212	1211	1207			
pH (S.U.)	5.67	5.79	5.82	5.80			
ORP (mV)	226.9	212.8	209.9	208.2			
Turbidity (NTU)	96.5	30.1	9.89	13.2			

LABORATORY DATA

Sample I.D.	MW-5	Sample Time:	09:50
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS: * Readings were stable; however, turbidity was going back up so went ahead and sampled @ 09:50

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~65°F
WELL I.D.:	MW-7		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	818.74
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	8.48'
Well Depth (ft-BTOC)	17.08	Well Volume (gal)	1.40 gal
Water Column (ft)	8.60'	Screened Interval (ft-BGS)	5-20

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LPDE 0.25" I.D.
Time of Sampling	09:10
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~13' BTOC

WATER QUALITY PARAMETERS

	Initial						
Time	08:30	08:40	08:50	09:00	09:10		
Depth to water (ft-BTOC)	8.48'	8.60	8.63	8.64	8.63		
Amount Purged	—	<0.5 G	~1.0 G	~1.5 G	~1.75 G		
Temperature (°C)	17.16	17.77	17.94	17.97	17.99		
Sp. Cond. (uS/cm)	1145	1285	1274	1270	1268		
pH (S.U.)	5.00	5.11	5.19	5.20	5.20		
ORP (mV)	273.3	268.5	254.1	252.6	251.9		
Turbidity (NTU)	277	153	47.8	10.9	4.44		

LABORATORY DATA

Sample I.D.	MW-7	Sample Time:	09:10
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS:

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM15
SITE NAME:	Metalplate	SAMPLING DATE:	10-30-2015
LOCATION:	Atlanta Georgia	WEATHER:	Overcast ~65°F
WELL I.D.:	MW-13D		
SAMPLER'S NAME:	RS/HW		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	805.55
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	6.10'
Well Depth (ft-BTOC)	56.17'	Well Volume (gal)	8-16 gal
Water Column (ft)	50.07'	Screened Interval (ft-BGS)	51-53

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic Pump
Tubing Type	LPDE 0.25" I.D.
Time of Sampling	07:50
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~52' BTOC

WATER QUALITY PARAMETERS

	Initial						
Time	07:35	07:40	07:45	07:50			
Depth to water (ft-BTOC)	6.10	6.92	7.11	7.18			
Amount Purged	—	<0.5G	<0.75G	~1.0G			
Temperature (°C)	16.03	16.08	16.09	16.08			
Sp. Cond. (uS/cm)	1283	1311	1314	1310			
pH (S.U.)	5.52	5.57	5.57	5.55			
ORP (mV)	260.6	264.4	266.1	269.8			
Turbidity (NTU)	7.68	3.97	2.02	3.04			

LABORATORY DATA

Sample I.D.	MW-13D	Sample Time:	07:50
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS:

APPENDIX C – TABLES

TABLE 1
INTRINSIC GROUNDWATER PARAMETERS
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	SAMPLE DATE	pH (S.U.)	TEMPERATURE (°C)	SPECIFIC CONDUCTIVITY (µS/cm)	OXIDATION REDUCTION POTENTIAL (mV)	TURBIDITY (NTU)
MW-1	4/15/2010	5.22	18.8	94	257.7	1.63
	12/14/2010	5.10	18.8	13	-17.1	0.00
	4/12/2011	5.04	18.1	116	167.3	4.24
	10/21/2011	5.28	20.1	101	317.6	5.28
	4/12/2012	5.29	20.5	80	175.4	4.08
	10/18/2012	5.23	20.9	86	82.8	57.0
	4/18/2013	4.62	19.9	87	99.1	7.99
	10/22/2013	5.03	19.5	111	228.0	0.90
	10/17/2014	5.16	18.1	100	169.6	15.8
	10/30/2015	5.74	18.5	116	223.0	20.9
MW-2	4/15/2010	4.27	15.7	350	306.1	0.75
	12/14/2010	4.09	10.9	17	NM*	0.00
	4/12/2011	4.04	15.2	287	171.4	1.36
	10/20/2011	4.23	20.2	380	368.8	1.05
	4/12/2012	4.10	18.2	636	247.8	3.52
	10/18/2012	4.14	21.0	374	136.4	2.54
	4/18/2013	3.93	17.6	490	102.7	2.52
	10/22/2013	4.10	19.8	454	298.0	0.55
	10/17/2014	4.33	21.2	327	263.8	2.50
	10/30/2015	4.84	18.3	190	372.2	4.58
MW-3	4/15/2010	4.17	14.6	1,015	287.0	476
	12/14/2010	3.99	11.3	16	NM*	254
	4/12/2011	4.10	12.4	19	-1,314.1	2,481
MW-3R	8/26/2011	6.10	25.2	238	38.0	192
	10/20/2011	6.26	19.0	438	-13.4	238
	4/11/2012	6.42	19.4	340	-78.8	12.1
	10/17/2012	6.38	20.8	389	-77.6	64.3
	4/17/2013	6.03	20.9	369	-61.5	17.1
	10/21/2013	6.29	19.9	414	-136.0	18.1
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-4	4/15/2010	5.56	15.0	58	228.0	7.93
	12/14/2010	5.21	14.9	36	167.3	0.00
	4/12/2011	5.05	15.7	41	126.9	2.21
	10/21/2011	5.45	15.8	55	310.2	5.32
	4/12/2012	5.53	16.0	38	180.8	16.3
	10/18/2012	5.43	17.0	49	68.2	4.60
	4/18/2013	4.68	17.3	34	84.2	4.23
	10/22/2013	5.24	16.8	63	231.0	2.33
	10/17/2014	5.53	15.5	74	120.5	4.89
	10/30/2015	6.14	15.8	50	172.3	3.99
MW-5	4/15/2010	5.19	15.8	1,415	265.0	9.23
	12/14/2010	4.85	15.3	1,207	200.8	10.3
	4/12/2011	4.99	16.0	1,452	131.4	7.98
	10/20/2011	4.55	17.0	1,403	414.4	2.95
	4/12/2012	5.13	16.0	1,183	166.9	31.4
	10/18/2012	4.56	17.6	1,085	111.8	4.99
	4/18/2013	4.74	16.1	1,129	54.6	4.99
	10/22/2013	5.07	17.6	1,590	249.0	25.8
	10/17/2014	5.22	17.4	1,406	104.5	4.67
	10/30/2015	5.80	16.7	1,207	208.2	13.20

TABLE 1
INTRINSIC GROUNDWATER PARAMETERS
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	SAMPLE DATE	pH (S.U.)	TEMPERATURE (°C)	SPECIFIC CONDUCTIVITY (µS/cm)	OXIDATION REDUCTION POTENTIAL (mV)	TURBIDITY (NTU)
MW-6	4/15/2010	5.44	16.4	47	229.0	46.4
	12/13/2010	5.34	15.2	44	199.6	1.68
	4/12/2011	5.36	17.0	56	115.9	6.35
	10/21/2011	5.74	15.8	64	187.5	3.37
	4/12/2012	5.70	16.8	47	178.1	5.63
	10/18/2012	5.56	17.5	54	92.4	9.80
	4/18/2013	5.03	17.8	51	72.2	20.0
	10/22/2013	5.32	17.0	75	230.0	3.42
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-6D	4/14/2010	5.84	16.9	80	171.2	46.1
	12/13/2010	5.73	14.8	70	146.1	40.0
	4/12/2011	5.77	16.4	90	72.7	1.16
	10/21/2011	5.65	15.5	97	189.0	5.19
	4/12/2012	6.07	15.6	74	150.4	4.14
	10/18/2012	5.84	16.7	76	55.2	4.36
	4/18/2013	5.25	17.0	85	60.2	8.42
	10/22/2013	5.72	16.6	111	201.0	1.23
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-7	4/15/2010	4.94	14.5	1,165	286.3	5.05
	12/14/2010	4.70	16.5	20	NM*	315
	4/12/2011	4.90	14.7	1,344	131.1	17.3
	10/20/2011	4.69	18.1	1,772	377.9	5.28
	4/12/2012	5.03	15.8	1,218	179.4	16.7
	10/18/2012	4.56	18.9	1,485	102.3	8.52
	4/18/2013	4.82	14.9	914	68.9	105
	10/22/2013	4.83	18.8	1,690	277.0	17.4
	10/17/2014	4.85	19.9	1,511	127.5	4.80
	10/30/2015	5.20	18.0	1,268	251.9	4.44
MW-8	4/14/2010	6.55	19.3	462	-121.8	9.75
	12/13/2010	6.47	16.5	395	-107.5	0.00
	4/12/2011	6.54	18.2	458	-155.4	1.73
	10/20/2011	7.07	17.7	432	-56.6	5.05
	4/11/2012	6.67	18.6	374	-127.4	2.71
	10/17/2012	6.72	19.2	386	-124.5	2.62
	4/17/2013	6.21	19.7	420	-95.3	0.49
	10/21/2013	6.42	19.0	510	-168.0	1.51
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-9	4/15/2010	5.56	17.1	25	213.5	2.85
	12/14/2010	5.56	15.2	40	151.5	1.81
	4/12/2011	5.54	17.6	54	116.3	8.87
	10/21/2011	5.71	16.5	70	309.1	3.61
	4/12/2012	5.87	16.9	56	171.6	2.23
	10/18/2012	5.61	17.7	72	62.5	3.02
	4/18/2013	4.96	17.8	79	67.8	2.92
	10/22/2013	5.58	17.8	71	207.0	5.34
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS

TABLE 1
INTRINSIC GROUNDWATER PARAMETERS
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	SAMPLE DATE	pH (S.U.)	TEMPERATURE (^{o}C)	SPECIFIC CONDUCTIVITY (µS/cm)	OXIDATION REDUCTION POTENTIAL (mV)	TURBIDITY (NTU)
MW-10	4/15/2010	6.24	20.3	225	-67.7	30.8
	12/13/2010	5.47	12.6	55	135.7	>1,100
	4/12/2011	5.87	19.2	217	-42.4	4.12
	10/20/2011	6.61	19.3	84	121.3	10.6
	4/11/2012	6.04	20.1	135	22.6	14.5
	10/17/2012	5.82	20.0	100	-4.7	40.1
	4/17/2013	5.32	20.3	105	39.8	11.4
	10/21/2013	5.43	20.8	88	107.0	6.18
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-11	4/15/2010	5.95	22.0	150	168.3	4.00
	12/13/2010	5.97	18.5	121	149.9	4.61
	4/12/2011	5.77	21.4	143	114.7	5.37
	10/20/2011	6.81	20.5	134	165.4	18.3
	4/11/2012	6.04	21.7	136	156.6	5.87
	10/17/2012	5.99	21.4	131	17.7	2.24
	4/17/2013	5.59	21.5	151	43.2	3.59
	10/21/2013	5.80	21.7	184	132.0	4.99
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-12	4/14/2010	NL	NL	NL	NL	NL
	12/13/2010	5.67	16.9	66	163.4	3.85
	4/12/2011	5.74	19.6	78	101.8	3.65
	10/20/2011	6.74	19.5	82	179.7	2.18
	4/11/2012	6.07	20.2	65	160.9	9.51
	10/17/2012	5.87	20.4	67	53.9	46.1
	4/17/2013	5.41	20.2	69	78.3	4.82
	10/21/2013	5.79	20.6	91	157.0	4.09
	10/17/2014	NS	NS	NS	NS	NS
	10/30/2015	NS	NS	NS	NS	NS
MW-13D	4/15/2010	5.29	16.7	1,315	195.1	7.14
	12/14/2010	5.05	14.3	1,214	212.8	0.00
	4/12/2011	4.99	16.0	1,532	102.1	7.93
	10/20/2011	5.14	17.0	1,575	195.6	4.35
	4/12/2012	5.24	16.2	1,236	146.7	4.70
	10/18/2012	5.13	17.4	1,231	78.6	2.93
	4/18/2013	4.88	17.5	1,213	45.7	1.23
	10/22/2013	5.01	17.2	1,600	238.0	1.49
	10/17/2014	5.96	17.5	1,318	80.7	1.38
	10/30/2015	5.55	16.1	1,310	269.8	3.04

Notes:
S.U. - Standard Units
µS/cm - microSiemens/centimeter
^{o}C - degrees Celsius
mV - millivolts
ppm - parts per million
NTU - Nephelometric Turbidity Units
NL - Not located
NM - Not measured due to equipment malfunction*

Source:
PPM Consultants, Inc.
PPM Project No. 494501-GWM15

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-1	2/13/2003	855.16	23.0	17.81	837.35
	3/5/2003		23.0	17.52	837.64
	1/6/2004		23.0	16.68	838.48
	5/28/2004		23.0	16.50	838.66
	5/27/2007		23.0	21.93	833.23
	5/6/2008		-	-	-
	9/8/2008		23.1	22.56	832.60
	12/16/2008		23.1	22.64	832.52
	3/18/2009		23.1	22.67	832.49
	6/23/2009		23.0	21.37	833.79
	9/24/2009		23.0	21.37	833.79
	4/14/2010		23.1	16.19	838.97
	12/13/2010		23.0	18.83	836.33
	4/12/2011		23.1	18.25	836.91
	10/20/2011		23.0	19.96	835.20
	4/11/2012		23.0	19.50	835.66
	10/17/2012	854.06	23.1	21.63	832.43
	4/17/2013		23.0	19.87	834.19
	10/21/2013		23.1	17.92	836.14
	5/16/2014		23.1	16.89	837.17
	10/17/2015		23.0	17.99	836.07
	10/29/2015		23.0	18.12	835.94
MW-2	2/13/2003	805.55	15.4	3.96	801.59
	3/5/2003		15.4	3.54	802.01
	1/6/2004		15.4	3.86	801.69
	5/28/2004		15.4	6.13	799.42
	5/27/2007		15.4	3.90	801.65
	5/6/2008		-	-	-
	9/8/2008		15.5	4.60	800.95
	12/16/2008		15.5	3.45	802.10
	3/18/2009		15.5	3.16	802.39
	6/23/2009		15.5	4.27	801.28
	9/24/2009		15.5	3.20	802.35
	4/14/2010		15.5	3.19	802.36
	12/13/2010		15.5	3.36	802.19
	4/12/2011		15.4	3.23	802.32
	10/20/2011		15.4	3.91	801.64
	4/11/2012		15.5	4.18	801.37
	10/17/2012	804.33	15.5	4.59	799.74
	4/17/2013		15.4	3.25	801.08
	10/21/2013		15.4	3.38	800.95
	5/16/2014		15.4	3.10	801.23
	10/17/2015		15.4	3.32	801.01
	10/29/2015		15.4	3.05	801.28

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-3	2/13/2003	794.24	10.0	6.10	788.14
	3/5/2003		10.0	6.13	788.11
	1/6/2004		10.0	6.00	788.24
	5/28/2004		10.0	6.41	787.83
	5/27/2007		10.0	7.45	786.79
	5/6/2008		-	-	-
	9/8/2008		10.1	7.60	786.64
	12/16/2008		10.1	7.11	787.13
	3/18/2009		10.1	6.64	787.60
	6/23/2009		10.1	7.38	786.86
	9/24/2009		10.1	6.69	787.55
	4/14/2010		10.1	7.45	786.79
	12/13/2010		10.1	7.31	786.93
	4/12/2011		10.1	7.21	787.03
MW-3R	8/16/2011	831.70	52.0	42.08	789.62
	10/20/2011		52.0	42.53	789.17
	4/11/2012		50.0	42.00	789.70
	10/17/2012	830.60	50.1	42.93	787.67
	4/17/2013		52.0	41.97	788.63
	10/21/2013		52.0	40.28	790.32
	5/16/2014		52.0	40.51	790.09
	10/17/2015		52.0	41.70	788.90
	10/29/2015		52.0	42.24	788.36
MW-4	2/13/2003	817.45	29.4	17.40	800.05
	3/5/2003		29.4	16.77	800.68
	1/6/2004		29.4	16.72	800.73
	5/28/2004		29.4	17.00	800.45
	5/27/2007		29.4	18.05	799.40
	5/6/2008		-	-	-
	9/8/2008		34.6	21.53	795.92
	12/16/2008		34.6	21.08	796.37
	3/18/2009		34.6	19.65	797.80
	6/23/2009		34.6	18.76	798.69
	9/24/2009		34.6	19.39	798.06
	4/14/2010		34.4	14.39	803.06
	12/13/2010		34.4	19.28	798.17
	4/12/2011		34.5	16.98	800.47
	10/20/2011		34.6	21.73	795.72
	4/11/2012		34.5	19.11	798.34
	10/17/2012	816.35	34.6	22.23	794.12
	4/17/2013		34.5	17.87	798.48
	10/21/2013		30.4	18.59	797.76
	5/16/2014		30.4	15.61	800.74
	10/17/2015		29.3	19.35	797.00
	10/29/2015		29.3	19.00	797.35

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-5	2/13/2003	813.26	25.2	10.00	803.26
	3/5/2003		25.2	9.41	803.85
	1/6/2004		25.2	9.60	803.66
	5/28/2004		25.2	9.89	803.37
	5/27/2007		25.2	10.01	803.25
	5/6/2008		-	-	-
	9/8/2008		27.7	11.99	801.27
	12/16/2008		27.7	10.39	802.87
	3/18/2009		27.7	9.53	803.73
	6/23/2009		27.7	10.62	802.64
	9/24/2009		27.7	9.46	803.80
	4/14/2010		27.6	9.08	804.18
	12/13/2010		27.6	9.95	803.31
	4/12/2011		27.6	9.25	804.01
	10/20/2011		27.5	11.60	801.66
	4/11/2012		27.4	10.24	803.02
	10/17/2012	812.16	27.4	11.58	800.58
	4/17/2013		27.4	9.22	802.94
	10/21/2013		27.5	9.43	802.73
	5/16/2014		27.5	9.09	803.07
	10/17/2015		27.4	9.73	802.43
	10/29/2015		27.4	9.32	802.84
MW-6	5/28/2004	819.53	40.3	28.38	791.15
	5/27/2007		40.3	29.01	790.52
	5/6/2008		-	-	-
	9/8/2008		39.7	31.81	787.72
	12/16/2008		39.7	31.70	787.83
	3/18/2009		39.7	31.00	788.53
	6/23/2009		39.7	29.66	789.87
	9/24/2009		39.7	30.64	788.89
	4/14/2010		39.7	26.36	793.17
	12/13/2010		39.7	31.00	788.53
	4/12/2011		39.7	29.73	789.80
	10/20/2011		39.7	32.19	787.34
	4/11/2012		39.4	30.72	788.81
	10/17/2012	818.43	39.4	32.50	785.93
	4/17/2013		39.4	30.06	788.37
	10/21/2013		39.4	30.27	788.16
	5/16/2014		39.4	27.82	790.61
	10/17/2015		39.2	30.92	787.51
	10/29/2015		39.2	30.30	788.13

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-6D	5/28/2004	818.74	57.3	27.75	790.99
	5/27/2007		57.3	29.65	789.09
	5/6/2008		-	-	-
	9/8/2008		57.5	31.12	787.62
	12/16/2008		57.5	30.98	787.76
	3/18/2009		57.5	30.26	788.48
	6/23/2009		57.5	29.08	789.66
	9/24/2009		57.5	29.88	788.86
	4/14/2010		57.6	26.04	792.70
	12/13/2010		57.5	30.22	788.52
	4/12/2011		57.4	29.04	789.70
	10/20/2011		57.5	31.50	787.24
	4/11/2012		57.5	30.06	788.68
	10/17/2012	817.64	57.5	31.77	785.87
	4/17/2013		57.5	29.35	788.29
	10/21/2013		57.5	29.64	788.00
	5/16/2014		57.5	27.28	790.36
	10/17/2015		-	30.32	787.32
	10/29/2015		-	29.84	787.80
MW-7	5/27/2007	818.74	20.3	9.07	809.67
	5/6/2008		-	-	-
	9/8/2008		20.3	11.47	807.27
	12/16/2008		20.3	10.60	808.14
	3/18/2009		20.3	9.08	809.66
	6/23/2009		20.3	9.40	809.34
	9/24/2009		20.3	8.66	810.08
	4/14/2010		20.3	7.27	811.47
	12/13/2010		20.3	8.87	809.87
	4/12/2011		20.3	7.96	810.78
	10/20/2011		18.6	10.27	808.47
	4/11/2012		19.6	8.81	809.93
	10/17/2012	817.57	16.8	10.42	807.15
	4/17/2013		16.8	8.09	809.48
	10/21/2013		17.5	8.34	809.23
	5/16/2014		17.5	7.81	809.76
	10/17/2015		17.4	9.02	808.55
	10/29/2015		17.1	8.48	809.09
MW-8	5/27/2007	812.85	45.8	39.99	772.86
	5/6/2008		46.1	40.16	772.69
	9/8/2008		45.7	40.62	772.23
	12/16/2008		45.7	40.48	772.37
	3/18/2009		45.7	40.24	772.61
	6/23/2009		45.7	39.99	772.86
	9/24/2009		45.7	39.40	773.45
	4/14/2010		45.7	39.10	773.75
	12/13/2010		45.6	40.30	772.55
	4/12/2011		45.6	40.05	772.80
	10/20/2011		45.7	40.66	772.19
	4/11/2012		45.6	40.30	772.55
	10/17/2012	811.75	45.6	40.67	771.08
	4/17/2013		45.7	39.92	771.83
	10/21/2013		45.7	40.00	771.75
	5/16/2014		45.7	39.41	772.34
	10/17/2015		45.5	40.28	771.47
	10/29/2015		45.5	38.60	773.15

