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May 17, 2010

Gary Bonarski, P.E.  
NYSDEC  
6274 Avon-Lima Road  
Avon, NY 14414

Re: Post-Remediation Groundwater Monitoring Results, First Quarter 2010  
Former Griffin Technology Site  
BCP Site No.C835008

Dear Mr. Bonarski:

This letter submits results of the 1<sup>st</sup> quarter 2010 groundwater sampling event conducted at the former Griffin Technology BCP site in Farmington, New York (Figure 1). On March 23 – 24, 2010 S&W Redevelopment of North America, LLC (SWRNA) collected groundwater samples from eight (8) of the site's nine (9) observation wells, in accordance with the NYSDEC approved Site Management Plan (SMP). One of the observation wells – OW-6 – was submerged in ponded water from rainfall that occurred prior to and during the sampling event, which prevented a sample from being collected at that location.

The March 2010 post-remediation sampling event was the sixth quarterly event to be conducted since in-situ chemical oxidation (ISCO) was completed to remediate groundwater at the site. Post-remediation quarterly monitoring is being done per the SMP to establish the effectiveness of the ISCO remedy. The next post-remediation sampling event is scheduled for June 2010.

#### **BACKGROUND**

An aqueous solution containing approximately 13,530 pounds of potassium permanganate was injected into fifteen injection wells at the site between July and September 2008, to remediate groundwater contamination by In-Situ Chemical Oxidation (ISCO). The primary groundwater contaminant for this site is trichloroethene (TCE) and its degradation products [cis-1,2 dichloroethene (DCE) and vinyl chloride(VC)].

The Site Management Plan (SMP) requires that groundwater samples be collected each quarter from nine (9) observation wells (OW-1 through OW-9), to monitor ISCO effectiveness. Since ISCO was applied, six (6) post-remediation samplings events have been completed, including the latest sampling event conducted in March 2010.

## MARCH 2010 GROUNDWATER SAMPLE COLLECTION METHODS

Per the SMP, the 8 groundwater samples collected in March 2010 were analyzed for volatile organic compounds (VOCs), chemical oxygen demand (COD), total organic carbon (TOC), and field parameters (pH, Eh, temperature, conductivity, dissolved oxygen, and turbidity). Prior to the March 2010 sampling event, groundwater samples from six (6) of the observation wells near the site boundary (OW-4 through OW-9) had also been analyzed for metals (arsenic, barium, cadmium, chromium, lead, selenium, silver) to verify that ISCO had not mobilized dissolved metals. Following the December 2009 sampling event, NYSDEC concurred that there had been no evidence of mobilized metals in the 5 rounds of groundwater samples collected to date, and consequently agreed that metals analysis was no longer necessary.

Prior to collecting groundwater samples from each well in March 2010, depth to water was measured with an electronic probe. Each well was initially purged to lower turbidity. The groundwater bailed from each observation well was visually checked for color, specifically purple and/or brown. Dissolved permanganate ion turns water purple. As purple permanganate oxidizes contamination, manganese (Mn) is gradually reduced from Mn(VII) to Mn(IV), forming manganese oxides that turn the water brown.

Following the initial groundwater evacuation, low flow methods were used to collect groundwater samples for analysis. A QED SamplePro Micropurge Pump with a QED Micropurge MP-15 Controller & Power Pack was connected to a YSI 6820 flow through cell to record the field parameters temperature, conductivity, dissolved oxygen, pH, oxidation reduction potential, and turbidity.

The groundwater samples were placed in coolers for preservation and delivered to Test America Laboratories of Shelton Connecticut for analysis.

## GROUNDWATER SAMPLE COLLECTION AND RESULTS

**A. Groundwater Flow.** Groundwater elevation data for March 2010 and previous sampling events are presented on Table 1. A groundwater contour map was prepared for March 2010 based on water level measurements (Figure 2). The general direction of groundwater flow across the site based on previous groundwater elevation measurements has fluctuated slightly from west/southwest to south/southwest. March 2010 data indicates groundwater flow to the south/southwest, consistent with previous monitoring results.

The groundwater elevation data presented on Table 1 indicate that between September 2009 through March 2010 groundwater elevations have increased by approximately 12.5 to 13 feet across the site. This increase follows a decrease in elevation of greater than 10 feet between March 2009 and September 2009. June 2008 groundwater elevations are similar to

June 2009 elevations (within 2 feet), as are March 2009 elevations compared to March 2010 elevations. This indicates the fluctuation in groundwater elevations is a seasonal effect.

**B. Color.** The presence of permanganate solution produces purple or pink color in groundwater samples. As permanganate is consumed by ISCO reactions, it is reduced and groundwater may turn brown due to formation of manganese oxides.

None of the eight observation wells sampled in March 2010 (OW-1 through -5, and -7 through -9) produced groundwater samples with evidence of permanganate (purple/pink) or manganese oxides (brown). However, previous observations from December 2009 indicate that permanganate has persisted at the site for more than a year; in December 2009 two of the former injection wells – IW-5 and IW-14 – still contained evidence of purple groundwater. (In March 2010 these wells were submerged in water and were not checked). The discovery of purple groundwater in December 2009, more than one year after ISCO was applied at the site in July-August 2008, suggests a long duration of contact between permanganate and groundwater contamination in the vicinity of IW-5.

**C. VOCs.** March 2010 groundwater analytical results for VOCs are summarized on Table 2, along with Class GA water quality standards and guidance values, per the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS, June 1998). Pre-ISCO baseline data (June 2008), and previous post-ISCO data, are also included on the table for observation wells OW-1 through OW-9. The detected TCE concentrations are shown on Figure 3. The March 2010 laboratory report is included in Appendix A.

Figure 4 shows groundwater TCE concentrations for the nine observation wells from June 2008 (just prior to the ISCO injection) through March 2010. The figure indicates a decline in TCE concentrations over the past four quarters, beginning in June 2009. Future monitoring will evaluate the continuation of this decreasing trend, and will also examine the potential influence over TCE concentrations of seasonal fluctuations in groundwater elevations, which was noted in previous quarterly reports.

**D. Field Parameters.** Field parameter measurements (pH, Eh, dissolved oxygen, conductivity, temperature, turbidity) are summarized on Table 3.

Dissolved oxygen concentrations continue to vary between sampling events, but no sustained increasing or decreasing trend is apparent. Dissolved oxygen concentrations may be affected by ISCO reactions that cause precipitation of manganese oxides, but they may also vary seasonally due to fluctuations in groundwater recharge from precipitation and snowmelt.

Temperature readings indicate seasonal effects, with a gradual temperature increase from March 2009 to September 2009, and a decrease from September 2009 to March 2010.

Conductivity readings are an indication of dissolved solids, and may be affected by temperature as most minerals are more soluble at higher temperatures. Fluctuations in conductivity may also be influenced by the effects of the dissolved potassium permanganate that was injected in 2008. Overall, conductivity readings are slightly higher across the site than pre-ISCO levels in June 2008.

