CLEAR CREEK ASSOCIATES

Practical Solutions
In Groundwater Science

6155 East Indian School Rd.
Suite 200
Scottsdale, Arizona 85251
480-659-7131 office
480-659-7143 fax
www.clearcreekassociates.com

Via Electronic Mail

May 11, 2015

Mr. Darryl Crossman, City Manager
City of Litchfield Park
214 W. Wigwam Boulevard
Litchfield Park, AZ 85340

Re: Monthly Update, PGA-North Superfund Site

Dear Mr. Crossman:

As requested, following is a brief update on activities at the Phoenix-Goodyear Airport (PGA) North Superfund Site for the period from March 2015 through early April 2015.

RECENT MONITOR WELL RESULTS

Figure 1, attached, is a summary of recent monitoring results for the northern portion of the Site. The results from the March 2015 sampling event are generally consistent with prior results. Notable findings or exceptions for the March results are summarized below.

- At EPA MW-63A, located on the west side of Litchfield Road, approximately 500 feet north of Van Buren, TCE concentrations were observed at 44.5 ug/L, consistent with the prior month. After increasing from approximately 10 ug/L when it was installed in 2013, the TCE concentration trend may be stabilizing. Crane Co. initiated work to install additional extraction well (EA-10) the week of April 20, 2015. EA-10 is being installed along Van Buren in the vicinity of former extraction well EA-04 to enhance on-site capture.
- At EPA MW-48A, located on the east side of Litchfield Road, approximately ¼-mile south of Interstate 10, TCE concentrations were observed at 291 ug/L, up from the prior month's result of 247 ug/L. Although seasonal variability has been observed in EPA MW-48A, historical trends have shown a gradual decline in peak concentrations since 2013.
- At EPA MW-51A, located in the Pebble Creek community located along W Robson Circle North, northwest of 147th Lane, TCE concentrations were at 4.2 ug/L, a slight decrease from the previous month's result of 4.6 ug/L. There is no discernable trend in the observed TCE

concentrations in EPA MW-51A as the results are within sampling and analytical variability. The lack of a declining trend indicates that the TCE mass that migrated beyond the 33A and EA-08 capture zones has not yet been diluted by injection of treated water upgradient of this location by the new injection wells installed as part of the expansion of the northwest hydraulic capture system.

CONDUIT WELL UPDATE

Monitoring results for irrigation well 27C collected from Subunit A sample (above the inflatable packer) were 4.5 ug/L, a decrease from the previous months' result of 9.0 ug/L. The sample collected from below the inflatable packer in Subunit C was detected at 5.3 ug/L, up from the previous month's result of 1.8 ug/L.

SOURCE AREA INVESTIGATION & REMEDIATION

Crane Co submitted a draft Remedial Design / Remedial Action (RD/RA) Work Plan for Phase I of the Source Area remediation effort on December 1, 2014. Combined agency/stakeholder comments on the Draft RD/RA Work Plan and Crane Co. Response to Comments were reviewed during the March 11 Focused Technical meeting. No significant outstanding issues remain.

PLUME CONTAINMENT

Approximately 3.5% of the water extracted from the EA-06/EA-07 treatment system was utilized by Goodyear for park irrigation; this is consistent with the usage seen last year. Average flow rates in the injection wells for March were 175 gpm, 237 gpm, and 222.5 gpm in IA-11, IA-12 and IA-15, respectively, (Figure 2). The average reported flow rates for IA-07 and IA-08 for March were 150 and 162 gpm, respectively, generally consistent with the previous months' rates (Figure 2). Groundwater elevations in the vicinity of injection well IA-12, except EPA MW-59A, were higher than the previous month's monitoring event (Figure 3) due to increased seasonal pumping in the region. Average flow rates, based on operational uptime, for the off-site extraction wells are shown on Figure 4. The operational uptime for the EA-06/EA-07 treatment system was consistent with the prior month. The average reported flow rates for EA-06 and EA-07 for March were 393 gpm and 232 gpm, respectively. The average reported flow rate for EA-08 for March was 353 gpm, which is a slight increase from the previous months' flow rate of 341 gpm.

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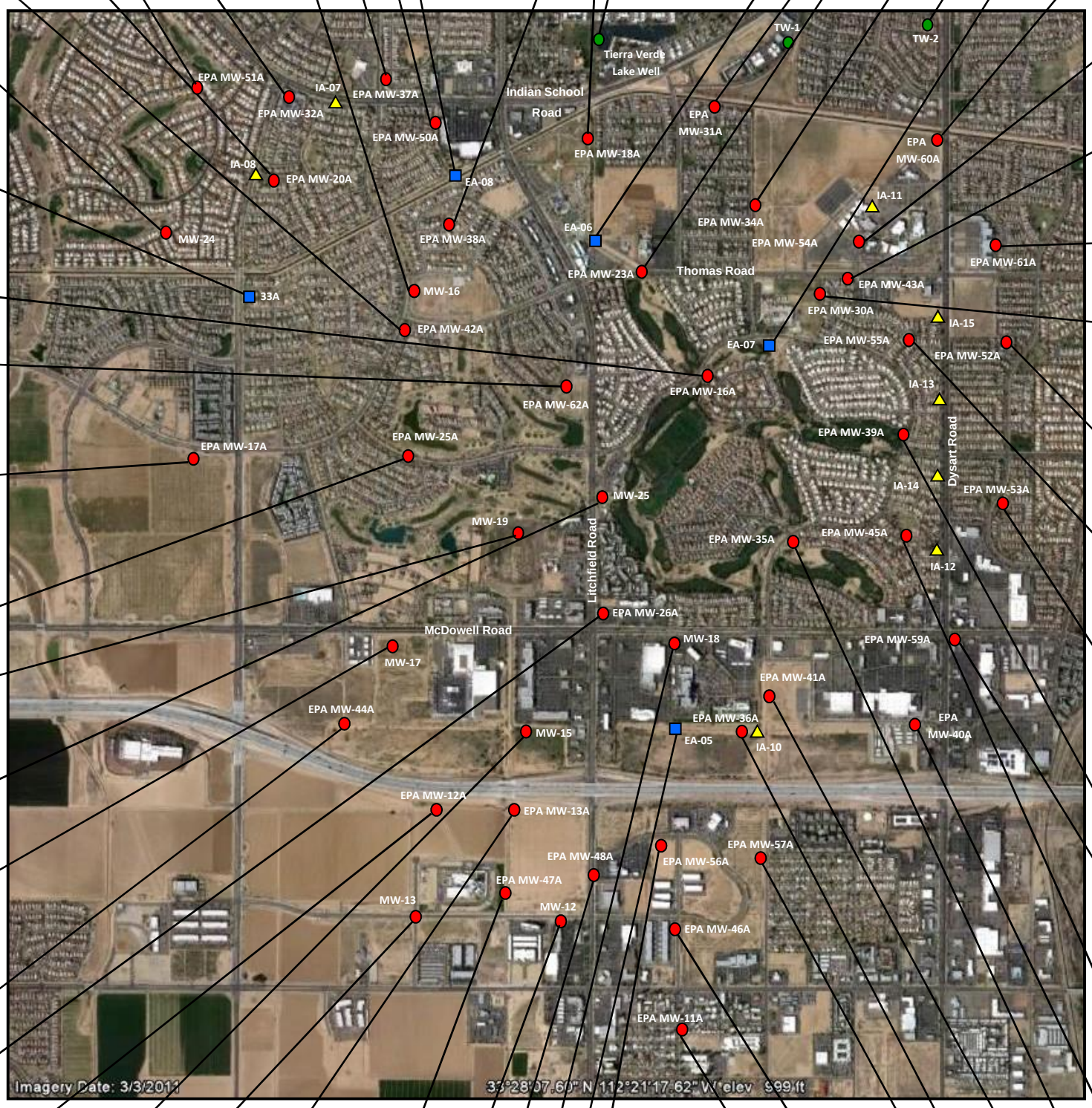
Sincerely,
Clear Creek Associates, PLC

Thomas R. Suriano, R.G.
Principal Hydrogeologist

Attachments:
Figure 1: Recent Analytical Results
Figure 2: Average Injection Rates
Figure 3: Groundwater Elevations in Monitor Wells near IA-12
Figure 4: Average Extraction Rates

cc: (e-copies)
Mary Rose Evans – City of Litchfield Park
Susan Goodwin – City Attorney
Woody Scoutten – EPS Group



EPA MW-32A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-37A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-50A		
Jan	Feb	Mar
3.8	4.1	5.3

EPA MW-18A		
Jan	Feb	Mar
-	0.39	-

Tierra Verde Lake Well		
Jan	Feb	Mar
-	<0.19	-

EPA MW-23A		
Jan	Feb	Mar
-	134 (118)	-

EPA MW-34A		
Jan	Feb	Mar
-	0.41	-

EPA MW-51A		
Jan	Feb	Mar
5.1	4.6	4.2

MW-16		
Jan	Feb	Mar
44.2	46.1	50.1

EA-08		
Jan	Feb	Mar
57.9	45.6	50.9

EPA MW-31A		
Jan	Feb	Mar
-	0.96	-

Liberty Water TW-2		
Jan	Feb	Mar
-	-	-

EPA MW-20A		
Jan	Feb	Mar
<0.20	<0.20	<0.20

EPA MW-38A		
Jan	Feb	Mar
94.3	88.1	75.5

EA-06		
Jan	Feb	Mar
-	95	-

EA-07		
Jan	Feb	Mar
13	10	10

EPA MW-42A		
Jan	Feb	Mar
29.8	26.5 (28.7)	34.0

EPA MW-60A		
Jan	Feb	Mar
-	<0.20	-

MW-24		
Jan	Feb	Mar
-	0.21	-

EPA MW-54A		
Jan	Feb	Mar
-	<0.20	-

33A		
Jan	Feb	Mar
38.2	39.3	40.3

EPA MW-43A		
Jan	Feb	Mar
-	0.31	-

EPA MW-16A		
Jan	Feb	Mar
-	120	-

EPA MW-61A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-62A		
Jan	Feb	Mar
195	137	101

EPA MW-30A		
Jan	Feb	Mar
0.57	<0.20	<0.20

EPA MW-17A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-52A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-25A		
Jan	Feb	Mar
-	12.8	-

EPA MW-55A		
Jan	Feb	Mar
-	<0.20	-

MW-19		
Jan	Feb	Mar
-	11.5	-

EPA MW-53A		
Jan	Feb	Mar
-	<0.20	-

MW-25		
Jan	Feb	Mar
-	42.6	-

EPA MW-39A		
Jan	Feb	Mar
-	<0.20	-

MW-17		
Jan	Feb	Mar
-	<0.20	-

EPA MW-59A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-44A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-45A		
Jan	Feb	Mar
-	<0.20	-

EPA-MW-26A		
Jan	Feb	Mar
-	27.8	-

EPA MW-40A		
Jan	Feb	Mar
-	<0.20	-

EPA-MW-12A		
Jan	Feb	Mar
-	1.7	-

EPA MW-11A		
Jan	Feb	Mar
5.8	2.2	2.1

EPA MW-47A		
Jan	Feb	Mar
18.3	75.2	73.6

EPA MW-35A		
Jan	Feb	Mar
-	<0.20	-

MW-15		
Jan	Feb	Mar
26.3	38.7	32.9

EPA MW-56A		
Jan	Feb	Mar
-	80.7	-

EPA MW-46A		
Jan	Feb	Mar
-	<0.19	-

EPA MW-41A		
Jan	Feb	Mar
-	<0.20	-

MW-12		
Jan	Feb	Mar
200	280	210

EA-05		
Jan	Feb	Mar
71.7	59.4	55.3

EPA MW-57A		
Jan	Feb	Mar
-	<0.19	-

MW-13		
Jan	Feb	Mar
-	<0.19	-

EPA MW-36A		
Jan	Feb	Mar
-	<0.20	-

EPA MW-13A		
Jan	Feb	Mar
31.8	19.9	16.2 (15.5)

EPA MW-48A		
Jan	Feb	Mar
188	247	291

MW-18		
Jan	Feb	Mar
-	114	-

EXPLANATION

- Monitoring well location
- Production well location
- Extraction well location
- Injection well location
- Sep — Sample Date (Month)
- 20 — TCE concentration in µg/L by EPA Method 8260B.

Notes: Duplicate samples in parentheses. Results in Red are in excess of 5 µg/L. Results in Blue are less than 5 µg/L.

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Recent Analytical Results
PGA-North Site

Goodyear, Arizona
Figure 1

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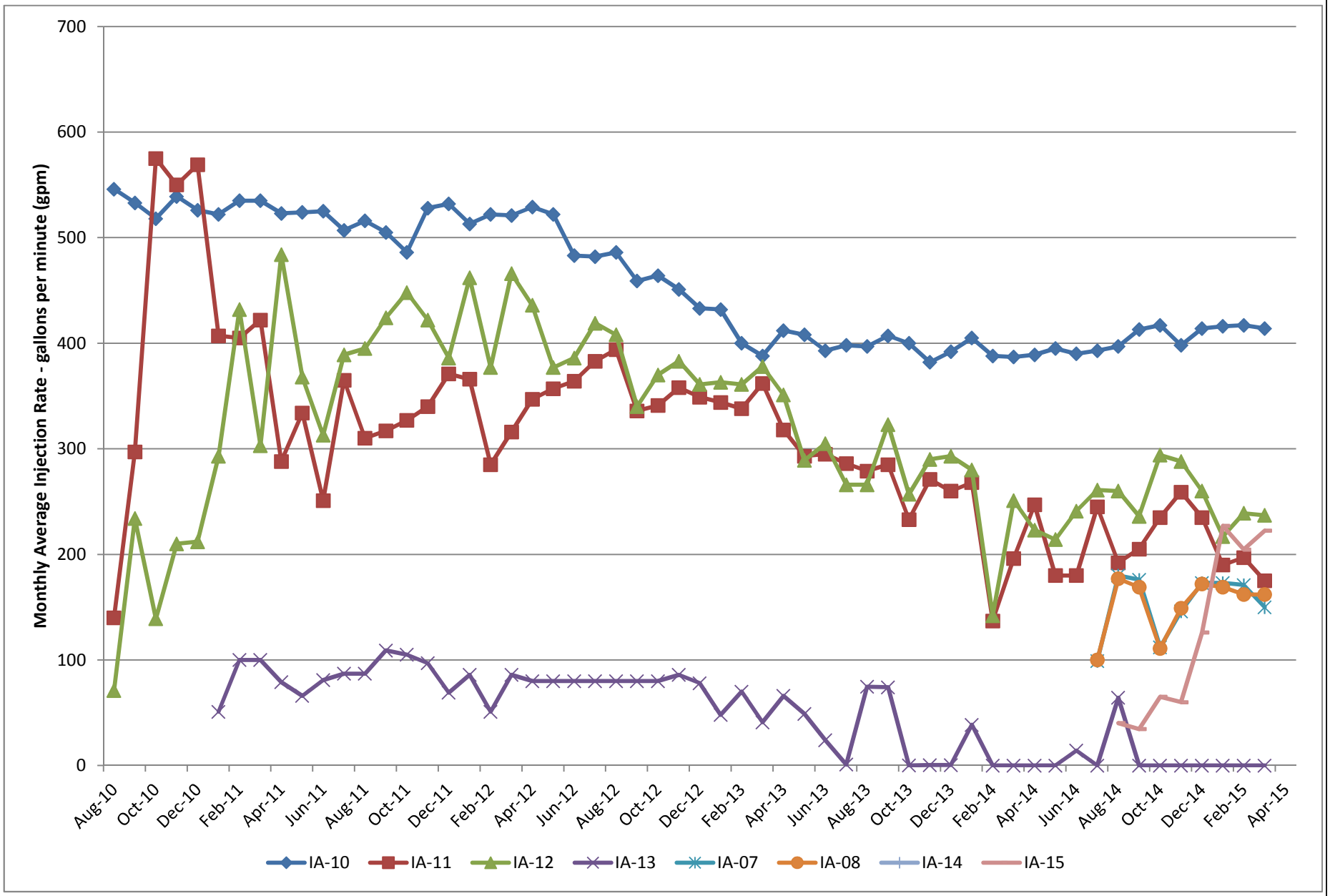

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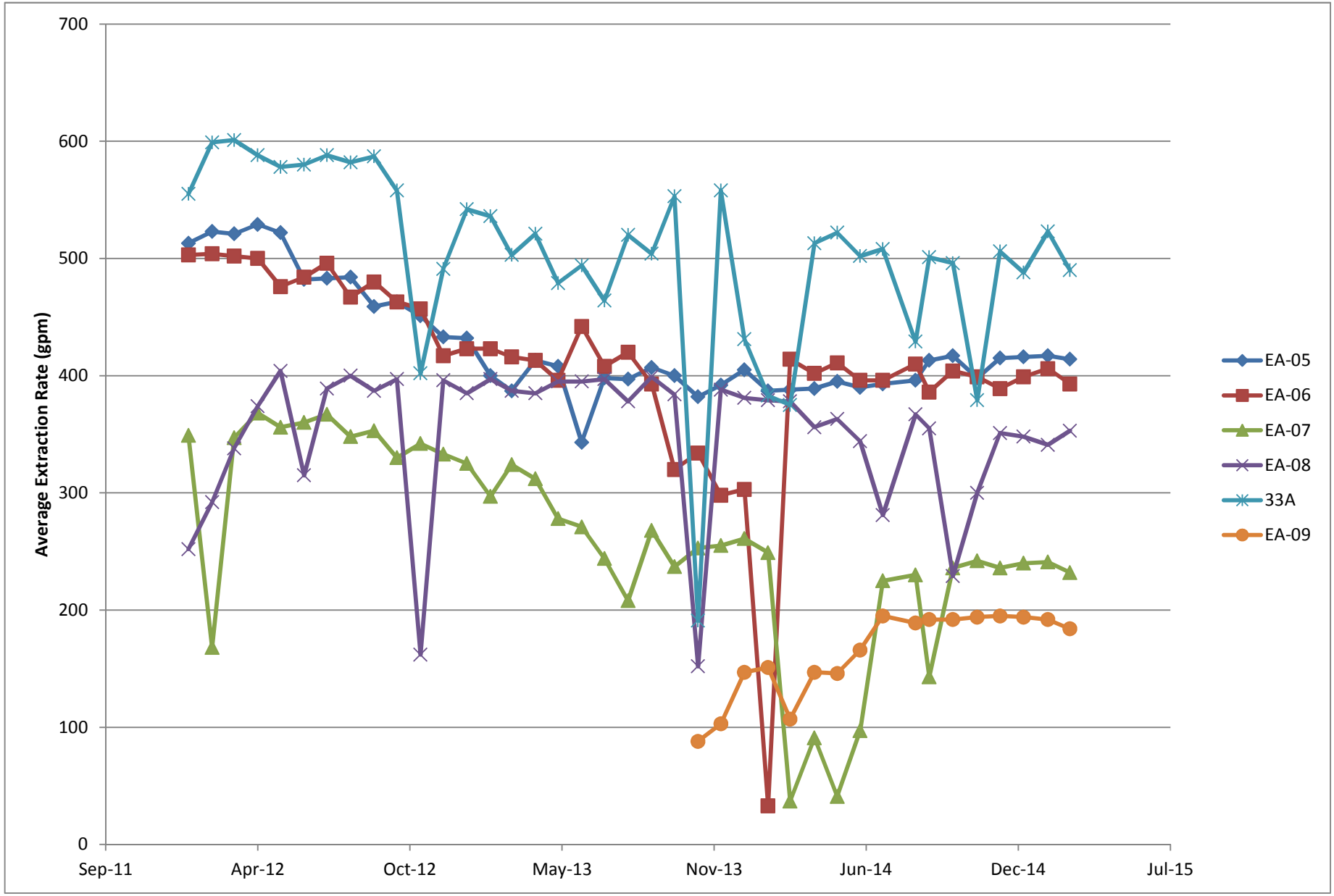
PGA-North Average Injection Rates

Approved	Date	Author	Date	File Name	Figure
TRS		GJM	4/28/15	Injection Rates_2	2



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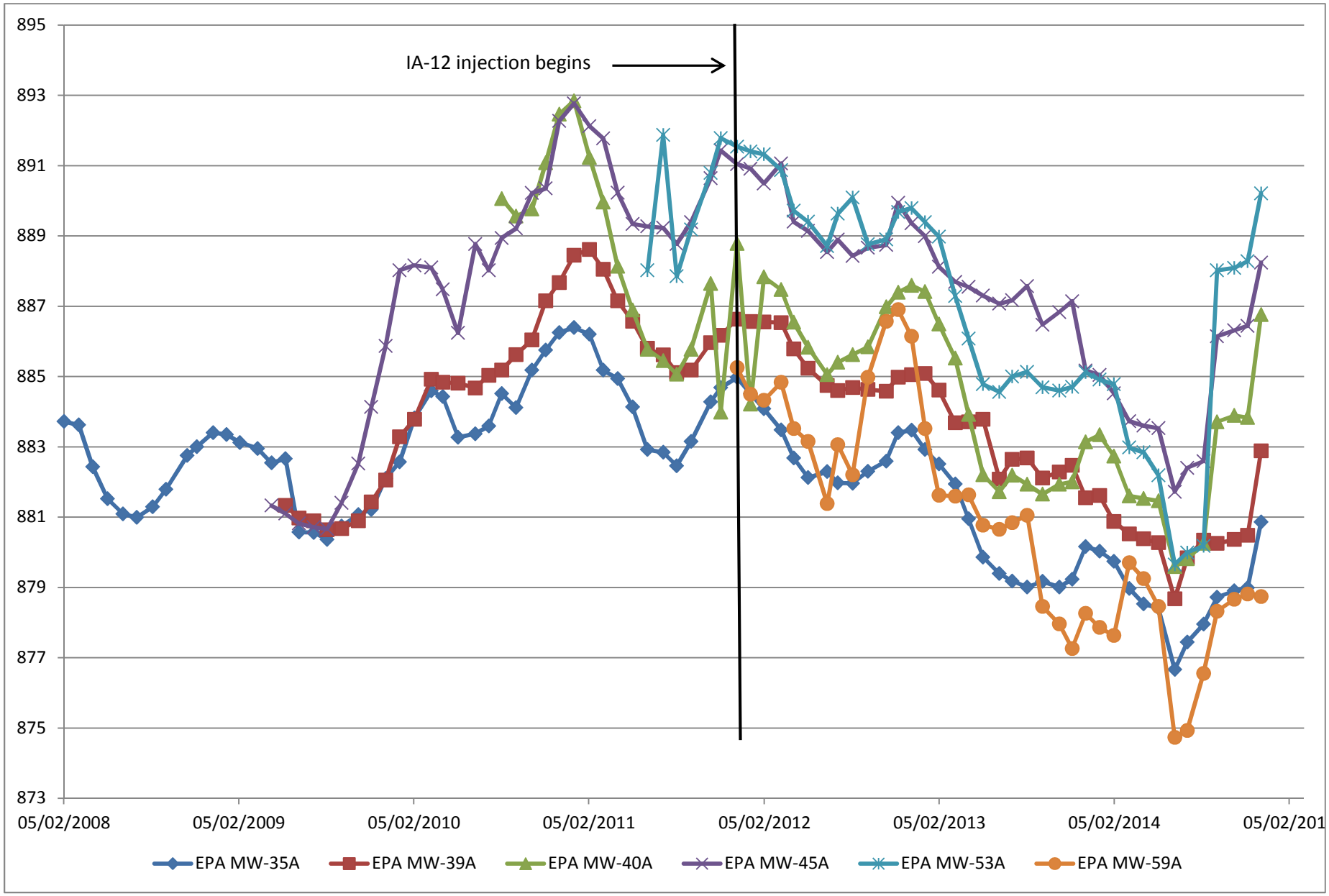
PGA-North Avereage Extraction Rates

Approved	Date	Author	Date	File Name	Figure
TRS		GJM	4/28/15	Injection Rates_2	4



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Groundwater Elevations in Monitor Wells Near IA-12

Approved	Date	Author	Date	File Name	Figure
TRS		GJM	4/28/15	Injection Rates_2	3