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-9	5/27/2007	839.39	45.0	33.45	805.94
	5/6/2008		-	-	-
	9/8/2008		46.8	36.44	802.95
	12/16/2008		46.8	37.46	801.93
	3/18/2009		46.8	37.37	802.02
	6/23/2009		46.8	34.45	804.94
	9/24/2009		46.8	35.32	804.07
	4/14/2010		46.8	26.65	812.74
	12/13/2010		46.8	32.98	806.41
	4/12/2011		46.8	33.35	806.04
	10/20/2011		46.8	35.23	804.16
	4/11/2012		46.8	35.05	804.34
	10/17/2012	838.29	46.7	37.03	801.26
	4/17/2013		46.7	35.66	802.63
	10/21/2013		46.8	32.17	806.12
	5/16/2014		46.8	29.89	808.40
	10/17/2015		46.5	32.63	805.66
	10/29/2015		46.5	31.99	806.30
MW-10	5/27/2007	833.00	50.0	36.23	796.77
	5/6/2008		50.7	36.80	796.20
	9/8/2008		50.1	37.70	795.30
	12/16/2008		50.1	37.44	795.56
	3/18/2009		50.1	37.13	795.87
	6/23/2009		50.1	36.76	796.24
	9/24/2009		50.1	36.48	796.52
	4/14/2010		50.1	34.83	798.17
	12/13/2010		50.2	36.47	796.53
	4/12/2011		50.1	36.14	796.86
	10/20/2011		50.1	37.65	795.35
	4/11/2012		50.1	37.22	795.78
	10/17/2012	831.90	50.1	38.11	793.79
	4/17/2013		50.1	37.73	794.17
	10/21/2013		49.5	36.40	795.50
	5/16/2014		49.5	35.45	796.45
	10/17/2015		50.0	36.49	795.41
	10/29/2015		50.0	34.82	797.08
MW-11	5/27/2007	833.06	50.5	20.40	812.66
	5/6/2008		-	-	-
	9/8/2008		49.8	21.71	811.35
	12/16/2008		49.8	22.55	810.51
	3/18/2009		49.8	20.84	812.22
	6/23/2009		49.8	20.37	812.69
	9/24/2009		49.8	20.64	812.42
	4/14/2010		49.8	19.33	813.73
	12/13/2010		49.8	21.23	811.83
	4/12/2011		49.8	20.04	813.02
	10/20/2011		49.8	21.97	811.09
	4/11/2012		49.8	20.60	812.46
	10/17/2012	831.96	49.8	21.88	810.08
	4/17/2013		49.8	19.93	812.03
	10/21/2013		49.8	20.25	811.71
	5/16/2014		49.8	19.49	812.47
	10/17/2015		49.8	20.83	811.13
	10/29/2015		49.7	20.12	811.84

TABLE 2
GROUNDWATER/SURFACE WATER ELEVATION SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

WELL I.D.	DATE	TOP OF CASING ELEVATION (ft)	WELL DEPTH (ft-BTOC)	DEPTH TO WATER (ft-BTOC)	GROUNDWATER ELEVATION (ft)
MW-12	5/27/2007	836.98	51.2	40.18	796.80
	5/6/2008		-	-	-
	9/8/2008		50.2	41.66	795.32
	12/16/2008		50.2	41.98	795.00
	3/18/2009		50.2	41.93	795.05
	6/23/2009		50.2	40.97	796.01
	9/24/2009		50.2	40.95	796.03
	4/14/2010		NL	NL	NL
	12/13/2010		50.2	40.10	796.88
	4/12/2011		50.2	40.46	796.52
	10/20/2011		49.9	41.23	795.75
	4/11/2012		49.9	41.39	795.59
	10/17/2012	835.88	50.0	42.02	793.86
	4/17/2013		49.9	41.62	794.26
	10/21/2013		50.0	40.63	795.25
	5/16/2014		50.0	39.98	795.90
	10/17/2015		50.0	40.53	795.35
	10/29/2015		50.0	39.04	796.84
MW-13D	5/6/2008	805.55	57.0	6.25	799.30
	9/8/2008		56.2	8.86	796.69
	12/16/2008		56.2	7.58	797.97
	3/18/2009		56.2	6.51	799.04
	6/23/2009		56.2	7.41	798.14
	9/24/2009		56.2	6.39	799.16
	4/14/2010		56.2	4.50	801.05
	12/13/2010		56.2	6.78	798.77
	4/12/2011		56.3	5.55	800.00
	10/20/2011		56.2	8.33	797.22
	4/11/2012		56.2	7.63	797.92
	10/17/2012	804.43	56.3	9.26	795.17
	4/17/2013		56.2	6.01	798.42
	10/21/2013		56.2	6.37	798.06
	5/16/2014		56.2	4.86	799.57
	10/17/2015		56.2	6.51	797.92
	10/29/2015		56.2	6.10	798.33
SG-1	5/16/2014	793.92	-	0.50	794.42
	10/17/2014		-	0.55	794.47
	10/29/2015	798.44	-	3.12	795.32
SG-2	5/16/2014	782.86	-	1.20	784.06
	10/17/2014		-	0.85	783.71
	10/29/2015	786.50	-	2.87	783.63
SG-3	10/17/2014	812.50	-	0.70	813.20
	10/29/2015	814.67	-	3.61	811.06
SG-4	10/17/2014	774.48	-	0.40	774.88
	10/29/2015	772.52	-	2.35	770.17

Notes: *ft-BTOC - feet below top of casing*
SG - stream gauge

Source: *Williams Environmental Services, Inc.*
PPM Consultants, Inc.
PPM Project No. 494501-GWM15

TABLE 3
GROUNDWATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	TOTAL LEAD (mg/L)	TOTAL ZINC (mg/L)	DISSOLVED ZINC (mg/L)	TURBIDITY (NTUs)
Type 4 RRS		-	**31**	**31**	-
MW-1	1/13/2003	<0.010	0.121	-	4.20
	3/29/2007	-	0.0789	<0.020	4.24
	9/10/2008	-	0.372	-	-
	12/16/2008	-	-	-	-
	3/18/2009	-	-	-	-
	6/24/2009	-	0.0389	0.0233	16.7
	9/25/2009	-	0.0210	<0.020	58.2
	4/15/2010	-	0.0215	<0.020	1.63
	12/14/2010	-	<0.020	<0.020	0.00
	4/13/2011	-	0.0328	<0.020	0.00
	10/21/2011	-	<0.020	<0.020	5.28
	4/12/2012	-	<0.020	0.0393	4.08
	10/18/2012	-	0.109	-	57.0
	4/18/2013	-	0.0631	<0.020	7.99
	10/22/2013	-	0.0209	<0.020	0.90
	10/17/2014	-	<0.020	<0.020	15.8
	10/30/2015	-	0.0916	0.0614	20.9
MW-2	1/9/2003	<0.010	20.5	-	4.80
	1/28/2003	-	**31.4**	-	0.85
	3/29/2007	-	13.4	12.1	1.67
	9/9/2008	-	11.0	10.7	0.00
	12/16/2008	-	9.17	9.56	0.00
	3/18/2009	-	7.25	7.06	0.00
	6/23/2009	-	7.48	8.66	0.00
	9/24/2009	-	8.36	8.52	3.38
	4/15/2010	-	**35.1**	**36.5**	0.75
	12/14/2010	-	18.2	18.4	0.00
	4/13/2011	-	19.4	19.8	0.00
	10/21/2011	-	23.6	25.3	1.05
	4/12/2012	-	**40.2**	**43.6**	3.52
	10/18/2012	-	22.1	22.5	2.54
	4/18/2013	-	27.6	29.3	2.52
	10/22/2013	-	15.7	16.7	0.55
	10/17/2014	-	12.0	12.2	2.50
	10/30/2015	-	6.55	6.55	4.58
MW-3	2/13/2003	-	**130**	-	8.96
	1/7/2004	<0.010	-	-	-
	3/29/2007	-	**48.5**	29.0	16.8
	9/9/2008	-	**62.5**	**42.6**	15.3
	12/16/2008	-	**132**	**139**	13.8
	3/18/2009	-	**114**	**108**	53.5
	6/23/2009	-	**62.0**	**64.3**	3.60
	9/24/2009	-	**118**	**109**	91.0
	4/15/2010	-	**47.2**	-	476
	12/14/2010	-	**65.4**	-	254
	4/13/2011	-	**82.4**	-	476
MW-3R	8/16/2011	-	0.110	0.0675	192
	10/21/2011	-	0.0387	<0.020	238
	4/11/2012	-	<0.020	<0.020	12.1
	10/17/2012	-	<0.020	<0.020	64.3
	4/17/2013	-	<0.020	<0.020	17.1
	10/22/2013	-	0.0251	<0.020	18.1
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-