Figure 5 shows Eh (redox potential) data plotted against pH data, for the pre-ISCO baseline event (June 2008), and the five (5) quarters of post-ISCO data collected in 2009 and 2010. Prior to March 2010, post-ISCO groundwater data for 2009 have tended to have higher pH and lower Eh than pre-ISCO data, although a slight increase in Eh was apparent in the December 2009 data compared to the previous 2009 post-ISCO sampling events. March 2010 Eh/pH data for certain observation wells (OW-1, -2, -3, and -7) had a lower pH and higher Eh than in previous post-ISCO events, and are somewhat similar to the pre-ISCO Eh/pH data. As was noted in the 4<sup>th</sup> Quarter 2009 Report, these effects do not appear to be tied to seasonal water level fluctuations; pre-ISCO pH/Eh data for June 2008 are distinct from post-ISCO pH/Eh data for June 2009, as are the data for March 2009 and March 2010, respectively. This suggests that the effects may be due to ISCO reactions, and that March 2010 data may be evolving towards pre-ISCO conditions as the contaminant levels evidently decline. It is not clear what specific chemical reaction or reactions may account for the observed pH/Eh shift; there are many possible chemical reactions involving pH and Eh that may simultaneously occur in groundwater, especially for pH-dependent carbonate systems.

**E. TOC, COD, and Metals.** Table 4 presents analytical data for total organic carbon (TOC) and chemical oxygen demand (COD), as well as historic data for metals (arsenic, barium, cadmium, chromium, lead, selenium, silver).

TOC and COD concentrations reflect the amount of organic carbon and oxidizable material, respectively, present in the groundwater samples. Since most organic carbon exists in a reduced state, TOC and COD are often directly correlated, as they generally are for the groundwater data from the observation wells. Where ISCO reactions occur, it is expected that both COD and TOC will decline as oxidizable material is consumed. However, COD increased in March 2009 following the ISCO injection in 2008, which may represent the rapid initial increase in dissolved manganese ions following injection of potassium permanganate. (Manganese ions may be potentially oxidized during COD analysis, causing a temporary COD increase). TOC and COD levels have fluctuated from quarter to quarter since ISCO injection we completed in 2008, but no sustained trends are apparent. TOC and COD were fairly low prior to ISCO, such that noticeable decreases in these parameters may not be obviously evident.

Metals were below standards in all of the groundwater samples previously analyzed, indicating ISCO reactions did not create a significant increase in mobilized metals from the aquifer matrix.

### CONCLUSIONS AND RECOMMENDATIONS

TCE concentrations show evidence of a decline over the past four (4) quarterly sampling events from June 2009 through March 2010. This trend will continue to be monitored in future quarterly sampling events, the next of which is scheduled for June 2010.

Groundwater elevation data continue to suggest a seasonal fluctuation of several feet which may potentially influence VOC concentrations. Future quarterly sampling events will continue to assess these potential effects.

It is recommended that post-ISCO monitoring continue at the site in accordance with the SMP.

If you have any questions please call me or Damian Vanetti at (315) 422-4949.

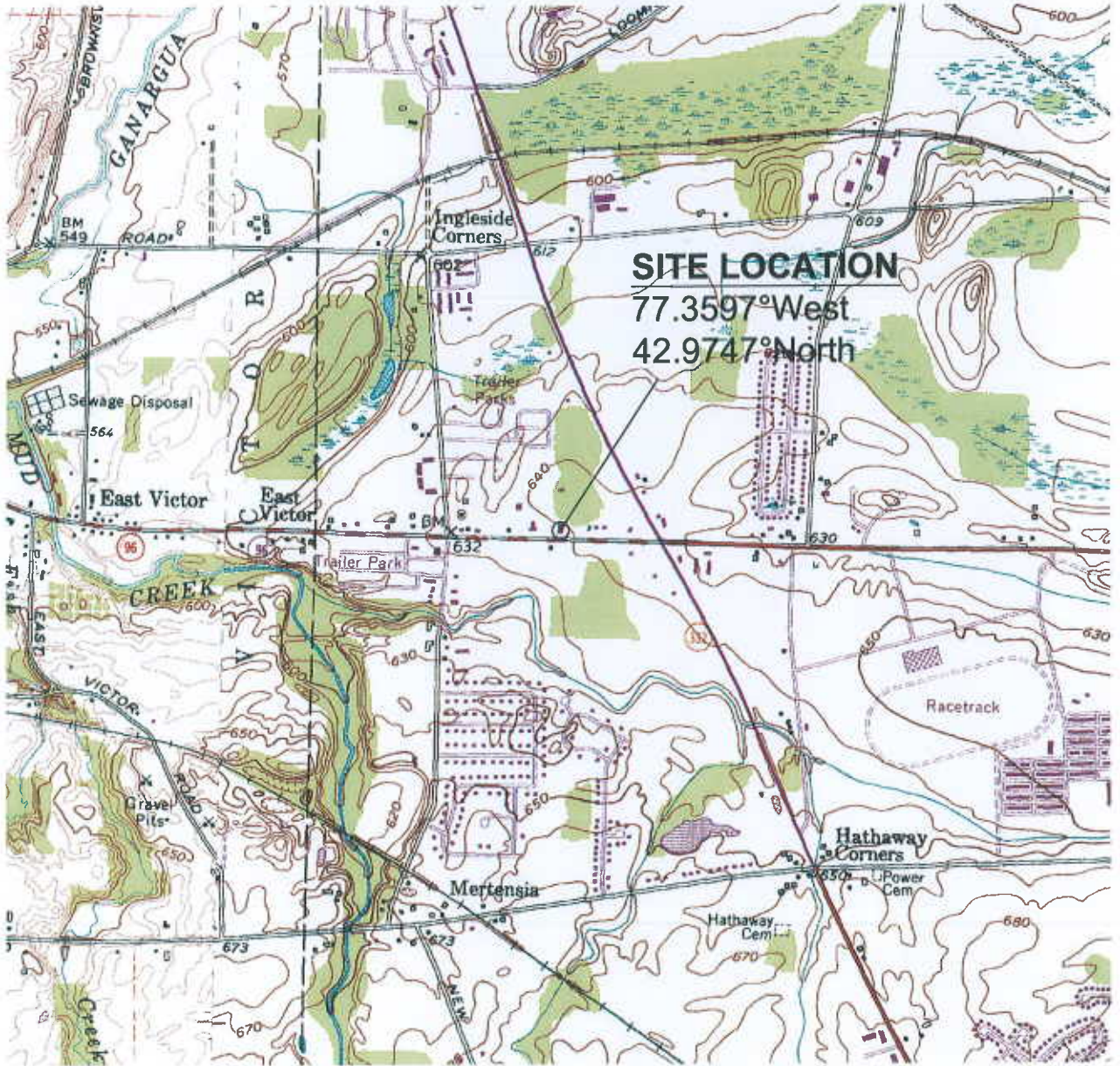
Very truly yours,  
S&W Redevelopment of North America, LLC



