



605-01 (Rock Springs) 2013 Monitoring Summary





12/31/2013

1.0 Location:

OXY USA WTP LP (Operator # 66571)
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

605-01 (Location ID 323903)
T6S, R97W, S5, SWNW
Garfield County, Colorado

2.0 Overview:

This report summarizes the 2013 quarterly monitoring event for the release at OXY USA WTP LP's (OXY) Cascade Creek 605-01 well pad; refer to Colorado Oil and Gas Conservation Commission (COGCC) Document #200220428 and Remediation project #4622. The well pad is situated adjacent to an unnamed tributary of Crystal Creek. The release extended from the production pit to springs west of the pad (locally known as Rock Springs) which feeds the tributary. The well pad and the area upon which the release occurred and surfaced are located on property owned by OXY.

The 605-01 vicinity water sources have been monitored monthly from June 2008 through October 2011 when water and access was available. Sampling frequency was modified to a quarterly sampling regime beginning in 2012.

Sampling Point #42 exceeded the maximum concentration level (MCL) for benzene (5.0 µg/L) during the second quarter sampling event. No other exceedances of the respective MCLs for benzene, toluene, ethylbenzene, or xylene (BTEX), total dissolved solids (TDS), or gasoline range organic compounds (GRO) were identified during the 2013 sampling events.

3.0 Water Monitoring and Results:

Quarterly sampling events were conducted during 2013 on the following dates at sample locations 40, 42, 43, and 44:

- March 26, 2013
- May 8, 2013
- August 15, 2013
- October 18, 2013

Sampling was conducted at four of the approved sampling locations; North Spring (sampling point #40), South Spring (sampling point #42), Downstream (sampling point #43), and the Lower Pit (sampling point #44).

A summary of analytical results during the last five quarters of the four sampling points are shown in Table 1. A summary by location for the history of the release are presented in the attached Comprehensive Laboratory Data Summary by Location table and attached to this report. Graphical summaries of BTEX concentrations for sampling locations 40, 42, 43, and 44 are summarized and attached to this report. The four sample locations and the historical upstream sample location are identified on the attached figure.

**Table 1. Summary of 605-01 Monitoring Results from 4th Quarter 2012 through 4th Quarter 2013**

Location / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)	Ethylbenzene (MCL= 700 µg/L)*	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (MCL = 750 ppm)**
N. Spring (#40)						
10/9/2012 Q4	Water Unavailable for Sample Collection					
3/26/2013 Q1	Water Unavailable for Sample Collection					
5/8/2013 Q2	<1.0	<5.0	<1.0	<3.0	<0.10	400
8/15/2013 Q3	Water Unavailable for Sample Collection					
10/18/2013 Q4	<1.0	<5.0	<1.0	<3.0	<0.10	500
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.10	700
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	600
S. Spring (#42)						
10/9/2012 Q4	6.7	<0.78	2.4	16.0	0.097	441
3/26/2013 Q1	<1.0	<5.0	<1.0	4.4	<0.10	425
5/8/2013 Q2	13.0	<5.0	1.8	20.0	0.20	400
8/15/2013 Q3	<1.0	<5.0	<1.0	<3.0	<0.10	600
8/15/20 D	<1.0	<5.0	<1.0	<3.0	<0.10	600
8/15/2013 S	1.0	<1.0	<1.0	<3.0	<0.05	600
10/18 /2013 Q4	<1.0	<5.0	<1.0	<3.0	<0.10	600
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.10	700
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	700
Downstream (#43)						
10/9/2012 Q4	<0.3	<0.78	<0.38	<1.1	<0.031	460
3/26/2013 Q1	<1.0	<5.0	<1.0	<3.0	<0.10	400
5/8/2013 Q2	<1.0	<5.0	<1.0	<3.0	<0.10	400
8/15/2013 Q3	<1.0	<5.0	<1.0	<3.0	<0.10	600
8/15/20 D	<1.0	<5.0	<1.0	<3.0	<0.10	700
8/15/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	600
10/18/2013 Q4	<1.0	<5.0	<1.0	<3.0	<0.10	600
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.10	600
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	600
Lower Pit (#44)						
10/9/2012 Q4	<0.3	<0.78	<0.38	<1.1	<0.031	426
3/26/2013 Q1	<1.0	<5.0	<1.0	<3.0	<0.10	329
5/8/2013 Q2	<1.0	<5.0	<1.0	<3.0	<0.10	400
8/15/2013 Q3	<1.0	<5.0	<1.0	<3.0	<0.10	400
8/15/20 D	<1.0	<5.0	<1.0	<3.0	<0.10	500
8/15/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	400
10/18/2013 Q4	<1.0	<5.0	<1.0	<3.0	<0.10	400
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.10	400
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	400

Notes: µg/L – micrograms per liter
 GRO – gasoline range organics
 TDS – total dissolved solids
 MCL – Maximum contaminant level
 ppm – parts per million
 * – the highest number within the range is the MCL
 ** – 1.25 x 600 ppm detected at location #12 on February 12, 2009
 Q1/Q2/Q3/Q4 – indicates quarterly sampling interval
 D – indicates duplicate sample analyzed by ESC laboratory
 S – indicates duplicate sample analyzed by separate laboratory



4.0 Quality Control:

A formal sampling and analyses plan has not been prepared for this event. OXY has collected duplicate samples, split samples, and a trip blank for quality control (QC) purposes to determine the adequacy of field and laboratory methods. Duplicate and split samples were collected at sampling points #40, #42, #43 and #44.

All QC samples collected and analyzed during the 2013 sampling events were shown to be "non detect" for BTEX except for the split sample for location #42 (South Spring) during the third quarter 2013. The single detection for benzene was at 1.0 microgram per liter which is at the published detection limit for both laboratories for that location. The detection is unlikely to be significant due to the low concentration identified by the laboratory.

The trip blank samples collected and analyzed during the 2013 sampling events were identified to contain no detectable petroleum hydrocarbons of interest.

5.0 Conclusions:

2013 sample collection identified an exceedance of the benzene standard at the South Spring (#42) location during the second quarter of 2013. No other exceedances of BTEX constituents were identified during the 2013 sampling events. The COGCC has not established an MCL for GRO; however, the GRO results are used as a comparative indicator for the presence of low-fraction petroleum hydrocarbons and of remediation progress. GRO was detected in the South Spring location during the second quarter 2013 sampling event. The sample's GRO concentration was identified to be at low concentrations. All other analytes during the sampling events were below analytical detection limits.

Separate graphs of analytical results from the past year (five sampling events) are attached to this report. Analytical detection limits denoted with a less-than sign (<) in Table 1 are below allowable MCLs and appear to show an upward trend. Decreased laboratory sensitivity in analytical methods has been noted to contribute to the upward graphical trend, but is unlikely to be indicative of an increased trend of BTEX constituents at the sample locations during this reporting period.

5.0 Attachments

Sampling Locations Summary Maps – By Quarter
Rock Springs Sampling Locations Summary Map – All Locations
BTEX Analyte Graphs: by location June 2008 to October 2013
BTEX Graphs, 4th Quarter 2012 to 4th Quarter 2013
Comprehensive Laboratory Data Summary by Location – June 2008 to October 2013
Comprehensive Field Parameter Summary by Location – June 2008 to October 2013

Sampling Location Summary Rock Springs - Benzene Results

Updated: September 16, 2013 Garfield County, Colorado
0 55 110 220 330 440 Feet




#43 605-1
Downstream

#44 605-1
Lower Pit

#40 605-1
North Spring

#42 605-1
South Spring

Legend
Sample Locations
1st Quarter Results

- No Detection
- Below MCL
- Above MCL
- Not Sampled
-  Dam
-  OXY Wellpad
-  OXY Access Road

Sampling Location Summary Rock Springs - Benzene Results

Updated: September 16, 2013 Garfield County, Colorado

0 55 110 220 330 440 Feet

#43 605-1
Downstream

#44 605-1
Lower Pit

#40 605-1
North Spring

#42 605-1
South Spring

Legend Sample Locations 2nd Quarter Results

- No Detection
- Below MCL
- Above MCL
- Not Sampled

- ▬ Dam
- ▭ OXY Wellpad
- ~ OXY Access Road

Sampling Location Summary Rock Springs - Benzene Results

Updated: September 16, 2013 Garfield County, Colorado

0 55 110 220 330 440 Feet




#43 605-1
Downstream

#44 605-1
Lower Pit

#40 605-1
North Spring

#42 605-1
South Spring

Legend
Sample Locations
3rd Quarter Results

- No Detection
- Below MCL
- Above MCL
- Not Sampled
-  Dam
-  OXY Wellpad
-  OXY Access Road