TABLE 3
GROUNDWATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	TOTAL LEAD (mg/L)	TOTAL ZINC (mg/L)	DISSOLVED ZINC (mg/L)	TURBIDITY (NTUs)
Type 4 RRS		**-**	**31**	**31**	-
MW-4	2/12/2003	-	0.03	-	4.76
	1/6/2004	<0.010	-	-	-
	3/28/2007	-	0.0844	<0.020	4.70
	9/9/2008	-	<0.020	<0.020	10.8
	12/16/2008	-	<0.020	<0.020	0.97
	3/18/2009	-	<0.020	<0.020	0.01
	6/23/2009	-	<0.020	<0.020	0.00
	9/24/2009	-	<0.020	<0.020	0.00
	4/15/2010	-	<0.020	<0.020	7.93
	12/14/2010	-	<0.020	<0.020	0.00
	4/13/2011	-	<0.020	<0.020	0.00
	10/21/2011	-	<0.020	<0.020	5.32
	4/12/2012	-	<0.020	<0.020	16.3
	10/18/2012	-	<0.020	<0.020	4.60
	4/18/2013	-	<0.020	<0.020	4.23
	10/22/2013	-	0.0265	<0.020	2.33
	10/17/2014	-	<0.020	<0.020	4.89
	10/30/2015	-	0.0206	<0.0200	3.99
MW-5	2/13/2003	-	5.9	-	24.70
	1/6/2004	<0.010	-	-	-
	3/29/2007	-	6.59	5.52	4.01
	9/9/2008	-	14.1	13.3	31.2
	12/16/2008	-	19.2	19.9	2.56
	3/19/2009	-	17.8	18.0	0.00
	6/23/2009	-	2.44	2.75	1.74
	9/24/2009	-	17.2	16.9	0.00
	4/15/2010	-	4.00	3.73	9.23
	12/14/2010	-	21.8	14.90	10.3
	4/13/2011	-	5.19	4.36	10.3
	10/21/2011	-	26.4	27.1	2.95
	4/12/2012	-	6.71	7.02	31.4
	10/18/2012	-	18.5	19.5	4.99
	4/18/2013	-	5.67	5.60	4.99
	10/22/2013	-	1.44	1.67	25.8
	10/17/2014	-	3.33	3.81	4.67
	10/30/2015	-	0.357	0.252	13.20
MW-6	5/28/2004	<0.010	<0.020	-	4.26
	3/28/2007	-	0.048	<0.020	4.21
	9/9/2008	-	0.028	<0.020	9.64
	12/17/2008	-	<0.020	<0.020	5.36
	3/18/2009	-	0.0235	<0.020	14.6
	6/23/2009	-	<0.020	<0.020	5.86
	9/25/2009	-	<0.020	<0.020	3.85
	4/15/2010	-	0.0580	<0.020	46.4
	12/13/2010	-	<0.020	<0.020	1.68
	4/13/2011	-	<0.020	<0.020	1.68
	10/21/2011	-	0.0242	<0.020	3.37
	4/12/2012	-	<0.020	<0.020	5.63
	10/18/2012	-	0.0272	<0.020	9.80
	4/18/2013	-	<0.020	<0.020	20.0
	10/22/2013	-	<0.020	<0.020	3.42
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-

TABLE 3
GROUNDWATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	TOTAL LEAD (mg/L)	TOTAL ZINC (mg/L)	DISSOLVED ZINC (mg/L)	TURBIDITY (NTUs)
Type 4 RRS		-	**31**	**31**	-
MW-6D	5/28/2004	<0.010	0.04	-	31.4
	3/28/2007	-	0.056	<0.020	31.2
	9/9/2008	-	0.0493	<0.020	9.23
	12/17/2008	-	<0.020	<0.020	0.00
	3/18/2009	-	<0.020	<0.020	0.00
	6/23/2009	-	0.0453	<0.020	0.00
	9/25/2009	-	<0.020	<0.020	1.64
	4/14/2010	-	<0.020	<0.020	46.1
	12/13/2010	-	<0.020	<0.020	40.1
	4/13/2011	-	<0.020	<0.020	40.0
	10/21/2011	-	<0.020	<0.020	5.19
	4/12/2012	-	<0.020	<0.020	4.14
	10/18/2012	-	<0.020	<0.020	4.36
	4/18/2013	-	<0.020	<0.020	8.42
	10/22/2013	-	<0.020	<0.020	1.23
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-
MW-7	3/27/2007	-	**37.1**	29.7	4.79
	9/8/2008	-	**48.8**	**48.0**	11.5
	12/17/2008	-	24.8	23.2	10.9
	3/19/2009	-	8.46	8.49	15.1
	6/23/2009	-	**40.0**	**39.5**	9.17
	9/24/2009	-	10.9	11.6	11.6
	4/15/2010	-	12.7	12.2	5.05
	12/14/2010	-	13.7	13.8	315
	4/13/2011	-	9.13	8.55	315
	10/21/2011	-	14.2	15.3	5.28
	4/12/2012	-	7.70	11.2	16.7
	10/18/2012	-	10.8	10.4	8.52
	4/18/2013	-	5.33	5.36	105
	10/22/2013	-	8.54	8.79	17.4
	10/17/2014	-	9.26	9.58	4.80
	10/30/2015	-	8.82	9.02	4.44
MW-8	3/30/2007	-	<0.020	<0.020	19.4
	3/10/2008	<0.010	-	-	65.6
	9/10/2008	-	<0.020	<0.020	4.61
	12/17/2008	-	<0.020	<0.020	6.32
	3/19/2009	-	<0.020	<0.020	9.09
	6/24/2009	-	<0.020	<0.020	4.06
	9/25/2009	-	<0.020	<0.020	3.65
	4/14/2010	-	<0.020	<0.020	9.75
	12/13/2010	-	<0.020	<0.020	0.00
	4/13/2011	-	<0.020	<0.020	0.00
	10/20/2011	-	<0.020	<0.020	5.05
	4/11/2012	-	<0.020	<0.020	2.71
	10/17/2012	-	<0.020	<0.020	2.62
	4/17/2013	-	0.0228	<0.020	0.49
	10/22/2013	-	0.0230	<0.020	1.51
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-

TABLE 3
GROUNDWATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	TOTAL LEAD (mg/L)	TOTAL ZINC (mg/L)	DISSOLVED ZINC (mg/L)	TURBIDITY (NTUs)
Type 4 RRS		**-**	**31**	**31**	-
MW-9	3/30/2007	-	<0.020	<0.020	0.61
	9/9/2008	-	<0.020	<0.020	13.9
	12/17/2008	-	<0.020	<0.020	26.2
	3/18/2009	-	0.0211	<0.020	19.3
	6/23/2009	-	<0.020	<0.020	0.28
	9/25/2009	-	<0.020	<0.020	0.00
	4/15/2010	-	<0.020	<0.020	2.85
	12/14/2010	-	<0.020	<0.020	1.81
	4/13/2011	-	0.0296	<0.020	1.81
	10/21/2011	-	<0.020	<0.020	3.61
	4/12/2012	-	<0.020	<0.020	2.23
	10/18/2012	-	<0.020	<0.020	3.02
	4/18/2013	-	<0.020	<0.020	2.92
	10/22/2013	-	<0.020	<0.020	5.34
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-
MW-10	3/30/2007	-	<0.020	<0.020	10.8
	3/6/2008	<0.010	-	-	11.9
	9/8/2008	-	<0.020	<0.020	14.4
	12/17/2008	-	<0.020	<0.020	28.2
	3/19/2009	-	<0.020	<0.020	6.84
	6/24/2009	-	<0.020	<0.020	2.92
	9/25/2009	-	<0.020	<0.020	15.9
	4/15/2010	-	<0.020	<0.020	30.8
	12/13/2010	-	0.0768	<0.020	>1,100
	4/12/2011	-	<0.020	<0.020	>1,100
	10/20/2011	-	<0.020	<0.020	10.6
	4/11/2012	-	<0.020	<0.020	14.5
	10/17/2012	-	<0.020	<0.020	40.1
	4/17/2013	-	<0.020	<0.020	11.4
	10/22/2013	-	<0.020	<0.020	6.18
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-
MW-11	3/30/2007	-	<0.020	<0.020	3.55
	9/10/2008	-	<0.020	<0.020	2.35
	12/17/2008	-	<0.020	<0.020	0.00
	3/19/2009	-	<0.020	<0.020	0.00
	6/24/2009	-	<0.020	<0.020	0.00
	9/25/2009	-	0.175	0.0964	0.00
	4/15/2010	-	<0.020	0.0210	4.00
	12/13/2010	-	<0.020	<0.020	4.61
	4/12/2011	-	0.0229	<0.020	4.61
	10/20/2011	-	<0.020	<0.020	18.3
	4/11/2012	-	<0.020	<0.020	5.87
	10/17/2012	-	0.0344	0.0224	2.24
	4/17/2013	-	0.0293	<0.020	3.59
	10/22/2013	-	0.0246	<0.020	4.99
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-

TABLE 3
GROUNDWATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	TOTAL LEAD (mg/L)	TOTAL ZINC (mg/L)	DISSOLVED ZINC (mg/L)	TURBIDITY (NTUs)
Type 4 RRS		**-**	**31**	**31**	-
MW-12	3/30/2007	-	0.0759	<0.020	151
	9/10/2008	-	<0.020	<0.020	8.38
	12/17/2008	-	0.044	<0.020	116
	3/19/2009	-	0.0214	<0.020	41.1
	6/24/2009	-	<0.020	<0.020	0.00
	9/25/2009	-	<0.020	<0.020	0.00
	4/15/2010	-	NL	NL	NL
	12/13/2010	-	<0.020	<0.020	3.85
	4/12/2011	-	<0.020	<0.020	3.85
	10/20/2011	-	<0.020	<0.020	2.18
	4/11/2012	-	<0.020	<0.020	9.51
	10/17/2012	-	0.0230	<0.020	46.1
	4/17/2013	-	<0.020	<0.020	4.82
	10/22/2013	-	<0.020	<0.020	4.09
	10/17/2014	-	-	-	-
	10/30/2015	-	-	-	-
MW-13D	3/10/2008	<0.010	9.80	8.83	11.4
	9/9/2008	-	9.12	8.60	1.34
	12/16/2008	-	9.53	9.53	4.77
	3/18/2009	-	10.1	10.0	0.00
	6/23/2009	-	12.8	13.7	0.00
	9/24/2009	-	13.7	13.9	10.10
	4/15/2010	-	18.8	18.5	7.14
	12/14/2010	-	27.9	26.8	0.00
	4/13/2011	-	27.5	26.5	0.00
	10/21/2011	-	27.5	29.3	4.35
	4/12/2012	-	26.8	29.0	4.70
	10/18/2012	-	29.4	29.4	2.93
	4/18/2013	-	28.6	28.7	1.23
	10/22/2013	-	28.6	31.3	1.49
	10/17/2014	-	8.90	9.18	1.38
	10/30/2015	-	28.5	27.3	3.04
DUPLICATE RESULTS					
DUP (MW-2)	10/18/2012	-	22.0	23.0	2.54
DUP (MW-2)	4/18/2013	-	28.6	28.6	2.52
DUP (MW-2)	10/22/2013	-	16.0	16.8	0.55
DUP (MW-5)	10/17/2014	-	3.2	3.8	4.67
DUP (MW-5)	10/30/2015	-	6.55	6.56	13.20