Daniel P. Ours, C.P.G.  
Senior Project Manager

cc: J. Kenney, NYSDOH  
T. Caffoe, NYSDEC  
B. Putzig, NYSDEC

## FIGURES



**SITE LOCATION**  
 77.3597° West  
 42.9747° North

SCALE in FEET



Contour Interval: 10 Feet

Map Taken From: USGS 7.5 Minute Series  
 Topographic Quadrangles - Victor, NY (1971,  
 Photorevised 1978) & Canandaigua, NY  
 (1951, Photorevised 1978)  
 ([www.nysgis.state.ny.us/quads/usgsdrg.htm](http://www.nysgis.state.ny.us/quads/usgsdrg.htm))



**S&W Redevelopment**

of North America, LLC.  
 Syracuse, New York

DATE: 04-2010    JOB No.: B6003.70

ISCO Performance Monitoring  
 Former Griffin Technology Site, BCP #C835008  
 6132 Victor Manchester Rd, Farmington(T), Ontario(C), New York

Figure 1  
 Site Location

X-REF: NAMES?  
 2008/June/syr/jk  
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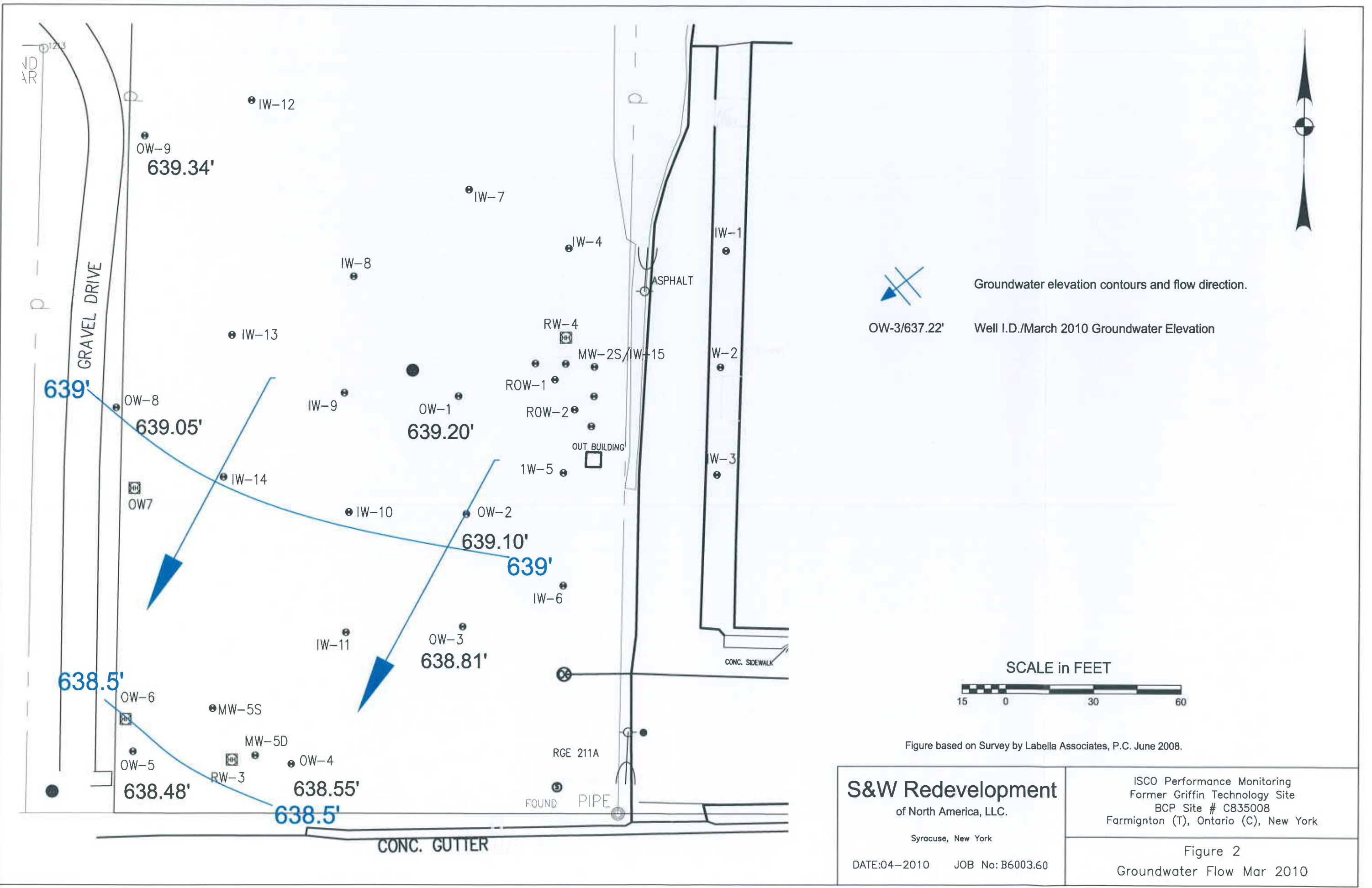
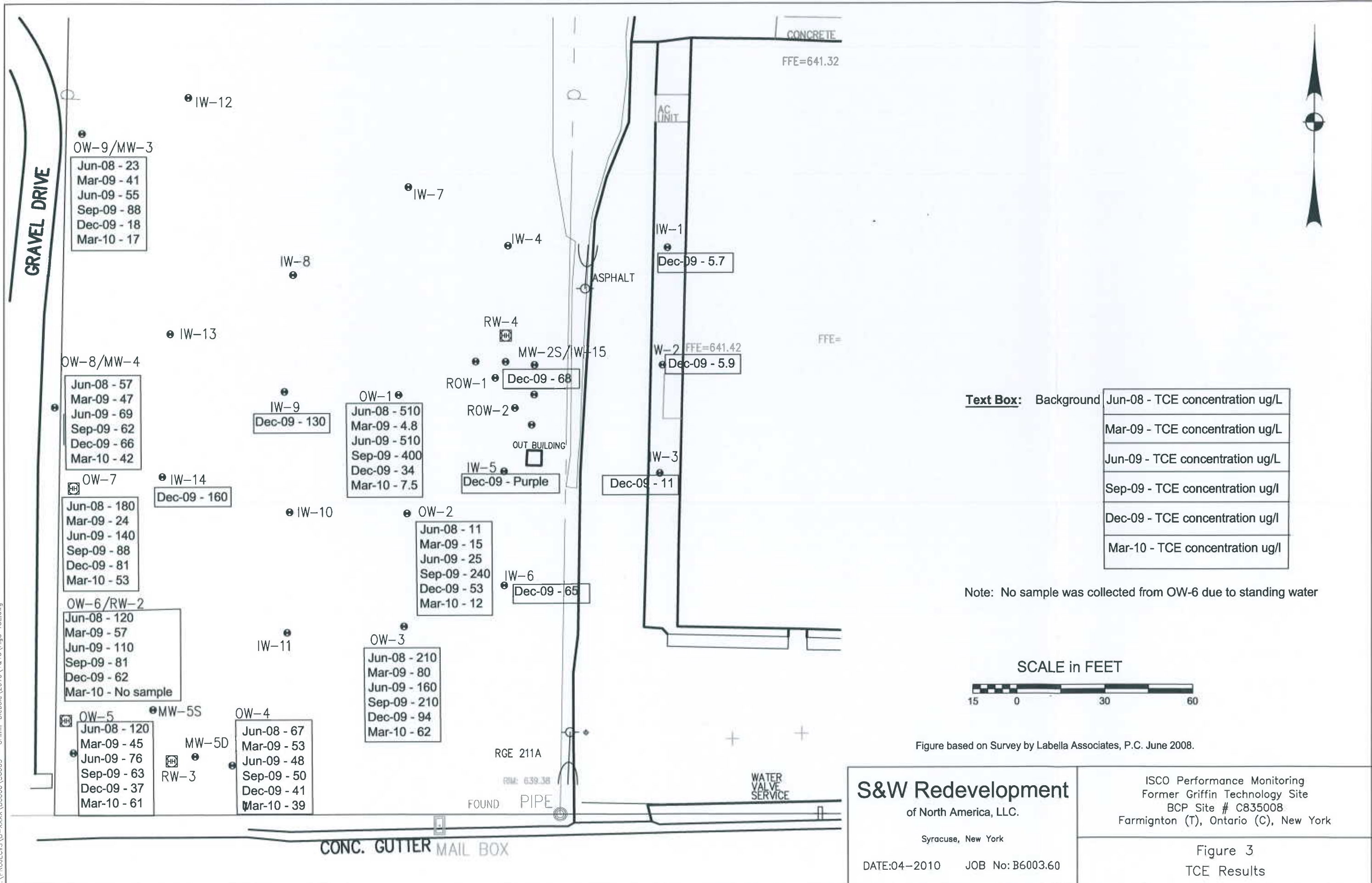


Figure based on Survey by Labella Associates, P.C. June 2008.

<b>S&amp;W Redevelopment</b> of North America, LLC.  Syracuse, New York  DATE:04-2010    JOB No: B6003.60	ISCO Performance Monitoring Former Griffin Technology Site BCP Site # C835008 Farmington (T), Ontario (C), New York
	Figure 2 Groundwater Flow Mar 2010



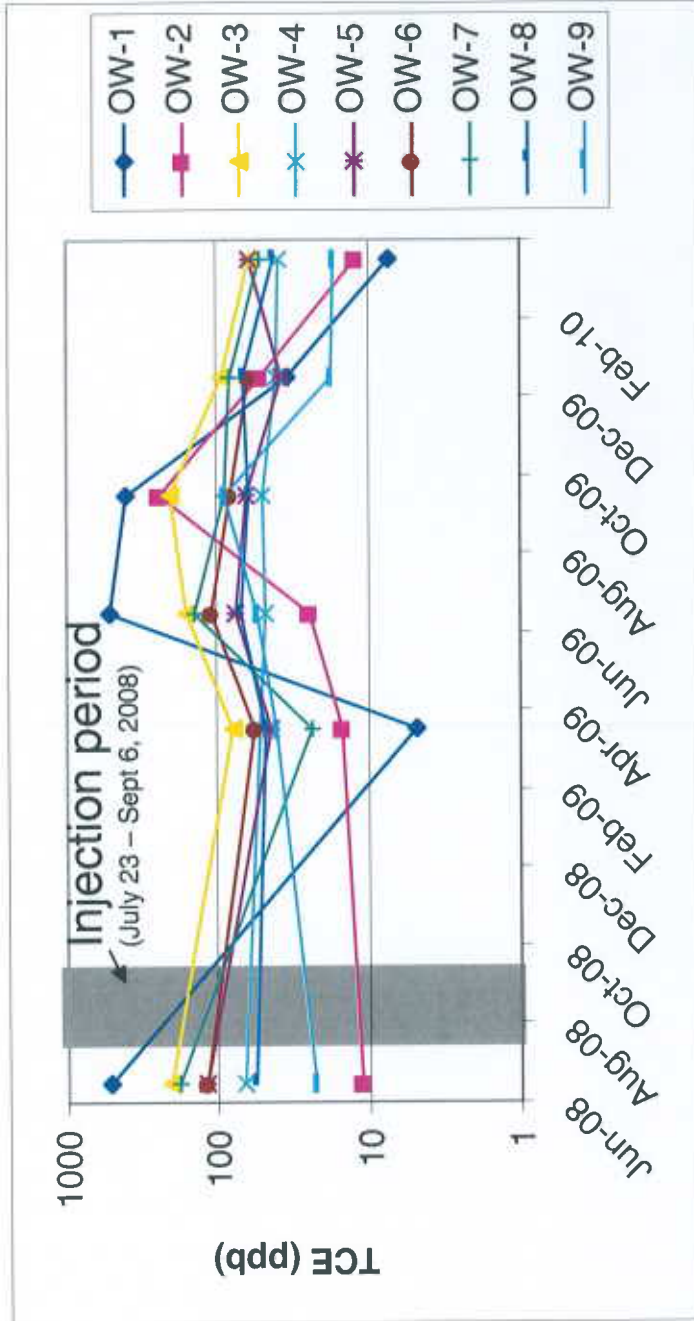
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**S&W Redevelopment**  
 of North America, LLC.  
 Syracuse, New York  
 DATE:04-2010 JOB No: B6003.60

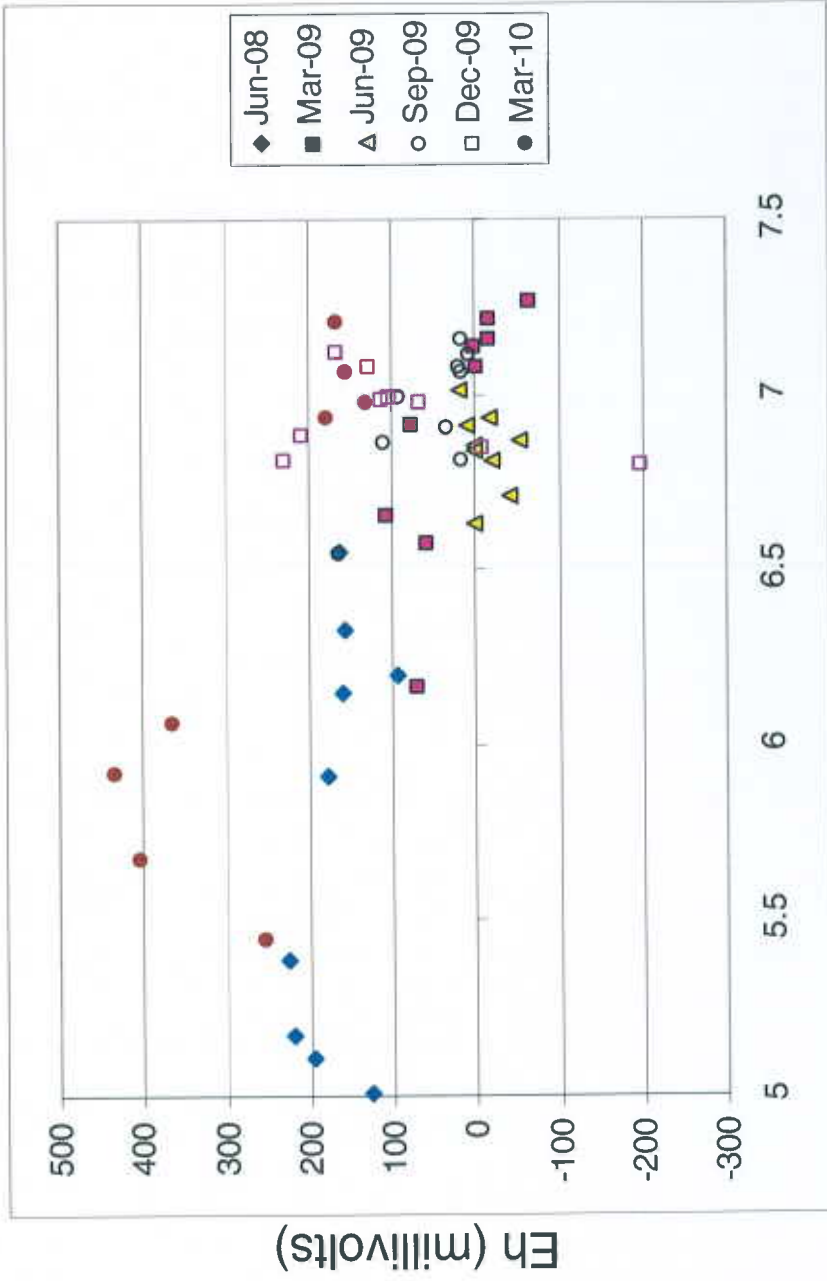
ISCO Performance Monitoring  
 Former Griffin Technology Site  
 BCP Site # C835008  
 Farmington (T), Ontario (C), New York

Figure 3  
 TCE Results



TCE levels have generally declined over the past four sampling events (June 2009 through March 2010).

<p>ISCO Performance Monitoring Former Griffin Technology Site, BCP Site #C835008 6132 Victor Manchester Rd., Farmington(T), Ontario(C), New York</p>	<p><b>S&amp;W Redevelopment</b> of North America, LLC Syracuse, New York</p>
<p>Figure 4 Pre- and Post-ISCO TCE Concentrations (ppb)</p>	<p>DATE: 05-10      JOB No. B6003</p>



## TABLES

Table 1. Groundwater Elevation Data.  
Former Griffin Technology Site, Farmington, New York

Observation Well	Top of PVC (ft)	Jun-08		Mar-09		Jun-09		Sep-09		Dec-09		Mar-10	
		DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev
OW-1	642.96	11.91	631.05	5.40	637.56	13.28	629.68	16.47	626.49	10.63	632.33	3.76	639.20
OW-2	641.60	10.65	630.95	4.09	637.51	12.13	629.47	15.26	626.34	9.31	632.29	2.5	639.10
OW-3	641.48	12.42	629.06	4.26	637.22	12.31	629.17	15.34	626.14	9.32	632.16	2.67	638.81
OW-4	641.07	11.04	630.03	4.21	636.86	12.55	628.52	15.17	625.90	8.96	632.11	2.52	638.55
OW-5	640.78	11.91	628.87	3.97	636.81	13.37	627.41	15.43	625.35	9.09	631.69	2.3	638.48
OW-6	637.86	9.08	628.78	0.68	637.18	10.4	627.46	12.44	625.42	6.14	631.72	0*	-
OW-7	NS	9.4	NS	1.60	NS	10.94	NS	12.83	NS	6.77	NS	0*	NS
OW-8	641.73	11.96	629.77	4.49	637.24	13.76	627.97	15.61	626.12	9.41	632.32	2.68	639.05
OW-9	642.28	11.57	630.71	4.72	637.56	13.19	629.09	15.96	626.32	8.15	634.13	2.94	639.34

DTW - Depth To Water (ft)

GW Elev - Groundwater Elevation (ft above mean sea level)

NS - Not Surveyed

\* Water at ground surface



Table 3. Field Parameter Results for Groundwater.  
Former Griffin Technology Site, Farmington, New York

Sample Date	OW-1						OW-2						OW-3						OW-4					
	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10
Temperature (deg C)	11.91	6.75	9.8	10.21	8.95	6.28	11.18	7.07	10.66	12.28	8.35	6.85	11.65	9.28	10.97	11.88	9.35	8.81	11.19	8.76	11.07	10.22	10.27	7.79
Conductivity (mmhos/cm)	0.581	0.647	1.332	0.984	0.836	0.567	0.465	0.931	1.206	0.858	0.939	0.609	0.591	1.451	1.349	0.891	0.993	0.79	0.498	1.011	1.097	0.926	0.941	0.567
Dissolved Oxygen (ppm)	2.62	1.08	0.68	0.69	8.17	1.26	2.08	1.2	0.67	6.93	6.33	1.38	3.3	0.13	-0.03*	7.08	3.99	0.74	3.68	2.21	0.39	0.08	0.54	1.03
pH (units)	5.39	7.14	6.91	7.08	6.89	5.45	5.01	6.92	6.85	6.87	6.82	6.07	5.11	7.27	6.71	6.91	7.13	5.68	5.17	6.66	6.84	7.12	7	7.07
Eh (mV)	225.4	-0.5	9.6	20.2	208.7	253.1	125.9	76.2	0.2	109	229.4	365.8	196.1	-65.1	-42.5	34.1	166.8	403.7	220.8	106.3	0.1	7.6	102.1	154
Turbidity (ntu)	5.2	6.2	27.5	38.7	17.6	-0.2*	7.2	7.9	23.7	10.5	23.1	2.5	56.2	20.8	48.1	44.9	98.3	1.2	19.1	83.7	57.3	8.4	7.1	3.8

Sample Date	OW-5						OW-6						OW-7						OW-8						OW-9					
	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10
Temperature (deg C)	10.96	7.8	11.17	11.82	10.95	8.15	11.76	9.38	10.28	11.54	8.89	NS	9.7	7.17	9.35	9.96	10.94	8	10.24	7.83	11.68	11.08	8.56	6.98	9.94	8.02	10.4	10.82	10.45	6.5
Conductivity (mmhos/cm)	0.63	1.11	1.266	0.84	0.928	0.684	0.565	1.056	1.429	0.912	0.907	NS	0.59	0.87	1.475	0.889	0.974	0.729	0.584	1.333	1.716	0.857	0.689	0.638	0.397	0.7	0.835	0.664	0.549	0.398
Dissolved Oxygen (ppm)	5.21	3.58	0.63	8.06	0.74	0.81	2.47	0.35	0.2	8.6	0.72	NS	0.63	4.21	0	0.03	0.57	0.8	2.45	0.25	0.54	0.25	1.52	4.19	3.36	1.08	0.83	0.05	2.45	3.07
pH (units)	6.2	6.58	6.63	6.82	6.98	6.98	5.91	7.08	6.81	7	6.85	NS	6.33	6.17	6.87	7.07	6.99	5.93	6.15	7.16	7.01	7.08	6.8	6.94	6.55	7.22	6.93	7.16	7.08	7.21
Eh (mV)	95.1	57.4	-0.7	17	67.4	129.8	178	-1.4	-20.9	90.7	-7.6	NS	157.5	70.7	-52.2	14.4	112.9	433.2	160.4	-16.6	18.7	27.2	-198.6	179	163.6	-18	-17.4	15	128.5	166.1
Turbidity (ntu)	45.3	26	3.7	10	6.4	6.6	103.5	9.7	46	45.3	5.2	NS	720.5	123.2	29.2	24.5	5.6	1.8	8.2	-1.6	18.4	5.5	1.5	0.5	0.7	-1	26.3	0.1	1.2	1.7

Measurements taken after purging the wells prior to collecting groundwater samples.

NS - Not Sampled

June 2008 data represent pre-ISCO conditions (baseline sampling event).

March 2009 and onward data represent post-ISCO conditions.

\* Shaded cell for OW-3 dissolved oxygen result in June 2009 indicates dissolved oxygen probe was not functioning properly

\* Shaded cell for OW-1 Turbidity in March 2010 indicates turbidity probe was not functioning properly

n/a - water not sampled due to presence of ISCO solution

Table 4. Metals Analytical Results  
Former Griffin Technology Site, Farmington, New York

Metal - µg/L (ppb)	NYS Standard	OW-1						OW-2						OW-3						OW-4						OW-5								
		Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Sep-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10		
arsenic	25	U	n/a	n/a	n/a	6.7 J	n/a	n/a	n/a	n/a	5.2 J	n/a	U	n/a	n/a	n/a	U	n/a	U	U	4.1 J	U	U	U	U	U	n/a	7.2 J	U	U	5.1 J	U	5.5 J	n/a
cadmium	5	U	n/a	n/a	n/a	U	n/a	n/a	n/a	U	n/a	U	n/a	U	n/a	n/a	U	n/a	U	U	U	U	U	U	U	U	n/a	26 U	0.79 J	1.9 J	U	U	U	n/a
chromium	50	U	n/a	n/a	n/a	28.9	n/a	n/a	n/a	7.2	n/a	5.4 J	n/a	n/a	n/a	4.3 J	n/a	4.9 J	U	U	2 J	U	U	U	U	U	n/a	31 U	2.9 J	U	U	U	U	n/a
lead	25	U	n/a	n/a	n/a	U	n/a	n/a	n/a	U	n/a	3.8 J	n/a	n/a	n/a	U	n/a	4.7 J	U	U	2.7 J	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a
selenium	10	U	n/a	n/a	n/a	U	n/a	n/a	n/a	U	n/a	U	n/a	n/a	n/a	U	n/a	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a
silver	50	U	n/a	n/a	n/a	U	n/a	n/a	n/a	U	n/a	U	n/a	n/a	n/a	U	n/a	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a
barium	1000	230	n/a	n/a	n/a	145	n/a	120	n/a	n/a	n/a	126	n/a	200	n/a	n/a	n/a	83.7	n/a	200	370	520	534	551	544	n/a	500	320	327	336	297	U	2.2	
Total organic carbon	ns	1.4	1.8	5	4.9	1.2	1.1	1.9	3.6	3.4	3.3	0.51 J	U	0.77 J	8	3.6	2.2	U	2.4	0.85 J	6.9	3.1	3.3	1.8	1.5	2.2	0.85 J	3.5	3.4	2.5	U	2.2		
Chemical oxygen demand	ns	3.6 J	6.5 J	13.1	13.4	12.1	10 J	2.6 J	11.1	7.3	7.1 J	14.4	12.5	2 J	25.3	4.6 J	8.5 J	8.6 J	6.9 J	U	24	13	6.6 J	5.8 J	5.9 J	10.9	7.2 J	13.8	6.3 J	5.2 J	10.8	U	7.8 J	

Metal - µg/L (ppb)	NYS Standard	OW-6						OW-7						OW-8						OW-9													
		Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10		
arsenic	25	U	U	U	U	U	n/a	U	U	U	U	U	n/a	U	5.8 J	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a
cadmium	5	U	U	U	U	U	n/a	U	U	U	U	U	n/a	U	U	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a
chromium	50	1.9 J	1.6 J	1.7 J	17.1	2.4 J	n/a	23	3 J	1.1 J	U	0.63 J	n/a	U	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a	
lead	25	U	U	U	U	U	n/a	25	3.2 J	2.9 J	U	U	n/a	U	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a	
selenium	10	U	U	U	U	U	n/a	U	U	U	U	U	n/a	U	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a	
silver	50	U	0.33 J	0.63 J	U	U	n/a	U	U	0.81 J	U	U	n/a	U	U	U	U	U	U	U	U	U	U	U	n/a	U	U	U	U	U	U	n/a	
barium	1000	170	210	137	119	133	n/a	440	220	242	269	242	n/a	320	170	168	131	108	n/a	320	390	516	537	371	n/a	U	U	U	U	U	U	U	n/a
Total organic carbon	ns	0.77 J	5.1	5.4	3.1	2.8	n/a	1.7	3.2	7.7	3.3	4.7	3.8	1.7	9	10.4	2.9	2.8	4	1.1	1.8	2.6	2.5	2.5	2.1	U	U	U	U	U	U	U	n/a
Chemical oxygen demand	ns	2.6 J	21.8	11.8	U	12.4	n/a	13.1	15.7	17.7	9.8 J	15	U	U	24.5	20.7	6.5 J	9.1 J	12.2	3.3 J	14.2	U	8.1 J	5.5 J	7.8 J	U	U	U	U	U	U	U	n/a

ns - no standard  
Groundwater Standards from Technical and Operational Guidance Series (TOGS) Class GA ambient water quality standards - New York State Department of Environmental Conservation  
U - Not Detected  
J - Estimated value, Result greater than MDL but below CRDL  
Bold and boxed results indicate detection above NYS standards  
n/a - not analyzed  
In September 2008, OW-4 was the only observation well that produced groundwater samples that were not purple. In accordance with the SMP, this was the only sample collected for analysis.  
March 2009 and onward data represent post-ISCO conditions.  
In December 2009, OW-5 produced groundwater samples that were purple, therefore, there was no sample collected for analysis.  
NS - not sampled due to presence of purple coloration



# LABORATORY REPORT

## ANALYTICAL REPORT

Job Number: 220-11766-1

Job Description: Griffin Diebold

For:

S & W Redevelopment LLC

430 East Genesee Street

Suite 401

Syracuse, NY 13202

Attention: Mr. Dan Ours



Approved for release.  
Cheryl Cascella  
Data Review Analyst I  
4/6/2010 1:34 PM

---

Designee for  
Johanna Dubauskas  
Project Manager I

[johanna.dubauskas@testamericainc.com](mailto:johanna.dubauskas@testamericainc.com)

04/06/2010

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager.

TestAmerica Connecticut Certifications and Approvals: CTDOH PH-047, MADEP CT023, RIDOH A43, NYDOH 10602, NY NELAP 10602, NHDES 2528, NJDEP CT410, ME DOH CT023, UT DOH 2032614458

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**Job Narrative**  
**220-11766-1**

**Comments**

No additional comments.

**Receipt**

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): OW-8 (220-11766-2). The container labels list OW-8/MW-4. The COC lists OW-8.

The following field QC samples were received at the laboratory without a sample collection time documented on the chain of custody: Duplicate (220-11766-9), TRIP BLANK (220-11766-10). As a result, a sample collection time of 12:00am, on the date of collection, has been used.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain-of-Custody (COC).

All other samples were received in good condition within temperature requirements.

**GC/MS VOA**

No analytical or quality issues were noted.

**General Chemistry**

No analytical or quality issues were noted.

**Case Narrative for Job: 220-11766**

Client: SWRNA  
Date: April 6, 2010

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Christopher L. Otterbein  
Laboratory Director

April 6, 2010

## FORMULAS FOR NYSDEC SAMPLE CALCULATIONS

### Volatiles

$$\frac{(AX)(IS)(DF)}{(AIS)(RRF)(V)(\% \text{ solids})} = C$$

$$\frac{(AX)(IS)(VT)(1000)(DF)}{(AIS)(RRF)(VA)(V)(\% \text{ solids})} = C \quad (\text{for medium level soils})$$

### SemiVolatiles

$$\frac{(AX)(IS)(VE)(DF)(\text{GPC factor is 2 if needed})}{(AIS)(RRF)(\text{volume injected})(V)(\% \text{ solids})} = C$$

### Pesticides

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

PCBs for compound/retention time

$$\frac{(AX)(VE)(DF)}{(\text{RRF of compound at the stated retention time})(V)(\% \text{ solids})(\text{volume injected})} = C$$

### DRO/CTETPH

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

**AX** = area of the target Ion

**AIS** = Area of Internal standard

**C** = concentration as ug/L or ug/Kg

**DF** = dilution

**IS** = Internal standard concentration (ng)

**RRF** = average RF (from initial cal except CLP methods from continuing cal)

**V** = sample volume for liquids in mls or sample weight for solids in grams

**VA** = volume of aliquot for medium level soils

**VE** = volume of concentrated extract

**VT** = volume of methanol for volatile medium level soils

## SAMPLE SUMMARY

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
220-11766-1	OW-9/MW-3	Water	03/23/2010 1115	03/25/2010 1000
220-11766-2	OW-8	Water	03/23/2010 1245	03/25/2010 1000
220-11766-3	OW-5	Water	03/23/2010 1429	03/25/2010 1000
220-11766-4	OW-4	Water	03/23/2010 1556	03/25/2010 1000
220-11766-5	OW-1	Water	03/24/2010 0947	03/25/2010 1000
220-11766-5MS	OW-1MS	Water	03/24/2010 0947	03/25/2010 1000
220-11766-5MSD	OW-1MSD	Water	03/24/2010 0947	03/25/2010 1000
220-11766-6	OW-2	Water	03/24/2010 1119	03/25/2010 1000
220-11766-7	OW-3	Water	03/24/2010 1256	03/25/2010 1000
220-11766-8	OW-7	Water	03/24/2010 1448	03/25/2010 1000
220-11766-9	Duplicate	Water	03/24/2010 0000	03/25/2010 1000
220-11766-10TB	TRIP BLANK	Water	03/24/2010 0000	03/25/2010 1000



## EXECUTIVE SUMMARY - Detections

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
<b>220-11766-7</b>	<b>OW-3</b>				
1,1,1-Trichloroethane		2.7 J	5.0	ug/L	8260B
Trichloroethene		62	5.0	ug/L	8260B
Vinyl chloride		11	5.0	ug/L	8260B
cis-1,2-Dichloroethene		47	5.0	ug/L	8260B
Chemical Oxygen Demand		6.9 J	10.0	mg/L	410.4
Total Organic Carbon		2.4	1.0	mg/L	SM 5310C
<b>220-11766-8</b>	<b>OW-7</b>				
Trichloroethene		53	5.0	ug/L	8260B
Vinyl chloride		7.1	5.0	ug/L	8260B
cis-1,2-Dichloroethene		18	5.0	ug/L	8260B
Chemical Oxygen Demand		12.2	10.0	mg/L	410.4
Total Organic Carbon		3.8	1.0	mg/L	SM 5310C
<b>220-11766-9</b>	<b>DUPLICATE</b>				
Trichloroethene		42	5.0	ug/L	8260B
Vinyl chloride		9.0	5.0	ug/L	8260B
cis-1,2-Dichloroethene		13	5.0	ug/L	8260B
Chemical Oxygen Demand		9.1 J	10.0	mg/L	410.4
Total Organic Carbon		4.2	1.0	mg/L	SM 5310C

## METHOD SUMMARY

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds (GC/MS)	TAL CT	SW846 8260B	
Purge and Trap	TAL CT		SW846 5030B
COD	TAL CT	MCAWW 410.4	
TOC	TAL CT	SM SM 5310C	

### Lab References:

TAL CT = TestAmerica Connecticut

### Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

<b>Method</b>	<b>Analyst</b>	<b>Analyst ID</b>
SW846 8260B	Humbert, Dave	DH
MCAWW 410.4	Mendoza, Julia	JM
SM SM 5310C	Madumadu, Dave	DM

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID:** OW-9/MW-3

Lab Sample ID: 220-11766-1

Date Sampled: 03/23/2010 1115

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7037.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1706		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1706		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	17		0.62	5.0
Vinyl chloride	4.9	J	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.4		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		65 - 136
4-Bromofluorobenzene	90		51 - 142
Dibromofluoromethane	92		68 - 132
Toluene-d8 (Surr)	86		63 - 127

# Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

Client Sample ID: OW-8

Lab Sample ID: 220-11766-2  
Client Matrix: Water

Date Sampled: 03/23/2010 1245  
Date Received: 03/25/2010 1000

## 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID:	MSN
Preparation:	5030B		Lab File ID:	N7038.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	03/30/2010 1730		Final Weight/Volume:	5 mL
Date Prepared:	03/30/2010 1730			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	42		0.62	5.0
Vinyl chloride	8.9		0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	13		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		65 - 136
4-Bromofluorobenzene	89		51 - 142
Dibromofluoromethane	93		68 - 132
Toluene-d8 (Surr)	86		63 - 127

# Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

Client Sample ID: OW-5

Lab Sample ID: 220-11766-3

Date Sampled: 03/23/2010 1429

Client Matrix: Water

Date Received: 03/25/2010 1000

## 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID:	MSN
Preparation:	5030B		Lab File ID:	N7039.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	03/30/2010 1755		Final Weight/Volume:	5 mL
Date Prepared:	03/30/2010 1755			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	1.9	J	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	61		0.62	5.0
Vinyl chloride	1.3	J	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	14		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		65 - 136
4-Bromofluorobenzene	96		51 - 142
Dibromofluoromethane	95		68 - 132
Toluene-d8 (Surr)	87		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: OW-4**

Lab Sample ID: 220-11766-4

Date Sampled: 03/23/2010 1556

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7040.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1820		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1820		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	39		0.62	5.0
Vinyl chloride	4.3	J	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	21		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		65 - 136
4-Bromofluorobenzene	92		51 - 142
Dibromofluoromethane	94		68 - 132
Toluene-d8 (Surr)	90		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID:** OW-1

Lab Sample ID: 220-11766-5

Date Sampled: 03/24/2010 0947

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7036.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1641		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1641		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	7.5		0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		65 - 136
4-Bromofluorobenzene	94		51 - 142
Dibromofluoromethane	92		68 - 132
Toluene-d8 (Surr)	88		63 - 127



## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: OW-2**

Lab Sample ID: 220-11766-6  
Client Matrix: Water

Date Sampled: 03/24/2010 1119  
Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7041.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1844		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1844		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	12		0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		65 - 136
4-Bromofluorobenzene	91		51 - 142
Dibromofluoromethane	96		68 - 132
Toluene-d8 (Surr)	85		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: OW-3**

Lab Sample ID: 220-11766-7

Date Sampled: 03/24/2010 1256

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7042.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1909		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1909		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	2.7	J	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	62		0.62	5.0
Vinyl chloride	11		0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	47		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		65 - 136
4-Bromofluorobenzene	91		51 - 142
Dibromofluoromethane	97		68 - 132
Toluene-d8 (Surr)	86		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: OW-7**

Lab Sample ID: 220-11766-8

Date Sampled: 03/24/2010 1448

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7043.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1933		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1933		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	53	U	0.62	5.0
Vinyl chloride	7.1	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	18	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		65 - 136
4-Bromofluorobenzene	94		51 - 142
Dibromofluoromethane	96		68 - 132
Toluene-d8 (Surr)	86		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: Duplicate**

Lab Sample ID: 220-11766-9

Date Sampled: 03/24/2010 0000

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7044.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 1958		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 1958		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	42	U	0.62	5.0
Vinyl chloride	9.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	13	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		65 - 136
4-Bromofluorobenzene	89		51 - 142
Dibromofluoromethane	94		68 - 132
Toluene-d8 (Surr)	82		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**Client Sample ID: TRIP BLANK**

Lab Sample ID: 220-11766-10TB

Date Sampled: 03/24/2010 0000

Client Matrix: Water

Date Received: 03/25/2010 1000

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 220-37258	Instrument ID: MSN
Preparation:	5030B		Lab File ID: N7045.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/30/2010 2022		Final Weight/Volume: 5 mL
Date Prepared:	03/30/2010 2022		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		65 - 136
4-Bromofluorobenzene	96		51 - 142
Dibromofluoromethane	96		68 - 132
Toluene-d8 (Surr)	88		63 - 127

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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### General Chemistry

Client Sample ID: OW-9/MW-3

Lab Sample ID: 220-11766-1

Client Matrix: Water

Date Sampled: 03/23/2010 1115

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	7.8	J	mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010	1247				
Total Organic Carbon	2.1		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010	0919				

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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### General Chemistry

Client Sample ID: OW-8

Lab Sample ID: 220-11766-2

Client Matrix: Water

Date Sampled: 03/23/2010 1245

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	12.2		mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010	1250				
Total Organic Carbon	4.0		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010	1010				

**Analytical Data**

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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**General Chemistry**

Client Sample ID: OW-5

Lab Sample ID: 220-11766-3

Client Matrix: Water

Date Sampled: 03/23/2010 1429

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	7.8	J	mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010	1252				
Total Organic Carbon	2.2		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010	1104				



## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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### General Chemistry

Client Sample ID: **OW-4**

Lab Sample ID: 220-11766-4

Client Matrix: Water

Date Sampled: 03/23/2010 1556

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	10.9		mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010		1255			
Total Organic Carbon	2.2		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010		1201			

# Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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## General Chemistry

Client Sample ID: OW-1

Lab Sample ID: 220-11766-5

Client Matrix: Water

Date Sampled: 03/24/2010 0947

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	10	J	mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195		Date Analyzed: 03/30/2010	1258			
Total Organic Carbon	1.1		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241		Date Analyzed: 04/02/2010	1428			

**Analytical Data**

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

**General Chemistry**

Client Sample ID: **OW-2**

Lab Sample ID: 220-11766-6  
Client Matrix: Water

Date Sampled: 03/24/2010 1119  
Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	12.5		mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010	1312				
Total Organic Carbon	1.0	U	mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010	1925				

## Analytical Data

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

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### General Chemistry

Client Sample ID: OW-3

Lab Sample ID: 220-11766-7

Client Matrix: Water

Date Sampled: 03/24/2010 1256

Date Received: 03/25/2010 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chemical Oxygen Demand	6.9	J	mg/L	3.6	10.0	1.0	410.4
	Analysis Batch: 220-37195	Date Analyzed: 03/30/2010	1315				
Total Organic Carbon	2.4		mg/L	0.23	1.0	1.0	SM 5310C
	Analysis Batch: 220-37241	Date Analyzed: 04/02/2010	2003				

## EXECUTIVE SUMMARY - Detections

Client: S & W Redevelopment LLC

Job Number: 220-11766-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
<b>220-11766-1</b>	<b>OW-9/MW-3</b>				
Trichloroethene		17	5.0	ug/L	8260B
Vinyl chloride		4.9 J	5.0	ug/L	8260B
cis-1,2-Dichloroethene		5.4	5.0	ug/L	8260B
Chemical Oxygen Demand		7.8 J	10.0	mg/L	410.4
Total Organic Carbon		2.1	1.0	mg/L	SM 5310C
<b>220-11766-2</b>	<b>OW-8</b>				
Trichloroethene		42	5.0	ug/L	8260B
Vinyl chloride		8.9	5.0	ug/L	8260B
cis-1,2-Dichloroethene		13	5.0	ug/L	8260B
Chemical Oxygen Demand		12.2	10.0	mg/L	410.4
Total Organic Carbon		4.0	1.0	mg/L	SM 5310C
<b>220-11766-3</b>	<b>OW-5</b>				
1,1,1-Trichloroethane		1.9 J	5.0	ug/L	8260B
Trichloroethene		61	5.0	ug/L	8260B
Vinyl chloride		1.3 J	5.0	ug/L	8260B
cis-1,2-Dichloroethene		14	5.0	ug/L	8260B
Chemical Oxygen Demand		7.8 J	10.0	mg/L	410.4
Total Organic Carbon		2.2	1.0	mg/L	SM 5310C
<b>220-11766-4</b>	<b>OW-4</b>				
Trichloroethene		39	5.0	ug/L	8260B
Vinyl chloride		4.3 J	5.0	ug/L	8260B
cis-1,2-Dichloroethene		21	5.0	ug/L	8260B
Chemical Oxygen Demand		10.9	10.0	mg/L	410.4
Total Organic Carbon		2.2	1.0	mg/L	SM 5310C
<b>220-11766-5</b>	<b>OW-1</b>				
Trichloroethene		7.5	5.0	ug/L	8260B
Chemical Oxygen Demand		10 J	10.0	mg/L	410.4
Total Organic Carbon		1.1	1.0	mg/L	SM 5310C
<b>220-11766-6</b>	<b>OW-2</b>				
Trichloroethene		12	5.0	ug/L	8260B
Chemical Oxygen Demand		12.5	10.0	mg/L	410.4