Sampling Location Summary Rock Springs - Benzene Results

Updated: September 16, 2013 Garfield County, Colorado

0 70 140 280 420 560 Feet




#43 605-1
Downstream

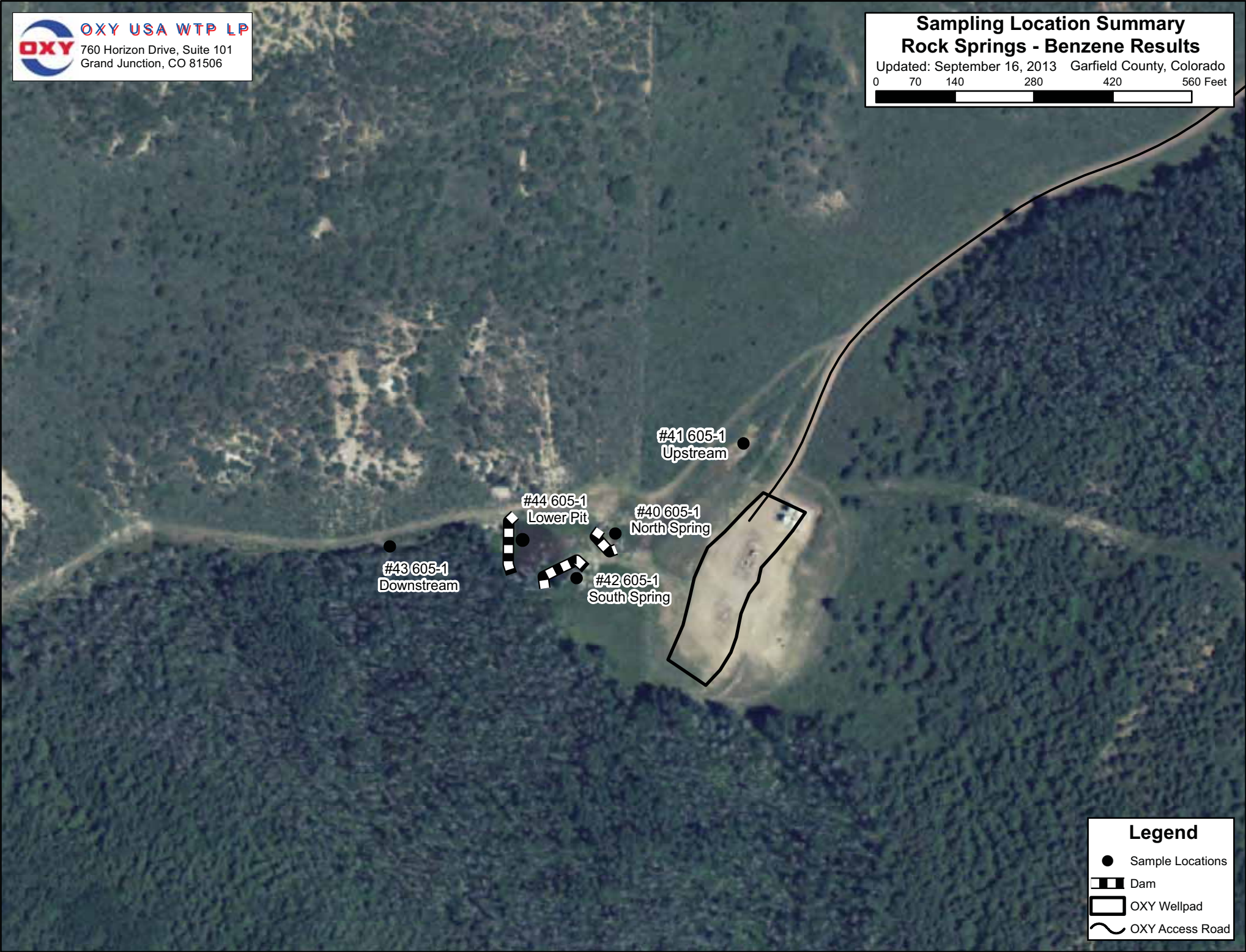
#44 605-1
Lower Pit

#40 605-1
North Spring

#42 605-1
South Spring

Legend Sample Locations 4th Quarter Results

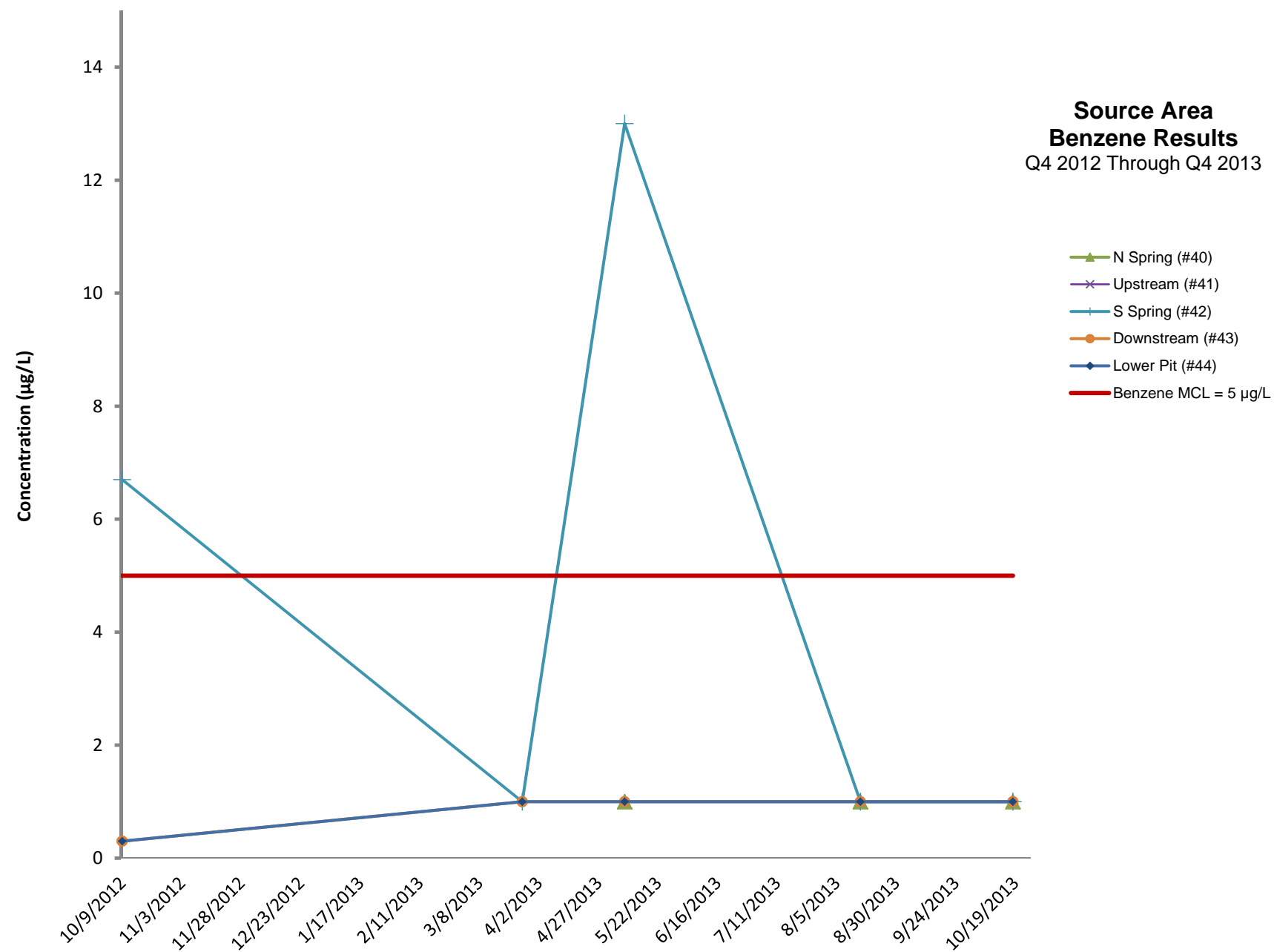
- No Detection
- Below MCL
- Above MCL
- Not Sampled
-  Dam
-  OXY Wellpad
-  OXY Access Road