Notes: *RRS - Risk reduction standard*
NTUs - Nephelometric Turbidity Units
mg/L - milligrams per liter
Bold *- Concentration above a Type 4 RRS*

Source(s): *Williams Environmental Services, Inc.*
PPM Consultants, Inc.
PPM Project No. 494501-GWM15

TABLE 4
SURFACE WATER ANALYTICAL SUMMARY
METALPLATE GALVANIZING FACILITY
ATLANTA, GEORGIA

SAMPLE I.D.	DATE	DISSOLVED ZINC (mg/L)	TOTAL HARDNESS (mg/L)
SW-1A	5/5/2014	211	805
	10/16/2014	16.6	107
	10/29/2015	15.3	117
SW-2A	5/5/2014	180	841
	10/16/2014	172	873
	10/29/2015	138	652
SW-3A	5/5/2014	36.2	260
	10/16/2014	20.5	156
	10/29/2015	22.9	149
SW-4A	5/5/2014	78.8	493
SW-4B	10/16/2014	71.8	459
	10/29/2015	10.0	132
SW-5	5/5/2014	128	221
	10/16/2014	6.92	60.8
	10/29/2015	18.1	81.7
SW-6	5/5/2014	235	902
SW-6A	10/16/2014	247	862
	10/29/2015	159	511
SW-7	5/5/2014	38.4	233
	10/16/2014	45.9	286
	10/29/2015	41.8	227

Notes: *mg/L - milligrams per liter*

Source(s): *PPM Consultants, Inc.*
PPM Project No. 494501-GWM15

APPENDIX D – GROUNDWATER/SURFACE WATER ANALYTICAL RESULTS

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 09, 2015

Mike Dillon
PPM Consultants, Inc.
5555 Bankhead Hwy
Birmingham AL 35210

TEL: (205) 836-5650
FAX: (205) 836-5805

RE: Metal Plate

Dear Mike Dillon: Order No: 1510R90

Analytical Environmental Services, Inc. received 7 samples on 10/30/2015 1:35:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-1
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 10:30:00 AM
Lab ID:	1510R90-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	0.0614	0.0200		mg/L	215465	1	11/05/2015 14:31	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	0.0916	0.0200		mg/L	215402	1	11/05/2015 11:58	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-2
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 8:15:00 AM
Lab ID:	1510R90-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	6.55	0.0200		mg/L	215465	1	11/05/2015 14:46	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	6.55	0.0200		mg/L	215402	1	11/05/2015 12:13	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-4
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 7:25:00 AM
Lab ID:	1510R90-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	BRL	0.0200		mg/L	215465	1	11/05/2015 14:49	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	0.0206	0.0200		mg/L	215402	1	11/05/2015 12:16	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-5
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 9:50:00 AM
Lab ID:	1510R90-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	0.252	0.0200		mg/L	215465	1	11/05/2015 14:52	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	0.357	0.0200		mg/L	215402	1	11/05/2015 12:19	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-7
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 9:10:00 AM
Lab ID:	1510R90-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	9.02	0.0200		mg/L	215465	1	11/05/2015 14:55	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	8.82	0.0200		mg/L	215402	1	11/05/2015 12:28	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	MW-13D
Project Name:	Metal Plate	**Collection Date:**	10/30/2015 7:50:00 AM
Lab ID:	1510R90-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	27.3	0.0200		mg/L	215465	1	11/05/2015 14:58	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	28.5	0.0200		mg/L	215402	1	11/05/2015 12:31	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	DUP
Project Name:	Metal Plate	**Collection Date:**	10/30/2015
Lab ID:	1510R90-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C (SW3005A)								
Zinc	6.56	0.0200		mg/L	215465	1	11/05/2015 15:07	TA
METALS, TOTAL SW6010C (SW3010A)								
Zinc	6.55	0.0200		mg/L	215402	1	11/05/2015 12:34	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client PM Consultants Work Order Number 1510R90

Checklist completed by Miriam Reuman 10/30/2015
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 5.6°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No ✓ Not Applicable __

Adjusted? MP Checked by MP

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

AES, Inc.
3080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1510R90-007A	~~200.7~~ NP 10/30 6010-W-T	6	1	HNO_3	633.56	0.5 mL Pellets	1	NP	10/30	3:30PM
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				

*** Number of Pellets when adding NAOH**

DWM 8/22/2014 10:01 AM

Client: PPM Consultants, Inc.
Project Name: Metal Plate
Workorder: 1510R90

ANALYTICAL QC SUMMARY REPORT

BatchID: 215402

Sample ID: **MB-215402**	Client ID:			Units: **mg/L**	Prep Date: **11/04/2015**	Run No: **303697**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **215402**	Analysis Date: **11/05/2015**	Seq No: **6501107**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	BRL	0.0200									

Sample ID: **LCS-215402**	Client ID:			Units: **mg/L**	Prep Date: **11/04/2015**	Run No: **303697**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **215402**	Analysis Date: **11/05/2015**	Seq No: **6501108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.022	0.0200	1.000		102	80	120				

Sample ID: **1510R90-001AMS**	Client ID: **MW-1**			Units: **mg/L**	Prep Date: **11/04/2015**	Run No: **303697**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **215402**	Analysis Date: **11/05/2015**	Seq No: **6501110**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.108	0.0200	1.000	0.09155	102	75	125				

Sample ID: **1510R90-001AMSD**	Client ID: **MW-1**			Units: **mg/L**	Prep Date: **11/04/2015**	Run No: **303697**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **215402**	Analysis Date: **11/05/2015**	Seq No: **6501111**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.128	0.0200	1.000	0.09155	104	75	125	1.108	1.83	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: PPM Consultants, Inc.
Project Name: Metal Plate
Workorder: 1510R90

ANALYTICAL QC SUMMARY REPORT

BatchID: 215465

Sample ID: **MB-215465**	Client ID:			Units: **mg/L**	Prep Date: **11/05/2015**	Run No: **303706**
SampleType: **MBLK**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215465**	Analysis Date: **11/05/2015**	Seq No: **6501201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	BRL	0.0200									

Sample ID: **LCS-215465**	Client ID:			Units: **mg/L**	Prep Date: **11/05/2015**	Run No: **303706**
SampleType: **LCS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215465**	Analysis Date: **11/05/2015**	Seq No: **6501202**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	0.9667	0.0200	1.000		96.7	80	120				

Sample ID: **1510R90-001BMS**	Client ID: **MW-1**			Units: **mg/L**	Prep Date: **11/05/2015**	Run No: **303706**
SampleType: **MS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215465**	Analysis Date: **11/05/2015**	Seq No: **6501206**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.026	0.0200	1.000	0.06144	96.4	75	125				

Sample ID: **1510R90-001BMSD**	Client ID: **MW-1**			Units: **mg/L**	Prep Date: **11/05/2015**	Run No: **303706**
SampleType: **MSD**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215465**	Analysis Date: **11/05/2015**	Seq No: **6501207**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.020	0.0200	1.000	0.06144	95.8	75	125	1.026	0.560	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1510190

Date: 10/30/15 Page 1 of 1

COMPANY:	ADDRESS:
PPM Consultants, Inc	5555 Bankhead Hwy- Birmingham, AL
PHONE: (205) 836-5650	FAX:
SAMPLED BY: RS/HW	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Total Zinc	Dissolved Zinc	PRESERVATION (See codes) N	PRESERVATION (See codes) I	REMARKS	No # of Containers
1	MW-1	10/30/15	10:30	X		GW	X	X	X	X		2
2	MW-2	10/30/15	08:15	X		GW	X	X	X	X		2
3	MW-4	10/30/15	07:25	X		GW	X	X	X	X		2
4	MW-5	10/30/15	09:50	X		GW	X	X	X	X		2
5	MW-7	10/30/15	09:10	X		GW	X	X	X	X		2
6	MW-13D	10/30/15	07:50	X		GW	X	X	X	X		2
7	DUP	10/30/15	—	X		GW	X	X	X	X		2
8												
9												
10												
11												
12												
13												
14												

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: RS/HW	10/30/15 11:20	1:	10/30/15 11:40
2:	10/30/15 1:35	2:	
3:		3: Katie Scum	10/30/15 19:35

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: Metalplate
PROJECT #: 49450L-GWM15
SITE ADDRESS: 505 Selig Drive Atlanta, GA
SEND REPORT TO: Mike Dillon
INVOICE TO: mike.dillon@ppmco.com
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 14

Turnaround Time Request
- ☒ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 09, 2015

Mike Dillon
PPM Consultants, Inc.
5555 Bankhead Hwy
Birmingham AL 35210

TEL: (205) 836-5650
FAX: (205) 836-5805

RE: Metal Plate

Dear Mike Dillon: Order No: 1510O64

Analytical Environmental Services, Inc. received 7 samples on 10/29/2015 2:35:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Tara Westervelt
Project Manager