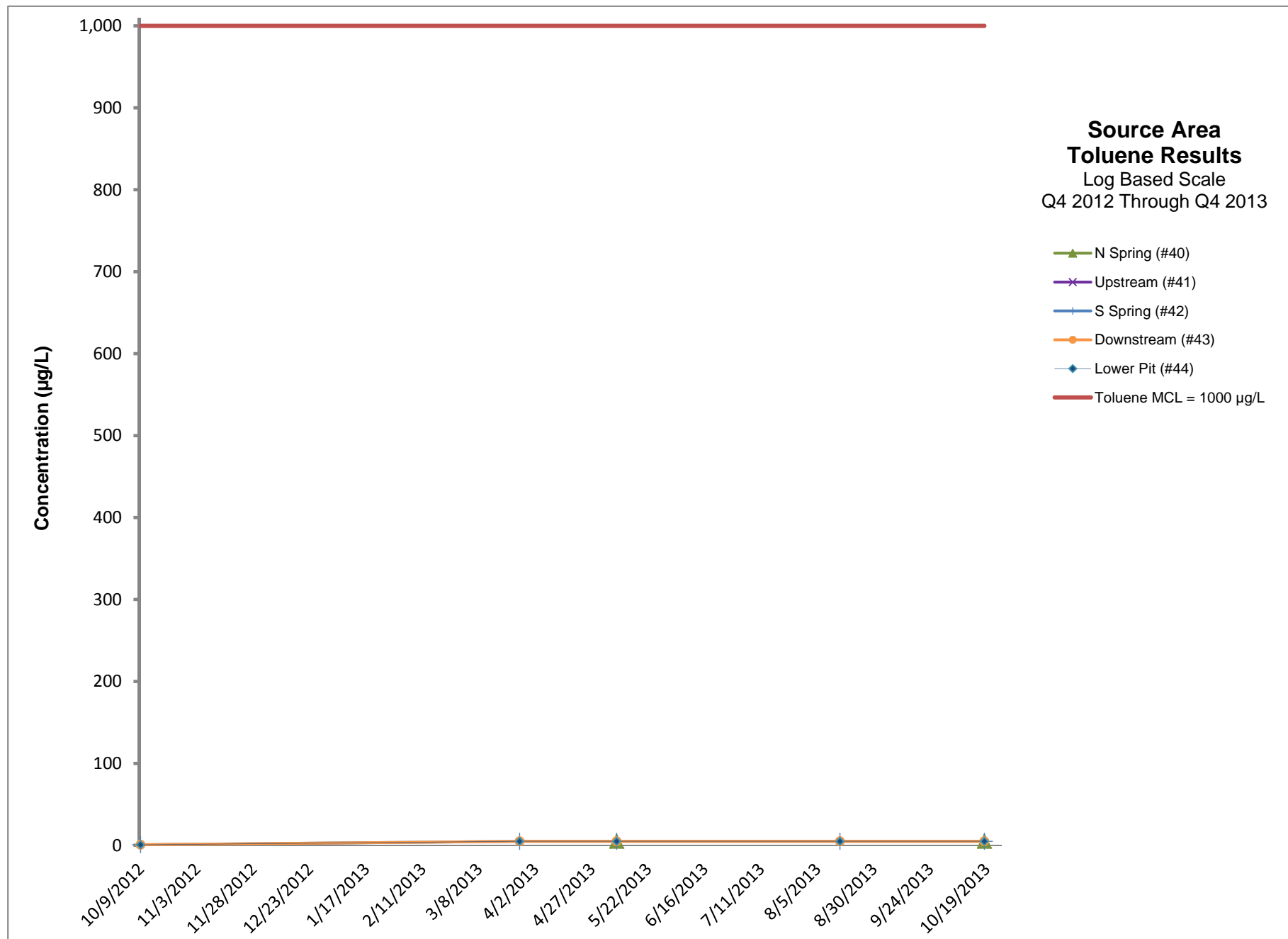


Legend

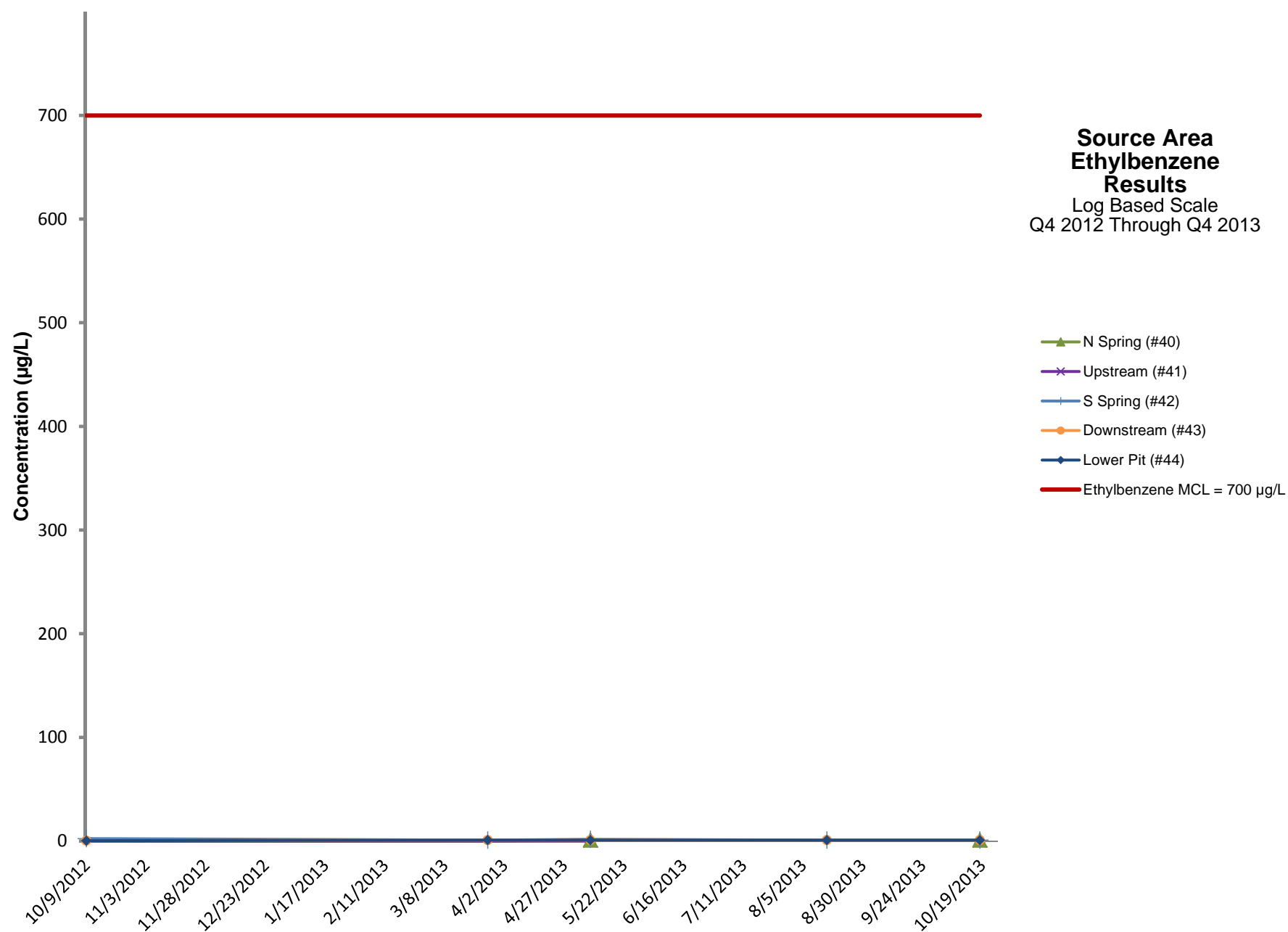
- Sample Locations
- ▨ Dam
- ▭ OXY Wellpad
- ~ OXY Access Road

**Source Area
Benzene Results**
Q4 2012 Through Q4 2013

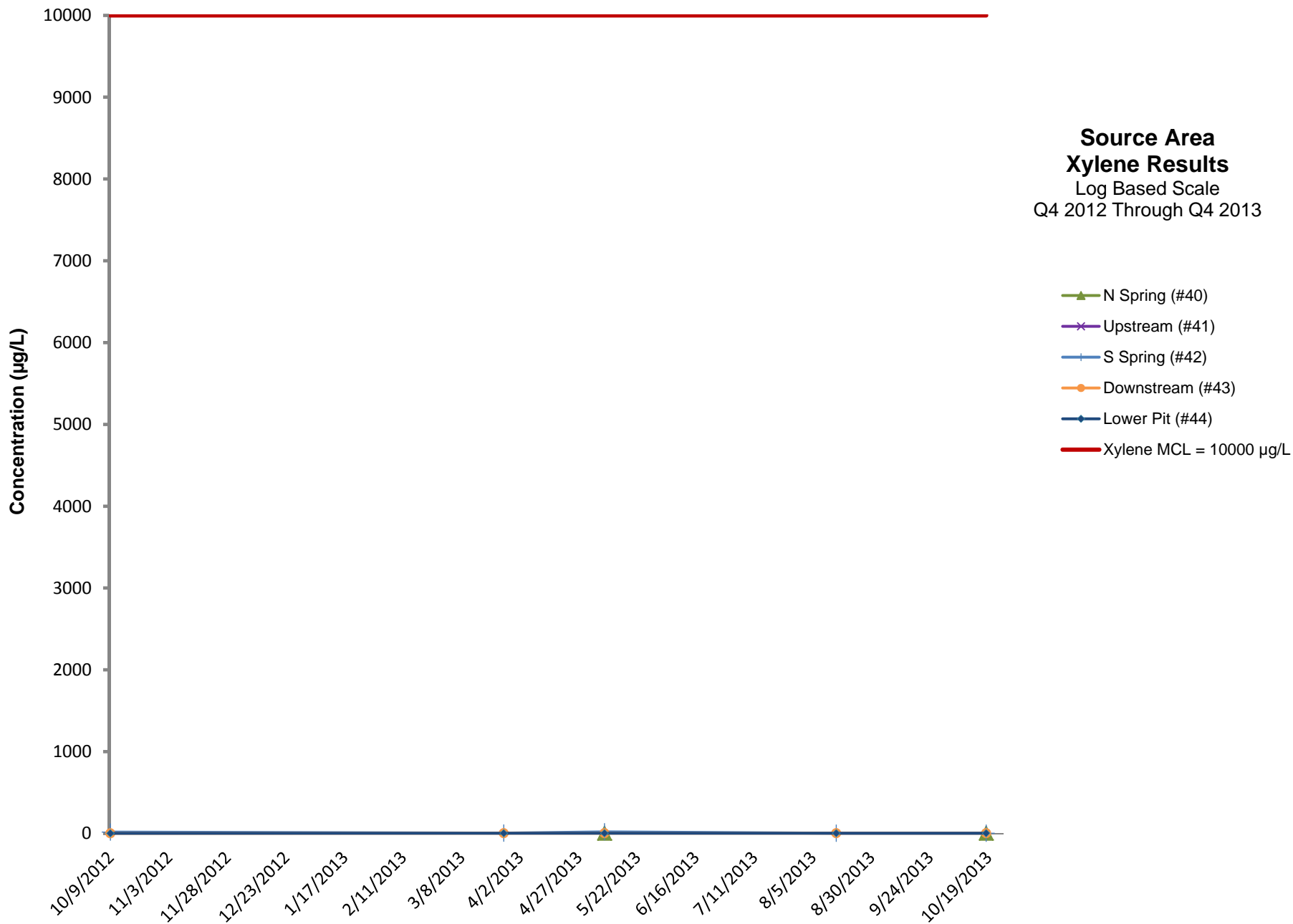




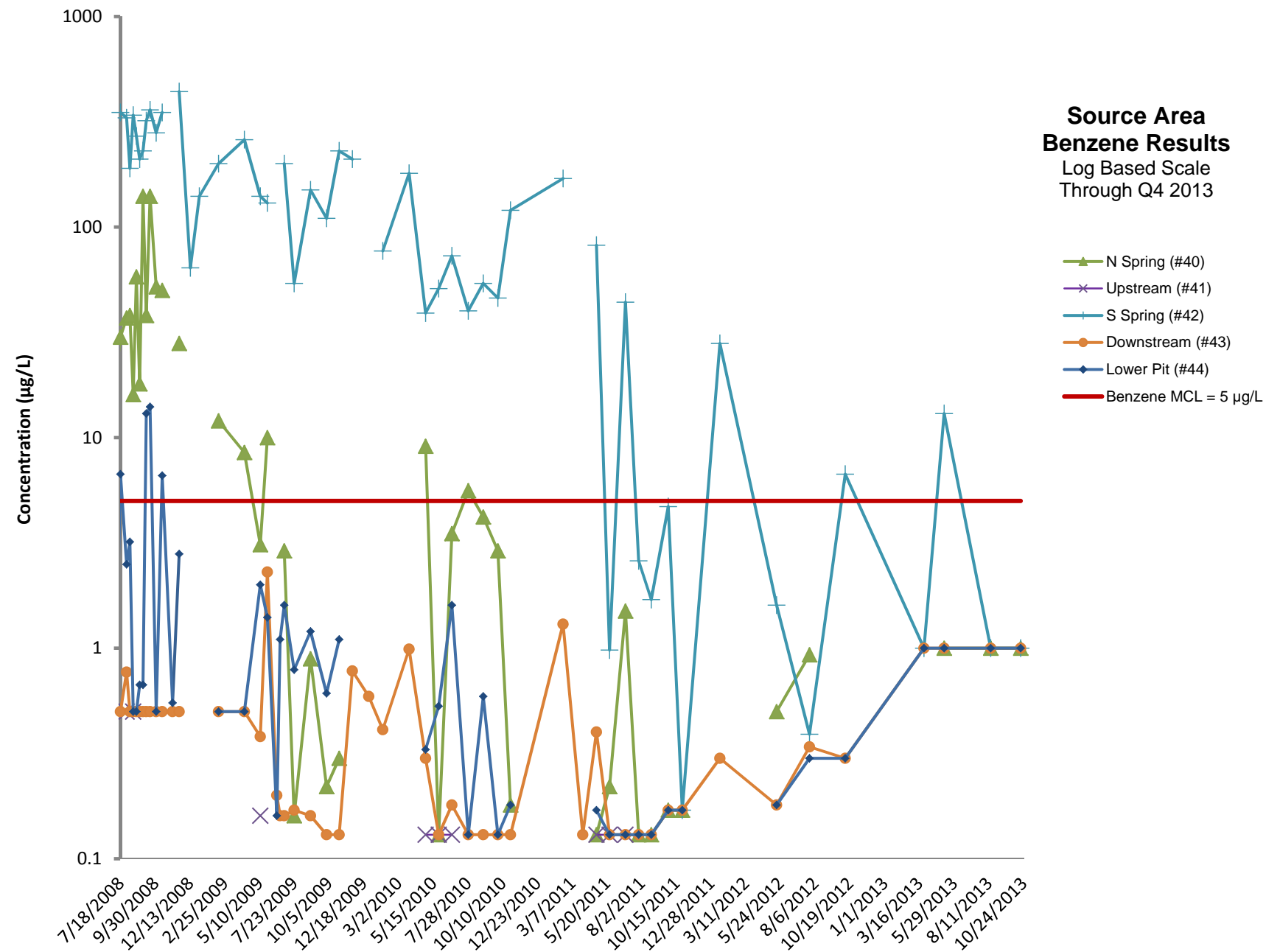
**Source Area
Ethylbenzene
Results**
Log Based Scale
Q4 2012 Through Q4 2013



**Source Area
Xylene Results**
Log Based Scale
Q4 2012 Through Q4 2013

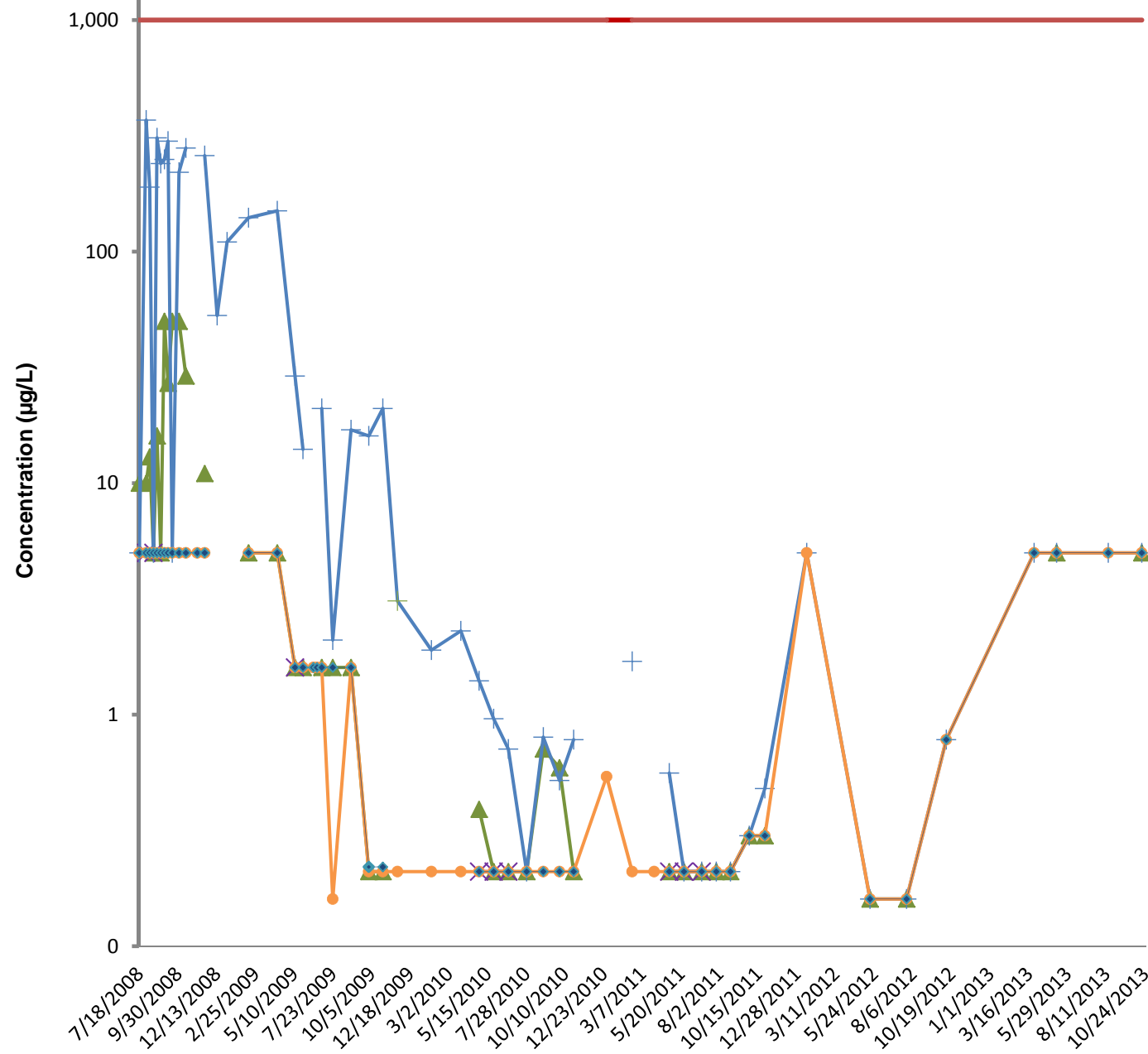


**Source Area
Benzene Results**
Log Based Scale
Through Q4 2013



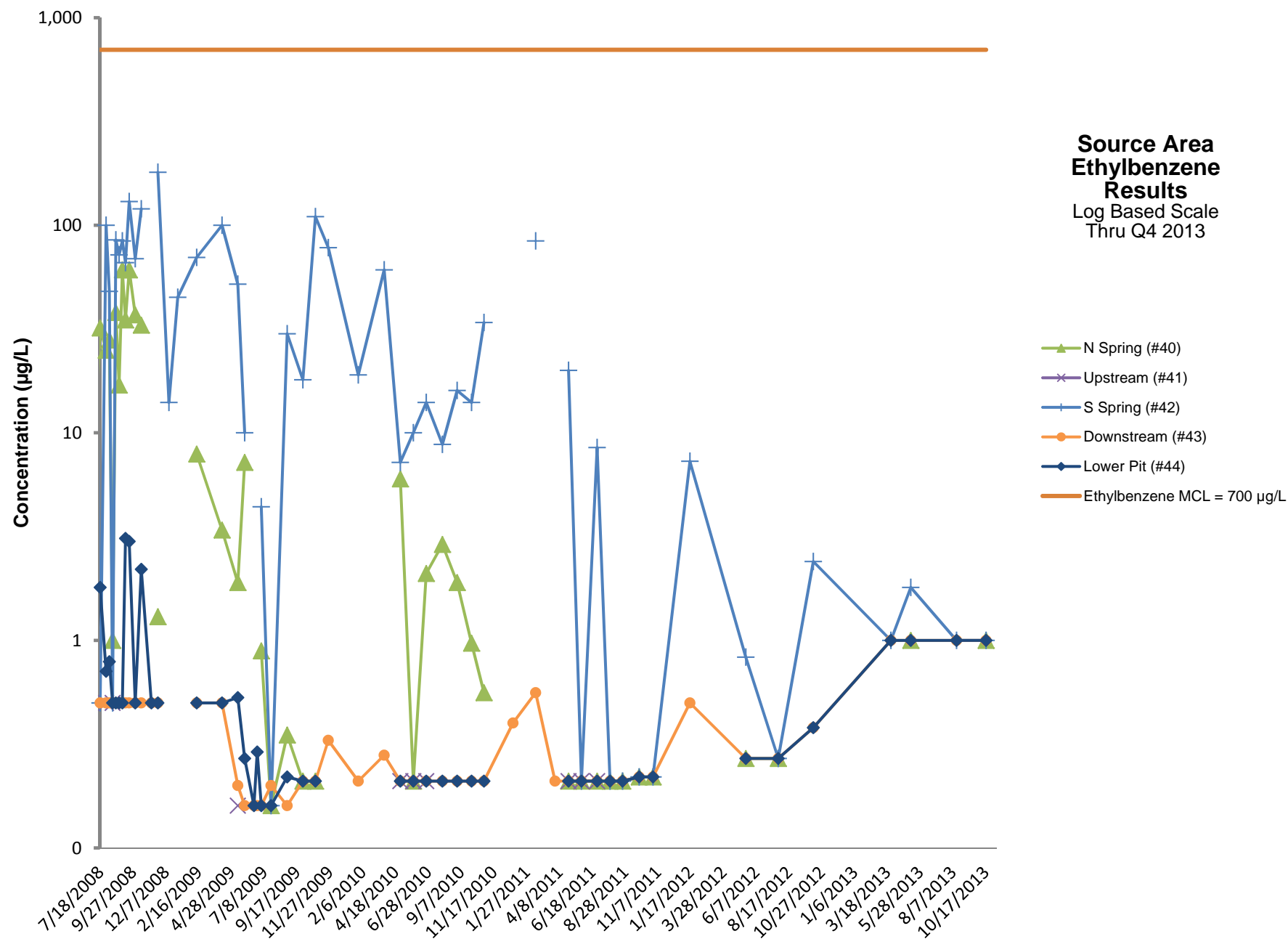
**Source Area
Toluene Results**
Log Based Scale
Through Q4 2013

- ▲— N Spring (#40)
- ×— Upstream (#41)
- +— S Spring (#42)
- Downstream (#43)
- ◆— Lower Pit (#44)
- Toluene MCL = 1000 µg/L

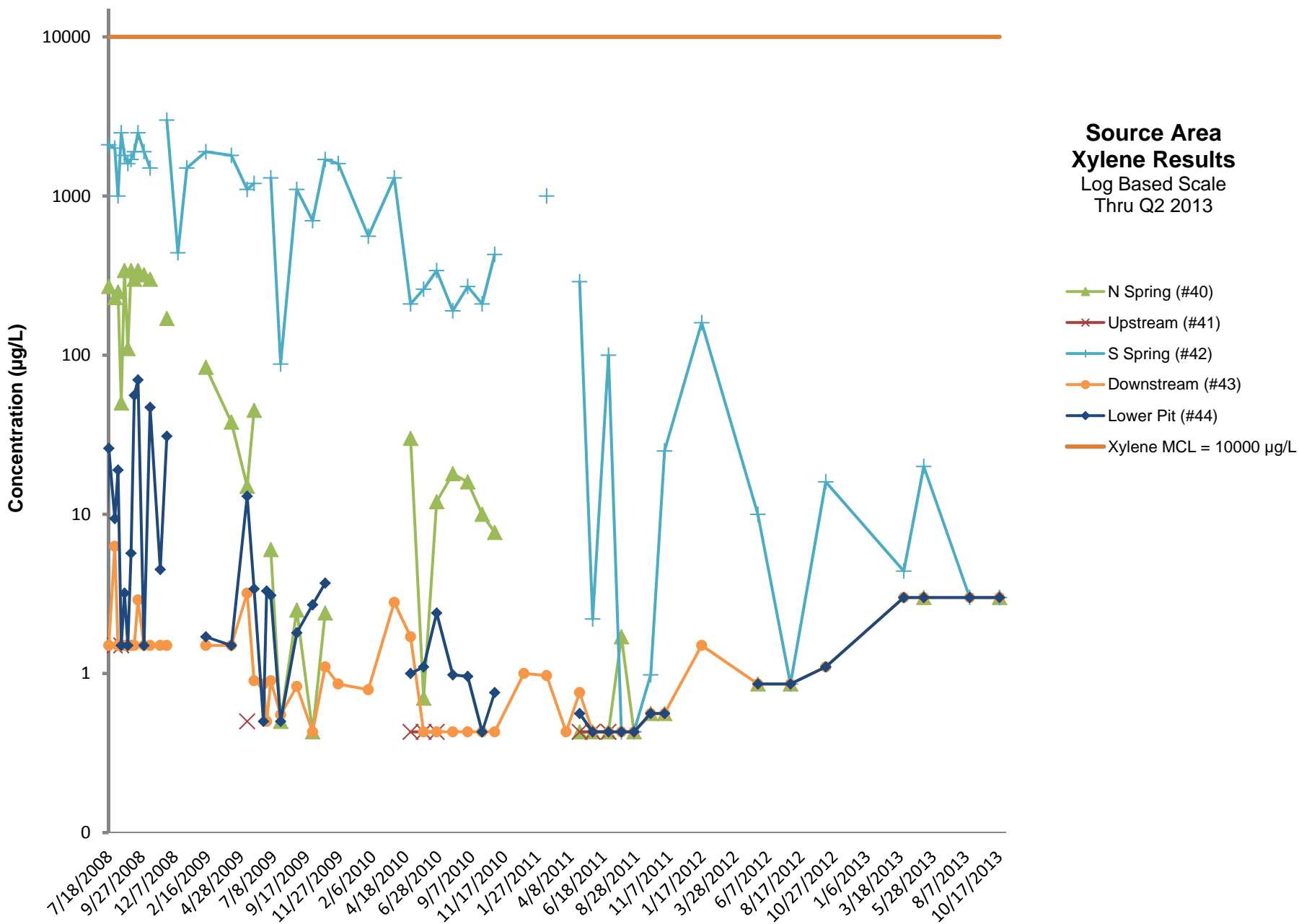


Source Area Ethylbenzene Results

Log Based Scale
Thru Q4 2013



**Source Area
Xylene Results**
Log Based Scale
Thru Q2 2013



Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
N. Spring (#40)						
6/24/2008	36	<5.0	8.4	260	2.0	570
6/27/2008	35	7.0	<0.5	210	1.3	580
6/30/2008	2.3	<5.0	<0.5	14	0.24	580
7/2/2008	<0.5	<5.0	<0.5	<1.5	0.39	NA
7/7/2008	19	<5.0	9.2	170	1.1	NA
7/18/2008	30	10	32	270	NA	600
7/31/2008	37	10	25	230	1.3	NA
8/7/2008	38	13	28	250	1.4	NA
8/14/2008	16	<5.0	1.0	50	0.9	NA
8/21/2008	58	16	38	340	1.8	NA
8/28/2008	18	<5.0	17	110	0.83	NA
9/4/2008	140	<50	61	340	2.0	NA
9/11/2008	38	27	35	300	1.8	NA
9/19/2008	32	<50	28	240	1.2	NA
10/2/2008	52	<50	37	320	2.3	NA
10/15/2008	50	29	33	300	1.7	NA
11/20/2008	28	11	1.3	170	0.87	NA
2/12/2009	12	<5.0	7.9	84	0.32	520
4/8/2009	8.5	1.6	3.4	38	0.11	360
5/12/2009	3.1	<1.6	1.9	15	0.15	NA
5/27/2009	10	<1.6	7.2	45	0.42	NA
7/2/2009	2.9	<1.6	0.89	6.0	0.25	560
7/23/2009	<0.16	<1.6	<0.16	<0.5	<0.033	NA
8/27/2009	0.89	<1.6	0.35	2.5	<0.033	NA
9/30/2009	0.22	<0.21	<0.21	0.43	<0.033	NA
10/27/2009	0.3	<0.21	<0.21	2.4	<0.04	NA
11/24/2009	Water Unavailable for Sample Collection					
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	Water Unavailable for Sample Collection					
2/22/2010	Water Unavailable for Sample Collection					
3/25/2010	Water Unavailable for Sample Collection					
4/29/2010	9.1	0.39	6.0	30	0.4	NA
5/27/2010	<0.13	<0.21	<0.21	0.7	<0.04	500
6/24/2010	3.5	<0.21	2.1	12	0.072	NA
7/29/2010	5.6	<0.21	2.9	18	0.31	NA
8/30/2010	4.2	0.71	1.9	16	<0.04	NA
9/30/2010	2.9	0.59	0.97	10	<0.04	NA
10/27/2010	1.8	<0.21	0.56	7.7	<0.04	NA
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
5/26/2011	0.22	<0.21	<0.21	<0.43	<0.04	NA
6/29/2011	1.5	<0.21	<0.21	<0.43	<0.04	NA

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
7/27/2011	<0.17	<0.3	<0.22	1.7	0.047	NA
8/23/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
9/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
10/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
1/16/2012	Water Unavailable for Sample Collection					
5/16/2012	0.5	<0.16	<0.27	<0.86	0.1	NA
7/25/2012	0.93	<0.16	<0.27	<0.86	<0.04	NA
10/9/2012	Water Unavailable for Sample Collection					
3/26/2013	Water Unavailable for Sample Collection					
5/8/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013	Water Unavailable for Sample Collection					
10/18/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA
Upstream (#41)						
6/24/2008	<0.5	<5.0	<0.5	<1.5	<0.1	600
6/27/2008	<0.5	<5.0	<0.5	<1.5	<0.1	560
6/30/2008	<0.5	<5.0	<0.5	<1.5	<0.1	560
7/2/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/7/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/31/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
8/14/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
5/12/2009	<0.16	<1.6	<0.16	<0.5	<0.033	NA
3/25/2010	Water Unavailable for Sample Collection					
4/29/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
5/27/2010	<0.13	<0.21	<0.21	<0.43	<0.04	520
6/24/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
4/28/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
5/26/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
7/29/2010	Water Unavailable for Sample Collection					
8/30/2010	Water Unavailable for Sample Collection					
9/30/2010	Water Unavailable for Sample Collection					
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
5/26/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
6/29/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
6/29/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
7/27/2011	Water Unavailable for Sample Collection					
8/23/2011	Water Unavailable for Sample Collection					
9/28/2011	Water Unavailable for Sample Collection					
10/28/2011	Water Unavailable for Sample Collection					
1/16/2012	Water Unavailable for Sample Collection					

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
S. Spring (#42)						
6/24/2008	64	28	2.3	940	2.8	690
6/27/2008	100	14	0.64	700	4.8	860
7/2/2008	3.3	<5.0	<0.5	370	2.2	NA
7/7/2008	320	260	600	2400	8.2	NA
7/18/2008	350	<5.0	<0.5	2100	NA	1000
7/31/2008	330	370	100	2000	6.1	NA
8/7/2008	190	190	48	1000	3.3	NA
8/14/2008	340	<5.0	<0.5	2500	<0.1	NA
8/21/2008	270	310	85	1800	4.7	NA
8/28/2008	210	240	72	1600	4.6	NA
9/4/2008	230	250	84	1700	5.7	NA
9/11/2008	320	300	66	1900	6.2	NA
9/19/2008	360	<500	130	2500	<10	NA
10/2/2008	280	220	69	1900	5.8	NA
10/15/2008	350	280	120	1500	5.9	NA
11/20/2008	440	260	180	3000	9.2	NA
12/14/2008	64	53	14	440	2.5	NA
1/2/2009	140	110	45	1500	18	NA
2/12/2009	200	140	70	1900	39	670
4/8/2009	260	150	100	1800	5.6	800
5/12/2009	140	29	52	1100	4.7	NA
5/27/2009	130	14	10	1200	3.5	NA
7/2/2009	200	21	4.4	1300	4.1	560
7/23/2009	54	2.1	<0.16	88	1.7	NA
8/27/2009	150	17	30	1100	3.5	NA
9/30/2009	110	16	18	700	2.8	NA
10/27/2009	230	21	110	1700	6.0	NA
11/24/2009	210	3.1	78	1600	6.2	NA
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	77	1.9	19	560	2.4	NA
2/22/2010	Water Unavailable for Sample Collection					
3/26/2010	180	2.3	61	1300	3.6	NA
4/29/2010	39	1.4	7.2	210	1.2	NA
5/27/2010	51	0.96	10	260	1.5	630
6/24/2010	73	0.71	14	340	2.1	NA
7/29/2010	40	<0.21	8.8	190	1.4	NA
8/30/2010	54	0.8	16	270	1.3	NA
9/30/2010	46	0.52	14	210	1.1	NA
10/27/2010	120	0.78	34	430	3.3	NA
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	170	1.7	84	1000	8.2	NA
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	82	0.56	20	290	1.7	NA

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
5/26/2011	0.98	<0.21	<0.21	2.2	0.055	NA
6/29/2011	44	<0.21	8.5	100	0.5	NA
7/27/2011	2.6	<0.3	<0.22	<0.56	0.28	NA
8/23/2011	1.7	<0.3	<0.22	<0.56	<0.04	NA
9/28/2011	4.7	<0.3	<0.22	0.98	0.2	NA
10/28/2011	<0.17	0.48	<0.22	25	0.61	NA
1/16/2012	28	<0.3	7.3	160	0.74	NA
5/16/2012	1.6	<0.16	0.83	10	0.081	NA
7/25/2012	0.39	<0.16	<0.27	<0.86	<0.04	NA
10/9/2012	6.7	<0.78	2.4	16	0.097	NA
3/26/2012	<1.0	<5.0	<1.0	4.4	<0.1	NA
5/8/2013	13	<5.0	1.8	20	0.2	NA
8/15/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013 S	1.0	<1.0	<1.0	<3.0	<0.05	NA
10/18/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA
Downstream #43						
6/24/2008	3.2	<5.0	<0.5	19	0.23	720
6/27/2008	<0.5	<5.0	<0.5	<1.5	<0.1	670
6/30/2008	<0.5	<5.0	<0.5	<1.5	<0.1	610
7/2/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/7/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/18/2008	<0.5	<5.0	<0.5	<1.5	<0.1	790
7/24/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/31/2008	0.77	<5.0	<0.5	6.3	<0.1	NA
8/7/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
8/14/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
8/28/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
9/4/2008	<0.5	<5.0	<0.5	1.5	<0.1	NA
9/11/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
9/19/2008	<0.5	<5.0	<0.5	2.9	<0.1	NA
10/2/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
10/15/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
11/6/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
11/20/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
2/12/2009	<0.5	<5.0	<0.5	<1.5	<0.1	670

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
4/8/2009	<0.16	<1.6	<0.16	<0.5	<0.033	590
5/12/2009	0.38	<1.6	0.2	3.2	<0.033	NA
5/27/2009	2.3	<1.6	<0.16	0.9	<0.033	NA
6/16/2009	0.2	<1.6	<0.16	0.86	<0.033	AN
6/23/2009	<0.16	<1.6	<0.16	<0.5	<0.033	610
7/2/2009	<0.16	<1.6	<0.16	0.9	<0.033	47000
7/23/2009	0.17	<1.6	0.2	0.55	<0.033	NA
8/27/2009	<0.16	<1.6	<0.16	0.83	<0.033	NA
9/30/2009	<0.13	<0.21	<0.21	<0.43	<0.033	NA
10/27/2009	<0.13	<0.21	<0.21	1.1	<0.04	NA
11/24/2009	0.78	<0.21	0.33	0.86	<0.04	NA
12/29/2009	0.59	0.54	0.4	1.0	<0.04	NA
1/28/2010	0.41	<0.21	<0.21	0.79	<0.04	NA
2/22/2010	Water Unavailable for Sample Collection					
3/26/2010	0.99	<0.21	0.28	2.8	<0.04	NA
4/29/2010	0.3	<0.21	<0.21	1.7	<0.04	NA
5/27/2010	<0.13	<0.21	<0.21	<0.43	<0.04	520
6/24/2010	0.18	<0.21	<0.21	<0.43	<0.04	NA
7/29/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
8/30/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
9/30/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
10/27/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	1.3	<0.21	0.56	0.97	<0.04	NA
3/30/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
4/28/2011	0.4	<0.21	<0.21	0.76	<0.04	NA
5/26/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
6/29/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
7/27/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
8/23/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
9/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
10/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
1/16/2012	0.28	<0.3	<0.22	<0.56	<0.04	NA
5/16/2012	<0.18	<0.6	<0.27	<0.86	<0.04	NA
7/25/2012	0.34	<0.16	<0.27	<0.86	<0.04	NA
10/9/2012	<0.33	<0.78	<0.38	<1.1	<0.031	NA
3/26/2012	<1.0	<5.0	<1.0	<3.0	<0.1	NA
5/8/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
8/15/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA
10/18/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA
Lower Pit #44						
6/27/2008	<0.5	<5.0	<0.5	2.5	<0.1	580
6/30/2008	<0.5	<5.0	<0.5	2.5	<0.1	710
7/2/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
7/7/2008	<0.5	<5.0	0.64	<1.5	<0.1	NA
7/18/2008	6.7	<5.0	1.8	26	0.11	NA
7/31/2008	2.5	<5.0	0.71	9.4	<0.1	NA
8/7/2008	3.2	<5.0	0.79	19	0.12	NA
8/14/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
8/21/2008	<0.5	<5.0	<0.5	3.2	<0.1	NA
8/28/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
9/4/2008	0.67	<5.0	<0.5	5.7	<0.1	NA
9/11/2008	13	<5.0	3.1	56	0.19	NA
9/19/2008	14	<5.0	3.0	70	0.25	NA
10/2/2008	<0.5	<5.0	<0.5	<1.5	<0.1	NA
10/15/2008	6.6	<5.0	2.2	47	0.13	NA
11/6/2008	0.55	<5.0	<0.5	4.5	<0.1	NA
11/20/2008	2.8	<5.0	<0.5	31	0.1	NA
2/12/2009	<0.5	<5.0	<0.5	1.7	<0.1	570
4/8/2009	<0.16	<1.6	<0.16	<0.5	<0.033	440
5/12/2009	2.0	<1.6	0.53	13	0.12	NA
5/27/2009	1.4	<1.6	0.27	3.4	<0.033	NA
6/16/2009	<0.16	<1.6	<0.16	<0.5	<0.033	NA
6/23/2009	1.1	<1.6	0.29	3.3	0.051	570
7/2/2009	1.6	<1.6	<0.16	3.1	0.046	520
7/23/2009	0.79	<1.6	<0.16	<0.5	<0.033	NA
8/27/2009	1.2	<1.6	0.22	1.8	<0.033	NA
9/30/2009	0.61	0.22	<0.21	2.7	0.042	NA
10/27/2009	1.1	0.22	<0.21	3.7	<0.04	NA
11/24/2009	Water Unavailable for Sample Collection					
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	Water Unavailable for Sample Collection					
2/22/2010	Water Unavailable for Sample Collection					
3/25/2010	Water Unavailable for Sample Collection					
4/29/2010	0.33	<0.21	<0.21	1.0	<0.04	NA
5/27/2010	0.53	<0.21	<0.21	1.1	<0.04	530
6/24/2010	1.6	<0.21	<0.21	2.4	<0.04	NA
7/29/2010	<0.13	<0.21	<0.21	0.98	<0.04	NA
8/30/2010	0.59	<0.21	<0.21	0.96	<0.04	NA
9/30/2010	<0.13	<0.21	<0.21	<0.43	<0.04	NA
10/27/2010	0.18	<0.21	<0.21	0.76	<0.04	NA

Comprehensive Laboratory Data Summary by Location (June 2008 - December 2013)

Location # / Date	Benzene (MCL= 5.0 µg/L)	Toluene (MCL= 560 to 1000 µg/L)*	Ethylbenzene (MCL= 700 µg/L)	Xylenes (MCL= 1400 to 10000 µg/L)*	GRO (mg/L, No MCL)	TDS (750 ppm)**
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	0.17	<0.21	<0.21	0.56	<0.04	NA
5/26/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
6/29/2011	<0.13	<0.21	<0.21	<0.43	<0.04	NA
7/27/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
8/23/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
9/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
10/28/2011	<0.17	<0.3	<0.22	<0.56	<0.04	NA
5/16/2012	<0.18	<0.16	<0.27	<0.86	<0.04	NA
7/25/2012	0.32	<0.16	<0.27	<0.86	<0.04	NA
10/9/2012	<0.33	<0.78	<0.38	<1.1	<0.031	NA
3/26/2012	<1.0	<5.0	<1.0	<3.0	<0.1	NA
5/8/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
8/15/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA
10/18/2013	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 D	<1.0	<5.0	<1.0	<3.0	<0.1	NA
10/18/2013 S	<1.0	<1.0	<1.0	<3.0	<0.05	NA

Notes: µg/L - micrograms per liter

mg/L - milligrams per liter

MCL - maximum contaminant level

GRO - gasoline range organics

TDS - total dissolved solids

ppm - parts per million

* - the highest number within the range is the MCL

** - 1.25 x background measurement from Upstream location on 6/24/08 (600 ppm)

D - indicates duplicate sample

S - indicates split sample

Comprehensive Field Parameters Summary by Location (June 2008 - August 2013)

Location # / Date	pH	EC (mmoh S)	Temp (°F)	TDS (ppm)	DO (mg/L)	ORP (mV)
N. Spring (#40)						
5/12/2009	8.30	0.805	58.8	410		
5/27/2009	8.12	0.795	51.3	110	3.78	60
6/23/2009	NA	NA	NA	NA	NA	NA
7/2/2009					3.11	125
7/23/2009	7.63	1.056	77.4	527	5.34	
8/27/2009	7.77	0.953	54.9	482		
9/30/2009	8.10	0.430	56.8	219	5.60	
10/27/2009	7.12	0.382	37.7	192		
11/24/2009	Water Unavailable for Sample Collection					
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	Water Unavailable for Sample Collection					
2/22/2010	Water Unavailable for Sample Collection					
3/25/2010	Water Unavailable for Sample Collection					
4/28/2010	8.34	0.857	50.9	428		
5/27/2010	8.09	0.754	59.2	391		
6/24/2010	7.67	0.786	50.8	392		
8/30/2010	7.01	0.864	51.1	431		
9/30/2010	7.89	0.880	52.6	440		
10/27/2010	7.76	0.746	41.3	324		
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	6.71	0.688	46.8	342		
5/26/2011	7.76	0.716	47.4	358		
6/29/2011	7.89	0.738	46.1	368		
7/27/2011	8.21	0.777	48.0	386		
8/23/2011	7.86	1.124	50.4	558		
9/28/2011	7.94	0.802	51.8	403		
10/28/2011	8.04	0.842	37.8	423		
1/16/2012	Water Unavailable for Sample Collection					
5/16/2012	7.35	0.838	54.1	418		
7/25/2012	8.12	0.875	56.7	426		
10/9/2012	Water Unavailable for Sample Collection					
3/26/2013	Water Unavailable for Sample Collection					
5/8/2013	7.57	0.862	43.0	400		
8/15/2013	Water Unavailable for Sample Collection					
10/18/2013	8.52	1.130	37.8	500	2.99	
10/18/2013 D	8.50	1.050	35.1	700	6.59	
10/18/2013 S	8.53	1.047	34.7	600		

Comprehensive Field Parameters Summary by Location (June 2008 - August 2013)

Location # / Date	pH	EC (mmoh S)	Temp (°F)	TDS (ppm)	DO (mg/L)	ORP (mV)
Up Stream (#41)						
5/12/2009	8.14	0.817	64.2	408		
3/25/2010	Water Unavailable for Sample Collection					
4/29/2010	8.01	0.840	49.7	420		
5/27/2010	8.22	0.810	57.1	403		
6/24/2010	7.53	0.842	51.6	422		
7/29/2010	Water Unavailable for Sample Collection					
8/30/2010	Water Unavailable for Sample Collection					
9/30/2010	Water Unavailable for Sample Collection					
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	6.90	0.631	46.5	295		
5/26/2011	7.65	0.692	46.5	347		
6/29/2011	7.76	0.738	46.1	368		
7/27/2011	Water Unavailable for Sample Collection					
8/23/2011	Water Unavailable for Sample Collection					
9/28/2011	Water Unavailable for Sample Collection					
10/28/2011	Water Unavailable for Sample Collection					
1/16/2012	Water Unavailable for Sample Collection					
S. Spring (#42)						
5/12/2009	8.30	1.080	55.5	533		
5/27/2009	7.36	1.009	51.8	504	1.35	81
7/2/2009					2.25	125
7/23/2009	7.97	0.437	76.1	220	4.23	
8/27/2009	7.75	1.193	52.2	594		
9/30/2009	7.91	1.071	51.4	538	1.50	
10/27/2009	7.49	1.036	36.6			
11/24/2009	7.76	1.195	41.3	596	1.25	
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	7.16	0.942	43.5	472		
2/22/2010	Water Unavailable for Sample Collection					
3/26/2010	7.74	1.105	38.4	551		
4/29/2010	7.52	1.123	50.4	559		
5/27/2010	7.64	1.031	58.6	511		
6/24/2010	7.63	1.105	51.8	552		
7/29/2010	NA	1.095	66.4	540		
8/30/2010	7.46	1.152	50.8	575		
9/30/2010	7.91	1.079	64.9	540		
10/27/2010	7.44	1.077	43.3	537		
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	7.53	0.927	41.4	464		
3/30/2011	Water Unavailable for Sample Collection					

Comprehensive Field Parameters Summary by Location (June 2008 - August 2013)

Location # / Date	pH	EC (mmoh S)	Temp (°F)	TDS (ppm)	DO (mg/L)	ORP (mV)
4/28/2011	6.58	0.929	43.0	463		
5/26/2011	7.59	0.641	46.7	318		
6/29/2011	7.42	0.860	50.1	430		
7/27/2011	7.43	0.899	47.7	450		
8/23/2011	7.55	1.108	48.8	544		
9/28/2011	7.41	0.887	52.9	442		
10/28/2011	7.32	0.884	38.3	439		
1/16/2012	8.45	NA	37.6	NA		
5/16/2012	7.56	0.884	58.5	440		
7/25/2012	7.26	0.853	48.7	426		
10/9/2012	6.68	0.851	53.8	441		
3/26/2013	6.30	0.909	47.3	425		
5/8/2013	7.91	0.846	43.0	400		
8/15/2013	8.38	0.756	71.0	600	7.06	
8/15/2013 D	8.31	0.762	69.1	600	7.40	
8/15/2013 S	8.27	0.760	69.4	600	7.30	
10/18/2013	8.34	0.885	40.1	600	6.62	
10/18/2013 D	8.33	0.443	39.7	600	7.34	
10/18/2013 S	8.33	0.817	39.7	700		
Down Stream #43						
5/12/2009	8.14	0.817	64.2	408		
6/16/2009	NA	1.382	NA	707	0.47	-95
7/23/2009	7.84	0.244	62.3	481	5.43	
7/29/2009					4.15	142
8/27/2009	7.84	1.069	53.8	534		
9/30/2009	7.79	1.014	51.0	507	4.18	
10/27/2009	7.91	1.034	51.1	517		
11/24/2009	8.01	1.040	36.1	520	7.83	
12/29/2009	8.19	0.877	33.2	436		
1/28/2010	8.04	1.071	34.6	536		
2/22/2010	Water Unavailable for Sample Collection					
3/26/2010	8.00	0.317	34.7	157		
4/29/2010	8.10	0.885	45.8	441		
5/27/2010	8.27	0.873	55.8	436		
6/24/2010	8.03	0.926	53.7	463		
7/29/2010	7.75	0.875	61.1	436		
8/30/2010	7.01	0.945	53.2	472		
9/30/2010	7.01	0.930	54.2	458		
10/27/2010	7.89	0.941	41.0	470		
11/29/2010	Water Unavailable for Sample Collection					
2/16/2011	7.79	0.894	34.9	448		
3/30/2011	7.41	0.864	36.2	433		

Comprehensive Field Parameters Summary by Location (June 2008 - August 2013)

Location # / Date	pH	EC (mmoh S)	Temp (°F)	TDS (ppm)	DO (mg/L)	ORP (mV)
4/28/2011	7.81	0.770	42.1	386		
5/26/2011	7.70	0.706	45.4	353		
6/29/2011	7.83	0.770	51.9	383		
7/27/2011	8.04	0.811	53.9	404		
8/23/2011	8.24	0.824	55.4	412		
9/28/2011	8.02	0.803	51.8	401		
10/28/2011	7.96	0.851	37.9	422		
1/16/2012	NA	NA	NA	NA	NA	NA
5/16/2012	7.90	0.866	59.5	435		
7/25/2012	7.83	0.796	59.4	399		
10/9/2012	7.71	0.904	51.1	460		
3/26/2013	7.94	0.799	33.8	400		
5/8/2013	8.17	0.798	44.1	400		
8/15/2013	8.56	0.791	63.9	600	4.06	
8/15/2013 D	8.56	0.827	57.0	700	3.98	
8/15/2013 S	8.56	0.801	57.4	600	4.20	
10/18/2013	8.33	0.779	38.7	600		
10/18/2013 D	8.40	0.797	38.8	600		
10/18/2013 S	8.33	0.779	38.7	600		
Lower Pit #44						
5/12/2009	7.00	1.080	55.5	453		
5/27/2009	7.86	0.765	54.7	389	3.54	76
6/16/2009	NA	1.650	NA	823	0.61	-11
6/23/2009					0.91	-11
7/2/2009					2.25	125
7/23/2009	7.99	1.090	74.9	545	2.42	
8/27/2009	7.75	1.193	59.7	521		
9/30/2009	8.08	0.981	50.2	491	4.86	
10/27/2009	7.12	1.069	33.6	534		
11/24/2009	Water Unavailable for Sample Collection					
12/29/2009	Water Unavailable for Sample Collection					
1/28/2010	Water Unavailable for Sample Collection					
2/22/2010	Water Unavailable for Sample Collection					
3/25/2010	Water Unavailable for Sample Collection					
4/29/2010	7.97	0.905	48.0	452		
5/27/2010	8.15	0.869	58.4	434		
6/24/2010	8.05	0.929	58.2	464		
7/29/2010	7.80	0.749	68.3	374		
8/30/2010	7.01	0.894	56.0	447		
9/30/2010	8.09	0.975	72.7	487		
10/27/2010	8.07	0.925	37.0	463		
11/29/2010	Water Unavailable for Sample Collection					

Comprehensive Field Parameters Summary by Location (June 2008 - August 2013)

Location # / Date	pH	EC (mmoh S)	Temp (°F)	TDS (ppm)	DO (mg/L)	ORP (mV)
2/16/2011	Water Unavailable for Sample Collection					
3/30/2011	Water Unavailable for Sample Collection					
4/28/2011	7.52	0.744	44.2	373		
5/26/2011	7.88	0.697	46.6	347		
6/29/2011	7.45	0.799	53.0	399		
7/27/2011	8.18	0.796	55.3	399		
8/23/2011	8.05	0.953	59.4	486		
9/28/2011	8.39	0.763	54.5	396		
10/28/2011	8.21	0.829	33.9	415		
1/16/2012	Water Unavailable for Sample Collection					
5/16/2012	7.96	0.836	57.4	417		
7/25/2012	7.62	0.677	65.5	337		
10/9/2012	8.15	0.857	47.3	426		
3/26/2013	8.03	0.664	35.4	329		
5/8/2013	7.92	0.755	46.8	407		
8/15/2013	8.59	0.615	64.4	400	3.77	
8/15/2013 D	8.45	0.601	68.4	500	3.74	
8/15/2013 S	8.51	0.617	64.8	500	3.84	
10/18/2013	7.51	0.545	38.7	400		
10/18/2013 D	8.31	0.514	41.2	400		
10/18/2013 S	7.01	0.793	39.7	600		

Note S:

- EC - electroconductivity
- mmohs/ cm - millimhos
- TDS - total dissolved solids
- ppm - parts per million
- DO - dissolved oxygen
- mg/L - milligrams per liter
- ORP - Oxidation reduction potential
- mV - millivolts
- NA - Indicates field instrument malfunction
- Blank - Indicates no readings were taken
- D - Duplicate Sample
- S - Split Sample
- Bold - indicates parameter exceeds COGCC threshold value