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-1A
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:40:00 AM
Lab ID:	1510Q64-001	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Zinc	15.3	0.0200		mg/L	215335	1	11/02/2015 15:04	IO
HARDNESS SM2340 B					**(SM2340B)**			
Hardness, Calcium/Magnesium (As CaCO3)	117	1.00		mg/L CaCO3	215332	1	11/04/2015 15:46	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-2A
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:34:00 AM
Lab ID:	1510Q64-002	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C				**(SW3005A)**				
Zinc	138	0.100		mg/L	215335	5	11/03/2015 13:10	IO
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	652	1.00		mg/L CaCO3	215332	1	11/05/2015 12:36	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-3A
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:28:00 AM
Lab ID:	1510Q64-003	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Zinc	22.9	0.0200		mg/L	215335	1	11/02/2015 16:37	IO
HARDNESS SM2340 B					**(SM2340B)**			
Hardness, Calcium/Magnesium (As CaCO3)	149	1.00		mg/L CaCO3	215332	1	11/04/2015 15:52	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-4B
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:18:00 AM
Lab ID:	1510Q64-004	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Zinc	10.0	0.0200		mg/L	215335	1	11/02/2015 16:41	IO
HARDNESS SM2340 B					**(SM2340B)**			
Hardness, Calcium/Magnesium (As CaCO3)	132	1.00		mg/L CaCO3	215332	1	11/04/2015 15:55	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-5
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 12:00:00 PM
Lab ID:	1510Q64-005	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C				**(SW3005A)**				
Zinc	18.1	0.0200		mg/L	215335	1	11/02/2015 16:45	IO
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	81.7	1.00		mg/L CaCO3	215332	1	11/04/2015 15:58	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-6A
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:50:00 AM
Lab ID:	1510Q64-006	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Zinc	159	0.100		mg/L	215335	5	11/03/2015 13:14	IO
HARDNESS SM2340 B					**(SM2340B)**			
Hardness, Calcium/Magnesium (As CaCO3)	511	1.00		mg/L CaCO3	215332	1	11/05/2015 12:39	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Nov-15

Client:	PPM Consultants, Inc.	**Client Sample ID:**	SW-7
Project Name:	Metal Plate	**Collection Date:**	10/29/2015 11:11:00 AM
Lab ID:	1510Q64-007	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Zinc	41.8	0.0200		mg/L	215335	1	11/02/2015 16:55	IO
HARDNESS SM2340 B					**(SM2340B)**			
Hardness, Calcium/Magnesium (As CaCO3)	227	1.00		mg/L CaCO3	215332	1	11/04/2015 16:04	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client PBM Consultants Work Order Number 1510064

Checklist completed by [signature] 10/29/15
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 4.0 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes __	No ✓ Not Applicable __

Adjusted? Yes Checked by TD

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*		Final pH	Tech's Initials	Date	Time
1510G64-004A	6010B	7	1	HNO3	633-56	0.5 mL	Pellets	1	TD	10/29/15	4:22p
" -007A	"	6	1	"	"	0.5 mL	Pellets	1	TD	"	4:23p
						mL	Pellets				
						mL	Pellets				
						mL	Pellets				
						mL	Pellets				
						mL	Pellets				
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						mL	Pellets				
						mL	Pellets				
						mL	Pellets				

* Number of Pellets when adding NAOH

DWM 8/22/2014 10:01 AM

Client: PPM Consultants, Inc.
Project Name: Metal Plate
Workorder: 1510Q64

ANALYTICAL QC SUMMARY REPORT

BatchID: 215335

Sample ID: **MB-215335**	Client ID:			Units: **mg/L**	Prep Date: **11/02/2015**	Run No: **303381**
SampleType: **MBLK**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215335**	Analysis Date: **11/02/2015**	Seq No: **6493145**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	BRL	0.0200									

Sample ID: **LCS-215335**	Client ID:			Units: **mg/L**	Prep Date: **11/02/2015**	Run No: **303381**
SampleType: **LCS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215335**	Analysis Date: **11/02/2015**	Seq No: **6493148**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	1.047	0.0200	1.000		105	80	120				

Sample ID: **1510Q64-001BMS**	Client ID: **SW-1A**			Units: **mg/L**	Prep Date: **11/02/2015**	Run No: **303381**
SampleType: **MS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215335**	Analysis Date: **11/02/2015**	Seq No: **6493150**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	15.34	0.0200	1.000	15.32	1.55	75	125				S

Sample ID: **1510Q64-001BMSD**	Client ID: **SW-1A**			Units: **mg/L**	Prep Date: **11/02/2015**	Run No: **303381**
SampleType: **MSD**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **215335**	Analysis Date: **11/02/2015**	Seq No: **6493151**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Zinc	15.24	0.0200	1.000	15.32	-7.68	75	125	15.34	0.604	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

15100964 Work Order: 494501-GWMIS

Date: 10/29/15 Page 1 of 1

COMPANY: PPM Consultants, Inc.

ADDRESS: 5555 Bankhead Hwy. Birmingham, AL 35210

PHONE: (205) 836-5650

FAX:

SAMPLED BY: RS/HW

SIGNATURE: [signature]

ANALYSIS REQUESTED: Total Hardness; Dissolved Zinc

PRESERVATION (See codes): N; I

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Total Hardness (N)	Dissolved Zinc (I)	REMARKS	No # of Containers
1	SW-1A	10/29/15	11:40	X		SW	X	X		2
2	SW-2A	10/29/15	11:34	X		SW	X	X		2
3	SW-3A	10/29/15	11:28	X		SW	X	X		2
4	SW-4B	10/29/15	11:18	X		SW	X	X		2
5	SW-5	10/29/15	12:00	X		SW	X	X		2
6	SW-6A	10/29/15	11:50	X		SW	X	X		2
7	SW-7	10/29/15	11:11	X		SW	X	X		2
8										
9										
10										
11										
12										
13										
14										

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	10/29/15 13:15	1: [signature]	10-29-15 1315
2: [signature]	10-29-15 1435	2: [signature]	10/29/15 1435
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Metalplate

PROJECT #: 494501-GWMIS

SITE ADDRESS: 505 Selig Drive Atlanta, GA

SEND REPORT TO: Mike Dillon

INVOICE TO: (IF DIFFERENT FROM ABOVE) Mike.dillon@ppmco.com

QUOTE #: PO#:

RECEIPT

Total # of Containers: 14

Turnaround Time Request
- [X] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other ______

STATE PROGRAM (if any): ______

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL (COURIER circled)
GREYHOUND OTHER______

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

APPENDIX B

SEDIMENT EVALUATION

February 11, 2016

A2E

February 11, 2016

Mr. Adam Brown
Vice President Technical and Environmental Affairs
Metalplate Galvanizing
1120 39th Street North
Birmingham, Alabama 35234

Re: Status Report - Additional Sediments Evaluation
Selig Road Facility, Atlanta, Georgia

Dear Mr. Brown:

Applied Aquaculture and Environmental Technologies, LLC (A2E) has completed the proposed scope of work associated with the sediment evaluation in and around Selig pond described in PR-4 Section 2.3. Details of the activities are summarized below.

Field Activities

This assessment occurred across two (2) events. The first was conducted on April 24, 2015. Three reference grid lines (B, C and D) were established parallel to the railroad track as presented in Figure 1. As a point of reference, grid line B was established through the existing monitoring well MW-2. Grid lines C and D were established up the outwash ditch and away from the railroad at respective intervals of 33 and 75 feet from grid line B. As shown in Figure 2, 14 hand auger borings were advanced at select locations referenced to these grid lines. The distribution of boring locations provided coverage of representative conditions across the footprint of the outwash from MW-2 and extending away from the railroad. No borings were attempted on the railroad side of MW-2 (grid line B) during this initial event.

In most cases sediments/soils were retained in the auger to a depth of 1.5 to 2 feet. Below 2 feet the auger could easily be advanced (pushed without turning) through an interval of soft materials before coming in contact with firmer more competent materials assumed to be at or near the bottom of the sediments. Across the soft interval, representative samples could not be retained in the auger. The apparent depth of sediments is increasingly shallower with distance from the railroad track, allowing for the most part along grid lines C and D for the auger to be advanced into the more competent bottom materials to create enough of a plug in the bottom of the auger to retrieve a sample. In some cases, softer materials were collected from the top of the auger barrel, and these materials are believed to be representative of the softer sediment interval although the precise depth from which they were drawn cannot be determined. In deeper boring along grid line B, the weight of the water within the boring would dislodge any materials collected in the bottom of the auger and prevent any sample retrieval. In addition, advancing the auger into competent materials at depths greater than 7 or 8 feet created such a suction on the auger that it became very difficult to retrieve. Observations including material descriptions and depth intervals of all layers encountered were recorded in the field log, but actual boring logs were not generated because of

the limited stratigraphic information obtained. A total of 27 samples were successfully collected from various depths within the borings and were stored in labeled freezer bags and refrigerated pending XRF analysis.

One attempt was made between B-45 and B-75 to install a boring just underneath the water surface. After the first 1.5 feet it became difficult to locate the boring and beyond that depth sediments could not be retained in the auger. After that no other attempts were made at submerged locations and all subsequent boring locations were limited to dry ground.

A2E returned to the site on July 9 to collect additional data and analyze all samples using the XRF. An additional grid line (grid line A) was established 30 feet inside of MW-2 and running parallel to the railroad track. Three additional borings, A-0, A+30 and A-30, were advanced along this grid line. A total of 17 grab samples were collected and placed in labeled plastic freezer bags for XRF analyses.

A fourth grid line (Grid Line A') was established along the railroad side edge of the pond. The depth of sediments along Grid Line A' was estimated by probing. With the sample bucket removed, the auger shaft was advanced to refusal. The probe was then removed and the length of probe submerged, i.e., the depth from ground surface, was measured and recorded.

Sediment Thickness

Along Grid Lines A, B, C, and D, the total depth or thickness of the sediments was estimated based on the depth at which the auger met significant resistance. In some cases, in particular along grid lines C and D, we were able to retrieve samples of underlying native soils. In the deeper borings, in particular B-0 and B-45, samples could not be retrieved and therefore the thickness of the sediments was estimated. Borings B-75, C-86 and D-90 were established along the western edge of the pond/outwash area and were determined to be outside of the area of sediments because they showed a sediment thickness of zero.

Along Grid Line A', A'+20 was positioned along the edge of the water in the general position shown in Figure 2. A'-50 was positioned atop a sand bar at the entrance of the railroad ditch into Selig pond. In both cases, no attempt was made to recover samples because field experience to that point suggested that successful sample retrieval would have been unsuccessful. Instead, with auger barrel removed, A2E pushed the extended shaft of the auger handle until it reached the firm bottom. The sediment thickness was then determined by measuring and recording the length of rod extending below the sediment surface. Table 1 reflects the estimated sediment thickness at each of the 18 boring/probe locations. Figure 3 depicts each of the boring/probe locations and includes the determined depth (thickness) of sediments. As shown, the sediment is deepest, measuring up to 10 feet, in the central area of the outwash, from MW-2 towards the railroad.

Zinc Analysis

All samples were analyzed for total zinc (Zn) using an X-ray Fluorescence (XRF) analyzer. Zn results were obtained by shooting through the plastic sample bags. Direct readings from the XRF were recorded on the sample bags. High variability in moisture content was observed due the sediment types and

locations from which the samples were collected. A2E initially performed standard moisture content analyses on a representative set of the samples. Due to the variability of the results A2E elected to perform the analysis on the remaining samples. Direct readings were then converted to a dry weight basis. Table 2 reflects the direct reading, moisture content and total Zn concentrations on a dry weight basis for each of the sediment samples.

Conclusions

The primary objectives of this scope of work were to: (1) obtain a more accurate estimate of sediment volume and (2) discern any spacial distribution or layering of zinc within these sediments. As presented above, hand auger borings were advanced on dry ground within the limits of the outwash area. With the exception three borings along the western perimeter of the outwash, sediments were present at all boring locations. Layering is evident due to the softer zones encountered in all borings but could not be quantified because of limited recoveries attributable to that softness. Based solely on observation and resistance encountered with the auger, much of the apparent dry ground consists medium to coarse grained sands. These surface sediments range in thickness from 2 to 3 feet before encountering some softer zone, presumed to consist of finer grained sands and silt. Zinc was detected in all sediment samples. These concentrations appear higher in the softer materials at depth, but limited recovery and the mixing action of the auger rendered precise determination of zinc as a function of layering inconclusive.

Figure 4 shows boring/probe locations overlaid atop the previous topographic survey. The 802-foot elevation contour is roughly consistent with that of the sediment surface. Note that the boring locations were established by ground measurement and not surveyed. The common reference feature is the location of boring B-0 adjacent to MW-2. Note the discrepancy in the D series borings, particularly D-80 and D-90, falling outside of the 802-foot contour interval. In this case, the survey is considered accurate. A2E is confident with regard to horizontal delineation of the sediments to the south and west, and based on observation in the field, the northern and eastern boundaries are reasonably accurate. Based on information obtained, A2E conservatively estimates the areal extent of the outwash sediments at approximately 0.6 acres with a potential volume on the order of 4,500 to 6,000 cubic yards. Should additional horizontal and/or vertical delineation of sediments be required, A2E suggests that use of a hand auger be limited only to the perimeter. All other areas of the sediment deposit are more efficiently determined with the use of a probe as described above.

Recommendations

The sediment evaluation as performed by A2E enhanced the prior understanding of the volume of sediments within Selig pond and the distribution of zinc concentrations within those sediments. Building on this enhanced understanding, A2E recommends that additional assessment is necessary before full evaluation can proceed on the need for or feasibility of potential approaches to remedial actions on these sediments. Namely, A2E recommends additional assessment of (1) the mobility of zinc in these sediments relative to local groundwater and (2) the subsequent potential for the groundwater in the vicinity of Selig Pond to affect zinc concentrations in surface water, including in particular the relative contribution from groundwater to surface water flow volume within the ditch system.

Should you have questions or comments related to this report or should you wish to discuss A2E's recommendations, I would be happy to meet with you or schedule a conference call. As always, we appreciate your consideration.

Sincerely,
Applied Aquaculture and Environmental Technologies, LLC

Thomas Schmittou, P.E.
Principal

Attachments

Table 1 -Sediment Thickness at Boring and Probe Locations

Location	Auger Depth (ft)	Probe Depth (ft)
A-30		8.8
A-0		10
A+30		6.25
B-75	EOS	
B-45	8	
B-0	10	10.3
B+30	7.5	
C-86	EOS	
C-50	>7.5	
C-0	6	7.4
C+45	4	3.5
D-90	EOS	
D-80	4	
D-50	3	
D-0	5	6.7
D+45	3	2.8
A'+20		4.4
A'-50		9.3

Notes:

- Auger depth denotes terminal depth of boring as estimated length of auger submerged.
- Probe Depth denotes measured length of probe submerged at refusal.
- Only select augered borings were probed.
- EOS denotes visual edge of sediments.

Table 2 - Total Zinc Results for Sediment Samples

Sample Location	Sample Depth (ft)	Zn (mg/kg)	Moisture content	Zn (dwt) (mg/kg)
A+30	2.5	283	0.25	379
A+30	3	148	0.20	184
A+30	4	325	0.26	440
A+30	6.5	800	0.27	1089
A+30	7	3696	0.22	4752
A+30	8	740	0.24	974
A-0	2	1151	0.45	2088
A-0	2.5	461	0.33	684
A-0	4	751	0.28	1039
A-0	6	959	0.29	1354
A-30	2.5	932	0.28	1289
A-30	3	578	0.24	759
A-30	3.5	802	0.21	1017
A-30	4	1510	0.38	2434
A-30	6	1284	0.23	1677
A-30	8	1520	0.27	2088
B+30	2	423	0.39	691
B+30	4	1125	0.40	1875
B+30	7.5	509	0.27	698
B-0	4.5	1005	0.42	1736
B-0	10	669	0.20	839
B-45	7.5	1196	0.33	1784
B-75	2	449	0.27	616
C+45	3.5	1159	0.30	1656
C+45	4	1775	0.28	2464
C-0	3	137	0.26	184
C-0	5.5	1009	0.37	1594
C-0	6	303	0.31	441
C-0	6.5	491	0.27	668
C-50	2.5	2069	0.47	3905
C-50	4	294	0.26	399
C-50	5	321	0.38	517
C-86	2	676	0.30	966
D+45	3.5	856	0.28	1184
D+45	4	657	0.18	799
D-0	2	216	0.11	243
D-0	3	199	0.19	245
D-0	4	225	0.36	352
D-0	4.5	743	0.32	1088
D-0	5	1144	0.24	1503
D-80	1	152	0.36	237
D-80	1	306	0.19	380
D-80	4	334	0.27	455
D-90	2	677	0.22	870

- Sample Depth in blue indicates loose materials collected from the top of the auger.
- Moisture contents for A-30@2.5' and D+45@3.5' assumed at 28% (average of all samples).

Metalplate Galvanizing Facility
Selig Sediments

Feet
0 80

Figure 1
Boring/Probe Locations

Metalplate Galvanizing Facility
Selig Sediments

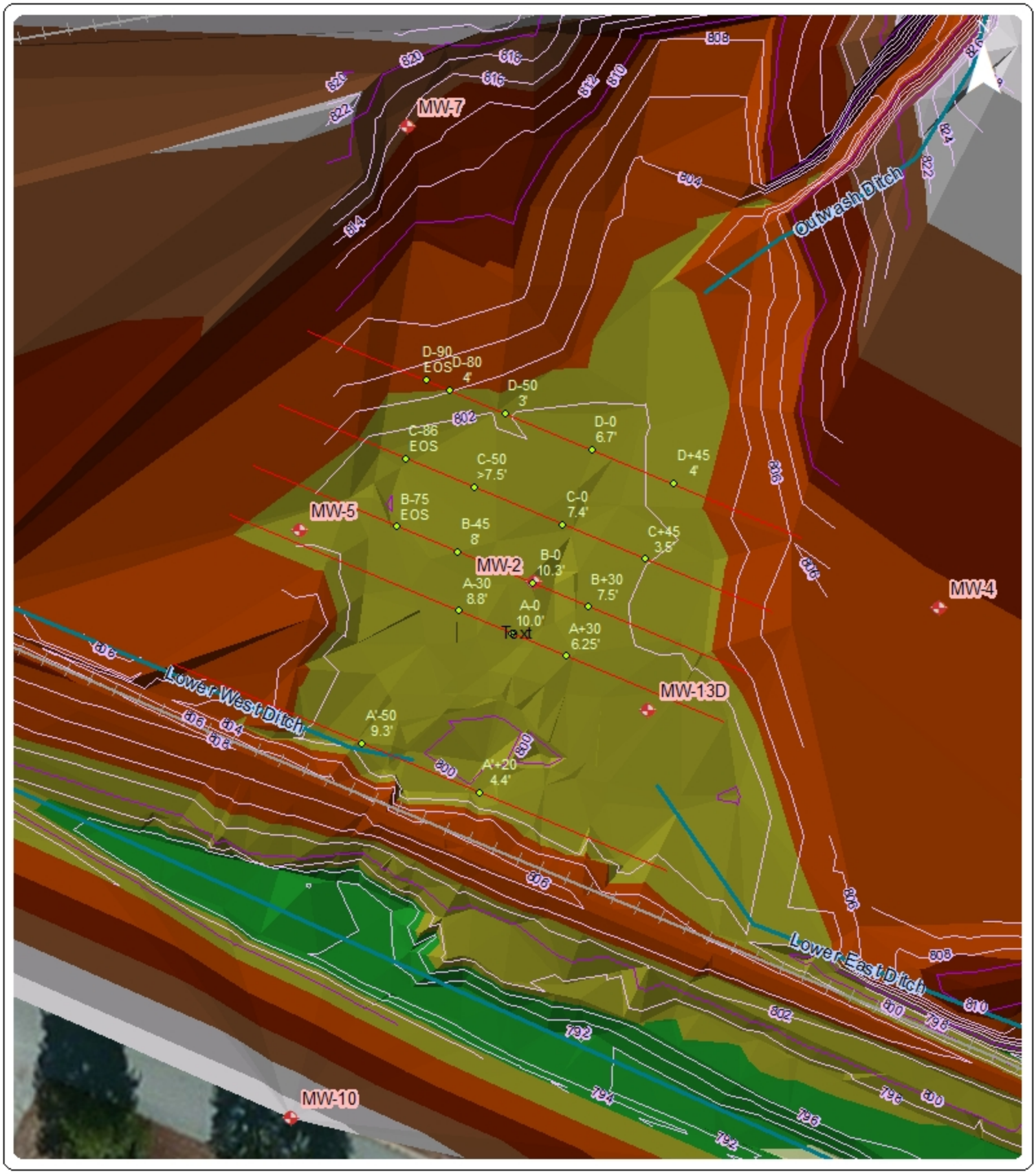
Feet
0 80

Figure 2
Boring/Probe Locations

Metalplate Galvanizing Facility
Selig Sediments

0 80 Feet

Figure 3
Boring/Probe Depths



Metalplate Galvanizing Facility
Selig Sediments

Feet
0 80

Figure 4
Boring/Probe Locations Relative to Previous Survey

APPENDIX C

EPD COMMENTS AND RESPONSE TO PR-7

Georgia Department of Natural Resources
Environmental Protection Division-Land Protection Branch
2 Martin Luther King, Jr. Dr., Suite 1054 East, Atlanta, Georgia 30334
(404) 657-8600; Fax (404) 657-0807
Judson H. Turner, Director

January 12, 2016

VIA E-MAIL AND REGULAR MAIL

Metalplate Galvanizing Corp.
c/o Mr. Adam Brown
500 Selig Drive
Atlanta, Georgia 30336

RE: Voluntary Investigation and Remediation Plan-Seventh Progress Report
Metalplate Galvanizing Facility, HSI # 10204
Atlanta, Fulton County, Georgia 30336

Dear Mr. Brown:

The Georgia Environmental Protection Division (EPD) has completed its review of the Voluntary Investigation and Remediation Plan (VIRP) Seventh Progress Report dated February 14, 2015, which includes the Annual Groundwater and Surface Water Monitoring/Corrective Action Effectiveness Report submitted for the Metalplate Galvanizing site located in Atlanta, Georgia. Our comment on the progress report is provided below:

1. EPD will withhold further comments on the effectiveness of the stormwater treatment until the next report is submitted. EPD concurs that due to the October 2014 installation of the electrocoagulator system, it would be too early to determine the effectiveness of the stormwater treated system.

2. According to the groundwater sampling field logs, the pumps were placed too low in the well during purging and sampling. For example, MW-5 has a total depth of 27-feet below ground surface (bgs) and a screen interval of 15-25-feet bgs. In the October sampling event, depth to water was 9.7-feet bgs and the pump intake was placed at 25-feet bgs which is too low for low flow, low volume. Please review all of the wells sampled to determine if the pump placements relative to screen intervals are correct.

3. No groundwater sampling field log was provided for MW-7 in Appendix B.

4. For monitoring wells that are not being sampled it is not necessary to submit a groundwater sampling field log, e.g., MW-3R, 6, 6D, 8, 9, 10, 11, and 12.

EPD anticipates receipt of the next progress report by February 15, 2016 which should include the results of the sediment evaluation.

If you have any questions, please contact Montague M[c]Pherson of the Response and Remediation Program at (404) 657-8600.

Sincerely,

Robin Futch

Robin Futch
Acting Unit Coordinator
Response and Remediation Program

c: James D. Levine, McKenna Long & Aldridge LLP (on behalf of Aston Investment Corp.)
Frances Carpenter, Non-Point Source Program, WPB
File: HSI # 10204, Metalplate Galvanizing Corp.
S:\RDRIVE\MONTMC\HSI\METPLATE\VRP Progress Report\VRP Progress Report 7.doc

PPM CONSULTANTS

Environmental Science
and Engineering

5555 Bankhead Highway • Birmingham, AL 35210 • tel 205.836.5650 • fax 205.836.5805 • www.ppmco.com

January 21, 2016

Ms. Robin Futch
Acting Unit Coordinator
Response and Remediation Program
EPD-Land Protection Division
2 Martin Luther King Jr. Drive
Suite 1054 East
Atlanta, Georgia 30334

Re: Response to Seventh Progress Report EPD Comments
Metalplate Galvanizing Facility/Selig Road
Atlanta, Georgia
HSI No. 10204
PPM Project No. 494501-GWM15

Dear Ms. Futch:

PPM Consultants, Inc., on behalf of Metalplate Galvanizing, L.P., is submitting this response to the Georgia Environmental Protection Division's (EPD) letter dated January 12, 2016, regarding the Seventh Progress Report for the referenced site. EPD comments and Metalplate responses are provided below:

EPD Comment No. 1

EPD will withhold further comments on the effectiveness of the stormwater treatment until the next report is submitted. EPD concurs that due to the October 2014 installation of the electrocoagulator system, it would be too early to determine the effectiveness of the stormwater treated system.

Response

Metalplate understands and appreciates EPD's concurrence on this item.

EPD Comment No. 2

According to the groundwater sampling field logs, the pumps were placed too low in the well during purging and sampling. For example, MW-5 has a total depth of 27-feet below ground surface (bgs) and a screen interval of 15-25-feet bgs. In the October sampling event, depth to water was 9.7-feet bgs and the pump intake was placed at 25-feet bgs which is too low for low flow, low volume. Please review all of the wells sampled to determine if the pump placements relative to screen intervals are correct.

Response

The logs of all the wells sampled in October 2014 and sampled more recently in October 2015 were reviewed as suggested by EPD. The depth of the pump intake for monitoring well MW-5 during the October 2014 groundwater sampling event was incorrectly recorded on the MW-5 field log as 25 feet bgs. The depth of the pump intake at MW-5 during this sampling event was actually 20 feet bgs. The depth to the pump intake recorded for MW-7 was also incorrectly recorded on the field log; however, PPM corrected the MW-7 log prior to submitting the Seventh Progress Report.

More generally, PPM's review of the October 2014 and October 2015 groundwater sampling events has confirmed that pump intake placement was generally in the center of the saturated screen and, therefore, does not degrade the reliability of the collected groundwater data. Going forward, the depth of the pump intakes will be recorded more precisely so that it is more clear that they have been placed in the center of the saturated portion of the screen. A copy of the corrected field log for MW-5 is attached for your use and insertion into the report.

EPD Comment No. 3

No groundwater sampling field log was provided for MW-7 in Appendix B.

Response

PPM has reviewed its electronic copy of the submitted report, and its copy includes the well MW-7 field log. So, any lack of that field log in the submission to EPD was a minor oversight. A copy of the field log for monitoring well MW-7 is attached for your use and insertion into the report.

EPD Comment No. 4

For monitoring wells that are not being sampled it is not necessary to submit a groundwater sampling field log, e.g., MW-3R, 6, 6D, 8, 9, 10, and 12.

Response

Metalplate agrees. Going forward copies of groundwater sampling field logs will not be included in the report for monitoring wells that are not sampled.

If you have questions or comments, please do not hesitate to contact us.

Sincerely,
PPM Consultants, Inc.

Michael W. Dillon, P. G.
Senior Geologist

c: Adam Brown, Metalplate Galvanizing, L.P.
Ernest Cain, Metalplate Galvanizing, L.P.
Paul Lynes, Paul Lynes, LLC
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Max Zygmont, KMCL—Kazmarek, Mowrey, Cloud, Laseter, LLP
Tom Schmittou, Applied Aquaculture and Environmental Technologies, LLC

Attachments: A – MW-5 and MW-7 Field Logs

ATTACHMENTS

ATTACHMENT A

MW-5 AND MW-7 FIELD LOGS

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM14
SITE NAME:	Metalplate	SAMPLING DATE:	10/17/14
LOCATION:	Atlanta Georgia	WEATHER:	Sunny - 74°
WELL I.D.:	MW-5		
SAMPLER'S NAME:	JMS/RS		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	813.26
Casing Diameter (in.)		Depth to Water (ft-BTOC)	9.73
Well Depth (ft-BTOC)	27.43	Well Volume (gal)	2.89
Water Column (ft)	17.7	Screened Interval (ft-BGS)	15-25

WATER SAMPLE COLLECTION DATA

Method of Sampling	Low-Flow
Pump Type	Peristaltic
Tubing Type	LDPE 0.25" I.D.
Time of Sampling	14:35
Pumping Flow Rate (gpm)	0.1 GPM
Pump/Tubing depth (ft-BTOC)	MD ~~25'~~ 20'

WATER QUALITY PARAMETERS

	Initial						
Time	13:55	14:05	14:15	14:25	14:35		
Depth to water (ft-BTOC)	9.73	10.07	10.06	10.05	10.04		
Amount Purged	—	0.25G.	0.5G.	1.75G.	2.5G.		
Temperature (°C)	17.43	17.47	17.38	17.32	17.38		
Sp. Cond. (uS/cm)	1426	1428	1419	1417	1406		
pH (S.U.)	5.45	5.29	5.27	5.25	5.22		
ORP (mV)	80.5	95.1	99.4	100.8	104.5		
Turbidity (NTU)	12.40	49.1	42.5	20.3	9.67		

LABORATORY DATA

Sample I.D.	MW-5	Sample Time:	14:35
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS:

GROUNDWATER SAMPLING FIELD LOG

SITE INFORMATION

CLIENT:	Metalplate Galvanizing	PROJECT NO.:	494501-GWM14
SITE NAME:	Metalplate	SAMPLING DATE:	10/17/14
LOCATION:	Atlanta Georgia	WEATHER:	SUNNY - 79°
WELL I.D.:	MW-7		
SAMPLER'S NAME:	JMS/RS		

WELL CONSTRUCTION AND LIQUID LEVEL DATA

Casing Material	PVC	Reference Pt. (TOC)	818.74
Casing Diameter (in.)	2"	Depth to Water (ft-BTOC)	9.02
Well Depth (ft-BTOC)	17.44	Well Volume (gal)	1.37
Water Column (ft)	8.42	Screened Interval (ft-BGS)	5-20

WATER SAMPLE COLLECTION DATA

Method of Sampling	LOW FLOW
Pump Type	PERISTALTIC
Tubing Type	LDPE - 0.25" I.D.
Time of Sampling	13:30
Pumping Flow Rate (gpm)	<0.1 GPM
Pump/Tubing depth (ft-BTOC)	~~~~ ≈ 13' (mp)

WATER QUALITY PARAMETERS

	Initial						
Time	12:50	13:00	13:10	13:20	13:30		
Depth to water (ft-BTOC)	9.02	9.27	9.27	9.27	9.27		
Amount Purged	—	<0.5 G.	<1.0 G.	1.5 G.	2.0 G.		
Temperature (°C)	18.93	18.75	19.29	19.90	19.90		
Sp. Cond. (uS/cm)	1532	1,542	1,529	1,519	1,511		
pH (S.U.)	4.98	4.87	4.88	4.88	4.85		
ORP (mV)	159.7	133.0	127.8	128.1	127.5		
Turbidity (NTU)	167.0	93.1	37.3	15.8	14.80		

LABORATORY DATA

Sample I.D.	MW-7	Sample Time: 13:30	
Analyte	Total Zinc/Dissolved Zinc		
Containers/Preservative	250 ml (Nitric)/ 500 ml (unpreserved)		

REMARKS AND OBSERVATIONS: