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March 16, 2010

Mr. Craig Zeller
Remedial Project Manager
United States Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, GA 30303-3104

Subject: Summary of Full-scale *In Situ* Chemical Oxidation (ISCO) Performance
Groundwater Monitoring Results for December 2009/January 2010
Underground injection control (UIC) Permit #SCHE03020152
Sangamo Weston OU1 – Breazeale Site, Pickens, South Carolina

Dear Craig:

On behalf of Schlumberger Technology Corporation (Schlumberger), RMT, Inc. (RMT) has prepared this letter to provide a summary of the performance groundwater sampling activities associated with the full-scale *in situ* potassium permanganate (permanganate) injections that were conducted at the Breazeale Site during September 2009.

The injections were conducted consistent with the United States Environmental Protection Agency (USEPA)- and South Carolina Department of Health and Environmental Control (SC DHEC)-approved *Final Design for In Situ Chemical Oxidation (ISCO)*, RMT July 2009 (Final Design), as well as the UIC Permit to Construct (received August 18, 2009) and Permit to Operate (received September 9, 2009).

Performance Monitoring Activities

Quarterly performance monitoring activities were initiated in December 2009, three months following completion of the permanganate injection activities and consistent with the monitoring program described in the approved Final Design. Field parameters (dissolved oxygen [DO], oxidation reduction potential [ORP], specific conductivity, temperature, and pH) and water levels were measured December 7 through December 10, 2009. The locations of the monitoring wells from which field parameters were measured are shown on Figure 1, Attachment 1. A summary of the field parameters measurements is provided in Table 1, Attachment 2.

Performance groundwater monitoring activities were conducted during the period January 6 through January 12, 2010. Groundwater samples were collected from the monitoring wells site-wide (a total of

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37 wells). Samples were also collected from two surface water locations in Wolf Creek. The locations of the monitoring wells and surface water sampled during this performance event are shown on Figure 1, Attachment 1.

During the performance groundwater monitoring activities, monitoring wells were sampled for analysis of the volatile organic constituents (VOCs) and manganese (both total and dissolved). Field parameters (DO, ORP, specific conductivity, temperature, and pH) and water levels were also measured at the monitoring wells sampling during this time period. A summary of the constituents detected during the performance sampling event is provided in Table 2, Attachment 2. The constituents detected during the baseline groundwater sampling event, conducted prior to initiation of injection activities, are also provided in Table 2. Laboratory analytical data sheets for the January 2010 sampling event are provided as Attachment 3.

Neutralization of Permanganate in Groundwater Samples

In addition to collection of groundwater samples for laboratory analysis and measurement of field parameters and water levels, the purge water from the monitoring wells was also observed for color. Purple color indicates the presence of active potassium permanganate. Using a colorimetric kit, the concentration of permanganate observed in the sampled purge water could be estimated. Based on some focused sampling conducted prior to the performance sampling event, permanganate appears to be observable in the purge water at approximately 2 milligrams per liter (mg/L) and greater.

The presence of un-reacted permanganate in groundwater samples collected for analysis of VOCs is destructive to laboratory equipment used in performing purge and trap sample preparation for gas chromatography – mass spectrometry (GC-MS) analysis. Equipment damage can occur if permanganate is present in groundwater samples at concentrations as low as single digit parts per million (ppm) (or mg/L). In order to quantify concentrations of VOCs in groundwater samples for evaluation, samples with observable permanganate are neutralized with ferrous sulfide. Neutralization of the groundwater samples is conducted in the field using ferrous sulfide. The ferrous sulfide is added to the sample bottle before it is filled with the groundwater sample. Groundwater with concentrations of permanganate < 100 mg/L can be easily neutralized with the ferrous sulfide without influencing remaining concentrations of VOCs in the samples. This was confirmed by laboratory analysis and is discussed in detail in the technical memorandum provided as Attachment 4. During the focused sampling, it was also noted that samples where concentrations of >100 mg/L of permanganate were observed could not be easily neutralized for VOC analysis without adding a large volume of ferrous sulfide to the sample container prior to filling the VOC bottle. Thus, samples were not collected for analysis of VOCs if permanganate was observed

at concentrations >100 mg/L. During the January 2010 sampling event, samples were not collected from two monitoring wells (PM-02D and ZM-02D) for analysis of VOCs. Samples were collected from these wells for total and dissolved manganese analysis.

Performance Monitoring Findings and Conclusions

The following discussion provides a summary of the pertinent findings and conclusions of performance monitoring events (field parameter measurements and groundwater sampling). A summary of field parameter measurements is provided in Table 1, Attachment 2 and a summary of constituents detected in the groundwater is provided in Table 2, Attachment 2.

- Generally, an increase in specific conductivity and ORP are observed in the monitoring wells that either have observable permanganate (*e.g.* BRMW-02A and BRMW-11A) or appear to have or exhibit a decline in VOC concentrations as a result of interaction with the permanganate (*e.g.*BRMW-05).
- A lowering of pH is also observed in some wells where active permanganate has reacted with the groundwater (*e.g.* BRMW-11 and EW-201)
- Trends in the specific conductivity, ORP, and pH provide evidence of the distribution and reaction of the permanganate in the groundwater.
- Active permanganate (purple color) was observed in eight of the monitoring wells sampling during the January 2010 sampling event (BRMW-02, BRMW-02A, BRMW-03A, BRMW-05B, BRMW-11A, PM-02D, ZM-01S, and ZM-01D). With the exception of BRMW-03A, these wells are located within the target treatment area. Well BRMW-03A is located immediately downgradient of the target treatment area.
  - Concentrations of the observed permanganate ranged from an estimated <10 mg/L to >1,000 mg/L.
  - Observations of active permanganate throughout the treatment area and in the downgradient monitoring well BRMW-03A provide evidence that the permanganate is being distributed within the aquifer to the targeted areas of the groundwater plume.
- A general decline in VOC concentrations was observed in the monitoring wells located within the target treatment area during the January 2010 sampling event.
- Concentrations of both PCE and TCE declined in the samples collected from well BRMW-11, where the highest concentrations of VOCs were observed during baseline sampling activities.
  - PCE concentrations declined from 0.74 mg/L prior to injection activities to 0.66 mg/L following injection activities and TCE concentrations declined from 1.7 mg/L to

0.91 mg/L during this same time period. While these concentrations remain above the target treatment concentrations of 0.04 mg/L and 0.15mg/L, for PCE and TCE respectively, it is expected that these concentration will continue to decline until the permanganate has fully reacted.

- Concentration versus time for wells BRMW-11 and BRMW-11A are provided on Figure 2, Attachment 1.

- Concentrations of both PCE and TCE have declined in the samples collected from wells BRMW-05 and BRMW-05A. This area also exhibited some of the highest VOC concentrations observed during baseline sampling activities. Similar to well BRMW-11, concentrations in these wells remain above the target treatment concentrations but are expected to continue to decline while the permanganate remains active. Concentration versus time for wells BRMW-05 and BRMW-05A are provided on Figure 3, Attachment 1. Additionally, concentration versus time for wells ZM-01S and ZM-01D are provided on Figure 3, Attachment 1.
- Both total and dissolved manganese appear to react similarly to specific conductivity and ORP. An increase in manganese concentrations (as compared to the baseline data) correlates with monitoring wells that have either observable permanganate (*e.g.* BRMW-11A and PM-02D) or exhibit a decline in VOC concentrations as a result of interaction with the permanganate (*e.g.* BRMW-05).

Overall, the results of the December 2009 field parameter measurement event and the January 2010 performance groundwater sampling event indicate that the permanganate is being distributed throughout the aquifer across the target treatment area and beyond. Declines in the concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) confirm that the permanganate is making contact with the affected groundwater and effectively oxidizing the VOCs. Increasing specific conductivity and ORP also provide evidence of the distribution of the permanganate. Continued declines in VOC concentrations were observed 18 months following completion of the pilot injection activities. It has only been four months since completion of the full-scale injection activities; therefore, it is expected that VOC concentrations will continue to decline, especially within the target treatment area, and the permanganate will continue to be distributed throughout the aquifer with groundwater flow.

Anticipated Performance Monitoring for 2010

It is anticipated that the next performance monitoring event will be conducted during April 2010. This performance event will include measurement of field parameters, water levels, and color observations. The next performance groundwater sampling event will be conducted during July 2010. The performance data from the April 2010 field parameter measurement event and the July 2010 sampling event will be summarized and submitted for SC DHEC and USEPA review upon

completion of data evaluation. A field parameter performance monitoring event is also planned for December 2010.

If you have any questions or concerns, please call either Britney Barnes at 864.234.9453 or me at 864.234.9462.

Sincerely,

RMT, Inc.

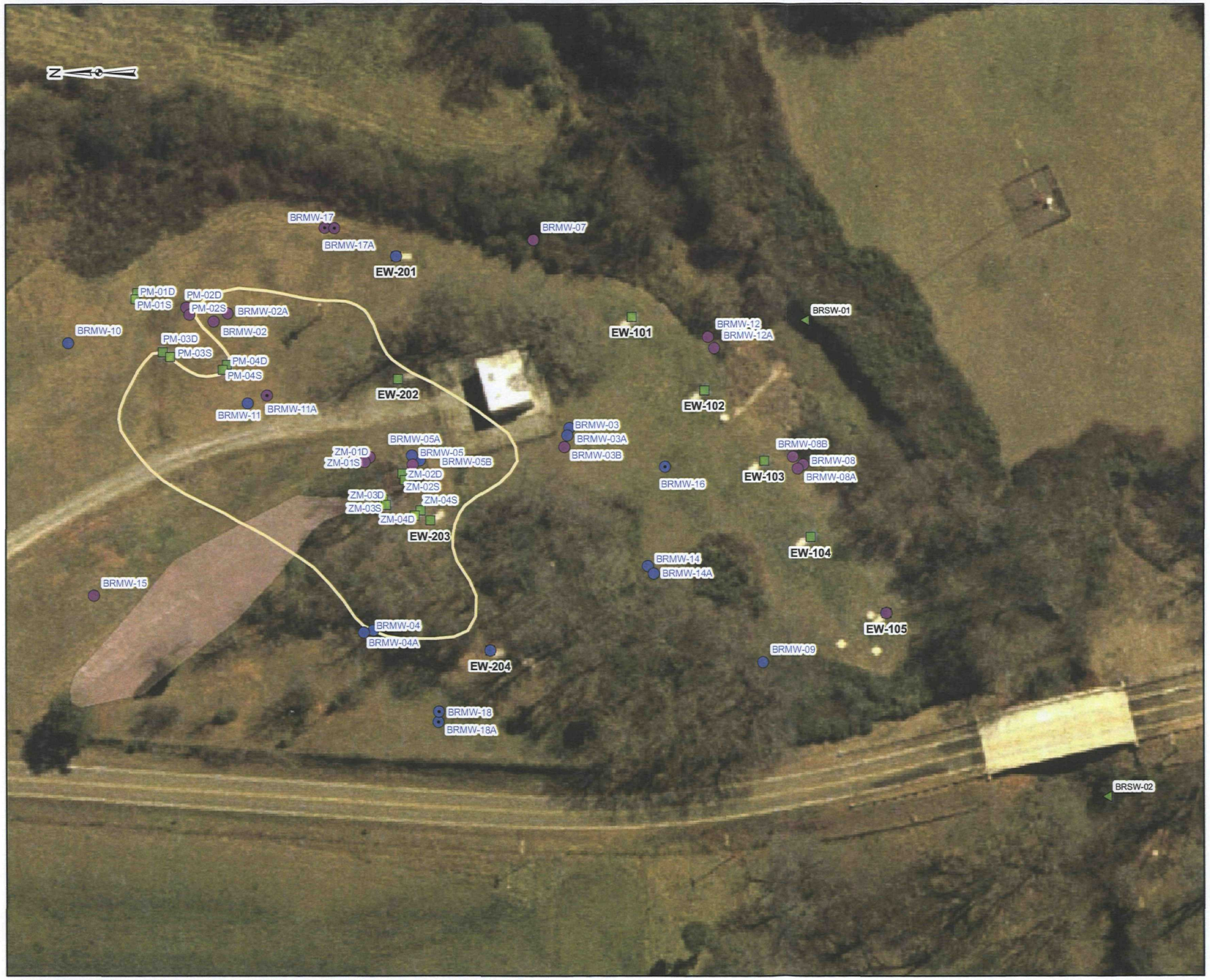
Michael B. Parker

Michael B. Parker, P.E.
Senior Client Service Manager

Attachments

cc: Joe Ferguson, Schlumberger
Chris Wargo, SC DHEC
Greg Cassidy, SC DHEC
Chuck Williams, SC DHEC
Steve Schroeder, RMT
Central Files

Attachment 1
Figures



LEGEND

New Performance Monitoring Well Locations

- Annual VOC Sampling
- Semiannual VOC Sampling

Performance Monitoring Well Network - Existing Site Wells

- Annual VOC Sampling
- Semiannual VOC Sampling
- Water Level Gauging

Surface Water Monitoring

- Surface Water Sampling Location

Target Treatment Area

- Treatment Area PCE & TCE

Former Burial Trench

- Waste Area

0 60 120

Feet

SANGAMO WESTON OU-1 BREAZEALE SITE
FINAL DESIGN FOR FULL SCALE ISCO

ISCO PERFORMANCE GROUNDWATER MONITORING NETWORK

DRAWN BY: BCB	SCALE AS NOTED	PROJECT NO.: 71238.43 T2
CHECKED BY: TAT		DATE: JANUARY 2010
APPROVED BY: MBP		FIGURE NO.: 1

RMT

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Map Document: (P:\Hydro\71238\ArcGIS9\Breazeale\Final Design Figures\Breazeale Site Figure 10 FD_ISSUED.mxd)
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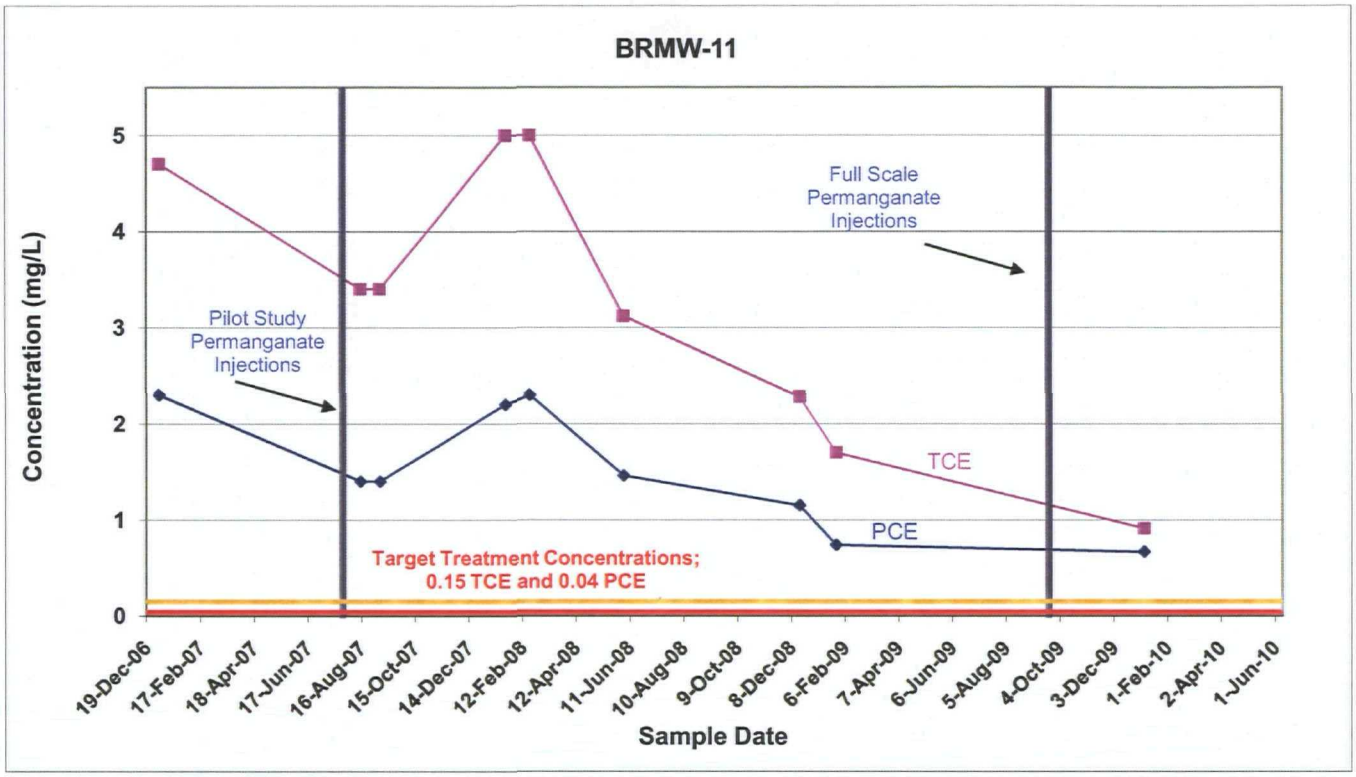
Figure 2
Breazeale Site - Full Scale ISCO
Baseline and Performance Sampling Results for PCE and TCE
January 2009 - January 2010
PRIMARY HIGH CONCENTRATION MONITORING WELLS



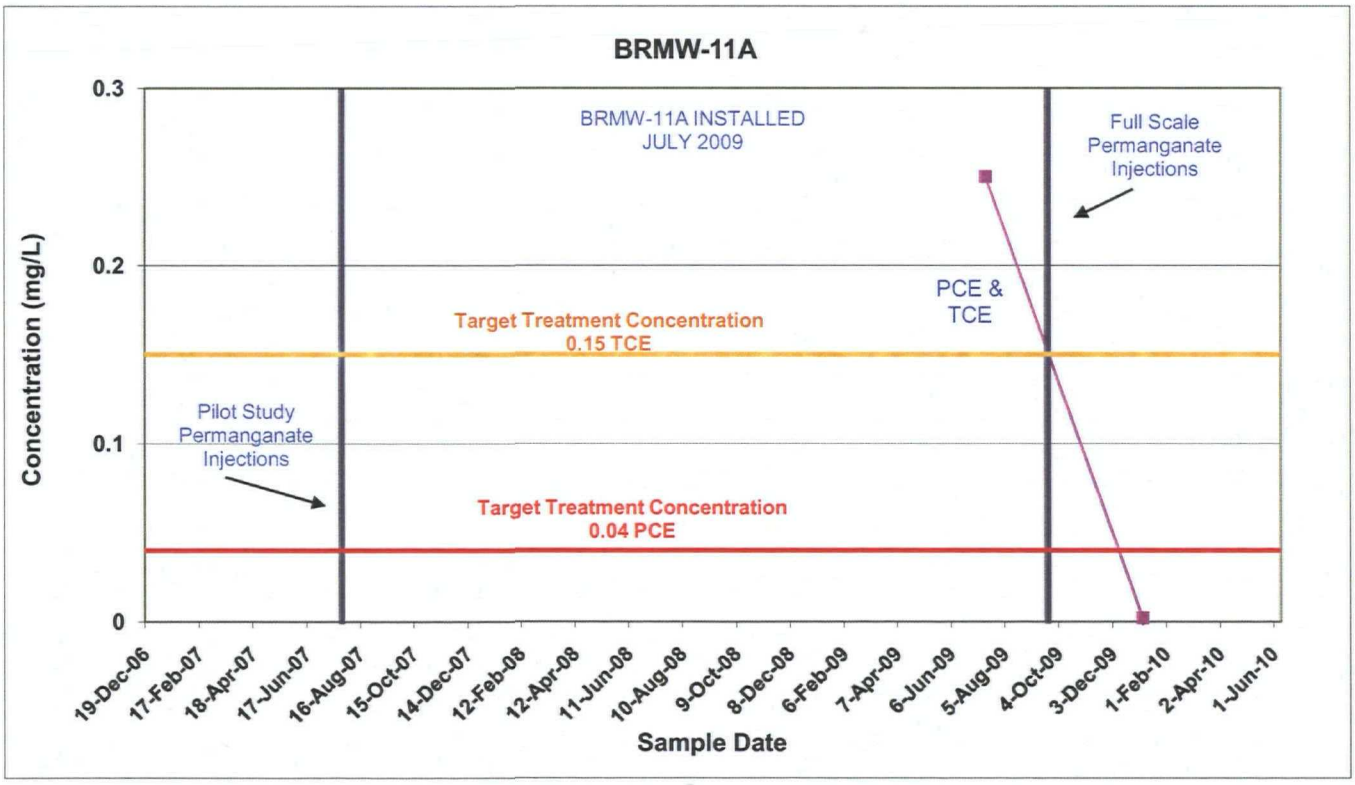
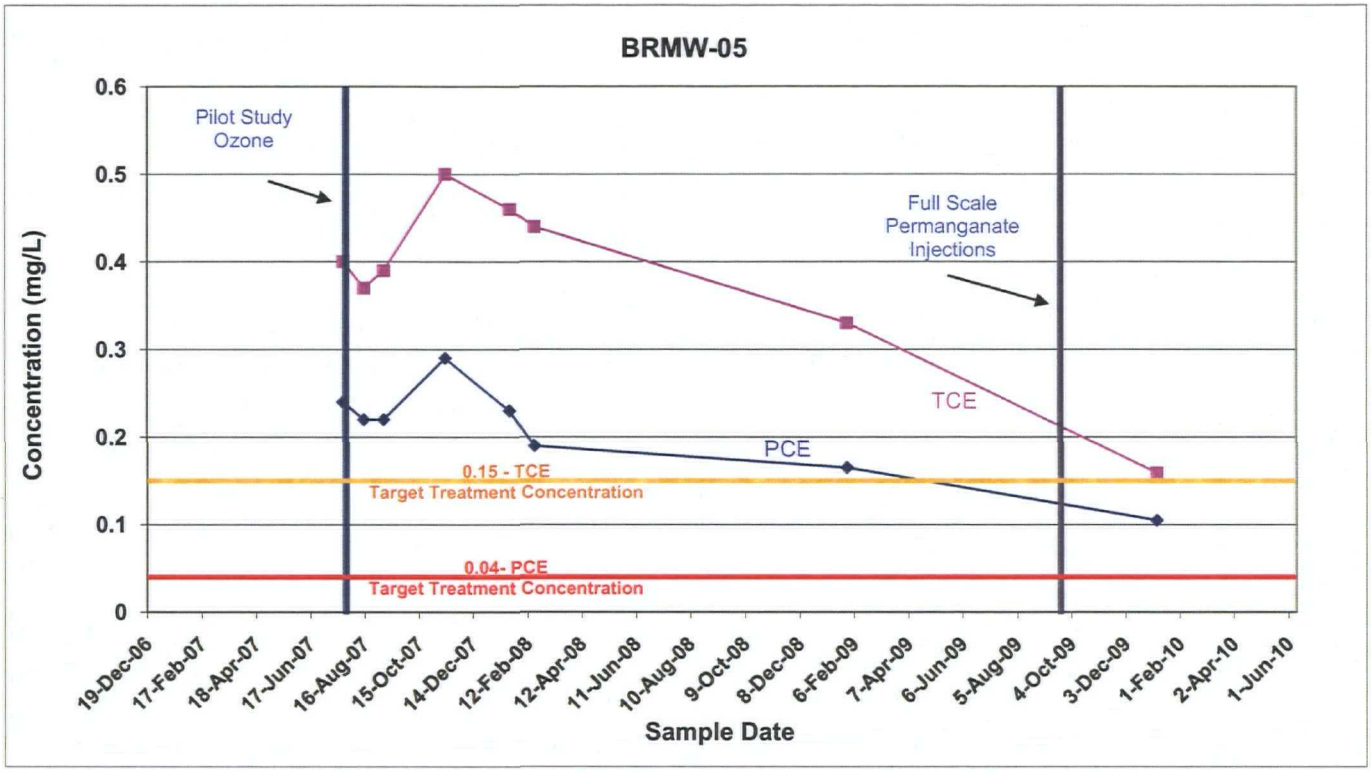


Figure 3
Breazeale Site - Full Scale ISCO
Baseline and Performance Sampling Results for PCE and TCE
SECONDARY HIGH CONCENTRATION MONITORING WELLS



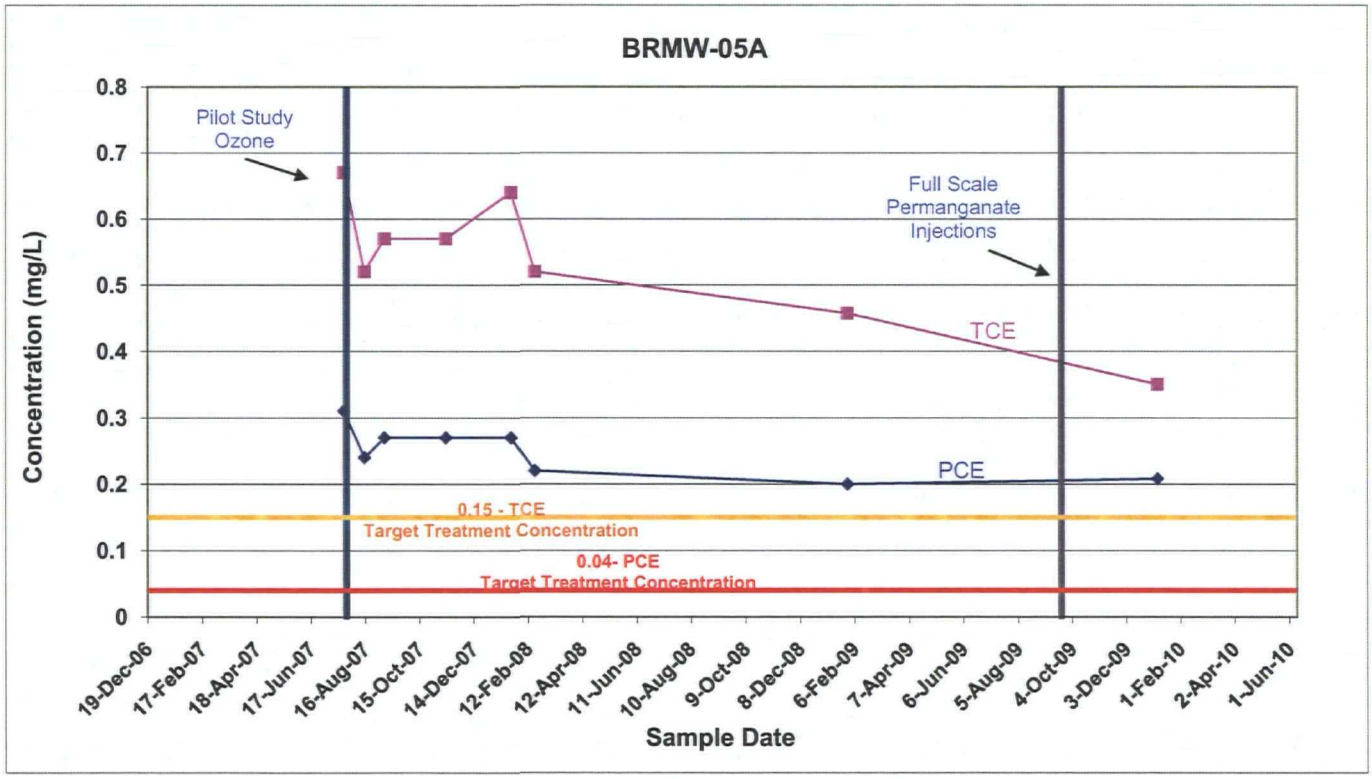
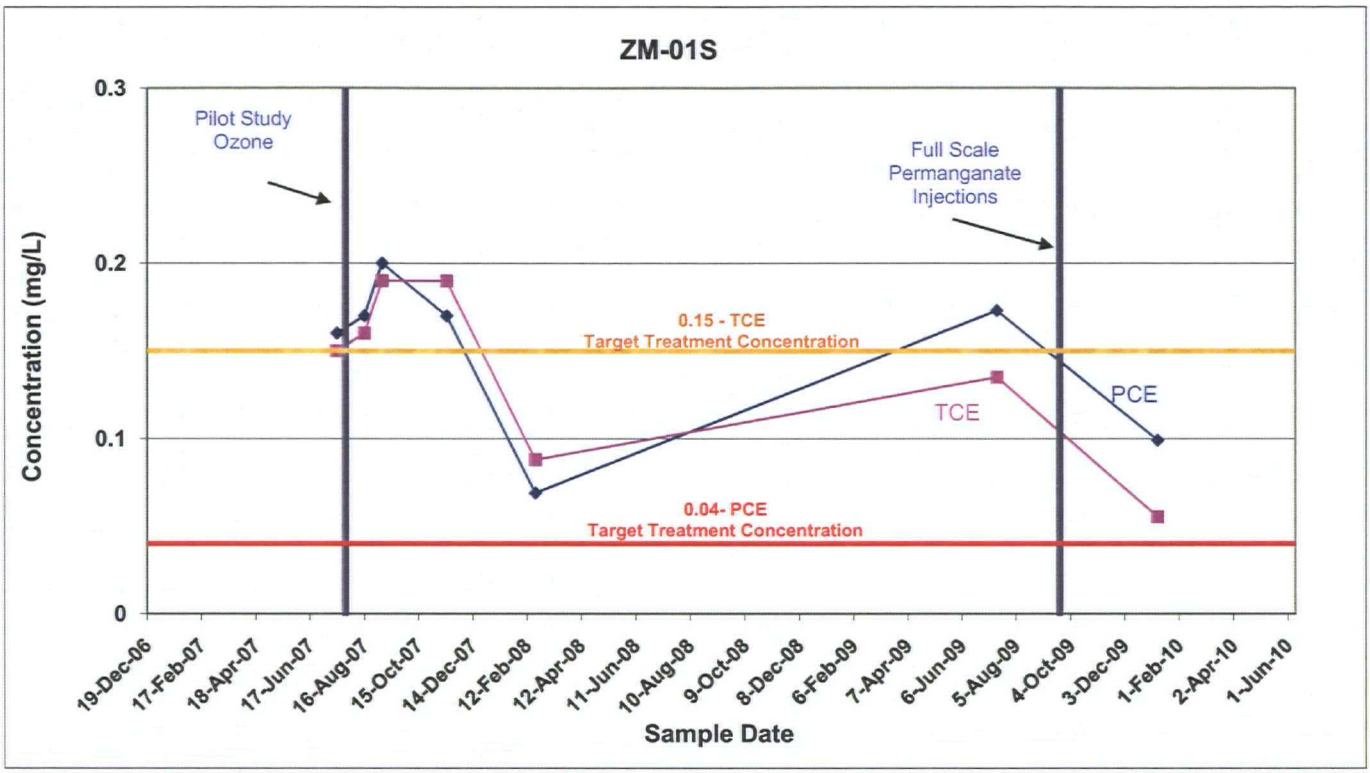
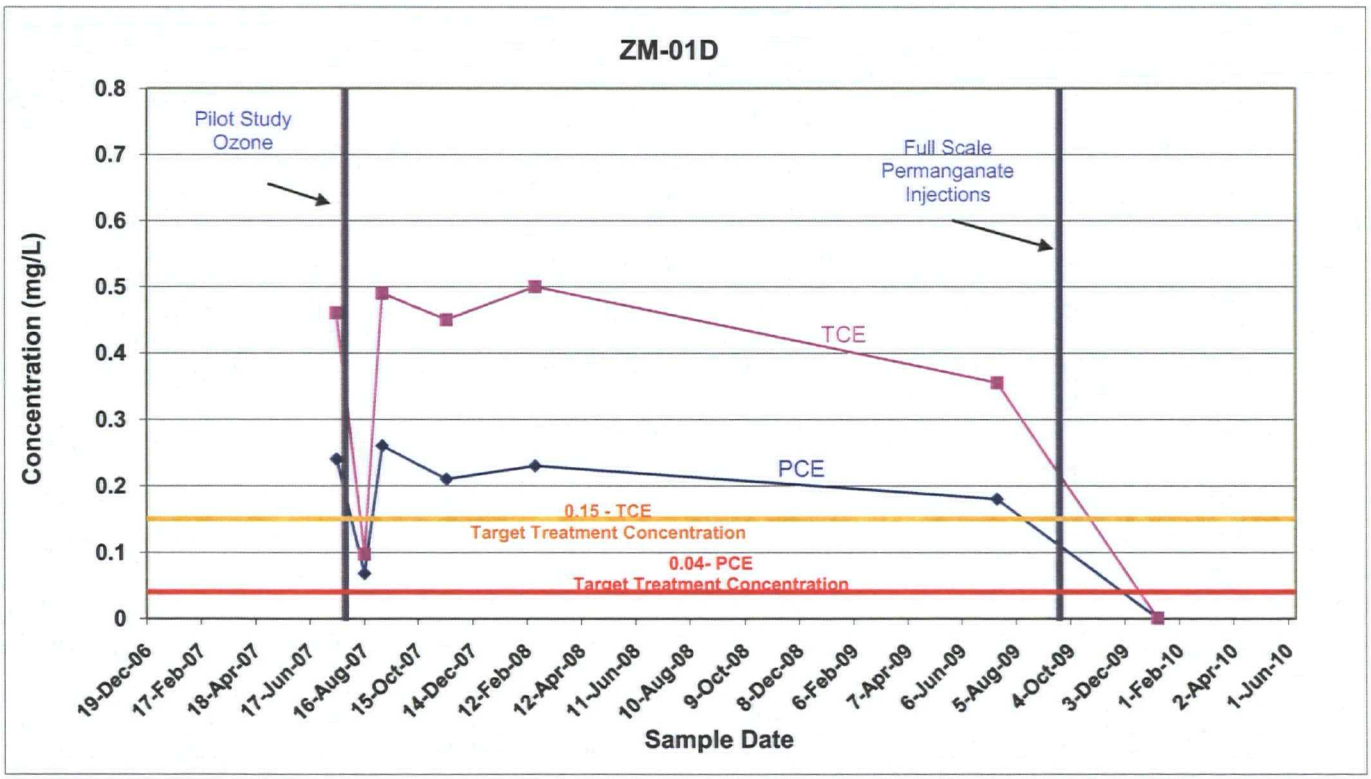


Figure 3
Breazeale Site - Full Scale ISCO
Baseline and Performance Sampling Results for PCE and TCE
SECONDARY HIGH CONCENTRATION MONITORING WELLS





Attachment 2
Tables

Table 1
Summary of Field Parameters January and July 2009 (Baseline) through January 2010 (Performance)
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER	BRMW-02 01/30/09 BASELINE	BRMW-02 09/22/09 DURING INJECTIONS	BRMW-02 10/01/09 PERFORMANCE	BRMW-02 12/07/09 PERFORMANCE	BRMW-02 01/06/10 PERFORMANCE	BRMW-02A 01/30/09 BASELINE	BRMW-02A 09/22/09 DURING INJECTIONS	BRMW-02A 10/01/09 PERFORMANCE	BRMW-02A 12/07/09 PERFORMANCE	BRMW-02A 01/06/10 PERFORMANCE	BRMW-03 01/27/09 BASELINE	BRMW-03 09/18/09 DURING INJECTIONS	BRMW-03 09/23/09 DURING INJECTIONS	BRMW-03 10/01/09 PERFORMANCE	BRMW-03 12/09/09 PERFORMANCE	BRMW-03 01/06/10 PERFORMANCE
Conductance, specific	20.3	34	22	22	40	81.2	168	91	48	64	41.3	52	60	67	50	46
DO	NM	2.79	2.46	1.58	2.07	NM	7.31	6.92	7.81	9.57	NM	1.19	0.43	0.49	0.24	0.37
ORP	NM	881.8	813.8	361.3	814.5	NM	774.2	777	715.9	727	NM	247.5	247.5	446.4	376.9	575.5
pH	5	4.64	4.48	4.72	4.59	6.16	6.54	6.24	5.81	5.85	5.36	4.97	4.95	4.88	4.97	4.9
Temperature	20.7	18.52	19.08	18.4	17.63	20.9	18.03	17.78	16.94	16.62	20.4	17.97	17.91	18.09	17.77	16.26
Turbidity	NM	1.7	2.78	3.3	2.89	NM	13.5	0.55	1.57	2.22	NM	19.5	19.5	2.46	2.75	1.24
Permanganate	0	0	0	0	100	0	0	0	>10	>100	0	0	0	0	0	0

PARAMETER	BRMW-03A 01/27/09 BASELINE	BRMW-03A 09/18/09 DURING INJECTIONS	BRMW-03A 09/23/09 DURING INJECTIONS	BRMW-03A 10/01/09 PERFORMANCE	BRMW-03A 12/09/09 PERFORMANCE	BRMW-03A 01/06/10 PERFORMANCE	BRMW-03B 01/28/09 BASELINE	BRMW-03B 09/18/09 DURING INJECTIONS	BRMW-03B 10/01/09 PERFORMANCE	BRMW-03B 12/09/09 PERFORMANCE	BRMW-03B 01/07/10 PERFORMANCE	BRMW-04 01/29/09 BASELINE	BRMW-04 09/19/09 DURING INJECTIONS	BRMW-04 09/23/09 DURING INJECTIONS	BRMW-04 10/01/09 PERFORMANCE	BRMW-04 12/11/09 PERFORMANCE	BRMW-04 01/07/10 PERFORMANCE
Conductance, specific	81	75	77	77	78	92	89.6	162	163	123	100	15.02	16	14	16	15	14
DO	NM	3.67	2.73	2.56	2.59	0.71	NM	5.47	1.44	2.13	3.24	NM	7.58	6.77	5.97	6.56	7.6
ORP	NM	196.2	533.8	402.5	447.9	588.2	NM	130.4	281.7	376.9	485.1	NM	255.5	413.5	486.3	490.6	290.1
pH	6.53	6.36	6.15	6.24	6.27	6.23	6.74	9.06	9.11	7.01	6.46	5.32	4.91	7.16	4.77	4.86	4.51
Temperature	20.9	16.79	16.97	16.44	16.67	16.05	20.7	17.09	16.43	16.63	16.33	20.2	17.27	16.94	16.3	15.58	15.2
Turbidity	NM	0.6	0.51	0.22	2.77	0.52	NM	0.7	0.43	2.12	2.19	NM	0.66	1.13	0.48	2.47	0.84
Permanganate	0	0	0	0	0	<100	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	BRMW-04A 01/29/09 BASELINE	BRMW-04A 10/02/09 PERFORMANCE	BRMW-04A 12/7/09 PERFORMANCE	BRMW-04A 01/12/10 PERFORMANCE	BRMW-05 01/29/09 BASELINE	BRMW-05 09/17/09 DURING INJECTIONS	BRMW-05 09/22/09 DURING INJECTIONS	BRMW-05 09/30/09 PERFORMANCE	BRMW-05 12/08/09 PERFORMANCE	BRMW-05 01/06/10 PERFORMANCE	BRMW-05A 01/29/09 BASELINE	BRMW-05A 09/17/09 DURING INJECTIONS	BRMW-05A 09/22/09 DURING INJECTIONS	BRMW-05A 09/30/09 PERFORMANCE	BRMW-05A 12/08/09 PERFORMANCE	BRMW-05A 01/06/10 PERFORMANCE
Conductance, specific	38.1	46	52	42	56.2	43	46	42	91	85	31.3	27	28	27	27	26
DO	NM	6.76	5.9	6.48	NM	3.36	3.94	4.63	1.49	1.43	NM	6.34	7.1	7.52	6.27	5.89
ORP	NM	372.9	434	269.5	NM	222.7	717.7	396.5	356.6	85.8	NM	246	743.7	427.2	497.3	288.4
pH	6.13	6.49	6.14	5.79	5.79	5.09	5.09	5.34	5.42	5.15	5.4	4.97	4.19	4.85	4.76	4.86
Temperature	20.4	16.83	17.28	15.66	20.3	17.24	17.23	17.59	16.96	16.36	21.1	16.54	16.62	16.59	16.35	16.4
Turbidity	NM	3.12	9.52	4.24	NM	2.87	13.32	39.4	10.6	15.5	NM	0.49	0.5	0.47	2.98	0.61
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	BRMW-05B 01/29/09 BASELINE	BRMW-05B 09/17/09 DURING INJECTIONS	BRMW-05B 09/22/09 DURING INJECTIONS	BRMW-05B 09/30/09 PERFORMANCE	BRMW-05B 12/07/09 PERFORMANCE	BRMW-05B 01/07/10 PERFORMANCE	BRMW-07 01/29/09 BASELINE	BRMW-07 10/02/09 PERFORMANCE	BRMW-07 12/09/09 PERFORMANCE	BRMW-07 01/07/10 PERFORMANCE	BRMW-08 01/27/09 BASELINE	BRMW-08 10/02/09 PERFORMANCE	BRMW-08 12/10/09 PERFORMANCE	BRMW-08 01/07/10 PERFORMANCE
Conductance, specific	60.4	59	59	60	59	59	20.4	20	28	21	58.9	52	59	51
DO	NM	7.28	7.25	6.93	6.48	7.76	NM	3.74	4.26	4.69	NM	0.71	3.82	2.29
ORP	NM	199.5	617	375.2	430.6	693.1	NM	490.1	484.9	697	NM	431.7	467.2	208.9
pH	6.4	6.54	6.31	6.27	6.34	6.23	5.42	4.99	4.78	4.56	5.66	5.65	5.01	5.11
Temperature	20.9	16.69	16.61	16.69	16.4	16.31	18.8	16.21	16.12	15.08	21.7	18.09	15.66	15.88
Turbidity	NM	0.3	0.28	0.44	1.71	1.8	NM	0.93	2.67	1.77	NM	6.21	3.31	0.7
Permanganate	0	0	0	0	0	100	0	0	0	0	0	0	0	0

Table 1
Summary of Field Parameters January and July 2009 (Baseline) through January 2010 (Performance)
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER	BRMW-08A 01/27/09	BRMW-08A 10/02/09	BRMW-08A 12/10/09	BRMW-08A 01/07/10	BRMW-08B 01/27/09	BRMW-08B 10/02/09	BRMW-08B 12/09/09	BRMW-08B 01/07/10	BRMW-09 01/27/09	BRMW-09 02/11/09	BRMW-09 10/01/09	BRMW-09 12/09/09	BRMW-09 01/05/10	BRMW-10 01/29/09	BRMW-10 12/10/09	BRMW-10 01/06/10
	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE
Conductance, specific	49	54	56	57	281	357	477	299	28	27	32	37	37	19.56	16	18
DO	NM	3.95	3.94	4.13	NM	2.01	1.87	2.17	NM	1.73	4.12	3.95	3.09	NM	6.71	5.92
ORP	NM	544.1	434.6	205.8	NM	183.3	226	154.4	NM	164	745	467.2	201.9	NM	684.1	398.1
pH	6.14	6.18	6.04	6.02	9.24	10.23	11.05	9.47	5.49	5.49	5.11	5	4.93	5.24	5.03	4.9
Temperature	22.4	17.18	17.07	16.35	21.4	17.66	17.34	14.84	19.6	14.87	18.56	16.42	12.89	20.2	17.65	15.87
Turbidity	NM	0.85	2.12	0.47	NM	1.02	3.31	0.86	NM	NM	1.13	5.37	NM	NM	3.01	0.89
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	BRMW-11 01/30/09	BRMW-11 09/22/09	BRMW-11 10/01/09	BRMW-11 12/10/09	BRMW-11 01/06/10	BRMW-11A 07/15/09	BRMW-11A 09/22/09	BRMW-11A 10/01/09	BRMW-11A 12/10/09	BRMW-11A 01/08/10	BRMW-12 01/28/09	BRMW-12 10/02/09	BRMW-12 12/09/09	BRMW-12 01/08/10
	BASELINE	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE
Conductance, specific	17.38	24	21	20	20	50	3426	2462	254	62	25	46	33	32
DO	NM	6.76	5.15	4.55	3.83	6.47	6.38	6.41	6.09	7.52	NM	1.68	0.34	1.72
ORP	NM	563.2	821.5	754	319.4	631.9	545.4	569.7	629	762.6	NM	500.5	376.5	209.8
pH	5.06	4.82	4.78	4.62	4.32	5.54	11.69	11.01	7.89	5.76	5.41	4.94	4.84	4.83
Temperature	21.8	18.09	18.73	18.43	17.63	17.95	17.66	18.18	17.3	15.94	20.3	17.49	17.31	15.35
Turbidity	NM	1.46	1.59	2.22	1.59	106	1.64	0.62	6.38	29.7	NM	1.22	2.26	2.34
Permanganate	0	0	0	0	0	0	0	0	>100	<50	0	0	0	0

PARAMETER	BRMW-12A 01/28/09	BRMW-12A 10/02/09	BRMW-12A 12/09/09	BRMW-12A 01/07/10	BRMW-14 01/27/09	BRMW-14 10/01/09	BRMW-14 12/09/09	BRMW-14 01/06/10	BRMW-14A 01/27/09	BRMW-14A 10/01/09	BRMW-14A 12/09/09	BRMW-14A 01/05/10	BRMW-15 01/29/09	BRMW-15 12/10/09	BRMW-15 01/08/10
	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE
Conductance, specific	48.4	76	49	44	25.6	35	26	26	35.8	31	30	31	21.7	53	32
DO	NM	1.57	3.43	4.47	NM	2.17	0.9	0.68	NM	0.23	1.02	2.38	NM	6.63	7.98
ORP	NM	405.6	409.1	538.8	NM	824.2	397.9	199	NM	768.8	428	259.2	NM	640	314
pH	6.3	6.52	6.03	5.74	5.43	4.84	4.8	4.89	5.7	5.18	5.22	5.05	5.15	5.38	4.79
Temperature	20.6	17.19	16.48	15.85	20	19.45	15.36	13.13	20.9	16.13	16.25	15.64	21.9	17.97	17.65
Turbidity	NM	0.55	1.97	2.64	NM	0.63	4.96	0.86	NM	0.33	1.89		NM	2.02	1.71
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	BRMW-16 07/16/09	BRMW-16 10/02/09	BRMW-16 12/09/09	BRMW-16 01/06/10	BRMW-17 07/14/09	BRMW-17 09/18/09	BRMW-17 09/23/09	BRMW-17 09/30/09	BRMW-17 12/08/09	BRMW-17 01/07/10	BRMW-17A 07/14/09	BRMW-17A 09/18/09	BRMW-17A 09/23/09	BRMW-17A 09/30/09	BRMW-17A 12/08/09	BRMW-17A 01/07/10
	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE
Conductance, specific	61	67	84	65	16	16	21	30	25	21	61	37	40	43	53	42
DO	1.59	0.72	1.22	0.79	6.94	4.93	6.53	6.51	5.83	7	2.72	3.43	3.3	3.22	3.12	3.16
ORP	219.5	421.3	214.9	217.4	224.8	244.4	655.4	672.1	485.9	328.2	161.9	219.9	572.2	590.2	425.4	285
pH	5.63	5.6	5.53	5.47	5.02	4.86	4.5	4.9	4.91	4.61	6.17	5.83	5.72	5.88	6.19	5.91
Temperature	17.75	17.97	18.27	17.49	15.1	15.85	16.3	16.51	16.07	15.34	16.03	15.53	15.63	15.71	15.18	15.2
Turbidity	0.81	4.04	6.01	22.6	1.13	0.44	0.32	0.38	1.08	2.01	29	1.17	0.98	1.37	2.94	2.77
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 1
Summary of Field Parameters January and July 2009 (Baseline) through January 2010 (Performance)
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER	BRMW-18 07/14/09	BRMW-18 10/02/09	BRMW-18 12/11/09	BRMW-18 01/07/10	BRMW-18A 07/14/09	BRMW-18A 10/02/09	BRMW-18A 12/11/09	BRMW-18A 01/07/10	EW-101 07/15/09	EW-101 12/11/09	EW-101 01/11/10	EW-103 10/02/09	EW-103 12/11/09
	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	PERFORMANCE
Conductance, specific	20	19	19	18	48	49	47	46	166	145	132	99	113
DO	8.29	7.88	7.78	8.67	7.87	7.86	7.76	8.12	0.36	0.15	0.73	2.93	1.7
ORP	152.6	468.5	499.1	308.4	155	428	414.4	270.2	5.5	220.8	343.9	389.7	375.6
pH	5.3	5.17	5.04	4.84	6	5.89	5.92	5.91	6.42	6.56	6.52	6.3	6.17
Temperature	16.92	16.58	15.74	16.39	17.11	16.77	16.26	16.58	16.4	15.19	15.96	19.2	16.7
Turbidity	34.5	62.3	15.8	1.74	1.74	0.84	6.69	1.51	2.15	4.35	4.42	8	10.9
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	EW-105 07/16/09	EW-105 10/01/09	EW-105 12/11/09	EW-105 01/11/10	EW-201 07/15/09	EW-201 09/18/09	EW-201 09/23/09	EW-201 10/01/09	EW-201 12/08/09	EW-201 01/12/10	EW-202 09/18/09	EW-202 09/23/09	EW-202 10/01/09	EW-202 12/09/09
	BASELINE	PERFORMANCE	PERFORMANCE	PERFORMANCE	BASELINE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE
Conductance, specific	70	76	68	44	19	16	17	19	18	18	71	72	71	69
DO	3.4	5	2.16	7.31	2.86	1.26	2.76	3.82	5.22	5.57	4.9	4.64	4.84	5.22
ORP	282.9	717.4	632.5	486.2	445.1	298.7	635.1	479.4	477.7	330.9	277	541.1	429.6	444.4
pH	5.16	5.33	4.99	5.19	4.88	5	4.86	4.79	4.78	4.8	6.1	6.1	6.19	6.26
Temperature	17.97	20.03	14.15	13.85	15.47	15.55	15.78	15.18	15.21	15.02	16.71	16.85	16.43	16.37
Turbidity	14.4	2.66	2.34	975	5.73	2.6	2.89	0.66	1.73	3.1	0.95	1.12	0.35	1.72
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	EW-204 07/15/09	EW-204 12/11/09	EW-204 01/12/10	PM-01S 09/19/09	PM-01S 09/23/09	PM-01S 10/01/09	PM-01S 12/08/09	PM-01D 09/19/09	PM-01D 09/23/09	PM-01D 10/01/09	PM-01D 12/08/09	PM-02S 07/16/09	PM-02S 09/22/09	PM-02S 10/01/09	PM-02S 12/08/09	PM-02S 01/11/10
	BASELINE	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	BASELINE	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE
Conductance, specific	32	38	30	20	21	22	26	21	21	21	21	27	26	28	27	26
DO	6.57	3.67	4.21	4.74	5.23	5.16	4.77	7.36	6.77	6.47	6.8	1.62	1.68	1.55	1.24	1.4
ORP	280.3	449	431.2	332.3	481.5	506.9	480.2	265.3	478.1	515	500.6	763.3	767.6	484.4	742.3	340.9
pH	5.41	5.72	5.21	4.45	4.67	4.6	5.25	5.09	4.99	4.61	4.93	4.42	4.7	4.58	4.45	4.6
Temperature	16.96	15.5	15.1	19.33	19.75	19.54	17.34	17.1	17.74	17.06	16.24	17.42	18.7	19.07	17.75	16.94
Turbidity	1.75	4.22	5.86	36.7	2.82	2.41	15.7	3.78	1.33	1.29	1.83	76.2	0.98	7.59	1.78	2.31
Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PARAMETER	PM-02D 07/16/09	PM-02D 09/22/09	PM-02D 10/01/09	PM-02D 12/08/09	PM-02D 01/11/10	PM-03S 09/19/09	PM-03S 09/23/09	PM-03S 10/01/09	PM-03S 12/08/09	PM-03D 09/19/09	PM-03D 09/23/09	PM-03D 10/01/09	PM-03D 12/08/09	PM-04S 09/22/09	PM-04S 10/01/09	PM-04S 12/10/09
	BASELINE	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	DURING INJECTIONS	PERFORMANCE	PERFORMANCE	DURING INJECTIONS	PERFORMANCE	PERFORMANCE
Conductance, specific	245	196	186	143	126	17	18	17	16	22	22	22	23	359	579	861
DO	13	10.11	9.27	8.95	8.73	4.12	1.14	1.02	0.77	6.58	6.45	6.22	6.31	3.83	3.95	4.49
ORP	893.2	952.5	932.5	898	877	184.9	463.4	480.8	626.3	187.3	464.8	492.7	630.2	941.3	985.4	941.3
pH	4.17	4.36	4.28	4.39	4.45	5.04	4.77	4.7	4.84	5.47	5.13	5.1	5.19	4.05	3.89	3.88
Temperature	17.2	17.13	4.28	16.47	16.21	19.44	19.87	19.71	18.14	17.32	18.1	17.64	16.62	18.49	19.43	18.4
Turbidity	3.79	2.19	1.12	3.41	1.66	1.12	0.98	0.44	1.62	1.49	1.48	2.05	5.85	0.96	1.28	1.83
Permanganate	0	0	0	>100	>100	0	0	0	0	0	0	0	0	0	0	>500

Table 1
Summary of Field Parameters January and July 2009 (Baseline) through January 2010 (Performance)
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER	PM-04D 09/22/09 DURING INJECTIONS	PM-04D 10/01/09 PERFORMANCE	PM-04D 12/10/09 PERFORMANCE	ZM-01S 07/15/09 BASELINE	ZM-01S 09/17/09 DURING INJECTIONS	ZM-01S 09/22/09 DURING INJECTIONS	ZM-01S 09/30/09 PERFORMANCE	ZM-01S 12/07/09 PERFORMANCE	ZM-01S 01/08/10 PERFORMANCE	ZM-01D 07/15/09 BASELINE	ZM-01D 09/17/09 DURING INJECTIONS	ZM-01D 09/22/09 DURING INJECTIONS	ZM-01D 09/30/09 PERFORMANCE	ZM-01D 12/07/09 PERFORMANCE	ZM-01D 01/08/10 PERFORMANCE
Conductance, specific	2650	2607	1877	47	46	52	45	50	58	25	27	25	41	893	1389
DO	36.72	32.86	34.35	3.57	3.81	4.83	3.94	3.58	4.71	6.07	6.07	7.24	6.44	6.99	9.97
ORP	1003.5	1022.8	971.5	342.2	272.8	729.8	450.3	748.9	668.3	319.2	279.5	724.6	837.5	935.8	819.3
pH	3.79	3.75	3.71	4.71	4.7	4.78	4.57	4.78	4.86	4.86	4.68	4.88	4.79	4.06	3.97
Temperature	17.53	17.98	16.69	16.15	16.42	16.49	16.51	16.11	15.43	16.74	16.79	16.66	16.58	16.23	15.59
Turbidity	1.16	2.29	2.32	0.2	1.34	0.29	0.93	1.92	2.56	0.77	0.42	0.48	2.48	1.31	NM
Permanganate	0	0	>500	0	0	0	0	0	>1000	0	0	0	0	>1000	>1000

PARAMETER	ZM-02S 09/17/09 DURING INJECTIONS	ZM-02S 09/22/09 DURING INJECTIONS	ZM-02S 09/30/09 PERFORMANCE	ZM-02S 12/10/09 PERFORMANCE	ZM-02D 09/17/09 DURING INJECTIONS	ZM-02D 09/22/09 DURING INJECTIONS	ZM-02D 09/30/09 PERFORMANCE	ZM-02D 12/10/09 PERFORMANCE	ZM-03S 09/17/09 DURING INJECTIONS	ZM-03S 09/22/09 DURING INJECTIONS	ZM-03S 09/30/09 PERFORMANCE	ZM-03S 12/10/09 PERFORMANCE	ZM-03D 09/17/09 DURING INJECTIONS	ZM-03D 09/22/09 DURING INJECTIONS	ZM-03D 09/30/09 PERFORMANCE	ZM-03D 12/10/09 PERFORMANCE
Conductance, specific	62	60	62	194	30	1797	2084	4503	52	46	49	43	29	27	27	27
DO	5.15	5.25	4.85	3.46	6.45	5.77	6	7.47	1.55	4.68	1.36	5.12	6.18	6.7	6.65	6.79
ORP	274.9	718.9	826.4	895.4	262.7	857.8	834.7	992.5	280.3	738.9	681.2	737.4	275.3	730.7	679.3	718.4
pH	4.76	4.8	4.76	4.69	5.23	5.9	5.82	4.03	4.63	4.71	4.67	4.66	5.04	4.99	4.98	5.02
Temperature	16.42	16.44	16.53	16.45	16.62	17.38	17.53	16.17	16.02	16.26	16.09	15.88	16.56	16.64	16.47	15.76
Turbidity	0.27	0.35	0.69	1.08	0.28	0.78	2.44	1.04	0.3	0.38	0.5	1.81	0.34	0.28	0.36	1.84
Permanganate	0	0	0	>100	0	0	0	1000	0	0	0	0	0	0	0	<10

PARAMETER	ZM-04S 09/17/09 DURING INJECTIONS	ZM-04S 09/22/09 DURING INJECTIONS	ZM-04S 09/30/09 PERFORMANCE	ZM-04S 12/10/09 PERFORMANCE	ZM-04D 09/17/09 DURING INJECTIONS	ZM-04D 09/22/09 DURING INJECTIONS	ZM-04D 09/30/09 PERFORMANCE	ZM-04D 12/10/09 PERFORMANCE
Conductance, specific	37	33	31	33	27	28	26	58
DO	7.34	9.4	8.69	7.79	7.08	6.92	6.89	6.54
ORP	288.7	677.8	659.6	714.8	274.1	673	660.2	831.2
pH	4.87	5.06	5	4.98	5.13	5.13	5.09	5.27
Temperature	16.37	16.48	16.45	16.06	16.56	16.62	16.75	16.15
Turbidity	0.33	0.96	2.3	3.77	0.47	0.47	0.65	1.67
Permanganate	0	0	0	0	0	0	0	50

Table 2
Summary of Constituents Detected in Groundwater - Baseline and Performance
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE															
			BRMW-02 01/30/09	BRMW-02 01/06/10	BRMW-02A 01/30/09	BRMW-02A 01/06/10	BRMW-03 01/27/09	BRMW-03 01/06/10	BRMW-03A 01/27/09	BRMW-03A 01/06/10	BRMW-03B 01/28/09	BRMW-03B 01/07/10	BRMW-04 01/29/09	BRMW-04 01/06/10	BRMW-04A 01/29/09	BRMW-04A 01/06/10	BRMW-05 01/29/09	BRMW-05 01/06/10
			BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE
VOCs																		
cis-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	**0.0011**	NA	<0.001	NA	**0.0165**
trans-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002
1,2-Dichloroethene, Total			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.0019 J**	**0.0011**	<0.002	<0.001	<0.005	**0.0165**
Acetone	--		<0.02	<0.02	<0.02	**0.0064 J**	<0.02 L1	<0.02	<0.02 L1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02
Benzene	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001
Methylene chloride	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.00045 J**	<0.001	<0.0025	<0.001
Tetrachloroethene	0.005	0.04	**0.0297**	**0.0124**	<0.001	<0.001	<0.001	**0.00048**	<0.001	**0.0117**	<0.001	<0.001	**0.0953**	**0.0904**	**0.0055**	**0.006**	**0.165**	**0.105**
Toluene	1		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001
Trichloroethene	0.005	0.15	**0.027**	**0.0205**	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0106**	<0.001	<0.001	**0.0173**	**0.0125**	**0.0016**	**0.002**	**0.33**	**0.159**
Vinyl Chloride			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes, total	10		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.0075	<0.003
Metals																		
Manganese			NA	13.9	NA	6.25	NA	1.82	NA	3.34	NA	<0.00059 Ju	NA	0.0163	NA	0.0024 J	NA	0.192
Manganese, dissolved			NA	12.6	NA	5.69	NA	1.73	NA	3.27	NA	0.0019 Jj	NA	0.018	NA	0.007	NA	0.16

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE															
			BRMW-08A 01/27/09	BRMW-08A 01/08/10	BRMW-08B 01/28/09	BRMW-08B 01/08/10	BRMW-09 01/27/09	BRMW-09 01/05/10	BRMW-10 01/29/09	BRMW-10 01/06/10	BRMW-11 01/30/09	BRMW-11 01/06/10	BRMW-11A 07/15/09	BRMW-11A 01/06/10	BRMW-12 01/28/09	BRMW-12 01/08/10	BRMW-12A 01/28/09	BRMW-12A 01/07/10
			BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE
VOCs																		
cis-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	<0.5	<0.002	NA	<0.002	NA	<0.002
trans-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002	<0.5	<0.002	NA	<0.002	NA	<0.002
1,2-Dichloroethene, Total			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.5	<0.002	<0.002	<0.002	<0.002	<0.002
Acetone	--		<0.02 L1	<0.02	<0.02	<0.02	<0.02 L1	<0.02	<0.02	<0.02	<0.4	<0.02	<10	<0.02	<0.02	<0.02	<0.02	<0.02
Benzene	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.02	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.02	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	0.005	0.04	<0.001	**0.0011**	**0.00067 J**	<0.001	**0.0188**	**0.00081J**	**0.00057 J**	**0.0053**	**0.738**	**0.666**	<0.5	**0.0015**	<0.001	<0.001	<0.001	<0.001
Toluene	1		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.02	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	0.005	0.15	<0.001	**0.0012**	<0.001	<0.001	**0.0198**	<0.001	<0.001	**0.00059**	**1.7**	**0.911**	<0.5	**0.0021**	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.5	<0.001	<0.001	<0.001
Xylenes, total	10		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.06	<0.003	<1.5	<0.003	<0.003	<0.003	<0.003	<0.003
Metals																		
Manganese			NA	<0.00027 Ju	NA	0.0033 J	NA	0.0093	NA	0.021	NA	0.0628	2	4.31	NA	0.644	NA	<0.0024 Ju
Manganese, dissolved			NA	0.0024 Jj	NA	0.0058 j	NA	0.0112	NA	0.021	NA	0.048	0.975	4.92 j	NA	0.653	NA	0.0153 j

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE															
			BRMW-17 07/14/09	BRMW-17 01/07/10	BRMW-17A 07/14/09	BRMW-17A 01/07/10	BRMW-18 07/14/09	BRMW-18 01/07/10	BRMW-18A 07/14/09	BRMW-18A 01/07/10	EW-101 07/15/09	EW-101 01/11/10	EW-105 07/16/09	EW-105 01/11/10	EW-201 07/15/09	EW-201 01/12/10	EW-204 07/15/09	EW-204 01/12/10
			BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE	BASELINE	PERFORMANCE
VOCs																		
cis-1,2-Dichloroethene	0.07		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0543**	**0.0248**	**0.0015**	<0.001	<0.001	**0.00084 J**	**0.0017**	**0.002**
trans-1,2-Dichloroethene	0.07		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene, Total			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0543**	**0.0248**	**0.0015**	<0.001	<0.001	**0.00084 J**	**0.0017**	**0.002**
Acetone	--		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzene	0.005		<0.001	<0.001	**0.048**	<0.001	**0.0016**	<0.001	**0.0026**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	0.005	0.04	<0.001	**0.0006**	<0.001	<0.001	**0.0053**	**0.0045**	**0.0023**	**0.0021**	<0.001	**0.00048 J**	**0.013**	**0.0034**	**0.0118**	**0.0038**	**0.0589**	**0.0332**
Toluene	1		<0.001	<0.001	**0.007**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	0.005	0.15	<0.001	<0.001	<0.001	**0.0013**	<0.001	**0.00053**	<0.001	<0.001	<0.001	**0.00094 J**	**0.0185**	**0.0022**	**0.0114**	**0.0019**	**0.0153**	**0.009**
Vinyl Chloride			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes, total	10		<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Metals																		
Manganese			0.0375	0.0229	0.0549	0.0074	0.08	0.0158	0.069	0.0159	15.6	9.76	0.0919	1	0.105	0.0117	<0.005	0.0226
Manganese, dissolved			0.0357	0.0205	0.0383	0.0093	0.0642	0.017	0.086	0.0158	14.9	9.56	0.0753	0.0446	0.0476	0.0146	0.0177	0.0305

Table 2
Summary of Constituents Detected in Groundwater - Baseline and Performance
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE							
			BRMW-05A 01/29/09 BASELINE	BRMW-05A 01/06/10 PERFORMANCE	BRMW-05B 01/29/09 BASELINE	BRMW-05B 01/08/10 PERFORMANCE	BRMW-07 01/29/09 BASELINE	BRMW-07 01/07/10 PERFORMANCE	BRMW-08 01/27/09 BASELINE	BRMW-08 01/07/10 PERFORMANCE
VOCs										
cis-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002
trans-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	NA	<0.002
1,2-Dichloroethene, Total			<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Acetone	--		<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02 L1	<0.02
Benzene	0.005		<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	0.005		<0.005	<0.001	<0.001	<0.001	**0.00044 J**	<0.001	<0.001	<0.001
Tetrachloroethene	0.005	0.04	**0.2**	**0.208**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	1		<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	0.005	0.15	**0.457**	**0.35**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes, total	10		<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Metals										
Manganese			NA	0.0089	NA	1.46	NA	0.0104	NA	0.0512
Manganese, dissolved			NA	0.0162	NA	1.66 j	NA	0.0112	NA	0.0516

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE							
			BRMW-14 01/27/09 BASELINE	BRMW-14 01/06/10 PERFORMANCE	BRMW-14A 01/27/09 BASELINE	BRMW-14A 01/05/10 PERFORMANCE	BRMW-15 01/29/09 BASELINE	BRMW-15 01/08/10 PERFORMANCE	BRMW-16 07/16/09 BASELINE	BRMW-16 01/06/10 PERFORMANCE
VOCs										
cis-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	<0.001	<0.002
trans-1,2-Dichloroethene	0.07		NA	<0.002	NA	<0.002	NA	<0.002	<0.001	<0.002
1,2-Dichloroethene, Total			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002
Acetone	--		<0.02 L1	<0.02	<0.02 L1	<0.02	<0.02	<0.02	<0.02	<0.02
Benzene	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	0.005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	0.005	0.04	**0.0012**	<0.001	**0.0011**	**0.00094**	<0.001	**0.0216**	**0.0014**	**0.00066**
Toluene	1		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	0.005	0.15	<0.001	<0.001	**0.0024**	**0.0014**	<0.001	**0.0011**	**0.0044**	**0.0015**
Vinyl Chloride			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes, total	10		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Metals										
Manganese			NA	0.0925	NA	0.0258	NA	0.0025 J	0.387	1.3
Manganese, dissolved			NA	0.0942	NA	0.0336	NA	0.0081 j	0.319	1.31

PARAMETER[1]	PERFORMANCE STANDARD	TARGET TREATMENT CONCENTRATION	LOCATION/SAMPLE DATE							
			PM-02D 07/16/09 BASELINE	PM-02D (2) 01/11/10 PERFORMANCE	PM-02S 07/16/09 BASELINE	PM-02S 01/08/10 PERFORMANCE	ZM-01D 07/15/09 BASELINE	ZM-01D (2) 01/08/10 PERFORMANCE	ZM-01S 07/15/09 BASELINE	ZM-01S 01/08/10 PERFORMANCE
VOCs										
cis-1,2-Dichloroethene	0.07		<0.05	NA	<0.001	<0.001	<0.0025	NA	**0.0052**	**0.0025**
trans-1,2-Dichloroethene	0.07		<0.05	NA	<0.001	<0.001	<0.0025	NA	<0.001	<0.002
1,2-Dichloroethene, Total			<0.05	NA	<0.001	<0.001	<0.0025	NA	**0.0052**	**0.0025**
Acetone	--		<1	NA	<0.02	<0.02	<0.05	NA	<0.02	<0.02
Benzene	0.005		<0.05	NA	<0.001	<0.001	<0.0025	NA	<0.001	<0.001
Methylene chloride	0.005		<0.05	NA	<0.001	<0.001	<0.0025	NA	<0.001	<0.001
Tetrachloroethene	0.005	0.04	<0.05	NA	**0.0073**	**0.0049**	**0.18**	NA	**0.173**	**0.0991**
Toluene	1		<0.05	NA	<0.001	<0.001	<0.0025	NA	<0.001	<0.001
Trichloroethene	0.005	0.15	<0.05	NA	**0.016**	**0.0092**	**0.355**	NA	**0.135**	**0.0554**
Vinyl Chloride			<0.05	NA	<0.001	<0.001	<0.0025	NA	<0.001	<0.001
Xylenes, total	10		<0.15	NA	<0.003	<0.003	<0.0075	NA	<0.003	<0.003
Metals										
Manganese			42.6	108	0.49	0.366	0.0512	584	0.137	0.156
Manganese, dissolved			41.9	106	0.349	0.31	0.0587	557	0.145	0.159

Table 2
Summary of Constituents Detected in Groundwater - Baseline and Performance
Sangamo Weston OU1 - Breazeale Site, Pickens, South Carolina

Qualifiers

(1) Analytical results are reported in milligrams per liter (mg/L) unless otherwise noted.

(2) Permanganate concentration was observed to be >100 ppm; thus, well not sampled for analysis of VOCs

NA Not analyzed

J Concentration detected equal to or greater than the method detection limit but less than the reporting limit.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

j Concentration considered an estimate based on data validation.

u Indicates the compound was analyzed for, but not detected

< Concentration less than the Quantitation Limit.

Bolding indicates constituent detection.

Shading indicates concentration exceeds comparison criteria.

Attachment 3
Laboratory Analytical Data Sheets

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

January 11, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 06, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CoC-SIGNED; TEMP-OK; HT-OK; NARR-OK

SURR-RECS OK

TBLK-10101 -CLEAN

MBLKs - CLEAN EXCEPT FOR 0.010 J µg/L OF MANGANESE. (TOTAL)

LCS/LCSD - RECs + RPDs OK EXCEPT FOR HI RPDs IN ACETONE, 2-BUTANONE AND 2-HEXANONE. ~~NON~~ THESE THREE ANALYTES NOT DETECTED IN THE SAMPLES. NO FLAGS ADDED.

MS/MSD - RECS + RPDs OK. BATCH QC USED.

NO FLAGS TLH 1/13/10

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January 11, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 06, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

Kang Khang

kang.khang@pacelabs.com
Project Manager

NOTE: BRMW-09 AND BRMW-09 TREATED VOCs HAVE COMPARABLE RESULTS (SEE PCE DETECTIONS). TREATMENT WAS ADDITION OF $FeSO_4$ TO REDUCE PERMANGANATE. NO INDICATION OBSERVED THAT $FeSO_4$ AFFECTED VOC CONCENTRATIONS.

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CERTIFICATIONS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
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SAMPLE SUMMARY

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4027133001	**BRMW-09**	Water	01/05/10 16:25	01/06/10 10:00
4027133002	**BRMW-09 TREATED**	Water	01/05/10 16:25	01/06/10 10:00
4027133003	**BRMW-14A**	Water	01/05/10 16:30	01/06/10 10:00
4027133004	**TBLK-10101**	Water	01/05/10 00:00	01/06/10 10:00

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SAMPLE ANALYTE COUNT

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027133001	**BRMW-09**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027133002	**BRMW-09 TREATED**	EPA 8260	SMT	37	PASI-G
4027133003	**BRMW-14A**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027133004	**TBLK-10101**	EPA 8260	SMT	37	PASI-G

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Method: **EPA 6010**
Description: 6010 MET ICP
Client: RMT - GREENVILLE
Date: January 11, 2010

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 11, 2010

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICP/3027

1j: Filtereded analyte greater than total analyte: analysis failed QC based on precision criteria.
- BRMW-14A (Lab ID: 4027133003)
  - Manganese, Dissolved

2j: Filtereded analyte greater than total analyte: analysis passed QC based on precision criteria.
- BRMW-09 (Lab ID: 4027133001)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 11, 2010

General Information:
4 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/6566

R1: RPD value was outside control limits.

- LCSD (Lab ID: 252857)
  - 2-Butanone (MEK)
  - 2-Hexanone
  - Acetone

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Sample: BRMW-09 **Lab ID: 4027133001** Collected: 01/05/10 16:25 Received: 01/06/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**9.3**	ug/L	5.0	0.090	1	01/07/10 07:15	01/07/10 16:16	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**11.2**	ug/L	5.0	0.12	1		01/07/10 15:16	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/07/10 13:21	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/07/10 13:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/07/10 13:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/07/10 13:21	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/07/10 13:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/07/10 13:21	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/07/10 13:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/07/10 13:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/07/10 13:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/07/10 13:21	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/07/10 13:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/07/10 13:21	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/07/10 13:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/07/10 13:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/07/10 13:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/07/10 13:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/07/10 13:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/07/10 13:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/07/10 13:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/07/10 13:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/07/10 13:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/07/10 13:21	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/07/10 13:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/07/10 13:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/07/10 13:21	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/07/10 13:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/07/10 13:21	79-34-5	
Tetrachloroethene	**0.81J**	ug/L	1.0	0.45	1		01/07/10 13:21	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/07/10 13:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/07/10 13:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/07/10 13:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/07/10 13:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/07/10 13:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/07/10 13:21	1330-20-7	
4-Bromofluorobenzene (S)	102	%	70-130		1		01/07/10 13:21	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/07/10 13:21	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/07/10 13:21	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Sample: BRMW-09 TREATED **Lab ID: 4027133002** Collected: 01/05/10 16:25 Received: 01/06/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/07/10 13:45	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/07/10 13:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/07/10 13:45	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/07/10 13:45	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/07/10 13:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/07/10 13:45	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/07/10 13:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/07/10 13:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/07/10 13:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/07/10 13:45	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/07/10 13:45	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/07/10 13:45	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/07/10 13:45	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/07/10 13:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/07/10 13:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/07/10 13:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/07/10 13:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/07/10 13:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/07/10 13:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/07/10 13:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/07/10 13:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/07/10 13:45	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/07/10 13:45	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/07/10 13:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/07/10 13:45	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/07/10 13:45	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/07/10 13:45	79-34-5	
Tetrachloroethene	**0.83J**	ug/L	1.0	0.45	1		01/07/10 13:45	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/07/10 13:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/07/10 13:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/07/10 13:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/07/10 13:45	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/07/10 13:45	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/07/10 13:45	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/07/10 13:45	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/07/10 13:45	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/07/10 13:45	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Sample: BRMW-14A **Lab ID: 4027133003** Collected: 01/05/10 16:30 Received: 01/06/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**25.8**	ug/L	5.0	0.090	1	01/07/10 07:15	01/07/10 16:27	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**33.6**	ug/L	5.0	0.12	1		01/07/10 15:20	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/07/10 14:08	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/07/10 14:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/07/10 14:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/07/10 14:08	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/07/10 14:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/07/10 14:08	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/07/10 14:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/07/10 14:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/07/10 14:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/07/10 14:08	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/07/10 14:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/07/10 14:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/07/10 14:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/07/10 14:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/07/10 14:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/07/10 14:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/07/10 14:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/07/10 14:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/07/10 14:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/07/10 14:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/07/10 14:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/07/10 14:08	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/07/10 14:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/07/10 14:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/07/10 14:08	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/07/10 14:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/07/10 14:08	79-34-5	
Tetrachloroethene	**0.94J**	ug/L	1.0	0.45	1		01/07/10 14:08	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/07/10 14:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/07/10 14:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/07/10 14:08	79-00-5	
Trichloroethene	**1.4**	ug/L	1.0	0.48	1		01/07/10 14:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/07/10 14:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/07/10 14:08	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/07/10 14:08	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/07/10 14:08	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/07/10 14:08	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Sample: TBLK-10101 **Lab ID: 4027133004** Collected: 01/05/10 00:00 Received: 01/06/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/07/10 12:58	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/07/10 12:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/07/10 12:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/07/10 12:58	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/07/10 12:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/07/10 12:58	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/07/10 12:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/07/10 12:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/07/10 12:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/07/10 12:58	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/07/10 12:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/07/10 12:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/07/10 12:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/07/10 12:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/07/10 12:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/07/10 12:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/07/10 12:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/07/10 12:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/07/10 12:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/07/10 12:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/07/10 12:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/07/10 12:58	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/07/10 12:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/07/10 12:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/07/10 12:58	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/07/10 12:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/07/10 12:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/07/10 12:58	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/07/10 12:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/07/10 12:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/07/10 12:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/07/10 12:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/07/10 12:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/07/10 12:58	1330-20-7	
4-Bromofluorobenzene (S)	101	%	70-130		1		01/07/10 12:58	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/07/10 12:58	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/07/10 12:58	2037-26-5	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

QC Batch: MPRP/3550 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027133001, 4027133003

METHOD BLANK: 253159 Matrix: Water
Associated Lab Samples: 4027133001, 4027133003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.090J	5.0	01/07/10 15:56	

LABORATORY CONTROL SAMPLE: 253160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	492	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 253161 253162

Parameter	Units	4027107001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	8.4	500	500	474	483	93	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

QC Batch: ICP/3027 | Analysis Method: EPA 6010
QC Batch Method: EPA 6010 | Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027133001, 4027133003

METHOD BLANK: 253098 | Matrix: Water
Associated Lab Samples: 4027133001, 4027133003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/07/10 14:03	

LABORATORY CONTROL SAMPLE: 253099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	490	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 253100 253101

Parameter	Units	4027162001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	169	500	500	618	630	90	92	75-125	2	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

QC Batch: MSV/6566 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027133001, 4027133002, 4027133003, 4027133004

METHOD BLANK: 252855 Matrix: Water
Associated Lab Samples: 4027133001, 4027133002, 4027133003, 4027133004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/07/10 08:38	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/07/10 08:38	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/07/10 08:38	
1,1-Dichloroethane	ug/L	ND	1.0	01/07/10 08:38	
1,1-Dichloroethene	ug/L	ND	1.0	01/07/10 08:38	
1,2-Dichloroethane	ug/L	ND	1.0	01/07/10 08:38	
1,2-Dichloropropane	ug/L	ND	1.0	01/07/10 08:38	
2-Butanone (MEK)	ug/L	ND	20.0	01/07/10 08:38	
2-Hexanone	ug/L	ND	5.0	01/07/10 08:38	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/07/10 08:38	
Acetone	ug/L	ND	20.0	01/07/10 08:38	
Benzene	ug/L	ND	1.0	01/07/10 08:38	
Bromodichloromethane	ug/L	ND	1.0	01/07/10 08:38	
Bromoform	ug/L	ND	1.0	01/07/10 08:38	
Bromomethane	ug/L	ND	1.0	01/07/10 08:38	
Carbon disulfide	ug/L	ND	1.0	01/07/10 08:38	
Carbon tetrachloride	ug/L	ND	1.0	01/07/10 08:38	
Chlorobenzene	ug/L	ND	1.0	01/07/10 08:38	
Chloroethane	ug/L	ND	1.0	01/07/10 08:38	
Chloroform	ug/L	ND	5.0	01/07/10 08:38	
Chloromethane	ug/L	ND	1.0	01/07/10 08:38	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/07/10 08:38	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/07/10 08:38	
Dibromochloromethane	ug/L	ND	1.0	01/07/10 08:38	
Ethylbenzene	ug/L	ND	1.0	01/07/10 08:38	
Methylene Chloride	ug/L	ND	1.0	01/07/10 08:38	
Styrene	ug/L	ND	1.0	01/07/10 08:38	
Tetrachloroethene	ug/L	ND	1.0	01/07/10 08:38	
Toluene	ug/L	ND	1.0	01/07/10 08:38	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/07/10 08:38	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/07/10 08:38	
Trichloroethene	ug/L	ND	1.0	01/07/10 08:38	
Vinyl chloride	ug/L	ND	1.0	01/07/10 08:38	
Xylene (Total)	ug/L	ND	3.0	01/07/10 08:38	
4-Bromofluorobenzene (S)	%	100	70-130	01/07/10 08:38	
Dibromofluoromethane (S)	%	85	70-130	01/07/10 08:38	
Toluene-d8 (S)	%	95	70-130	01/07/10 08:38	

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Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

LABORATORY CONTROL SAMPLE & LCSD: 252856 252857

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.2	43.6	86	87	70-132	.9	20	
1,1,2,2-Tetrachloroethane	ug/L	50	46.1	46.7	92	93	69-130	1	20	
1,1,2-Trichloroethane	ug/L	50	46.4	46.8	93	94	70-130	.8	20	
1,1-Dichloroethane	ug/L	50	43.5	43.2	87	86	70-130	.6	20	
1,1-Dichloroethene	ug/L	50	50.5	50.0	101	100	70-130	1	20	
1,2-Dichloroethane	ug/L	50	40.1	42.2	80	84	70-134	5	20	
1,2-Dichloropropane	ug/L	50	47.6	47.3	95	95	70-130	.8	20	
2-Butanone (MEK)	ug/L	50	36.3	64.8	73	130	36-181	56	35	R1
2-Hexanone	ug/L	50	35.0	57.6	70	115	46-171	49	27	R1
4-Methyl-2-pentanone (MIBK)	ug/L	50	42.8	44.0	86	88	50-150	3	20	
Acetone	ug/L	50	37.3	84.5	75	169	10-200	78	36	R1
Benzene	ug/L	50	46.1	48.3	92	97	70-131	5	20	
Bromodichloromethane	ug/L	50	47.7	49.6	95	99	70-130	4	20	
Bromoform	ug/L	50	53.6	52.9	107	106	70-130	1	20	
Bromomethane	ug/L	50	48.8	53.0	98	106	23-200	8	20	
Carbon disulfide	ug/L	50	47.4	47.4	95	95	70-138	.1	20	
Carbon tetrachloride	ug/L	50	45.6	46.7	91	93	70-144	3	20	
Chlorobenzene	ug/L	50	49.8	49.6	100	99	70-130	.5	20	
Chloroethane	ug/L	50	50.7	49.2	101	98	70-136	3	20	
Chloroform	ug/L	50	41.9	42.6	84	85	70-130	1	20	
Chloromethane	ug/L	50	32.1	31.7	64	63	54-148	1	20	
cis-1,2-Dichloroethene	ug/L	50	45.9	45.2	92	90	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	50.4	50.8	101	102	70-130	.7	20	
Dibromochloromethane	ug/L	50	46.9	48.4	94	97	70-130	3	20	
Ethylbenzene	ug/L	50	52.4	53.0	105	106	70-130	1	20	
Methylene Chloride	ug/L	50	48.4	47.6	97	95	66-130	2	20	
Styrene	ug/L	50	48.5	49.7	97	99	70-130	2	20	
Tetrachloroethene	ug/L	50	54.5	55.4	109	111	75-130	2	20	
Toluene	ug/L	50	53.3	53.2	107	106	70-130	.1	20	
trans-1,2-Dichloroethene	ug/L	50	49.0	49.1	98	98	70-130	.3	20	
trans-1,3-Dichloropropene	ug/L	50	47.2	47.1	94	94	70-130	.09	20	
Trichloroethene	ug/L	50	47.7	47.1	95	94	70-130	1	20	
Vinyl chloride	ug/L	50	38.7	38.9	77	78	63-141	.6	20	
Xylene (Total)	ug/L	150	158	162	105	108	70-130	2	20	
4-Bromofluorobenzene (S)	%				101	103	70-130			
Dibromofluoromethane (S)	%				86	87	70-130			
Toluene-d8 (S)	%				96	98	70-130			

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Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1j	Filtereded analyte greater than total analyte: analysis failed QC based on precision criteria.
2j	Filtereded analyte greater than total analyte: analysis passed QC based on precision criteria.
R1	RPD value was outside control limits.

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Pace Project No.: 4027133

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1,1-Dichloroethane	ug/L	50	43.5	43.2	87	86	70-130	.6	20	
1,1-Dichloroethene	ug/L	50	50.5	50.0	101	100	70-130	1	20	
1,2-Dichloroethane	ug/L	50	40.1	42.2	80	84	70-134	5	20	
1,2-Dichloropropane	ug/L	50	47.6	47.3	95	95	70-130	.8	20	
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Ethylbenzene	ug/L	50	52.4	53.0	105	106	70-130	1	20	
Methylene Chloride	ug/L	50	48.4	47.6	97	95	66-130	2	20	
Styrene	ug/L	50	48.5	49.7	97	99	70-130	2	20	
Tetrachloroethene	ug/L	50	54.5	55.4	109	111	75-130	2	20	
Toluene	ug/L	50	53.3	53.2	107	106	70-130	.1	20	
trans-1,2-Dichloroethene	ug/L	50	49.0	49.1	98	98	70-130	.3	20	
trans-1,3-Dichloropropene	ug/L	50	47.2	47.1	94	94	70-130	.09	20	
Trichloroethene	ug/L	50	47.7	47.1	95	94	70-130	1	20	
Vinyl chloride	ug/L	50	38.7	38.9	77	78	63-141	.6	20	
Xylene (Total)	ug/L	150	158	162	105	108	70-130	2	20	
4-Bromofluorobenzene (S)	%				101	103	70-130			
Dibromofluoromethane (S)	%				86	87	70-130			
Toluene-d8 (S)	%				96	98	70-130			

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QUALIFIERS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

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LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027133

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027133001	**BRMW-09**	EPA 3010	MPRP/3550	EPA 6010	ICP/3029
4027133003	**BRMW-14A**	EPA 3010	MPRP/3550	EPA 6010	ICP/3029
4027133001	**BRMW-09**	EPA 6010	ICP/3027		
4027133003	**BRMW-14A**	EPA 6010	ICP/3027		
4027133001	**BRMW-09**	EPA 8260	MSV/6566		
4027133002	**BRMW-09 TREATED**	EPA 8260	MSV/6566		
4027133003	**BRMW-14A**	EPA 8260	MSV/6566		
4027133004	**TBLK-10101**	EPA 8260	MSV/6566		

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RMT CHAIN OF CUSTODY RECORD

4027133 77120

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No.: 71238.47 T-2
Project/Client: Sangamo - Breazeale Site
Project Manager/Contact Person: Mike Parker / Britney Barnes/Terry Hertz

Filtered (Yes/No): N N Y
Preserved (Code): E B B

Analyses Requested: VOC's TCL 3.4 method 8260B; Total Mn per w/o; Diss Mn per w/o

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	VOC's TCL 3.4 method 8260B	Total Mn per w/o	Diss Mn per w/o					Comments:
001	1-5	1625	BRMW-09	5	GW	3	1	1	2-250ml B, 2-40ml G				NOTE: TCL VOC's - Report
002	1-5	1625	BRMW-09 TREATED	3	GW	3			3-40ml E,				both cis 1,2-DCE and
003	1-5	1630	BRMW-14A	5	GW	3	1	1	↓	2-250ml B			trans 1,2-DCE
004			TBLK-10101	2	DI	2			2-40ml E				

Thanks
B Medli

SPECIAL INSTRUCTIONS

FEDEX 864605623649

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Bill Medli	1/5/10 1745		
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fed Ex	1/6/10 1000	[signature]	1/6/10 1000
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: Temp Blank Y (N) 10
Receipt pH (Wet/Metals) OK

Custody Seal: Present/(Absent) Intact/Not Intact Seal #s

F-268 (10/08) WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010/6020	Field filtered Dissolved Mn Method 6010/6020	VOCs TCL 3-4 Method 8260B (some with also 1,2-DCE and 2-Hexanone)	Field pH, Temp, Spec. Cond, Turbidity, DO, ORP	Notes
BRMW-02	X	X	X	X	Measure water levels in all monitoring and recovery wells
BRMW-02A	X	X	X	X	
BRMW-03	X	X	X	X	
BRMW-03A	X	X	X	X	
BRMW-03B	X	X	X	X	Field filter dissolved Mn
BRMW-04	X	X	X	X	
BRMW-04A	X	X	X	X	Note color in permanganate area wells. If purple
BRMW-05	X	X	X	X	estimate permanganate concentration and note in field
BRMW-05A	X	X	X	X	book
BRMW-05B	X	X	X	X	If permanganage concentration is GREATER THAN
BRMW-07	X	X	X	X	___ DO NOT COLLECT SAMPLE FOR VOCs ONLY FOR
BRMW-08	X	X	X	X	MANGANESE TOTAL and DISSOLVED
BRMW-08A	X	X	X	X	
BRMW-08B	X	X	X	X	
BRMW-09	X	X	X	X	The wells with this shading need to be done under
BRMW-10	X	X	X	X	71238.47 task 2 on separate COCs from other wells
BRMW-11	X	X	X	X	Account for field time separately for sampling
BRMW-11A	X	X	X	X	these wells
BRMW-12	X	X	X	X	All sampling notes in the same field book
BRMW-12A	X	X	X	X	
BRMW-13	X	X	X	X	
BRMW-14	X	X	X	X	
BRMW-15	X	X	X	X	
BRMW-16	X	X	X	X	
BRMW-17	X	X	X	X	
BRMW-17A	X	X	X	X	
BRMW-18	X	X	X	X	

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
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Lab: Pace Analytical Services, Inc.
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Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010/6020	Field Filtered Dissolved Mn Method 6010/6020	VOCs TCL 5A Method 8260B Report both cis & trans 1,2-DCE	Field pH, Temp, Spec Cond, Turbidity, DO, ORP	Notes
BRMTW-18A	X	X	X	X	
EW-101	X	X	X	X	
EW-105	X	X	X	X	
EW-201	X	X	X	X	
EW-204	X	X	X	X	
PM-02S	X	X	X	X	
PM-02D	X	X	X	X	
ZM-01S	X	X	X	X	
ZM-01D	X	X	X	X	
DU-10101	X	X	X		
TBLK-10101			X		
TBLK-10102			X		

Metals: one 500 mL wide-mouth plastic; HNO3, ice; HT - 180 days; methods 6010B/6020/Series 7000.

VOC: three 40 mL septum vials; HCl preservative; ice; HT - 14 days; method SW-846 8260B - report both *cis & trans* 1,2-DCE

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Pace Analytical

Sample Condition Upon Receipt

Client Name: RMT Project # 4027133

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None Other

Optional
Proj Due Date:
Proj Name:

Thermometer Used JB Type of Ice: (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1° Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 1/6/10
Initials: MRN

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☐Yes ☒No ☐N/A	10. rec'd 1-40ml broken for -001 MRN 1/6
Filtered volume received for Dissolved tests	☒Yes ☐No ☐N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed MRN / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Terry Hertz Date/Time: 1/6/10

Comments/ Resolution: per Terry - The untreated sample should not have permanganate. This is a m

Project Manager Review: [illegible] **Date:** 1/6/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

January 15, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

REPORT OF LABORATORY ANALYSIS

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CoC-SIGNED; TEMP-OK; NARR-OK; HT-OK
SURR-RECS OK
MBLKS - CLEAN EXCEPT FOR 0.5J ug/L MANGANESE (TOTAL). NO FLAGS ADDED

LCS/LCSD - RECS + RPDs OK
MS/MSD - RECS + RPDs OK
FIELD DUP - DU-10101 IS A FIELD DUPLICATE OF BRMW-18A. RPDs < 5%

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January 15, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

NO FLAGS

TZH
1/18/10

RE: Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CERTIFICATIONS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
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SAMPLE SUMMARY

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4027316001	BRMW-16	Water	01/06/10 11:45	01/09/10 10:00
4027316002	BRMW-14	Water	01/06/10 11:50	01/09/10 10:00
4027316003	BRMW-05	Water	01/06/10 14:25	01/09/10 10:00
4027316004	BRMW-03A	Water	01/06/10 15:00	01/09/10 10:00
4027316005	BRMW-03	Water	01/06/10 15:40	01/09/10 10:00
4027316006	BRMW-05A	Water	01/06/10 15:45	01/09/10 10:00
4027316007	BRMW-11	Water	01/06/10 16:35	01/09/10 10:00
4027316008	BRMW-10	Water	01/06/10 16:40	01/09/10 10:00
4027316009	BRMW-04	Water	01/07/10 11:30	01/09/10 10:00
4027316010	BRMW-18A	Water	01/07/10 11:15	01/09/10 10:00
4027316011	BRMW-18	Water	01/07/10 13:55	01/09/10 10:00
4027316012	DU-10101	Water	01/07/10 00:00	01/09/10 10:00

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SAMPLE ANALYTE COUNT

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027316001	BRMW-16	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316002	BRMW-14	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316003	BRMW-05	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316004	BRMW-03A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316005	BRMW-03	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316006	BRMW-05A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316007	BRMW-11	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316008	BRMW-10	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316009	BRMW-04	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316010	BRMW-18A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316011	BRMW-18	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027316012	DU-10101	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G

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PROJECT NARRATIVE

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Method: **EPA 6010**
Description: 6010 MET ICP
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
12 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
12 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICP/3035

1j: The filtered analyte is greater than the total analyte; analysis failed QC based on precision criteria.
- BRMW-05A (Lab ID: 4027316006)
  - Manganese, Dissolved

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
- BRMW-14 (Lab ID: 4027316002)
  - Manganese, Dissolved
- BRMW-16 (Lab ID: 4027316001)
  - Manganese, Dissolved

QC Batch: ICP/3036

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
- BRMW-04 (Lab ID: 4027316009)
  - Manganese, Dissolved
- BRMW-10 (Lab ID: 4027316008)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 15, 2010

Analyte Comments:

QC Batch: ICP/3036

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.

- BRMW-18 (Lab ID: 4027316011)
  - Manganese, Dissolved
- DU-10101 (Lab ID: 4027316012)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
12 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-16 **Lab ID: 4027316001** Collected: 01/06/10 11:45 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**1300**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:09	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**1310**	ug/L	5.0	0.12	1		01/12/10 15:18	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 10:13	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 10:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 10:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 10:13	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 10:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 10:13	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 10:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 10:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 10:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 10:13	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 10:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 10:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 10:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 10:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 10:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 10:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 10:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 10:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 10:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 10:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 10:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 10:13	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 10:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 10:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 10:13	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 10:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 10:13	79-34-5	
Tetrachloroethene	**0.66J**	ug/L	1.0	0.45	1		01/13/10 10:13	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 10:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 10:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 10:13	79-00-5	
Trichloroethene	**1.5**	ug/L	1.0	0.48	1		01/13/10 10:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 10:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 10:13	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 10:13	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/13/10 10:13	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 10:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-14 **Lab ID: 4027316002** Collected: 01/06/10 11:50 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**92.5**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:20	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**94.2**	ug/L	5.0	0.12	1		01/12/10 15:30	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 10:37	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 10:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 10:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 10:37	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 10:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 10:37	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 10:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 10:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 10:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 10:37	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 10:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 10:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 10:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 10:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 10:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 10:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 10:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 10:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 10:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 10:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 10:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 10:37	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 10:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 10:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 10:37	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 10:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 10:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 10:37	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 10:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 10:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 10:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 10:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 10:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 10:37	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/13/10 10:37	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/13/10 10:37	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 10:37	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-05 **Lab ID: 4027316003** Collected: 01/06/10 14:25 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**192**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:24	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**160**	ug/L	5.0	0.12	1		01/12/10 15:34	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	50.0	12.5	2.5		01/13/10 16:07	67-64-1	
Benzene	ND	ug/L	2.5	1.0	2.5		01/13/10 16:07	71-43-2	
Bromodichloromethane	ND	ug/L	2.5	1.4	2.5		01/13/10 16:07	75-27-4	
Bromoform	ND	ug/L	2.5	2.4	2.5		01/13/10 16:07	75-25-2	
Bromomethane	ND	ug/L	2.5	2.3	2.5		01/13/10 16:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	10.8	2.5		01/13/10 16:07	78-93-3	
Carbon disulfide	ND	ug/L	2.5	1.6	2.5		01/13/10 16:07	75-15-0	
Carbon tetrachloride	ND	ug/L	2.5	1.2	2.5		01/13/10 16:07	56-23-5	
Chlorobenzene	ND	ug/L	2.5	1.0	2.5		01/13/10 16:07	108-90-7	
Chloroethane	ND	ug/L	2.5	2.4	2.5		01/13/10 16:07	75-00-3	
Chloroform	ND	ug/L	12.5	3.2	2.5		01/13/10 16:07	67-66-3	
Chloromethane	ND	ug/L	2.5	0.60	2.5		01/13/10 16:07	74-87-3	
Dibromochloromethane	ND	ug/L	2.5	2.0	2.5		01/13/10 16:07	124-48-1	
1,1-Dichloroethane	ND	ug/L	2.5	1.9	2.5		01/13/10 16:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.5	0.90	2.5		01/13/10 16:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	2.5	1.4	2.5		01/13/10 16:07	75-35-4	
cis-1,2-Dichloroethene	**16.5**	ug/L	2.5	2.1	2.5		01/13/10 16:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.5	2.2	2.5		01/13/10 16:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.5	1.2	2.5		01/13/10 16:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	2.5	0.50	2.5		01/13/10 16:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.5	0.48	2.5		01/13/10 16:07	10061-02-6	
Ethylbenzene	ND	ug/L	2.5	1.4	2.5		01/13/10 16:07	100-41-4	
2-Hexanone	ND	ug/L	12.5	4.9	2.5		01/13/10 16:07	591-78-6	
Methylene Chloride	ND	ug/L	2.5	1.1	2.5		01/13/10 16:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	12.5	3.0	2.5		01/13/10 16:07	108-10-1	
Styrene	ND	ug/L	2.5	2.2	2.5		01/13/10 16:07	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.5	0.50	2.5		01/13/10 16:07	79-34-5	
Tetrachloroethene	**105**	ug/L	2.5	1.1	2.5		01/13/10 16:07	127-18-4	
Toluene	ND	ug/L	2.5	1.7	2.5		01/13/10 16:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	2.5	2.2	2.5		01/13/10 16:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.5	1.0	2.5		01/13/10 16:07	79-00-5	
Trichloroethene	**159**	ug/L	2.5	1.2	2.5		01/13/10 16:07	79-01-6	
Vinyl chloride	ND	ug/L	2.5	0.45	2.5		01/13/10 16:07	75-01-4	
Xylene (Total)	ND	ug/L	7.5	6.5	2.5		01/13/10 16:07	1330-20-7	
4-Bromofluorobenzene (S)	97	%	70-130		2.5		01/13/10 16:07	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		2.5		01/13/10 16:07	1868-53-7	
Toluene-d8 (S)	92	%	70-130		2.5		01/13/10 16:07	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-03A **Lab ID: 4027316004** Collected: 01/06/10 15:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**3340**	ug/L	50.0	0.90	10	01/12/10 08:05	01/12/10 18:28	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**3270**	ug/L	50.0	1.2	10		01/12/10 15:38	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 11:00	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 11:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 11:00	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 11:00	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 11:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 11:00	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 11:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 11:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 11:00	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 11:00	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 11:00	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 11:00	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 11:00	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 11:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 11:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 11:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 11:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 11:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 11:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 11:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 11:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 11:00	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 11:00	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 11:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 11:00	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 11:00	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 11:00	79-34-5	
Tetrachloroethene	**11.7**	ug/L	1.0	0.45	1		01/13/10 11:00	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 11:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 11:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 11:00	79-00-5	
Trichloroethene	**10.6**	ug/L	1.0	0.48	1		01/13/10 11:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 11:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 11:00	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 11:00	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/13/10 11:00	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/13/10 11:00	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-03 **Lab ID: 4027316005** Collected: 01/06/10 15:40 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**1820**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:40	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**1730**	ug/L	5.0	0.12	1		01/12/10 15:42	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 11:24	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 11:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 11:24	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 11:24	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 11:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 11:24	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 11:24	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 11:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 11:24	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 11:24	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 11:24	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 11:24	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 11:24	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 11:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 11:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 11:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 11:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 11:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 11:24	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 11:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 11:24	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 11:24	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 11:24	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 11:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 11:24	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 11:24	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 11:24	79-34-5	
Tetrachloroethene	**0.48J**	ug/L	1.0	0.45	1		01/13/10 11:24	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 11:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 11:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 11:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 11:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 11:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 11:24	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/13/10 11:24	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/13/10 11:24	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/13/10 11:24	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-05A **Lab ID: 4027316006** Collected: 01/06/10 15:45 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**8.9**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:44	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**16.2**	ug/L	5.0	0.12	1		01/12/10 15:46	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	25.0	5		01/13/10 16:54	67-64-1	
Benzene	ND	ug/L	5.0	2.0	5		01/13/10 16:54	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	2.8	5		01/13/10 16:54	75-27-4	
Bromoform	ND	ug/L	5.0	4.7	5		01/13/10 16:54	75-25-2	
Bromomethane	ND	ug/L	5.0	4.6	5		01/13/10 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	21.5	5		01/13/10 16:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	3.3	5		01/13/10 16:54	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	2.4	5		01/13/10 16:54	56-23-5	
Chlorobenzene	ND	ug/L	5.0	2.0	5		01/13/10 16:54	108-90-7	
Chloroethane	ND	ug/L	5.0	4.8	5		01/13/10 16:54	75-00-3	
Chloroform	ND	ug/L	25.0	6.5	5		01/13/10 16:54	67-66-3	
Chloromethane	ND	ug/L	5.0	1.2	5		01/13/10 16:54	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	4.0	5		01/13/10 16:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	5.0	3.8	5		01/13/10 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	5		01/13/10 16:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	2.8	5		01/13/10 16:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	4.2	5		01/13/10 16:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	4.4	5		01/13/10 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	2.4	5		01/13/10 16:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1.0	5		01/13/10 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	0.95	5		01/13/10 16:54	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	2.7	5		01/13/10 16:54	100-41-4	
2-Hexanone	ND	ug/L	25.0	9.8	5		01/13/10 16:54	591-78-6	
Methylene Chloride	ND	ug/L	5.0	2.2	5		01/13/10 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	6.0	5		01/13/10 16:54	108-10-1	
Styrene	ND	ug/L	5.0	4.3	5		01/13/10 16:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1.0	5		01/13/10 16:54	79-34-5	
Tetrachloroethene	**208**	ug/L	5.0	2.2	5		01/13/10 16:54	127-18-4	
Toluene	ND	ug/L	5.0	3.4	5		01/13/10 16:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	4.5	5		01/13/10 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	2.1	5		01/13/10 16:54	79-00-5	
Trichloroethene	**350**	ug/L	5.0	2.4	5		01/13/10 16:54	79-01-6	
Vinyl chloride	ND	ug/L	5.0	0.90	5		01/13/10 16:54	75-01-4	
Xylene (Total)	ND	ug/L	15.0	13.0	5		01/13/10 16:54	1330-20-7	
4-Bromofluorobenzene (S)	101	%	70-130		5		01/13/10 16:54	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		5		01/13/10 16:54	1868-53-7	
Toluene-d8 (S)	97	%	70-130		5		01/13/10 16:54	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-11 **Lab ID: 4027316007** Collected: 01/06/10 16:35 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**62.8**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:48	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**48.0**	ug/L	5.0	0.12	1		01/12/10 16:02	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	400	99.8	20		01/13/10 16:31	67-64-1	
Benzene	ND	ug/L	20.0	8.2	20		01/13/10 16:31	71-43-2	
Bromodichloromethane	ND	ug/L	20.0	11.2	20		01/13/10 16:31	75-27-4	
Bromoform	ND	ug/L	20.0	18.8	20		01/13/10 16:31	75-25-2	
Bromomethane	ND	ug/L	20.0	18.2	20		01/13/10 16:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	400	86.0	20		01/13/10 16:31	78-93-3	
Carbon disulfide	ND	ug/L	20.0	13.2	20		01/13/10 16:31	75-15-0	
Carbon tetrachloride	ND	ug/L	20.0	9.8	20		01/13/10 16:31	56-23-5	
Chlorobenzene	ND	ug/L	20.0	8.2	20		01/13/10 16:31	108-90-7	
Chloroethane	ND	ug/L	20.0	19.4	20		01/13/10 16:31	75-00-3	
Chloroform	ND	ug/L	100	26.0	20		01/13/10 16:31	67-66-3	
Chloromethane	ND	ug/L	20.0	4.8	20		01/13/10 16:31	74-87-3	
Dibromochloromethane	ND	ug/L	20.0	16.2	20		01/13/10 16:31	124-48-1	
1,1-Dichloroethane	ND	ug/L	20.0	15.0	20		01/13/10 16:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	20.0	7.2	20		01/13/10 16:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	20.0	11.4	20		01/13/10 16:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	20.0	16.6	20		01/13/10 16:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	20.0	17.8	20		01/13/10 16:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	20.0	9.8	20		01/13/10 16:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	20.0	4.0	20		01/13/10 16:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	20.0	3.8	20		01/13/10 16:31	10061-02-6	
Ethylbenzene	ND	ug/L	20.0	10.8	20		01/13/10 16:31	100-41-4	
2-Hexanone	ND	ug/L	100	39.4	20		01/13/10 16:31	591-78-6	
Methylene Chloride	ND	ug/L	20.0	8.6	20		01/13/10 16:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	24.0	20		01/13/10 16:31	108-10-1	
Styrene	ND	ug/L	20.0	17.2	20		01/13/10 16:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	20.0	4.0	20		01/13/10 16:31	79-34-5	
Tetrachloroethene	**666**	ug/L	20.0	9.0	20		01/13/10 16:31	127-18-4	
Toluene	ND	ug/L	20.0	13.4	20		01/13/10 16:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	20.0	18.0	20		01/13/10 16:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	20.0	8.4	20		01/13/10 16:31	79-00-5	
Trichloroethene	**911**	ug/L	20.0	9.6	20		01/13/10 16:31	79-01-6	
Vinyl chloride	ND	ug/L	20.0	3.6	20		01/13/10 16:31	75-01-4	
Xylene (Total)	ND	ug/L	60.0	52.0	20		01/13/10 16:31	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		20		01/13/10 16:31	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		20		01/13/10 16:31	1868-53-7	
Toluene-d8 (S)	95	%	70-130		20		01/13/10 16:31	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-10 **Lab ID: 4027316008** Collected: 01/06/10 16:40 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**21.0**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:52	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**21.0**	ug/L	5.0	0.12	1		01/12/10 16:25	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 09:49	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 09:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 09:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 09:49	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 09:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 09:49	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 09:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 09:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 09:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 09:49	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 09:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 09:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 09:49	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 09:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 09:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 09:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 09:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 09:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 09:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 09:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 09:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 09:49	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 09:49	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 09:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 09:49	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 09:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 09:49	79-34-5	
Tetrachloroethene	**5.3**	ug/L	1.0	0.45	1		01/13/10 09:49	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 09:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 09:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 09:49	79-00-5	
Trichloroethene	**0.59J**	ug/L	1.0	0.48	1		01/13/10 09:49	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 09:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 09:49	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/13/10 09:49	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/13/10 09:49	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/13/10 09:49	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-04 **Lab ID: 4027316009** Collected: 01/07/10 11:30 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**16.3**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 18:56	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**18.0**	ug/L	5.0	0.12	1		01/12/10 16:29	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 14:57	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 14:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 14:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 14:57	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 14:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 14:57	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 14:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 14:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 14:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 14:57	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 14:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 14:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 14:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 14:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 14:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 14:57	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.83	1		01/13/10 14:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 14:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 14:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 14:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 14:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 14:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 14:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 14:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 14:57	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 14:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 14:57	79-34-5	
Tetrachloroethene	**90.4**	ug/L	1.0	0.45	1		01/13/10 14:57	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 14:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 14:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 14:57	79-00-5	
Trichloroethene	**12.5**	ug/L	1.0	0.48	1		01/13/10 14:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 14:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 14:57	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 14:57	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/13/10 14:57	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 14:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-18A **Lab ID: 4027316010** Collected: 01/07/10 11:15 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**15.9**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:00	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**15.8**	ug/L	5.0	0.12	1		01/12/10 16:33	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 11:47	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 11:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 11:47	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 11:47	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 11:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 11:47	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 11:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 11:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 11:47	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 11:47	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 11:47	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 11:47	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 11:47	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 11:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 11:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 11:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 11:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 11:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 11:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 11:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 11:47	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 11:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 11:47	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 11:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 11:47	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 11:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 11:47	79-34-5	
Tetrachloroethene	**2.1**	ug/L	1.0	0.45	1		01/13/10 11:47	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 11:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 11:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 11:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 11:47	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 11:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 11:47	1330-20-7	
4-Bromofluorobenzene (S)	101	%	70-130		1		01/13/10 11:47	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/13/10 11:47	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/13/10 11:47	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: BRMW-18 **Lab ID: 4027316011** Collected: 01/07/10 13:55 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**15.8**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:04	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**17.0**	ug/L	5.0	0.12	1		01/12/10 16:37	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 12:11	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 12:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 12:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 12:11	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 12:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 12:11	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 12:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 12:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 12:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 12:11	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 12:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 12:11	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 12:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 12:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 12:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 12:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 12:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 12:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 12:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 12:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 12:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 12:11	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 12:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 12:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 12:11	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 12:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 12:11	79-34-5	
Tetrachloroethene	**4.5**	ug/L	1.0	0.45	1		01/13/10 12:11	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 12:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 12:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 12:11	79-00-5	
Trichloroethene	**0.53J**	ug/L	1.0	0.48	1		01/13/10 12:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 12:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 12:11	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/13/10 12:11	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/13/10 12:11	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/13/10 12:11	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Sample: DU-10101 **Lab ID: 4027316012** Collected: 01/07/10 00:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**16.4**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:08	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**16.5**	ug/L	5.0	0.12	1		01/12/10 16:41	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 14:33	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 14:33	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 14:33	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 14:33	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 14:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 14:33	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 14:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 14:33	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 14:33	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 14:33	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 14:33	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 14:33	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 14:33	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 14:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 14:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 14:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 14:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 14:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 14:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 14:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 14:33	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 14:33	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 14:33	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 14:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 14:33	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 14:33	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 14:33	79-34-5	
Tetrachloroethene	**2.1**	ug/L	1.0	0.45	1		01/13/10 14:33	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 14:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 14:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 14:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 14:33	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 14:33	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 14:33	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/13/10 14:33	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/13/10 14:33	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 14:33	2037-26-5	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

QC Batch: MPRP/3563 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006, 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

METHOD BLANK: 254154 Matrix: Water

Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006, 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.50J	5.0	01/12/10 18:01	

LABORATORY CONTROL SAMPLE: 254155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	465	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254156 254157

Parameter	Units	4027316001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1300	500	500	1780	1750	96	89	75-125	2	20	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

QC Batch: ICP/3035 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006

METHOD BLANK: 254228 Matrix: Water
Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/12/10 13:55	

LABORATORY CONTROL SAMPLE: 254229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	470	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254230 254231

Parameter	Units	4027258001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	308	500	500	751	740	89	86	75-125	1	20	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

QC Batch: ICP/3036 — Analysis Method: EPA 6010
QC Batch Method: EPA 6010 — Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

METHOD BLANK: 254237 — Matrix: Water
Associated Lab Samples: 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/12/10 15:54	

LABORATORY CONTROL SAMPLE: 254238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	474	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254239 254240

Parameter	Units	4027316007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	48.0	500	500	505	502	91	91	75-125	.5	20	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

QC Batch: MSV/6589 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006, 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

METHOD BLANK: 254006 Matrix: Water
Associated Lab Samples: 4027316001, 4027316002, 4027316003, 4027316004, 4027316005, 4027316006, 4027316007, 4027316008, 4027316009, 4027316010, 4027316011, 4027316012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1-Dichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
1,2-Dichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,2-Dichloropropane	ug/L	ND	1.0	01/13/10 07:28	
2-Butanone (MEK)	ug/L	ND	20.0	01/13/10 07:28	
2-Hexanone	ug/L	ND	5.0	01/13/10 07:28	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/13/10 07:28	
Acetone	ug/L	ND	20.0	01/13/10 07:28	
Benzene	ug/L	ND	1.0	01/13/10 07:28	
Bromodichloromethane	ug/L	ND	1.0	01/13/10 07:28	
Bromoform	ug/L	ND	1.0	01/13/10 07:28	
Bromomethane	ug/L	ND	1.0	01/13/10 07:28	
Carbon disulfide	ug/L	ND	1.0	01/13/10 07:28	
Carbon tetrachloride	ug/L	ND	1.0	01/13/10 07:28	
Chlorobenzene	ug/L	ND	1.0	01/13/10 07:28	
Chloroethane	ug/L	ND	1.0	01/13/10 07:28	
Chloroform	ug/L	ND	5.0	01/13/10 07:28	
Chloromethane	ug/L	ND	1.0	01/13/10 07:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/13/10 07:28	
Dibromochloromethane	ug/L	ND	1.0	01/13/10 07:28	
Ethylbenzene	ug/L	ND	1.0	01/13/10 07:28	
Methylene Chloride	ug/L	ND	1.0	01/13/10 07:28	
Styrene	ug/L	ND	1.0	01/13/10 07:28	
Tetrachloroethene	ug/L	ND	1.0	01/13/10 07:28	
Toluene	ug/L	ND	1.0	01/13/10 07:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/13/10 07:28	
Trichloroethene	ug/L	ND	1.0	01/13/10 07:28	
Vinyl chloride	ug/L	ND	1.0	01/13/10 07:28	
Xylene (Total)	ug/L	ND	3.0	01/13/10 07:28	
4-Bromofluorobenzene (S)	%	101	70-130	01/13/10 07:28	
Dibromofluoromethane (S)	%	86	70-130	01/13/10 07:28	
Toluene-d8 (S)	%	98	70-130	01/13/10 07:28	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

LABORATORY CONTROL SAMPLE & LCSD: 254007 254008

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.9	44.1	88	88	70-132	.5	20	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	45.1	94	90	69-130	5	20	
1,1,2-Trichloroethane	ug/L	50	46.5	46.1	93	92	70-130	.9	20	
1,1-Dichloroethane	ug/L	50	43.3	43.5	87	87	70-130	.4	20	
1,1-Dichloroethene	ug/L	50	53.2	53.5	106	107	70-130	.4	20	
1,2-Dichloroethane	ug/L	50	40.3	40.9	81	82	70-134	1	20	
1,2-Dichloropropane	ug/L	50	46.6	47.7	93	95	70-130	2	20	
2-Butanone (MEK)	ug/L	50	62.8	58.2	126	116	36-181	7	35	
2-Hexanone	ug/L	50	53.4	52.1	107	104	46-171	2	27	
4-Methyl-2-pentanone (MIBK)	ug/L	50	42.5	42.2	85	84	50-150	.7	20	
Acetone	ug/L	50	80.5	73.0	161	146	10-200	10	36	
Benzene	ug/L	50	46.2	46.1	92	92	70-131	.2	20	
Bromodichloromethane	ug/L	50	47.4	48.6	95	97	70-130	2	20	
Bromoform	ug/L	50	50.9	51.6	102	103	70-130	1	20	
Bromomethane	ug/L	50	62.1	68.0	124	136	23-200	9	20	
Carbon disulfide	ug/L	50	51.0	50.9	102	102	70-138	.2	20	
Carbon tetrachloride	ug/L	50	46.8	46.7	94	93	70-144	.4	20	
Chlorobenzene	ug/L	50	48.5	47.9	97	96	70-130	1	20	
Chloroethane	ug/L	50	52.3	52.4	105	105	70-136	.3	20	
Chloroform	ug/L	50	42.7	41.9	85	84	70-130	2	20	
Chloromethane	ug/L	50	37.6	37.4	75	75	54-148	.5	20	
cis-1,2-Dichloroethene	ug/L	50	45.7	46.8	91	94	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	49.7	49.6	99	99	70-130	.2	20	
Dibromochloromethane	ug/L	50	45.7	46.3	91	93	70-130	1	20	
Ethylbenzene	ug/L	50	51.2	51.4	102	103	70-130	.4	20	
Methylene Chloride	ug/L	50	49.8	49.5	100	99	66-130	.5	20	
Styrene	ug/L	50	47.8	47.8	96	96	70-130	.02	20	
Tetrachloroethene	ug/L	50	53.8	53.6	108	107	75-130	.4	20	
Toluene	ug/L	50	53.5	53.1	107	106	70-130	.8	20	
trans-1,2-Dichloroethene	ug/L	50	50.0	51.1	100	102	70-130	2	20	
trans-1,3-Dichloropropene	ug/L	50	47.1	46.1	94	92	70-130	2	20	
Trichloroethene	ug/L	50	46.8	46.6	94	93	70-130	.5	20	
Vinyl chloride	ug/L	50	42.8	43.8	86	88	63-141	2	20	
Xylene (Total)	ug/L	150	153	156	102	104	70-130	2	20	
4-Bromofluorobenzene (S)	%				101	99	70-130			
Dibromofluoromethane (S)	%				86	87	70-130			
Toluene-d8 (S)	%				98	98	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254688 254689

Parameter	Units	4027316008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	43.7	43.3	87	87	70-137	.9	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	46.6	47.0	93	94	67-130	1	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	46.2	46.6	92	93	70-130	.8	20	
1,1-Dichloroethane	ug/L	ND	50	50	43.1	42.0	86	84	70-130	3	20	
1,1-Dichloroethene	ug/L	ND	50	50	52.3	51.6	105	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254688 254689

Parameter	Units	4027316008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	40.2	39.5	80	79	69-134	2	20	
1,2-Dichloropropane	ug/L	ND	50	50	47.0	46.2	94	92	70-130	2	20	
2-Butanone (MEK)	ug/L	ND	50	50	38.9	38.6	78	77	36-181	.7	35	
2-Hexanone	ug/L	ND	50	50	35.4	33.4	71	67	46-171	6	27	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	41.5	40.5	83	81	50-150	2	20	
Acetone	ug/L	ND	50	50	38.1	35.8	76	72	10-200	6	36	
Benzene	ug/L	ND	50	50	45.8	45.3	92	91	69-131	1	20	
Bromodichloromethane	ug/L	ND	50	50	47.1	47.0	94	94	70-130	.3	20	
Bromoform	ug/L	ND	50	50	48.4	49.6	97	99	68-130	2	20	
Bromomethane	ug/L	ND	50	50	69.2	69.1	138	138	22-200	.3	20	
Carbon disulfide	ug/L	ND	50	50	47.1	46.3	94	93	68-138	2	20	
Carbon tetrachloride	ug/L	ND	50	50	45.8	44.5	92	89	70-144	3	20	
Chlorobenzene	ug/L	ND	50	50	48.6	48.5	97	97	70-130	.2	20	
Chloroethane	ug/L	ND	50	50	51.1	52.0	102	104	66-136	2	20	
Chloroform	ug/L	ND	50	50	42.2	41.1	84	82	70-130	3	20	
Chloromethane	ug/L	ND	50	50	37.9	37.5	76	75	54-148	1	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	45.1	44.3	90	89	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	49.4	48.4	99	97	70-130	2	20	
Dibromochloromethane	ug/L	ND	50	50	45.7	44.8	91	90	70-130	2	20	
Ethylbenzene	ug/L	ND	50	50	50.6	50.1	101	100	70-130	1	20	
Methylene Chloride	ug/L	ND	50	50	48.7	48.1	97	96	64-130	1	20	
Styrene	ug/L	ND	50	50	32.0	36.6	64	73	43-130	13	20	
Tetrachloroethene	ug/L	5.3	50	50	59.5	57.8	108	105	70-130	3	20	
Toluene	ug/L	ND	50	50	52.4	51.5	105	103	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	49.2	49.4	98	99	70-130	.3	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	46.1	44.8	92	90	70-130	3	20	
Trichloroethene	ug/L	0.59J	50	50	47.1	46.9	93	93	70-130	.4	20	
Vinyl chloride	ug/L	ND	50	50	43.6	42.6	87	85	59-141	2	20	
Xylene (Total)	ug/L	ND	150	150	144	147	96	98	70-130	2	20	
4-Bromofluorobenzene (S)	%						101	98	70-130			
Dibromofluoromethane (S)	%						87	85	70-130			
Toluene-d8 (S)	%						99	97	70-130			

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(920)469-2436

QUALIFIERS

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1j	The filtered analyte is greater than the total analyte; analysis failed QC based on precision criteria.
2j	The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47.00002 SANGAMO BREAZE
Pace Project No.: 4027316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027316001	BRMW-16	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316002	BRMW-14	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316003	BRMW-05	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316004	BRMW-03A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316005	BRMW-03	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316006	BRMW-05A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316007	BRMW-11	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316008	BRMW-10	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316009	BRMW-04	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316010	BRMW-18A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316011	BRMW-18	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316012	DU-10101	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027316001	BRMW-16	EPA 6010	ICP/3035		
4027316002	BRMW-14	EPA 6010	ICP/3035		
4027316003	BRMW-05	EPA 6010	ICP/3035		
4027316004	BRMW-03A	EPA 6010	ICP/3035		
4027316005	BRMW-03	EPA 6010	ICP/3035		
4027316006	BRMW-05A	EPA 6010	ICP/3035		
4027316007	BRMW-11	EPA 6010	ICP/3036		
4027316008	BRMW-10	EPA 6010	ICP/3036		
4027316009	BRMW-04	EPA 6010	ICP/3036		
4027316010	BRMW-18A	EPA 6010	ICP/3036		
4027316011	BRMW-18	EPA 6010	ICP/3036		
4027316012	DU-10101	EPA 6010	ICP/3036		
4027316001	BRMW-16	EPA 8260	MSV/6589		
4027316002	BRMW-14	EPA 8260	MSV/6589		
4027316003	BRMW-05	EPA 8260	MSV/6589		
4027316004	BRMW-03A	EPA 8260	MSV/6589		
4027316005	BRMW-03	EPA 8260	MSV/6589		
4027316006	BRMW-05A	EPA 8260	MSV/6589		
4027316007	BRMW-11	EPA 8260	MSV/6589		
4027316008	BRMW-10	EPA 8260	MSV/6589		
4027316009	BRMW-04	EPA 8260	MSV/6589		
4027316010	BRMW-18A	EPA 8260	MSV/6589		
4027316011	BRMW-18	EPA 8260	MSV/6589		
4027316012	DU-10101	EPA 8260	MSV/6589		

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RMT CHAIN OF CUSTODY RECORD

77299

4027316

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No. 71238.47.00002
Project/Client: Sangamo Breazeale
Project Manager/Contact Person: M. Parker / B. Barnes

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	VOC's	Total Mn	Diss Mn	Filtered (Yes/No)			Comments:
									N	N	Y	
									E	B	B	
001	1/6	1145	BRMW-16	5	GW	X	X	X				2-250ml B.B. 3-40ml
002		1150	BRMW-14	5		X	X	X				
003		1425	BRMW-05	5		X	X	X				
004		1500	BRMW-03A ① TREATED 1/11/10	5		X	X	X				
005		1540	BRMW-03	5		X	X	X				
006		1545	BRMW-05A	5		X	X	X				
007		1635	BRMW-11	5		X	X	X				
008		1640	BRMW-10	5		X	X	X				
009	1/7	1130	BRMW-04	5		X	X	X				
010	1/7	1115	BRMW-18A	5		X	X	X				

Analyses Requested

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

SPECIAL INSTRUCTIONS ① Per Britney Barnes - This sample was treated w/ Ferrous Sulfate on 1/11/10

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
K Ashby	1-8-10 1845		
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fedex	1/9/10 8:10	L. Bulwalne	1/9/10
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: 4.5°C
Temp Blank Y (N)
Receipt pH (Wet Metals) OK

Custody Seal: Present/(Absent) Intact/Not Intact Seal #s

F-268 (10/08) WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

RMT CHAIN OF CUSTODY RECORD

77300

4027316

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No. 71238.47.00002
Project/Client: Sangamo Breazeale
Project Manager/Contact Person: M. Parker / B. Barnes

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	VOC's	Total Mn	Diss Mn						Comments:
						Filtered (Yes/No)	N	N	Y					
						Preserved (Code)	E	B	B					
011	1/7	1355	BRMW-18	5	GW	X	X	X						2-250ml BB 3-40ml E
		~~1410~~	~~BRMW 08~~ GSD											
012	—	—	DU-10101	5	GW	X	X	X						2-250ml BB 3-40ml

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

SPECIAL INSTRUCTIONS

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
[signature]	1-8-10 1845		
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fedex	1/9/10 8:10	[signature]	1/9/10 8:10
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp:
Temp Blank Y N
Receipt pH (Wet/Metals)

Custody Seal: Present/Absent Intact/Not Intact Seal #s

F-268 (10/08)

WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010/6020	Field Filtered Dissolved Mn Method 6010/6020	VOCs TCL 8.4 Method 8260B Report both as 1,2-DCE and *trans* 1,2-DCE	Field pH, Temp, Spec. Cond., Turbidity, DO, ORP	Notes
BRMW-02	X	X	X	X	Measure water levels in all monitoring and recovery wells
BRMW-02A	X	X	X	X	
BRMW-03	X	X	X	X	
BRMW-03A	X	X	X	X	
BRMW-03B	X	X	X	X	**Field filter dissolved Mn**
BRMW-04	X	X	X	X	
BRMW-04A	X	X	X	X	**Note color in permanganate area wells. If purple**
BRMW-05	X	X	X	X	**estimate permanganate concentration and note in field**
BRMW-05A	X	X	X	X	**book**
BRMW-05B	X	X	X	X	**If permanganage concentration is GREATER THAN**
BRMW-07	X	X	X	X	**___ DO NOT COLLECT SAMPLE FOR VOCs ONLY FOR**
BRMW-08	X	X	X	X	**MANGANESE TOTAL and DISSOLVED**
BRMW-08A	X	X	X	X	
BRMW-08B	X	X	X	X	
BRMW-09	X	X	X	X	**The wells with this shading need to be done under**
BRMW-10	X	X	X	X	**71238.47 Task 2 - on separate GOCs from other wells**
BRMW-11	X	X	X	X	**Account for field time separately for sampling**
BRMW-11A	X	X	X	X	**these wells**
BRMW-12	X	X	X	X	**All sampling notes in the same field book**
BRMW-12A	X	X	X	X	
BRMW-14	X	X	X	X	
BRMW-14A	X	X	X	X	
BRMW-15	X	X	X	X	
BRMW-16	X	X	X	X	
BRMW-17	X	X	X	X	
BRMW-17A	X	X	X	X	
BRMW-18	X	X	X	X	

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method: 6010/6020	Field Filtered Dissolved Mn Method: 6010/6020	VOCs TCL 3.4 Method 8260B Report both cis & trans 1,2-DCE	Field pH, Temp, Spec. Cond, Turbidity, DO, ORP	Notes
BRMW-18A	X	X	X	X	
EW-101	X	X	X	X	
EW-105	X	X	X	X	
EW-211	X	X	X	X	
EW-204	X	X	X	X	
PM-02S	X	X	X	X	
PM-02D	X	X	X	X	
ZM-01S	X	X	X	X	
ZM-01D	X	X	X	X	
DU-10101	X	X	X		
TBLK-10101			X		
TBLK-10102			X		

Metals: one 500 mL wide-mouth plastic; HNO3, ice; HT - 180 days; methods 6010B/6020/Series 7000.
VOC: three 40 mL septum vials; HCl preservative; ice; HT - 14 days; method SW-846 8260B - report both *cis & trans* 1,2-DCE

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Sample Condition Upon Receipt

Client Name: RMT Project # 4027316

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None Other

Optional: Proj. Due Date: Proj. Name:

Thermometer Used VB Type of Ice: Wet Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.5°C Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☐ no

Person examining contents:
Date: VB 1/9/10
Initials: _____

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes	☐No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No		Initial when completed VB Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☐Yes	☑No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 1/11/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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(920)469-2436

January 15, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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TEMP - OK; C.O.C - SIGNED; HT - OK

SURR - RECS OK

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TOLK-10102 - CLEAN
MBLKS - CLEAN EXCEPT FOR Mn (TOTAL) @ 0.11 J µg/L IN BLANK 254146 AND Mn (TOTAL) @ 0.5 J µg/L IN BLANK 254154.

January 15, 2010

A "u" FLAG IS ASSIGNED TO Mn (TOTAL) IN FOLLOWING SAMPLES BECAUSE OF COMPARABLE CONCENTRATIONS IN THE METHOD BLANK: BRMW-03B, BRMW-08A AND BRMW-12A

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

LCS/LCSD - RECS & RPDs OK EXCEPT FOR LOW (2%) MSD REC IN LCSD 254015 FOR CHLOROMETHANE. THIS ANALYTE NOT DETECTED IN ASSOCIATED SAMPLES. NO FLAGS ADDED.

RE: Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

MS/MSD - RECS & RPDs OK EXCEPT FOR LOW (BY 3%) MSD REC IN MSD 254142 FOR CHLOROMETHANE. BRMW-08A USED FOR MS/MSD. RECS IN MSD COMPARABLE TO LCSD. NO FLAGS ADDED.

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

FIELD DUP - DU-10102 IS A FIELD DUPLICATE OF BRMW-03B. RPD FOR Mn DISS IS 89%.

Sincerely,

Kang Khang

Kang Khang

kang.khang@pacelabs.com
Project Manager

A "J" FLAG IS ASSIGNED TO DISSOLVED MANGANESE IN DU-10102, BRMW-03B, BRMW-08A, BRMW-12A, BRMW-08B, BRMW-15, BRMW-11A, BRMW-05B.
NOTE: INCLUDED WELLS WHERE Mn DISS SUBSTANTIALLY GREATER THAN Mn TOTAL.

KLK
1/18/10

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CERTIFICATIONS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
1241 Bellevue Street Green Bay, WI 54302

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SAMPLE SUMMARY

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4027317001	TBLK-10102	Water	01/06/10 00:00	01/09/10 10:00
4027317002	BRMW-02	Water	01/06/10 11:55	01/09/10 10:00
4027317003	BRMW-02A	Water	01/06/10 16:00	01/09/10 10:00
4027317004	BRMW-03B	Water	01/07/10 12:00	01/09/10 10:00
4027317005	BRMW-08	Water	01/07/10 14:10	01/09/10 10:00
4027317006	BRMW-07	Water	01/07/10 15:35	01/09/10 10:00
4027317007	BRMW-17	Water	01/07/10 14:45	01/09/10 10:00
4027317008	BRMW-08A	Water	01/07/10 15:10	01/09/10 10:00
4027317009	BRMW-12A	Water	01/07/10 16:45	01/09/10 10:00
4027317010	DU-10102	Water	01/07/10 00:00	01/09/10 10:00
4027317011	BRMW-17A	Water	01/07/10 17:05	01/09/10 10:00
4027317012	BRMW-08B	Water	01/08/10 10:30	01/09/10 10:00
4027317013	BRMW-15	Water	01/08/10 10:55	01/09/10 10:00
4027317014	BRMW-12	Water	01/08/10 11:40	01/09/10 10:00
4027317015	ZM-01D	Water	01/08/10 11:40	01/09/10 10:00
4027317016	BRMW-11A	Water	01/08/10 15:35	01/09/10 10:00
4027317017	ZM-01S	Water	01/08/10 16:20	01/09/10 10:00
4027317018	BRMW-05B	Water	01/08/10 14:55	01/09/10 10:00

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(920)469-2436

SAMPLE ANALYTE COUNT

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027317001	TBLK-10102	EPA 8260	SMT	37	PASI-G
4027317002	BRMW-02	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317003	BRMW-02A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317004	BRMW-03B	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317005	BRMW-08	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317006	BRMW-07	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317007	BRMW-17	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317008	BRMW-08A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317009	BRMW-12A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317010	DU-10102	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317011	BRMW-17A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317012	BRMW-08B	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317013	BRMW-15	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G

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SAMPLE ANALYTE COUNT

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027317014	BRMW-12	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317015	ZM-01D	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
4027317016	BRMW-11A	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317017	ZM-01S	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027317018	BRMW-05B	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G

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PROJECT NARRATIVE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Method: **EPA 6010**
Description: 6010 MET ICP
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
17 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
17 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICP/3036

1j: The filtered analyte is greater than the total analyte; analysis failed QC based on precision criteria.
- BRMW-12A (Lab ID: 4027317009)
  - Manganese, Dissolved
- BRMW-15 (Lab ID: 4027317013)
  - Manganese, Dissolved

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
- BRMW-07 (Lab ID: 4027317006)
  - Manganese, Dissolved
- BRMW-08 (Lab ID: 4027317005)
  - Manganese, Dissolved
- BRMW-08B (Lab ID: 4027317012)
  - Manganese, Dissolved
- BRMW-12 (Lab ID: 4027317014)
  - Manganese, Dissolved
- BRMW-17A (Lab ID: 4027317011)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 15, 2010

Analyte Comments:

QC Batch: ICP/3036

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
- DU-10102 (Lab ID: 4027317010)
  - Manganese, Dissolved

QC Batch: ICP/3047

1j: The filtered analyte is greater than the total analyte; analysis failed QC based on precision criteria.
- BRMW-11A (Lab ID: 4027317016)
  - Manganese, Dissolved

2j: The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
- ZM-01S (Lab ID: 4027317017)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 15, 2010

General Information:
17 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/6591

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCSD (Lab ID: 254015)
  - Chloromethane

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/6591

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4027317008

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MSD (Lab ID: 254142)
  - Chloromethane

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: TBLK-10102 **Lab ID: 4027317001** Collected: 01/06/10 00:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 10:19	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 10:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 10:19	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 10:19	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 10:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 10:19	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 10:19	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 10:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 10:19	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 10:19	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 10:19	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 10:19	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 10:19	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 10:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 10:19	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 10:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 10:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 10:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 10:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 10:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 10:19	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 10:19	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 10:19	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 10:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 10:19	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 10:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 10:19	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 10:19	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 10:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 10:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 10:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 10:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 10:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 10:19	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/12/10 10:19	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/12/10 10:19	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 10:19	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-02 **Lab ID: 4027317002** Collected: 01/06/10 11:55 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**13900**	ug/L	50.0	0.90	10	01/12/10 08:05	01/12/10 19:12	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**12600**	ug/L	50.0	1.2	10		01/12/10 16:45	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	**5.8J**	ug/L	20.0	5.0	1		01/12/10 17:21	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 17:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 17:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 17:21	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 17:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 17:21	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 17:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 17:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 17:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 17:21	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 17:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 17:21	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 17:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 17:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 17:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 17:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 17:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 17:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 17:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 17:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 17:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 17:21	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 17:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 17:21	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 17:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 17:21	79-34-5	
Tetrachloroethene	**12.4**	ug/L	1.0	0.45	1		01/12/10 17:21	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 17:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 17:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 17:21	79-00-5	
Trichloroethene	**20.5**	ug/L	1.0	0.48	1		01/12/10 17:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 17:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 17:21	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/12/10 17:21	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/12/10 17:21	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 17:21	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-02A **Lab ID: 4027317003** Collected: 01/06/10 16:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**6250**	ug/L	50.0	0.90	10	01/12/10 08:05	01/12/10 19:17	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**5690**	ug/L	50.0	1.2	10		01/12/10 16:49	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	**6.4J**	ug/L	20.0	5.0	1		01/12/10 15:01	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 15:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 15:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 15:01	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 15:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 15:01	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 15:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 15:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 15:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 15:01	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 15:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 15:01	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 15:01	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 15:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 15:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 15:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 15:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 15:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 15:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 15:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 15:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 15:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 15:01	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 15:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 15:01	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 15:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 15:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 15:01	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 15:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 15:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 15:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 15:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 15:01	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/12/10 15:01	460-00-4	
Dibromofluoromethane (S)	87	%	70-130		1		01/12/10 15:01	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/12/10 15:01	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-03B **Lab ID: 4027317004** Collected: 01/07/10 12:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**0.59J**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:28	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**1.9J**	ug/L	5.0	0.12	1		01/12/10 16:53	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 15:24	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 15:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 15:24	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 15:24	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 15:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 15:24	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 15:24	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 15:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 15:24	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 15:24	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 15:24	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 15:24	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 15:24	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 15:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 15:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 15:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 15:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 15:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 15:24	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 15:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 15:24	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 15:24	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 15:24	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 15:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 15:24	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 15:24	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 15:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 15:24	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 15:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 15:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 15:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 15:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 15:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 15:24	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/12/10 15:24	460-00-4	
Dibromofluoromethane (S)	87	%	70-130		1		01/12/10 15:24	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/12/10 15:24	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-08 **Lab ID: 4027317005** Collected: 01/07/10 14:10 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**51.2**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:32	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**51.6**	ug/L	5.0	0.12	1		01/12/10 17:05	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 15:47	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 15:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 15:47	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 15:47	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 15:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 15:47	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 15:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 15:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 15:47	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 15:47	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 15:47	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 15:47	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 15:47	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 15:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 15:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 15:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 15:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 15:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 15:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 15:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 15:47	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 15:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 15:47	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 15:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 15:47	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 15:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 15:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 15:47	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 15:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 15:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 15:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 15:47	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 15:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 15:47	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/12/10 15:47	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/12/10 15:47	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/12/10 15:47	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-07 **Lab ID: 4027317006** Collected: 01/07/10 15:35 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**10.4**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:36	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**11.2**	ug/L	5.0	0.12	1		01/12/10 17:09	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 16:11	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 16:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 16:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 16:11	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 16:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 16:11	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 16:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 16:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 16:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 16:11	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 16:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 16:11	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 16:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 16:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 16:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 16:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 16:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 16:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 16:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 16:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 16:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 16:11	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 16:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 16:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 16:11	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 16:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 16:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 16:11	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 16:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 16:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 16:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 16:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 16:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 16:11	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/12/10 16:11	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/12/10 16:11	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 16:11	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-17 **Lab ID: 4027317007** Collected: 01/07/10 14:45 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**22.9**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:40	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**20.5**	ug/L	5.0	0.12	1		01/12/10 17:13	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 16:34	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 16:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 16:34	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 16:34	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 16:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 16:34	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 16:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 16:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 16:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 16:34	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 16:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 16:34	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 16:34	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 16:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 16:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 16:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 16:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 16:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 16:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 16:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 16:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 16:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 16:34	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 16:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 16:34	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 16:34	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 16:34	79-34-5	
Tetrachloroethene	**0.60J**	ug/L	1.0	0.45	1		01/12/10 16:34	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 16:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 16:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 16:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 16:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 16:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 16:34	1330-20-7	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/12/10 16:34	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/12/10 16:34	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 16:34	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-08A **Lab ID: 4027317008** Collected: 01/07/10 15:10 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**0.27J**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:44	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**2.4J**	ug/L	5.0	0.12	1		01/12/10 17:17	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 09:55	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 09:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 09:55	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 09:55	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 09:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 09:55	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 09:55	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 09:55	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 09:55	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 09:55	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 09:55	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 09:55	74-87-3	L2,M0
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 09:55	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 09:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 09:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 09:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 09:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 09:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 09:55	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 09:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 09:55	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 09:55	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 09:55	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 09:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 09:55	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 09:55	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 09:55	79-34-5	
Tetrachloroethene	**1.1**	ug/L	1.0	0.45	1		01/12/10 09:55	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 09:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 09:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 09:55	79-00-5	
Trichloroethene	**1.2**	ug/L	1.0	0.48	1		01/12/10 09:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 09:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 09:55	1330-20-7	
4-Bromofluorobenzene (S)	101	%	70-130		1		01/12/10 09:55	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/12/10 09:55	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 09:55	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-12A **Lab ID: 4027317009** Collected: 01/07/10 16:45 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**2.4J**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 19:48	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**15.3**	ug/L	5.0	0.12	1		01/12/10 17:21	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/12/10 16:58	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/12/10 16:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/12/10 16:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/12/10 16:58	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/12/10 16:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/12/10 16:58	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/12/10 16:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/12/10 16:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/12/10 16:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/12/10 16:58	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/12/10 16:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/12/10 16:58	74-87-3	L2
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/12/10 16:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/12/10 16:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/12/10 16:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/12/10 16:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/12/10 16:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/12/10 16:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/12/10 16:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/12/10 16:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/12/10 16:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/12/10 16:58	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/12/10 16:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/12/10 16:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/12/10 16:58	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/12/10 16:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/12/10 16:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/12/10 16:58	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/12/10 16:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/12/10 16:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/12/10 16:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/12/10 16:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/12/10 16:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/12/10 16:58	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/12/10 16:58	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/12/10 16:58	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/12/10 16:58	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: DU-10102 **Lab ID: 4027317010** Collected: 01/07/10 00:00 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**0.86J**	ug/L	5.0	0.090	1	01/12/10 07:40	01/13/10 12:10	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**5.1**	ug/L	5.0	0.12	1		01/12/10 17:25	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 14:09	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 14:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 14:09	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 14:09	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 14:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 14:09	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 14:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 14:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 14:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 14:09	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 14:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 14:09	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 14:09	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 14:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 14:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 14:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 14:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 14:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 14:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 14:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 14:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 14:09	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 14:09	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 14:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 14:09	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 14:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 14:09	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 14:09	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 14:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 14:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 14:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 14:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 14:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 14:09	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 14:09	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/13/10 14:09	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/13/10 14:09	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-17A **Lab ID: 4027317011** Collected: 01/07/10 17:05 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**7.4**	ug/L	5.0	0.090	1	01/12/10 07:40	01/13/10 12:14	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**9.3**	ug/L	5.0	0.12	1		01/12/10 17:29	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 15:20	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 15:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 15:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 15:20	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 15:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 15:20	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 15:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 15:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 15:20	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 15:20	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 15:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 15:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 15:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 15:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 15:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 15:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 15:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 15:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 15:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 15:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 15:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 15:20	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 15:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 15:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 15:20	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 15:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 15:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 15:20	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 15:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 15:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 15:20	79-00-5	
Trichloroethene	**1.3**	ug/L	1.0	0.48	1		01/13/10 15:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 15:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 15:20	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 15:20	460-00-4	
Dibromofluoromethane (S)	87	%	70-130		1		01/13/10 15:20	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 15:20	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-08B **Lab ID: 4027317012** Collected: 01/08/10 10:30 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**3.3J**	ug/L	5.0	0.090	1	01/12/10 07:40	01/13/10 12:18	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**5.8**	ug/L	5.0	0.12	1		01/12/10 17:33	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 12:35	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 12:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 12:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 12:35	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 12:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 12:35	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 12:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 12:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 12:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 12:35	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 12:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 12:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 12:35	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 12:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 12:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 12:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 12:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 12:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 12:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 12:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 12:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 12:35	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 12:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 12:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 12:35	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 12:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 12:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 12:35	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 12:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 12:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 12:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 12:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 12:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 12:35	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/13/10 12:35	460-00-4	
Dibromofluoromethane (S)	87	%	70-130		1		01/13/10 12:35	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/13/10 12:35	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-15 **Lab ID: 4027317013** Collected: 01/08/10 10:55 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**2.5J**	ug/L	5.0	0.090	1	01/12/10 07:40	01/13/10 12:22	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**8.1**	ug/L	5.0	0.12	1		01/12/10 17:37	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 12:58	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 12:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 12:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 12:58	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 12:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 12:58	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 12:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 12:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 12:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 12:58	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 12:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 12:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 12:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 12:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 12:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 12:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 12:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 12:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 12:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 12:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 12:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 12:58	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 12:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 12:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 12:58	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 12:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 12:58	79-34-5	
Tetrachloroethene	**12.6**	ug/L	1.0	0.45	1		01/13/10 12:58	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 12:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 12:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 12:58	79-00-5	
Trichloroethene	**1.1**	ug/L	1.0	0.48	1		01/13/10 12:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 12:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 12:58	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 12:58	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/13/10 12:58	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 12:58	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-12 **Lab ID: 4027317014** Collected: 01/08/10 11:40 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**644**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 20:04	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**653**	ug/L	5.0	0.12	1		01/12/10 17:41	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 13:22	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 13:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 13:22	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 13:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 13:22	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 13:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 13:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 13:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 13:22	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 13:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 13:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 13:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 13:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 13:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 13:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 13:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 13:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 13:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 13:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 13:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 13:22	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 13:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 13:22	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 13:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 13:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 13:22	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 13:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 13:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 13:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 13:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 13:22	1330-20-7	
4-Bromofluorobenzene (S)	101	%	70-130		1		01/13/10 13:22	460-00-4	
Dibromofluoromethane (S)	81	%	70-130		1		01/13/10 13:22	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 13:22	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: ZM-01D **Lab ID: 4027317015** Collected: 01/08/10 11:40 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**584000**	ug/L	500	9.0	100	01/12/10 08:05	01/13/10 12:26	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**557000**	ug/L	500	11.8	100		01/12/10 17:53	7439-96-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-11A **Lab ID: 4027317016** Collected: 01/08/10 15:35 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**4310**	ug/L	50.0	0.90	10	01/12/10 08:05	01/12/10 20:28	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**4920**	ug/L	50.0	1.2	10		01/14/10 13:31	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 08:39	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 08:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 08:39	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 08:39	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 08:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 08:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 08:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 08:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 08:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 08:39	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 08:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 08:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 08:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 08:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 08:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 08:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 08:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 08:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 08:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 08:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 08:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 08:39	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 08:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 08:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 08:39	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 08:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 08:39	79-34-5	
Tetrachloroethene	**1.5**	ug/L	1.0	0.45	1		01/13/10 08:39	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 08:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 08:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 08:39	79-00-5	
Trichloroethene	**2.1**	ug/L	1.0	0.48	1		01/13/10 08:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 08:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 08:39	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 08:39	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/13/10 08:39	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/13/10 08:39	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: ZM-01S **Lab ID: 4027317017** Collected: 01/08/10 16:20 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**156**	ug/L	5.0	0.090	1	01/12/10 08:05	01/12/10 20:32	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**159**	ug/L	5.0	0.12	1		01/14/10 13:35	7439-96-5	2j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 15:44	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 15:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 15:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 15:44	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 15:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 15:44	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 15:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 15:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 15:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 15:44	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 15:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 15:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 15:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 15:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 15:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 15:44	75-35-4	
cis-1,2-Dichloroethene	**2.5**	ug/L	1.0	0.83	1		01/13/10 15:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 15:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 15:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 15:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 15:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 15:44	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 15:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 15:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 15:44	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 15:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 15:44	79-34-5	
Tetrachloroethene	**99.1**	ug/L	1.0	0.45	1		01/13/10 15:44	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 15:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 15:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 15:44	79-00-5	
Trichloroethene	**55.4**	ug/L	1.0	0.48	1		01/13/10 15:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 15:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 15:44	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/13/10 15:44	460-00-4	
Dibromofluoromethane (S)	86	%	70-130		1		01/13/10 15:44	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/13/10 15:44	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Sample: BRMW-05B **Lab ID: 4027317018** Collected: 01/08/10 14:55 Received: 01/09/10 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**1460**	ug/L	50.0	0.90	10	01/12/10 08:05	01/12/10 20:36	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**1660**	ug/L	50.0	1.2	10		01/14/10 13:47	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/13/10 13:46	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/13/10 13:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/13/10 13:46	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/13/10 13:46	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/13/10 13:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/13/10 13:46	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/13/10 13:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/13/10 13:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/13/10 13:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/13/10 13:46	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/13/10 13:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/13/10 13:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/13/10 13:46	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/13/10 13:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/13/10 13:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/13/10 13:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/13/10 13:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/13/10 13:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/13/10 13:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/13/10 13:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/13/10 13:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/13/10 13:46	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/13/10 13:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/13/10 13:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/13/10 13:46	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/13/10 13:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/13/10 13:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/13/10 13:46	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/13/10 13:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/13/10 13:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/13/10 13:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/13/10 13:46	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/13/10 13:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/13/10 13:46	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/13/10 13:46	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/13/10 13:46	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/13/10 13:46	2037-26-5	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: MPRP/3562 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027317010, 4027317011, 4027317012, 4027317013

METHOD BLANK: 254146 Matrix: Water
Associated Lab Samples: 4027317010, 4027317011, 4027317012, 4027317013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.11J	5.0	01/13/10 10:35	

LABORATORY CONTROL SAMPLE: 254147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	494	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254148 254149

Parameter	Units	4027312007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	65.6	500	500	568	538	101	95	75-125	5	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: MPRP/3563 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009

METHOD BLANK: 254154 Matrix: Water
Associated Lab Samples: 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.50J	5.0	01/12/10 18:01	

LABORATORY CONTROL SAMPLE: 254155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	465	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254156 254157

Parameter	Units	4027316001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1300	500	500	1780	1750	96	89	75-125	2	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: MPRP/3569 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027317014, 4027317015, 4027317016, 4027317017, 4027317018

METHOD BLANK: 254241 Matrix: Water
Associated Lab Samples: 4027317014, 4027317015, 4027317016, 4027317017, 4027317018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	ND	5.0	01/12/10 19:57	

LABORATORY CONTROL SAMPLE: 254242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	463	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254243 254244

Parameter	Units	4027317014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	644	500	500	1100	1110	90	93	75-125	1	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: ICP/3036 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009, 4027317010, 4027317011, 4027317012, 4027317013, 4027317014, 4027317015

METHOD BLANK: 254237 Matrix: Water
Associated Lab Samples: 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009, 4027317010, 4027317011, 4027317012, 4027317013, 4027317014, 4027317015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/12/10 15:54	

LABORATORY CONTROL SAMPLE: 254238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	474	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254239 254240

Parameter	Units	4027316007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	48.0	500	500	505	502	91	91	75-125	.5	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: ICP/3047 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027317016, 4027317017, 4027317018

METHOD BLANK: 255203 Matrix: Water
Associated Lab Samples: 4027317016, 4027317017, 4027317018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/14/10 13:00	

LABORATORY CONTROL SAMPLE: 255204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	495	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 255205 255206

Parameter	Units	4027384003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	179	500	500	639	638	92	92	75-125	.2	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: MSV/6589 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027317010, 4027317011, 4027317012, 4027317013, 4027317014, 4027317016, 4027317017, 4027317018

METHOD BLANK: 254006 Matrix: Water
Associated Lab Samples: 4027317010, 4027317011, 4027317012, 4027317013, 4027317014, 4027317016, 4027317017, 4027317018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1-Dichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,1-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
1,2-Dichloroethane	ug/L	ND	1.0	01/13/10 07:28	
1,2-Dichloropropane	ug/L	ND	1.0	01/13/10 07:28	
2-Butanone (MEK)	ug/L	ND	20.0	01/13/10 07:28	
2-Hexanone	ug/L	ND	5.0	01/13/10 07:28	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/13/10 07:28	
Acetone	ug/L	ND	20.0	01/13/10 07:28	
Benzene	ug/L	ND	1.0	01/13/10 07:28	
Bromodichloromethane	ug/L	ND	1.0	01/13/10 07:28	
Bromoform	ug/L	ND	1.0	01/13/10 07:28	
Bromomethane	ug/L	ND	1.0	01/13/10 07:28	
Carbon disulfide	ug/L	ND	1.0	01/13/10 07:28	
Carbon tetrachloride	ug/L	ND	1.0	01/13/10 07:28	
Chlorobenzene	ug/L	ND	1.0	01/13/10 07:28	
Chloroethane	ug/L	ND	1.0	01/13/10 07:28	
Chloroform	ug/L	ND	5.0	01/13/10 07:28	
Chloromethane	ug/L	ND	1.0	01/13/10 07:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/13/10 07:28	
Dibromochloromethane	ug/L	ND	1.0	01/13/10 07:28	
Ethylbenzene	ug/L	ND	1.0	01/13/10 07:28	
Methylene Chloride	ug/L	ND	1.0	01/13/10 07:28	
Styrene	ug/L	ND	1.0	01/13/10 07:28	
Tetrachloroethene	ug/L	ND	1.0	01/13/10 07:28	
Toluene	ug/L	ND	1.0	01/13/10 07:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/13/10 07:28	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/13/10 07:28	
Trichloroethene	ug/L	ND	1.0	01/13/10 07:28	
Vinyl chloride	ug/L	ND	1.0	01/13/10 07:28	
Xylene (Total)	ug/L	ND	3.0	01/13/10 07:28	
4-Bromofluorobenzene (S)	%	101	70-130	01/13/10 07:28	
Dibromofluoromethane (S)	%	86	70-130	01/13/10 07:28	
Toluene-d8 (S)	%	98	70-130	01/13/10 07:28	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

LABORATORY CONTROL SAMPLE & LCSD: 254007 254008

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.9	44.1	88	88	70-132	.5	20	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	45.1	94	90	69-130	5	20	
1,1,2-Trichloroethane	ug/L	50	46.5	46.1	93	92	70-130	.9	20	
1,1-Dichloroethane	ug/L	50	43.3	43.5	87	87	70-130	.4	20	
1,1-Dichloroethene	ug/L	50	53.2	53.5	106	107	70-130	.4	20	
1,2-Dichloroethane	ug/L	50	40.3	40.9	81	82	70-134	1	20	
1,2-Dichloropropane	ug/L	50	46.6	47.7	93	95	70-130	2	20	
2-Butanone (MEK)	ug/L	50	62.8	58.2	126	116	36-181	7	35	
2-Hexanone	ug/L	50	53.4	52.1	107	104	46-171	2	27	
4-Methyl-2-pentanone (MIBK)	ug/L	50	42.5	42.2	85	84	50-150	.7	20	
Acetone	ug/L	50	80.5	73.0	161	146	10-200	10	36	
Benzene	ug/L	50	46.2	46.1	92	92	70-131	.2	20	
Bromodichloromethane	ug/L	50	47.4	48.6	95	97	70-130	2	20	
Bromoform	ug/L	50	50.9	51.6	102	103	70-130	1	20	
Bromomethane	ug/L	50	62.1	68.0	124	136	23-200	9	20	
Carbon disulfide	ug/L	50	51.0	50.9	102	102	70-138	.2	20	
Carbon tetrachloride	ug/L	50	46.8	46.7	94	93	70-144	.4	20	
Chlorobenzene	ug/L	50	48.5	47.9	97	96	70-130	1	20	
Chloroethane	ug/L	50	52.3	52.4	105	105	70-136	.3	20	
Chloroform	ug/L	50	42.7	41.9	85	84	70-130	2	20	
Chloromethane	ug/L	50	37.6	37.4	75	75	54-148	.5	20	
cis-1,2-Dichloroethene	ug/L	50	45.7	46.8	91	94	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	49.7	49.6	99	99	70-130	.2	20	
Dibromochloromethane	ug/L	50	45.7	46.3	91	93	70-130	1	20	
Ethylbenzene	ug/L	50	51.2	51.4	102	103	70-130	.4	20	
Methylene Chloride	ug/L	50	49.8	49.5	100	99	66-130	.5	20	
Styrene	ug/L	50	47.8	47.8	96	96	70-130	.02	20	
Tetrachloroethene	ug/L	50	53.8	53.6	108	107	75-130	.4	20	
Toluene	ug/L	50	53.5	53.1	107	106	70-130	.8	20	
trans-1,2-Dichloroethene	ug/L	50	50.0	51.1	100	102	70-130	2	20	
trans-1,3-Dichloropropene	ug/L	50	47.1	46.1	94	92	70-130	2	20	
Trichloroethene	ug/L	50	46.8	46.6	94	93	70-130	.5	20	
Vinyl chloride	ug/L	50	42.8	43.8	86	88	63-141	2	20	
Xylene (Total)	ug/L	150	153	156	102	104	70-130	2	20	
4-Bromofluorobenzene (S)	%				101	99	70-130			
Dibromofluoromethane (S)	%				86	87	70-130			
Toluene-d8 (S)	%				98	98	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254688 254689

Parameter	Units	4027316008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	43.7	43.3	87	87	70-137	.9	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	46.6	47.0	93	94	67-130	1	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	46.2	46.6	92	93	70-130	.8	20	
1,1-Dichloroethane	ug/L	ND	50	50	43.1	42.0	86	84	70-130	3	20	
1,1-Dichloroethene	ug/L	ND	50	50	52.3	51.6	105	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254688 254689

Parameter	Units	4027316008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	40.2	39.5	80	79	69-134	2	20	
1,2-Dichloropropane	ug/L	ND	50	50	47.0	46.2	94	92	70-130	2	20	
2-Butanone (MEK)	ug/L	ND	50	50	38.9	38.6	78	77	36-181	.7	35	
2-Hexanone	ug/L	ND	50	50	35.4	33.4	71	67	46-171	6	27	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	41.5	40.5	83	81	50-150	2	20	
Acetone	ug/L	ND	50	50	38.1	35.8	76	72	10-200	6	36	
Benzene	ug/L	ND	50	50	45.8	45.3	92	91	69-131	1	20	
Bromodichloromethane	ug/L	ND	50	50	47.1	47.0	94	94	70-130	.3	20	
Bromoform	ug/L	ND	50	50	48.4	49.6	97	99	68-130	2	20	
Bromomethane	ug/L	ND	50	50	69.2	69.1	138	138	22-200	.3	20	
Carbon disulfide	ug/L	ND	50	50	47.1	46.3	94	93	68-138	2	20	
Carbon tetrachloride	ug/L	ND	50	50	45.8	44.5	92	89	70-144	3	20	
Chlorobenzene	ug/L	ND	50	50	48.6	48.5	97	97	70-130	.2	20	
Chloroethane	ug/L	ND	50	50	51.1	52.0	102	104	66-136	2	20	
Chloroform	ug/L	ND	50	50	42.2	41.1	84	82	70-130	3	20	
Chloromethane	ug/L	ND	50	50	37.9	37.5	76	75	54-148	1	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	45.1	44.3	90	89	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	49.4	48.4	99	97	70-130	2	20	
Dibromochloromethane	ug/L	ND	50	50	45.7	44.8	91	90	70-130	2	20	
Ethylbenzene	ug/L	ND	50	50	50.6	50.1	101	100	70-130	1	20	
Methylene Chloride	ug/L	ND	50	50	48.7	48.1	97	96	64-130	1	20	
Styrene	ug/L	ND	50	50	32.0	36.6	64	73	43-130	13	20	
Tetrachloroethene	ug/L	5.3	50	50	59.5	57.8	108	105	70-130	3	20	
Toluene	ug/L	ND	50	50	52.4	51.5	105	103	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	49.2	49.4	98	99	70-130	.3	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	46.1	44.8	92	90	70-130	3	20	
Trichloroethene	ug/L	0.59J	50	50	47.1	46.9	93	93	70-130	.4	20	
Vinyl chloride	ug/L	ND	50	50	43.6	42.6	87	85	59-141	2	20	
Xylene (Total)	ug/L	ND	150	150	144	147	96	98	70-130	2	20	
4-Bromofluorobenzene (S)	%						101	98	70-130			
Dibromofluoromethane (S)	%						87	85	70-130			
Toluene-d8 (S)	%						99	97	70-130			

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

QC Batch: MSV/6591 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027317001, 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009

METHOD BLANK: 254013 Matrix: Water
Associated Lab Samples: 4027317001, 4027317002, 4027317003, 4027317004, 4027317005, 4027317006, 4027317007, 4027317008, 4027317009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/12/10 07:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/12/10 07:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/12/10 07:13	
1,1-Dichloroethane	ug/L	ND	1.0	01/12/10 07:13	
1,1-Dichloroethene	ug/L	ND	1.0	01/12/10 07:13	
1,2-Dichloroethane	ug/L	ND	1.0	01/12/10 07:13	
1,2-Dichloropropane	ug/L	ND	1.0	01/12/10 07:13	
2-Butanone (MEK)	ug/L	ND	20.0	01/12/10 07:13	
2-Hexanone	ug/L	ND	5.0	01/12/10 07:13	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/12/10 07:13	
Acetone	ug/L	ND	20.0	01/12/10 07:13	
Benzene	ug/L	ND	1.0	01/12/10 07:13	
Bromodichloromethane	ug/L	ND	1.0	01/12/10 07:13	
Bromoform	ug/L	ND	1.0	01/12/10 07:13	
Bromomethane	ug/L	ND	1.0	01/12/10 07:13	
Carbon disulfide	ug/L	ND	1.0	01/12/10 07:13	
Carbon tetrachloride	ug/L	ND	1.0	01/12/10 07:13	
Chlorobenzene	ug/L	ND	1.0	01/12/10 07:13	
Chloroethane	ug/L	ND	1.0	01/12/10 07:13	
Chloroform	ug/L	ND	5.0	01/12/10 07:13	
Chloromethane	ug/L	ND	1.0	01/12/10 07:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/12/10 07:13	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/12/10 07:13	
Dibromochloromethane	ug/L	ND	1.0	01/12/10 07:13	
Ethylbenzene	ug/L	ND	1.0	01/12/10 07:13	
Methylene Chloride	ug/L	ND	1.0	01/12/10 07:13	
Styrene	ug/L	ND	1.0	01/12/10 07:13	
Tetrachloroethene	ug/L	ND	1.0	01/12/10 07:13	
Toluene	ug/L	ND	1.0	01/12/10 07:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/12/10 07:13	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/12/10 07:13	
Trichloroethene	ug/L	ND	1.0	01/12/10 07:13	
Vinyl chloride	ug/L	ND	1.0	01/12/10 07:13	
Xylene (Total)	ug/L	ND	3.0	01/12/10 07:13	
4-Bromofluorobenzene (S)	%	101	70-130	01/12/10 07:13	
Dibromofluoromethane (S)	%	88	70-130	01/12/10 07:13	
Toluene-d8 (S)	%	97	70-130	01/12/10 07:13	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

LABORATORY CONTROL SAMPLE & LCSD: 254014 254015

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.8	41.8	88	84	70-132	5	20	
1,1,2,2-Tetrachloroethane	ug/L	50	47.0	47.2	94	94	69-130	.4	20	
1,1,2-Trichloroethane	ug/L	50	46.5	46.1	93	92	70-130	.9	20	
1,1-Dichloroethane	ug/L	50	43.5	41.8	87	84	70-130	4	20	
1,1-Dichloroethene	ug/L	50	52.4	48.3	105	97	70-130	8	20	
1,2-Dichloroethane	ug/L	50	40.7	39.5	81	79	70-134	3	20	
1,2-Dichloropropane	ug/L	50	46.0	46.1	92	92	70-130	.3	20	
2-Butanone (MEK)	ug/L	50	58.3	58.0	117	116	36-181	.4	35	
2-Hexanone	ug/L	50	53.1	51.8	106	104	46-171	2	27	
4-Methyl-2-pentanone (MIBK)	ug/L	50	41.9	42.0	84	84	50-150	.3	20	
Acetone	ug/L	50	81.6	70.3	163	141	10-200	15	36	
Benzene	ug/L	50	45.9	44.6	92	89	70-131	3	20	
Bromodichloromethane	ug/L	50	47.0	47.5	94	95	70-130	1	20	
Bromoform	ug/L	50	52.6	50.9	105	102	70-130	3	20	
Bromomethane	ug/L	50	63.6	62.6	127	125	23-200	2	20	
Carbon disulfide	ug/L	50	47.5	44.4	95	89	70-138	7	20	
Carbon tetrachloride	ug/L	50	45.5	44.3	91	89	70-144	3	20	
Chlorobenzene	ug/L	50	49.1	48.5	98	97	70-130	1	20	
Chloroethane	ug/L	50	49.1	45.8	98	92	70-136	7	20	
Chloroform	ug/L	50	42.1	40.5	84	81	70-130	4	20	
Chloromethane	ug/L	50	28.1	26.2	56	52	54-148	7	20	L0
cis-1,2-Dichloroethene	ug/L	50	45.3	43.4	91	87	70-130	4	20	
cis-1,3-Dichloropropene	ug/L	50	48.4	49.0	97	98	70-130	1	20	
Dibromochloromethane	ug/L	50	46.7	46.1	93	92	70-130	1	20	
Ethylbenzene	ug/L	50	51.6	51.0	103	102	70-130	1	20	
Methylene Chloride	ug/L	50	49.9	47.8	100	96	66-130	4	20	
Styrene	ug/L	50	47.1	47.2	94	94	70-130	.2	20	
Tetrachloroethene	ug/L	50	53.9	54.5	108	109	75-130	1	20	
Toluene	ug/L	50	53.1	52.1	106	104	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	50	50.4	47.9	101	96	70-130	5	20	
trans-1,3-Dichloropropene	ug/L	50	47.5	47.1	95	94	70-130	.9	20	
Trichloroethene	ug/L	50	46.2	46.1	92	92	70-130	.03	20	
Vinyl chloride	ug/L	50	37.3	34.9	75	70	63-141	7	20	
Xylene (Total)	ug/L	150	156	155	104	103	70-130	.8	20	
4-Bromofluorobenzene (S)	%				98	99	70-130			
Dibromofluoromethane (S)	%				85	83	70-130			
Toluene-d8 (S)	%				99	98	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254141 254142

Parameter	Units	4027317008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	42.8	42.7	86	85	70-137	.2	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	46.6	47.0	93	94	67-130	.9	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	46.1	45.2	92	90	70-130	2	20	
1,1-Dichloroethane	ug/L	ND	50	50	42.4	42.1	85	84	70-130	.8	20	
1,1-Dichloroethene	ug/L	ND	50	50	50.2	48.2	100	96	70-130	4	20	

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QUALITY CONTROL DATA

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254141 254142

Parameter	Units	4027317008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	39.8	40.4	80	81	69-134	1	20	
1,2-Dichloropropane	ug/L	ND	50	50	47.1	46.8	94	94	70-130	.7	20	
2-Butanone (MEK)	ug/L	ND	50	50	39.1	36.7	78	73	36-181	6	35	
2-Hexanone	ug/L	ND	50	50	34.7	35.0	69	70	46-171	1	27	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	41.4	41.7	83	83	50-150	.8	20	
Acetone	ug/L	ND	50	50	36.7	37.6	73	75	10-200	3	36	
Benzene	ug/L	ND	50	50	44.8	45.0	90	90	69-131	.5	20	
Bromodichloromethane	ug/L	ND	50	50	48.3	48.2	97	96	70-130	.2	20	
Bromoform	ug/L	ND	50	50	51.5	51.9	103	104	68-130	.8	20	
Bromomethane	ug/L	ND	50	50	61.4	59.2	123	118	22-200	4	20	
Carbon disulfide	ug/L	ND	50	50	42.4	41.6	85	83	68-138	2	20	
Carbon tetrachloride	ug/L	ND	50	50	44.2	45.2	88	90	70-144	2	20	
Chlorobenzene	ug/L	ND	50	50	49.4	48.5	99	97	70-130	2	20	
Chloroethane	ug/L	ND	50	50	47.0	44.4	94	89	66-136	6	20	
Chloroform	ug/L	ND	50	50	41.5	41.1	83	82	70-130	1	20	
Chloromethane	ug/L	ND	50	50	27.4	25.3	55	51	54-148	8	20	M0
cis-1,2-Dichloroethene	ug/L	ND	50	50	44.4	44.7	89	89	70-130	.5	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	50.3	48.6	101	97	70-130	3	20	
Dibromochloromethane	ug/L	ND	50	50	46.7	45.8	93	92	70-130	2	20	
Ethylbenzene	ug/L	ND	50	50	51.0	50.5	102	101	70-130	1	20	
Methylene Chloride	ug/L	ND	50	50	47.4	46.1	95	92	64-130	3	20	
Styrene	ug/L	ND	50	50	46.1	46.0	92	92	43-130	.05	20	
Tetrachloroethene	ug/L	1.1	50	50	55.1	54.2	108	106	70-130	2	20	
Toluene	ug/L	ND	50	50	51.9	51.9	104	104	70-130	.2	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	47.6	47.8	95	96	70-130	.2	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	47.4	46.2	95	92	70-130	2	20	
Trichloroethene	ug/L	1.2	50	50	47.7	47.8	93	93	70-130	.2	20	
Vinyl chloride	ug/L	ND	50	50	35.9	34.4	72	69	59-141	4	20	
Xylene (Total)	ug/L	ND	150	150	154	152	103	101	70-130	1	20	
4-Bromofluorobenzene (S)	%						99	98	70-130			
Dibromofluoromethane (S)	%						84	87	70-130			
Toluene-d8 (S)	%						96	96	70-130			

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QUALIFIERS

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.
U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1j	The filtered analyte is greater than the total analyte; analysis failed QC based on precision criteria.
2j	The filtered analyte is greater than the total analyte; analysis passed QC based on precision criteria.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027317002	BRMW-02	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317003	BRMW-02A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317004	BRMW-03B	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317005	BRMW-08	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317006	BRMW-07	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317007	BRMW-17	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317008	BRMW-08A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317009	BRMW-12A	EPA 3010	MPRP/3563	EPA 6010	ICP/3033
4027317010	DU-10102	EPA 3010	MPRP/3562	EPA 6010	ICP/3032
4027317011	BRMW-17A	EPA 3010	MPRP/3562	EPA 6010	ICP/3032
4027317012	BRMW-08B	EPA 3010	MPRP/3562	EPA 6010	ICP/3032
4027317013	BRMW-15	EPA 3010	MPRP/3562	EPA 6010	ICP/3032
4027317014	BRMW-12	EPA 3010	MPRP/3569	EPA 6010	ICP/3037
4027317015	ZM-01D	EPA 3010	MPRP/3569	EPA 6010	ICP/3037
4027317016	BRMW-11A	EPA 3010	MPRP/3569	EPA 6010	ICP/3037
4027317017	ZM-01S	EPA 3010	MPRP/3569	EPA 6010	ICP/3037
4027317018	BRMW-05B	EPA 3010	MPRP/3569	EPA 6010	ICP/3037
4027317002	BRMW-02	EPA 6010	ICP/3036		
4027317003	BRMW-02A	EPA 6010	ICP/3036		
4027317004	BRMW-03B	EPA 6010	ICP/3036		
4027317005	BRMW-08	EPA 6010	ICP/3036		
4027317006	BRMW-07	EPA 6010	ICP/3036		
4027317007	BRMW-17	EPA 6010	ICP/3036		
4027317008	BRMW-08A	EPA 6010	ICP/3036		
4027317009	BRMW-12A	EPA 6010	ICP/3036		
4027317010	DU-10102	EPA 6010	ICP/3036		
4027317011	BRMW-17A	EPA 6010	ICP/3036		
4027317012	BRMW-08B	EPA 6010	ICP/3036		
4027317013	BRMW-15	EPA 6010	ICP/3036		
4027317014	BRMW-12	EPA 6010	ICP/3036		
4027317015	ZM-01D	EPA 6010	ICP/3036		
4027317016	BRMW-11A	EPA 6010	ICP/3047		
4027317017	ZM-01S	EPA 6010	ICP/3047		
4027317018	BRMW-05B	EPA 6010	ICP/3047		
4027317001	TBLK-10102	EPA 8260	MSV/6591		
4027317002	BRMW-02	EPA 8260	MSV/6591		
4027317003	BRMW-02A	EPA 8260	MSV/6591		
4027317004	BRMW-03B	EPA 8260	MSV/6591		
4027317005	BRMW-08	EPA 8260	MSV/6591		
4027317006	BRMW-07	EPA 8260	MSV/6591		
4027317007	BRMW-17	EPA 8260	MSV/6591		
4027317008	BRMW-08A	EPA 8260	MSV/6591		
4027317009	BRMW-12A	EPA 8260	MSV/6591		
4027317010	DU-10102	EPA 8260	MSV/6589		
4027317011	BRMW-17A	EPA 8260	MSV/6589		
4027317012	BRMW-08B	EPA 8260	MSV/6589		

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47.00003 SANGAMO BREAZE
Pace Project No.: 4027317

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027317013	**BRMW-15**	EPA 8260	MSV/6589		
4027317014	**BRMW-12**	EPA 8260	MSV/6589		
4027317016	**BRMW-11A**	EPA 8260	MSV/6589		
4027317017	**ZM-01S**	EPA 8260	MSV/6589		
4027317018	**BRMW-05B**	EPA 8260	MSV/6589		

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RMT CHAIN OF CUSTODY RECORD

77298
4027317

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No. 71238.47.00003
Project/Client: Sangamo Breazeale
Project Manager/Contact Person: M. Parker / B. Barnes

Filtered (Yes/No): N N Y
Preserved (Code): E B B

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	VOC's	Total Mn	Diss Mn					Comments:
001	—	—	TBLK-10102	2	DI	X							2-40ml B
002	1/6	1155	BRMW-02 ① TREATED 1/11/10	5	GW	X	X	X					2-250ml B; 3-40ml E
003	1/6	1600	BRMW-02A ① TREATED	5		X	X	X					
004	1/7	1200	BRMW-03B	5		X	X	X					
005		1410	BRMW-08	5		X	X	X					
006		1535	BRMW-07	5		X	X	X					
007		1445	BRMW-17	5		X	X	X					
008		1510	BRMW-08A	5		X	X	X					
009		1645	BRMW-12A	5		X	X	X					
010	—	—	DU-10102	5		X	X	X					

SPECIAL INSTRUCTIONS ① Per Britney Barnes - These samples were treated w/ Ferrous Sulfate, 1/11/10

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
K. Ashy	1-8-10 1845		
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fedex	1/9/10 10:00	L. Buhalue	1/9/10
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: Temp Blank (Y) N 4.5°C
Receipt pH (Wet/Metals) OK

Custody Seal: Present/Absent Intact/Not Intact Seal #s

F-268 (10/08) WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

RMT

CHAIN OF CUSTODY RECORD

77301
4027317

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No. 71238.47.00003
Project/Client: Sangamo Breazeale
Project Manager/Contact Person: M. Parker / B. Barnes

Filtered (Yes/No): N N Y
Preserved (Code): E B B

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	VOC's	Total Mn	Diss Mn						Comments:
011	1/7	1705	BRMW-17A	5	GW	X	X	X						2-250ml B 3-40ml E
012	1/8	1030	BRMW-08B	5	GW	X	X	X						
013		1055	BRMW-15	5	GW	X	X	X						
014		1140	BRMW-12	5	GW	X	X	X						
015		1530	ZM-01D	2	GW		X	X						
016		1535	BRMW-11A (1) TREATED	5	GW	X	X	X						
017		1620	ZM-01S	5	GW	X	X	X						
018		1455	BRMW-05B (1) TREATED	5	GW	X	X	X						

SPECIAL INSTRUCTIONS

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
K. [signature]	1-8-10 1845		
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fedex	1/9/10 10:00	L. [signature]	1/9/10
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: Temp Blank Y N 4.5°C
Receipt pH (Wet/Metals) OK

Custody Seal: Present/Absent Intact/Not Intact Seal #s

F-268 (10/08)

WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method: 6010/6020	Field Filtered Dissolved Mn Method 6010/6020	VOCs TOL B4 Method 8260B Report both as a VOC and as a 2-VOC	Field pH, Temp, Spec Cond, Turbidity, DO, ORP	Notes
BRMW-02	X	X	X	X	Measure water levels in all monitoring and recovery wells
BRMW-02A	X	X	X	X	
BRMW-3	X	X	X	X	
BRMW-3A	X	X	X	X	
BRMW-03B	X	X	X	X	Field filter dissolved Mn
BRMW-04	X	X	X	X	
BRMW-04A	X	X	X	X	Note color in permanganate area wells. If purple
BRMW-05	X	X	X	X	estimate permanganate concentration and note in field
BRMW-05A	X	X	X	X	book
BRMW-05B	X	X	X	X	If permanganage concentration is GREATER THAN
BRMW-07	X	X	X	X	___ DO NOT COLLECT SAMPLE FOR VOCs ONLY FOR
BRMW-08	X	X	X	X	MANGANESE TOTAL and DISSOLVED
BRMW-08A	X	X	X	X	
BRMW-08B	X	X	X	X	
BRMW-09B	X	X	X	X	The wells with this shading are those under
BRMW-10	X	X	X	X	71238.47 task 2 & 3 on separate COCs from other wells
BRMW-11	X	X	X	X	Account for Fall/Spring separately for sampling
BRMW-11A	X	X	X	X	these wells
BRMW-12	X	X	X	X	All sampling notes in the field book
BRMW-12A	X	X	X	X	
BRMW-14	X	X	X	X	
BRMW-14A	X	X	X	X	
BRMW-15	X	X	X	X	
BRMW-16	X	X	X	X	
BRMW-17	X	X	X	X	
BRMW-17A	X	X	X	X	
BRMW-18	X	X	X	X	

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010/6020	Field Filtered Dissolved Mn Method 6010/6020	VOC, TCL 8.2 Method 8260B Report both *cis* 1,2-DCE and *trans* 1,2-DCE	Field pH, Temp, Spec. Cond, Turbidity, DO, ORP	Notes
BRMW-18	X	X	X	X	
EW-101	X	X	X	X	
EW-105	X	X	X	X	
EW-201	X	X	X	X	
EW-204	X	X	X	X	
PM-02S	X	X	X	X	
PM-02D	X	X	X	X	
ZM-01S	X	X	X	X	
ZM-01D	X	X	X	X	
DU-10101	X	X	X		
TBLK-10101			X		
TBLK-10102			X		

Metals: one 500 mL wide-mouth plastic; HNO3, ice; HT - 180 days; methods 6010B/6020/Series 7000.

VOC: three 40 mL septum vials; HCl preservative; ice; HT - 14 days; method SW-846 8260B - report both *cis & trans* 1,2-DCE

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

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Sample Condition Upon Receipt

Client Name: RMT Project # 4027317

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None Other

Thermometer Used VB Type of Ice: (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.5°C Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☑ yes ☐ no

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

Optional
Proj. Due Date
Proj. Name

Person examining contents:
Date: LB 1/9/10
Initials: _____

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. #001 - Trip blank listed on COC, in lab rec'd set of trip blanks w/seals, labeled as DU-10102. placed as trip blanks. LB 1/9/10
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. All containers received for DU-10102. 1/11/10
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: #018 - BRMW-05B, rec'd in lab, not on COC, on COC added by lab. LB 1/9/10
#016 - BRMW-11A listed on COC; labeled as BRMW- . LB 1/9/10
#015 - Very concentrated KMnO4. LB 1/9/10

Project Manager Review: [signature] **Date:** 1/11/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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(920)469-2436

January 27, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

REPORT OF LABORATORY ANALYSIS

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CoC - SIGNED; TEMP - OK; NARR - OK; HT - OK
SURR - RECS OK
TBLK - 10103 — CLEAN
MBLKS - CLEAN EXCEPT FOR 0.15J ug/L TOTAL Mn AND 0.16J ug/L DISS. Mn. NO FLAGS ADDED.
LCS/LCSD - RECS & RPDs OK
MS/MSD - RECS & RPDs OK. BATCH QC.

January 27, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

NO FLAGS KLH 1/28/10

RE: Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CERTIFICATIONS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
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SAMPLE SUMMARY

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4027464001	TBLK-10103	Water	01/11/10 00:00	01/14/10 10:10
4027464002	PM-02S	Water	01/11/10 11:00	01/14/10 10:10
4027464003	PM-02D	Water	01/11/10 11:55	01/14/10 10:10
4027464004	EW-101	Water	01/11/10 12:55	01/14/10 10:10
4027464005	EW-105	Water	01/11/10 14:00	01/14/10 10:10

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SAMPLE ANALYTE COUNT

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027464001	**TBLK-10103**	EPA 8260	SMT	37	PASI-G
4027464002	**PM-02S**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027464003	**PM-02D**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
4027464004	**EW-101**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G
4027464005	**EW-105**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	SMT	37	PASI-G

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(920)469-2436

PROJECT NARRATIVE

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Method: **EPA 6010**
Description: 6010 MET ICP
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
4 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Sample: TBLK-10103 **Lab ID: 4027464001** Collected: 01/11/10 00:00 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/15/10 11:07	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/15/10 11:07	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/15/10 11:07	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/15/10 11:07	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/15/10 11:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/15/10 11:07	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/15/10 11:07	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/15/10 11:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/15/10 11:07	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/15/10 11:07	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/15/10 11:07	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/15/10 11:07	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/15/10 11:07	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/15/10 11:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/15/10 11:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/15/10 11:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/15/10 11:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/15/10 11:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/15/10 11:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/15/10 11:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/15/10 11:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/15/10 11:07	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/15/10 11:07	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/15/10 11:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/15/10 11:07	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/15/10 11:07	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/15/10 11:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/15/10 11:07	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/15/10 11:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/15/10 11:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/15/10 11:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/15/10 11:07	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/15/10 11:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/15/10 11:07	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/15/10 11:07	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/15/10 11:07	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		01/15/10 11:07	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Sample: PM-02S **Lab ID: 4027464002** Collected: 01/11/10 11:00 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**366**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 14:46	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**310**	ug/L	5.0	0.12	1		01/19/10 16:06	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/15/10 13:05	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/15/10 13:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/15/10 13:05	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/15/10 13:05	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/15/10 13:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/15/10 13:05	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/15/10 13:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/15/10 13:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/15/10 13:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/15/10 13:05	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/15/10 13:05	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/15/10 13:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/15/10 13:05	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/15/10 13:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/15/10 13:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/15/10 13:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/15/10 13:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/15/10 13:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/15/10 13:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/15/10 13:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/15/10 13:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/15/10 13:05	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/15/10 13:05	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/15/10 13:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/15/10 13:05	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/15/10 13:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/15/10 13:05	79-34-5	
Tetrachloroethene	**4.9**	ug/L	1.0	0.45	1		01/15/10 13:05	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/15/10 13:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/15/10 13:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/15/10 13:05	79-00-5	
Trichloroethene	**9.2**	ug/L	1.0	0.48	1		01/15/10 13:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/15/10 13:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/15/10 13:05	1330-20-7	
4-Bromofluorobenzene (S)	98	%	70-130		1		01/15/10 13:05	460-00-4	
Dibromofluoromethane (S)	85	%	70-130		1		01/15/10 13:05	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/15/10 13:05	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Sample: PM-02D **Lab ID: 4027464003** Collected: 01/11/10 11:55 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**42600**	ug/L	500	9.0	100	01/19/10 07:15	01/19/10 14:50	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**41900**	ug/L	500	11.8	100		01/19/10 16:10	7439-96-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Sample: EW-101 **Lab ID: 4027464004** Collected: 01/11/10 12:55 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**9760**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 14:54	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**9560**	ug/L	5.0	0.12	1		01/19/10 16:21	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/15/10 17:02	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/15/10 17:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/15/10 17:02	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/15/10 17:02	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/15/10 17:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/15/10 17:02	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/15/10 17:02	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/15/10 17:02	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/15/10 17:02	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/15/10 17:02	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/15/10 17:02	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/15/10 17:02	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/15/10 17:02	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/15/10 17:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/15/10 17:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/15/10 17:02	75-35-4	
cis-1,2-Dichloroethene	**24.8**	ug/L	1.0	0.83	1		01/15/10 17:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/15/10 17:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/15/10 17:02	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/15/10 17:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/15/10 17:02	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/15/10 17:02	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/15/10 17:02	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/15/10 17:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/15/10 17:02	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/15/10 17:02	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/15/10 17:02	79-34-5	
Tetrachloroethene	**0.48J**	ug/L	1.0	0.45	1		01/15/10 17:02	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/15/10 17:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/15/10 17:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/15/10 17:02	79-00-5	
Trichloroethene	**0.94J**	ug/L	1.0	0.48	1		01/15/10 17:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/15/10 17:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/15/10 17:02	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/15/10 17:02	460-00-4	
Dibromofluoromethane (S)	84	%	70-130		1		01/15/10 17:02	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		01/15/10 17:02	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Sample: EW-105 **Lab ID: 4027464005** Collected: 01/11/10 14:00 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**1000**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 14:59	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**44.6**	ug/L	5.0	0.12	1		01/19/10 16:26	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/15/10 17:25	67-64-1	
Benzene	ND	ug/L	1.0	0.41	1		01/15/10 17:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/15/10 17:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/15/10 17:25	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/15/10 17:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/15/10 17:25	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/15/10 17:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/15/10 17:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/15/10 17:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/15/10 17:25	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/15/10 17:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/15/10 17:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/15/10 17:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/15/10 17:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/15/10 17:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/15/10 17:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/15/10 17:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/15/10 17:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/15/10 17:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/15/10 17:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/15/10 17:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/15/10 17:25	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/15/10 17:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/15/10 17:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/15/10 17:25	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/15/10 17:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/15/10 17:25	79-34-5	
Tetrachloroethene	**3.4**	ug/L	1.0	0.45	1		01/15/10 17:25	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/15/10 17:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/15/10 17:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/15/10 17:25	79-00-5	
Trichloroethene	**2.2**	ug/L	1.0	0.48	1		01/15/10 17:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/15/10 17:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/15/10 17:25	1330-20-7	
4-Bromofluorobenzene (S)	99	%	70-130		1		01/15/10 17:25	460-00-4	
Dibromofluoromethane (S)	83	%	70-130		1		01/15/10 17:25	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		01/15/10 17:25	2037-26-5	

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QUALITY CONTROL DATA

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

QC Batch: MPRP/3595 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027464002, 4027464003, 4027464004, 4027464005

METHOD BLANK: 256897 Matrix: Water
Associated Lab Samples: 4027464002, 4027464003, 4027464004, 4027464005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.15J	5.0	01/19/10 13:40	

LABORATORY CONTROL SAMPLE: 256898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256899 256900

Parameter	Units	4027527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1920	500	500	2360	2340	88	84	75-125	.9	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

QC Batch: ICP/3056 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027464002, 4027464003, 4027464004, 4027464005

METHOD BLANK: 256933 Matrix: Water
Associated Lab Samples: 4027464002, 4027464003, 4027464004, 4027464005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	0.16J	5.0	01/19/10 15:34	

LABORATORY CONTROL SAMPLE: 256934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	471	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256935 256936

Parameter	Units	4027499002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	1.7J	500	500	450	450	90	90	75-125	.07	20	

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

QC Batch: MSV/6644 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027464001, 4027464002, 4027464004, 4027464005

METHOD BLANK: 255606 Matrix: Water
Associated Lab Samples: 4027464001, 4027464002, 4027464004, 4027464005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/15/10 08:45	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/15/10 08:45	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/15/10 08:45	
1,1-Dichloroethane	ug/L	ND	1.0	01/15/10 08:45	
1,1-Dichloroethene	ug/L	ND	1.0	01/15/10 08:45	
1,2-Dichloroethane	ug/L	ND	1.0	01/15/10 08:45	
1,2-Dichloropropane	ug/L	ND	1.0	01/15/10 08:45	
2-Butanone (MEK)	ug/L	ND	20.0	01/15/10 08:45	
2-Hexanone	ug/L	ND	5.0	01/15/10 08:45	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/15/10 08:45	
Acetone	ug/L	ND	20.0	01/15/10 08:45	
Benzene	ug/L	ND	1.0	01/15/10 08:45	
Bromodichloromethane	ug/L	ND	1.0	01/15/10 08:45	
Bromoform	ug/L	ND	1.0	01/15/10 08:45	
Bromomethane	ug/L	ND	1.0	01/15/10 08:45	
Carbon disulfide	ug/L	ND	1.0	01/15/10 08:45	
Carbon tetrachloride	ug/L	ND	1.0	01/15/10 08:45	
Chlorobenzene	ug/L	ND	1.0	01/15/10 08:45	
Chloroethane	ug/L	ND	1.0	01/15/10 08:45	
Chloroform	ug/L	ND	5.0	01/15/10 08:45	
Chloromethane	ug/L	ND	1.0	01/15/10 08:45	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/15/10 08:45	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/15/10 08:45	
Dibromochloromethane	ug/L	ND	1.0	01/15/10 08:45	
Ethylbenzene	ug/L	ND	1.0	01/15/10 08:45	
Methylene Chloride	ug/L	ND	1.0	01/15/10 08:45	
Styrene	ug/L	ND	1.0	01/15/10 08:45	
Tetrachloroethene	ug/L	ND	1.0	01/15/10 08:45	
Toluene	ug/L	ND	1.0	01/15/10 08:45	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/15/10 08:45	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/15/10 08:45	
Trichloroethene	ug/L	ND	1.0	01/15/10 08:45	
Vinyl chloride	ug/L	ND	1.0	01/15/10 08:45	
Xylene (Total)	ug/L	ND	3.0	01/15/10 08:45	
4-Bromofluorobenzene (S)	%	98	70-130	01/15/10 08:45	
Dibromofluoromethane (S)	%	84	70-130	01/15/10 08:45	
Toluene-d8 (S)	%	97	70-130	01/15/10 08:45	

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(920)469-2436

QUALITY CONTROL DATA

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

LABORATORY CONTROL SAMPLE & LCSD: 255607 255608

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.6	44.4	87	89	70-132	2	20	
1,1,2,2-Tetrachloroethane	ug/L	50	44.6	43.4	89	87	69-130	3	20	
1,1,2-Trichloroethane	ug/L	50	44.6	45.9	89	92	70-130	3	20	
1,1-Dichloroethane	ug/L	50	42.3	42.8	85	86	70-130	1	20	
1,1-Dichloroethene	ug/L	50	52.6	53.8	105	108	70-130	2	20	
1,2-Dichloroethane	ug/L	50	39.5	40.6	79	81	70-134	3	20	
1,2-Dichloropropane	ug/L	50	46.2	47.6	92	95	70-130	3	20	
2-Butanone (MEK)	ug/L	50	52.7	49.8	105	100	36-181	6	35	
2-Hexanone	ug/L	50	44.1	40.4	88	81	46-171	9	27	
4-Methyl-2-pentanone (MIBK)	ug/L	50	38.0	36.1	76	72	50-150	5	20	
Acetone	ug/L	50	65.3	63.4	131	127	10-200	3	36	
Benzene	ug/L	50	45.8	46.4	92	93	70-131	1	20	
Bromodichloromethane	ug/L	50	46.8	46.1	94	92	70-130	1	20	
Bromoform	ug/L	50	47.1	48.4	94	97	70-130	3	20	
Bromomethane	ug/L	50	72.4	72.5	145	145	23-200	.2	20	
Carbon disulfide	ug/L	50	49.7	50.7	99	101	70-138	2	20	
Carbon tetrachloride	ug/L	50	44.9	46.6	90	93	70-144	4	20	
Chlorobenzene	ug/L	50	48.5	49.7	97	99	70-130	2	20	
Chloroethane	ug/L	50	51.7	52.7	103	105	70-136	2	20	
Chloroform	ug/L	50	41.7	41.7	83	83	70-130	.06	20	
Chloromethane	ug/L	50	37.3	38.8	75	78	54-148	4	20	
cis-1,2-Dichloroethene	ug/L	50	45.0	46.1	90	92	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	48.6	48.5	97	97	70-130	.2	20	
Dibromochloromethane	ug/L	50	45.0	46.3	90	93	70-130	3	20	
Ethylbenzene	ug/L	50	51.7	53.3	103	107	70-130	3	20	
Methylene Chloride	ug/L	50	49.0	50.0	98	100	66-130	2	20	
Styrene	ug/L	50	46.5	48.2	93	96	70-130	4	20	
Tetrachloroethene	ug/L	50	53.8	54.8	108	110	75-130	2	20	
Toluene	ug/L	50	52.7	54.4	105	109	70-130	3	20	
trans-1,2-Dichloroethene	ug/L	50	49.2	49.5	98	99	70-130	.8	20	
trans-1,3-Dichloropropene	ug/L	50	44.9	46.0	90	92	70-130	3	20	
Trichloroethene	ug/L	50	46.0	46.4	92	93	70-130	.7	20	
Vinyl chloride	ug/L	50	41.7	44.1	83	88	63-141	5	20	
Xylene (Total)	ug/L	150	154	159	103	106	70-130	3	20	
4-Bromofluorobenzene (S)	%				99	99	70-130			
Dibromofluoromethane (S)	%				86	84	70-130			
Toluene-d8 (S)	%				98	100	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 255636 255637

Parameter	Units	4027462001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.90	50	50	43.8	43.0	88	86	70-137	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.20	50	50	46.1	47.8	92	96	67-130	4	20	
1,1,2-Trichloroethane	ug/L	<0.42	50	50	45.2	47.3	90	95	70-130	5	20	
1,1-Dichloroethane	ug/L	<0.75	50	50	43.3	42.1	87	84	70-130	3	20	
1,1-Dichloroethene	ug/L	<0.57	50	50	52.1	50.8	104	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 255636 255637

Parameter	Units	4027462001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	<0.36	50	50	41.1	40.0	82	80	69-134	3	20	
1,2-Dichloropropane	ug/L	<0.49	50	50	47.2	46.9	94	94	70-130	.5	20	
2-Butanone (MEK)	ug/L	<4.3	50	50	37.1	41.3	74	83	36-181	11	35	
2-Hexanone	ug/L	<2.0	50	50	35.1	37.7	70	75	46-171	7	27	
4-Methyl-2-pentanone (MIBK)	ug/L	<1.2	50	50	40.8	43.2	82	86	50-150	6	20	
Acetone	ug/L	<5.0	50	50	36.7	38.6	73	77	10-200	5	36	
Benzene	ug/L	<0.41	50	50	45.5	44.6	91	89	69-131	2	20	
Bromodichloromethane	ug/L	<0.56	50	50	46.6	47.8	93	96	70-130	3	20	
Bromoform	ug/L	<0.94	50	50	51.3	53.2	103	106	68-130	4	20	
Bromomethane	ug/L	<0.91	50	50	71.9	68.8	144	138	22-200	4	20	
Carbon disulfide	ug/L	<0.66	50	50	47.1	44.4	94	89	68-138	6	20	
Carbon tetrachloride	ug/L	<0.49	50	50	45.0	44.8	90	90	70-144	.4	20	
Chlorobenzene	ug/L	<0.41	50	50	48.3	49.5	97	99	70-130	2	20	
Chloroethane	ug/L	<0.97	50	50	50.1	48.9	100	98	66-136	2	20	
Chloroform	ug/L	<1.3	50	50	42.2	41.2	84	82	70-130	2	20	
Chloromethane	ug/L	<0.24	50	50	36.3	35.2	73	70	54-148	3	20	
cis-1,2-Dichloroethene	ug/L	<0.83	50	50	45.4	44.7	91	89	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	<0.20	50	50	48.8	49.6	98	99	70-130	2	20	
Dibromochloromethane	ug/L	<0.81	50	50	47.2	46.8	94	94	70-130	.8	20	
Ethylbenzene	ug/L	<0.54	50	50	51.7	51.5	103	103	70-130	.4	20	
Methylene Chloride	ug/L	<0.43	50	50	48.4	48.1	97	96	64-130	.8	20	
Styrene	ug/L	<0.86	50	50	46.5	47.1	93	94	43-130	1	20	
Tetrachloroethene	ug/L	<0.45	50	50	54.5	55.0	109	110	70-130	.8	20	
Toluene	ug/L	<0.67	50	50	53.2	53.4	106	107	70-130	.5	20	
trans-1,2-Dichloroethene	ug/L	<0.89	50	50	50.7	48.8	101	98	70-130	4	20	
trans-1,3-Dichloropropene	ug/L	<0.19	50	50	47.0	48.0	94	96	70-130	2	20	
Trichloroethene	ug/L	<0.48	50	50	47.5	45.8	95	92	70-130	4	20	
Vinyl chloride	ug/L	<0.18	50	50	41.6	40.2	83	80	59-141	3	20	
Xylene (Total)	ug/L	<2.6	150	150	154	156	103	104	70-130	2	20	
4-Bromofluorobenzene (S)	%						99	100	70-130			
Dibromofluoromethane (S)	%						87	84	70-130			
Toluene-d8 (S)	%						98	99	70-130			

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QUALIFIERS

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47 T-3 SANGAMO-BREAZEALE
Pace Project No.: 4027464

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027464002	**PM-02S**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027464003	**PM-02D**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027464004	**EW-101**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027464005	**EW-105**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027464002	**PM-02S**	EPA 6010	ICP/3056		
4027464003	**PM-02D**	EPA 6010	ICP/3056		
4027464004	**EW-101**	EPA 6010	ICP/3056		
4027464005	**EW-105**	EPA 6010	ICP/3056		
4027464001	**TBLK-10103**	EPA 8260	MSV/6644		
4027464002	**PM-02S**	EPA 8260	MSV/6644		
4027464004	**EW-101**	EPA 8260	MSV/6644		
4027464005	**EW-105**	EPA 8260	MSV/6644		

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RMT CHAIN OF CUSTODY RECORD

AEV

77179
4027464

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No.: 71238.47 T-3
Project/Client: SANGAMO - Breazeale Site
Project Manager/Contact Person: Mike Parker / Britney Barnes / Terry Hertz

Filtered (Yes/No): N N Y
Preserved (Code): E B B

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	* VOC's-TCL 3.4 method 8260B	Total mn per w/o	Diss. mn per w/o						Comments:
001			TBLK-10103	2		X					2-40ml E			* NOTE: TCL VOC's - Report
002	1-11	1100	PM-02S	5	GW	3	1	1	3-40ml E			2-250ml B		both CIS 1,2-DCE and
003	1-11	1155	PM-02D	2	GW		1	1						trans 1,2-DCE
004	1-11	1255	EW-101	5	GW	3	1	1	3-40ml E					
005	1-11	1400	EW-105	5	GW	3	1	1						

Thanks
B. Medlin

SPECIAL INSTRUCTIONS

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Bill Medlin	1/13/10 1730	FedEx # 8682 8759 2239	1/13/10 1730
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
FedEx	1/14/10 1010	[signature]	1/14/10 1010
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list)

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: Temp Blank (Y) N 6°
Receipt pH (Wet/Metals) OK

Custody Seal: Present/(Absent) Intact/Not Intact Seal #s

F-268 (10/08)

WHITE—LABORATORY COPY YELLOW—REPORT APPENDIX PINK—SAMPLER/SUBMITTER

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method: 6010/6020	Field filtered Dissolved Mn Method: 6010/6020	VOCs TCL 8260B Report limits as 1.2 ug/L and trace 0.2 ug/L	Field pH, Temp, Spec Cond Turbidity, DO, ORP	Notes
BRMW-02	X	X	X	X	Measure water levels in all monitoring and recovery wells
BRMW-02A	X	X	X	X	
BRMW-03	X	X	X	X	
BRMW-03A	X	X	X	X	
BRMW-03B	X	X	X	X	**Field filter dissolved Mn**
BRMW-04	X	X	X	X	
BRMW-04A	X	X	X	X	**Note color in permanganate area wells. If purple**
BRMW-05	X	X	X	X	**estimate permanganate concentration and note in field**
BRMW-05A	X	X	X	X	**book**
BRMW-05B	X	X	X	X	**If permanganage concentration is GREATER THAN**
BRMW-07	X	X	X	X	**___ DO NOT COLLECT SAMPLE FOR VOCs ONLY FOR**
BRMW-08	X	X	X	X	**MANGANESE TOTAL and DISSOLVED**
BRMW-08A	X	X	X	X	
BRMW-08B	X	X	X	X	
BRMW-09	X	X	X	X	**the wells with this [illegible] need to be store under**
BRMW-10	X	X	X	X	**[illegible] separate COCs from other wells**
BRMW-11	X	X	X	X	**[illegible] of sampling**
BRMW-11A	X	X	X	X	**the [illegible]**
BRMW-12	X	X	X	X	**[illegible]**
BRMW-12A	X	X	X	X	
BRMW-13	X	X	X	X	
BRMW-14A	X	X	X	X	
BRMW-15	X	X	X	X	
BRMW-16	X	X	X	X	
BRMW-17	X	X	X	X	
BRMW-17A	X	X	X	X	
BRMW-18	X	X	X	X	

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Metals Method 6010/6020	Field Filtered Dissolved Metals Method 6010/6020	VOCs TCL 8.1 Method 8260B Report both cis & trans 1,2-DCE	Field pH, Temp, Spec. Cond., Turbidity, DO, ORP	Notes
BRMW-15A	X	X	X	X	
EW-101	X	X	X	X	
EW-105	X	X	X	X	
EW-201	X	X	X	X	
EW-202	X	X	X	X	
PM-02S	X	X	X	X	
PM-02D	X	X	X	X	
ZM-01S	X	X	X	X	
ZM-01D	X	X	X	X	
DU-10101	X	X	X		
TBLK-10101			X		
TBLK-10102			X		

Metals: one 500 mL wide-mouth plastic; HNO3, ice; HT - 180 days; methods 6010B/6020/Series 7000.
VOC: three 40 mL septum vials; HCl preservative; ice; HT - 14 days; method SW-846 8260B - report both *cis & trans* 1,2-DCE

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Sample Condition Upon Receipt

Client Name: RMT Project # 40274464

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None Other

Optional
Proj. Due Date:
Proj. Name:

Thermometer Used JB Type of Ice: (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature 6° Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☒ yes ☐ no

Person examining contents:
Date: 1/14/10
Initials: MRN

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☒Yes ☐No ☐N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☒Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. KMnO4 possible in -003 MRN 1/14
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed MRN / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 1/14/10

Note. Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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January 27, 2010

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Dear Mark Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang

kang.khang@pacelabs.com
Project Manager

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CoC- SIGNED; TEMP-OK; HT-OK; NARR-OK
SURR- RECS OK
NO TRIP BLANK
MBLKS-CLEAN EXCEPT FOR 0.15 J ug/L Mn TOTAL AND 0.16 J ug/L Mn DISSOLVED.

January 27, 2010

LCS/LCSD -RECS & RPDS OK EXCEPT AS FOLLOWS:

- HI RECS OF 1,1,1-TCA IN LCS AND LCSD.
- HI RECS OF CARBON TETRACHLORIDE IN LCS AND LCSD.
- HI RPD FOR BROMOMETHANE
- 1,1,1-TCA, CARBON TETRACHLORIDE AND BROMOMETHANE WERE NOT DETECTED IN SAMPLES. NO FLAGS ADDED.

Mark Bailey
RMT Greenville
30 Patewood Drive
Suite100, Patewood Plaza One
Greenville, SC 296153535

RE: Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

MS/MSD - BATCH QC. RECS & RPDS OK.

Dear Mark Bailey:

Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

LAB QC DOCUMENTATION NOTES THAT THE ICV FOR ACETONE AND 2-BUTANONE WERE ABOVE QC LIMITS. NEITHER ACETONE NOR 2-BUTANONE WERE DETECTED IN THE SAMPLES. NO FLAGS ADDED.

Sincerely,

Kang Khang

Kang Khang

kang.khang@pacelabs.com
Project Manager

NO FLAGS

1/28/10

Enclosures

cc: BRITNEY BARNES, RMT GREENVILLE
Terry Hertz, RMT GREENVILLE
Mark Miesfeldt, RMT Greenville

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CERTIFICATIONS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
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SAMPLE SUMMARY

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4027465001	**BRMW-04A**	Water	01/12/10 13:20	01/14/10 10:10
4027465002	**EW-201**	Water	01/12/10 15:50	01/14/10 10:10
4027465003	**EW-204**	Water	01/12/10 12:50	01/14/10 10:10
4027465004	**SW-02**	Water	01/12/10 14:05	01/14/10 10:10
4027465005	**SW-01**	Water	01/12/10 14:45	01/14/10 10:10

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SAMPLE ANALYTE COUNT

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4027465001	**BRMW-04A**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	JJB	37	PASI-G
4027465002	**EW-201**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	JJB	37	PASI-G
4027465003	**EW-204**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	JJB	37	PASI-G
4027465004	**SW-02**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	JJB	37	PASI-G
4027465005	**SW-01**	EPA 6010	DLB	1	PASI-G
		EPA 6010	DLB	1	PASI-G
		EPA 8260	JJB	37	PASI-G

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Method: **EPA 6010**
Description: 6010 MET ICP
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICP/3056

1j: Filtered analyte greater than total analyte: analysis passed QC based on precision criteria.

- BRMW-04A (Lab ID: 4027465001)
  - Manganese, Dissolved
- EW-201 (Lab ID: 4027465002)
  - Manganese, Dissolved
- EW-204 (Lab ID: 4027465003)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 27, 2010

General Information:
5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/6646

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 255616)
  - 1,1,1-Trichloroethane
  - Carbon tetrachloride
- LCSD (Lab ID: 255617)
  - 1,1,1-Trichloroethane
  - Carbon tetrachloride

R1: RPD value was outside control limits.

- LCSD (Lab ID: 255617)
  - Bromomethane

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Method: **EPA 8260**
Description: 8260 MSV
Client: RMT - GREENVILLE
Date: January 27, 2010

Analyte Comments:

QC Batch: MSV/6646

2j: The Initial Calibration Verification for this compound is above method control limits.

- BLANK (Lab ID: 255615)
  - 2-Butanone (MEK)
  - Acetone
- BRMW-04A (Lab ID: 4027465001)
  - 2-Butanone (MEK)
  - Acetone
- EW-201 (Lab ID: 4027465002)
  - 2-Butanone (MEK)
  - Acetone
- EW-204 (Lab ID: 4027465003)
  - 2-Butanone (MEK)
  - Acetone
- LCS (Lab ID: 255616)
  - 2-Butanone (MEK)
  - Acetone
- LCSD (Lab ID: 255617)
  - 2-Butanone (MEK)
  - Acetone
- SW-01 (Lab ID: 4027465005)
  - 2-Butanone (MEK)
  - Acetone
- SW-02 (Lab ID: 4027465004)
  - 2-Butanone (MEK)
  - Acetone

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Sample: BRMW-04A **Lab ID: 4027465001** Collected: 01/12/10 13:20 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**2.4J**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 15:02	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**7.0**	ug/L	5.0	0.12	1		01/19/10 16:30	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/18/10 16:58	67-64-1	2j
Benzene	ND	ug/L	1.0	0.41	1		01/18/10 16:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/18/10 16:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/18/10 16:58	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/18/10 16:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/18/10 16:58	78-93-3	2j
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/18/10 16:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/18/10 16:58	56-23-5	L1
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/18/10 16:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/18/10 16:58	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/18/10 16:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/18/10 16:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/18/10 16:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/18/10 16:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/18/10 16:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/18/10 16:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/18/10 16:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/18/10 16:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/18/10 16:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/18/10 16:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/18/10 16:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/18/10 16:58	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/18/10 16:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/18/10 16:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/18/10 16:58	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/18/10 16:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/18/10 16:58	79-34-5	
Tetrachloroethene	**6.0**	ug/L	1.0	0.45	1		01/18/10 16:58	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/18/10 16:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/18/10 16:58	71-55-6	L1
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/18/10 16:58	79-00-5	
Trichloroethene	**2.0**	ug/L	1.0	0.48	1		01/18/10 16:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/18/10 16:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/18/10 16:58	1330-20-7	
4-Bromofluorobenzene (S)	85	%	70-130		1		01/18/10 16:58	460-00-4	
Dibromofluoromethane (S)	114	%	70-130		1		01/18/10 16:58	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		01/18/10 16:58	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Sample: EW-201 **Lab ID: 4027465002** Collected: 01/12/10 15:50 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**11.7**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 15:06	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**14.6**	ug/L	5.0	0.12	1		01/19/10 16:34	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/18/10 13:57	67-64-1	2j
Benzene	ND	ug/L	1.0	0.41	1		01/18/10 13:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/18/10 13:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/18/10 13:57	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/18/10 13:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/18/10 13:57	78-93-3	2j
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/18/10 13:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/18/10 13:57	56-23-5	L1
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/18/10 13:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/18/10 13:57	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/18/10 13:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/18/10 13:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/18/10 13:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/18/10 13:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/18/10 13:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/18/10 13:57	75-35-4	
cis-1,2-Dichloroethene	**0.84J**	ug/L	1.0	0.83	1		01/18/10 13:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/18/10 13:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/18/10 13:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/18/10 13:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/18/10 13:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/18/10 13:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/18/10 13:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/18/10 13:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/18/10 13:57	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/18/10 13:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/18/10 13:57	79-34-5	
Tetrachloroethene	**3.8**	ug/L	1.0	0.45	1		01/18/10 13:57	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/18/10 13:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/18/10 13:57	71-55-6	L1
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/18/10 13:57	79-00-5	
Trichloroethene	**1.9**	ug/L	1.0	0.48	1		01/18/10 13:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/18/10 13:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/18/10 13:57	1330-20-7	
4-Bromofluorobenzene (S)	83	%	70-130		1		01/18/10 13:57	460-00-4	
Dibromofluoromethane (S)	115	%	70-130		1		01/18/10 13:57	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		01/18/10 13:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Sample: EW-204 **Lab ID: 4027465003** Collected: 01/12/10 12:50 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**22.6**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 15:11	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**30.5**	ug/L	5.0	0.12	1		01/19/10 16:38	7439-96-5	1j
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/18/10 14:20	67-64-1	2j
Benzene	ND	ug/L	1.0	0.41	1		01/18/10 14:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/18/10 14:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/18/10 14:20	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/18/10 14:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/18/10 14:20	78-93-3	2j
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/18/10 14:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/18/10 14:20	56-23-5	L1
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/18/10 14:20	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/18/10 14:20	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/18/10 14:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/18/10 14:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/18/10 14:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/18/10 14:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/18/10 14:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/18/10 14:20	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/L	1.0	0.83	1		01/18/10 14:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/18/10 14:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/18/10 14:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/18/10 14:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/18/10 14:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/18/10 14:20	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/18/10 14:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/18/10 14:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/18/10 14:20	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/18/10 14:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/18/10 14:20	79-34-5	
Tetrachloroethene	**33.2**	ug/L	1.0	0.45	1		01/18/10 14:20	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/18/10 14:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/18/10 14:20	71-55-6	L1
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/18/10 14:20	79-00-5	
Trichloroethene	**9.0**	ug/L	1.0	0.48	1		01/18/10 14:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/18/10 14:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/18/10 14:20	1330-20-7	
4-Bromofluorobenzene (S)	83	%	70-130		1		01/18/10 14:20	460-00-4	
Dibromofluoromethane (S)	117	%	70-130		1		01/18/10 14:20	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/18/10 14:20	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Sample: SW-02 **Lab ID: 4027465004** Collected: 01/12/10 14:05 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**66.8**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 15:15	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**61.3**	ug/L	5.0	0.12	1		01/19/10 16:42	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/18/10 13:34	67-64-1	2j
Benzene	ND	ug/L	1.0	0.41	1		01/18/10 13:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/18/10 13:34	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/18/10 13:34	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/18/10 13:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/18/10 13:34	78-93-3	2j
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/18/10 13:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/18/10 13:34	56-23-5	L1
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/18/10 13:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/18/10 13:34	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/18/10 13:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/18/10 13:34	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/18/10 13:34	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/18/10 13:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/18/10 13:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/18/10 13:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/18/10 13:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/18/10 13:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/18/10 13:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/18/10 13:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/18/10 13:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/18/10 13:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/18/10 13:34	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/18/10 13:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/18/10 13:34	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/18/10 13:34	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/18/10 13:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/18/10 13:34	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/18/10 13:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/18/10 13:34	71-55-6	L1
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/18/10 13:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/18/10 13:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/18/10 13:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/18/10 13:34	1330-20-7	
4-Bromofluorobenzene (S)	86	%	70-130		1		01/18/10 13:34	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		01/18/10 13:34	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/18/10 13:34	2037-26-5	

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ANALYTICAL RESULTS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Sample: SW-01 **Lab ID: 4027465005** Collected: 01/12/10 14:45 Received: 01/14/10 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**61.2**	ug/L	5.0	0.090	1	01/19/10 07:15	01/19/10 15:19	7439-96-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Manganese, Dissolved	**59.5**	ug/L	5.0	0.12	1		01/19/10 16:46	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	5.0	1		01/18/10 14:42	67-64-1	2j
Benzene	ND	ug/L	1.0	0.41	1		01/18/10 14:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.56	1		01/18/10 14:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.94	1		01/18/10 14:42	75-25-2	
Bromomethane	ND	ug/L	1.0	0.91	1		01/18/10 14:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	20.0	4.3	1		01/18/10 14:42	78-93-3	2j
Carbon disulfide	ND	ug/L	1.0	0.66	1		01/18/10 14:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.49	1		01/18/10 14:42	56-23-5	L1
Chlorobenzene	ND	ug/L	1.0	0.41	1		01/18/10 14:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.97	1		01/18/10 14:42	75-00-3	
Chloroform	ND	ug/L	5.0	1.3	1		01/18/10 14:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.24	1		01/18/10 14:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.81	1		01/18/10 14:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.75	1		01/18/10 14:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.36	1		01/18/10 14:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.57	1		01/18/10 14:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.83	1		01/18/10 14:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.89	1		01/18/10 14:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.49	1		01/18/10 14:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.20	1		01/18/10 14:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.19	1		01/18/10 14:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.54	1		01/18/10 14:42	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.0	1		01/18/10 14:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.43	1		01/18/10 14:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1.2	1		01/18/10 14:42	108-10-1	
Styrene	ND	ug/L	1.0	0.86	1		01/18/10 14:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		01/18/10 14:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.45	1		01/18/10 14:42	127-18-4	
Toluene	ND	ug/L	1.0	0.67	1		01/18/10 14:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.90	1		01/18/10 14:42	71-55-6	L1
1,1,2-Trichloroethane	ND	ug/L	1.0	0.42	1		01/18/10 14:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.48	1		01/18/10 14:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.18	1		01/18/10 14:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	2.6	1		01/18/10 14:42	1330-20-7	
4-Bromofluorobenzene (S)	83	%	70-130		1		01/18/10 14:42	460-00-4	
Dibromofluoromethane (S)	117	%	70-130		1		01/18/10 14:42	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		01/18/10 14:42	2037-26-5	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

QC Batch: MPRP/3595 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

METHOD BLANK: 256897 Matrix: Water
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	0.15J	5.0	01/19/10 13:40	

LABORATORY CONTROL SAMPLE: 256898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256899 256900

Parameter	Units	4027527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1920	500	500	2360	2340	88	84	75-125	.9	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

QC Batch: ICP/3056 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

METHOD BLANK: 256933 Matrix: Water
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	0.16J	5.0	01/19/10 15:34	

LABORATORY CONTROL SAMPLE: 256934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	500	471	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256935 256936

Parameter	Units	4027499002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	1.7J	500	500	450	450	90	90	75-125	.07	20	

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QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

QC Batch: MSV/6646 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

METHOD BLANK: 255615 Matrix: Water
Associated Lab Samples: 4027465001, 4027465002, 4027465003, 4027465004, 4027465005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/18/10 07:33	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/18/10 07:33	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/18/10 07:33	
1,1-Dichloroethane	ug/L	ND	1.0	01/18/10 07:33	
1,1-Dichloroethene	ug/L	ND	1.0	01/18/10 07:33	
1,2-Dichloroethane	ug/L	ND	1.0	01/18/10 07:33	
1,2-Dichloropropane	ug/L	ND	1.0	01/18/10 07:33	
2-Butanone (MEK)	ug/L	ND	20.0	01/18/10 07:33	2j
2-Hexanone	ug/L	ND	5.0	01/18/10 07:33	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/18/10 07:33	
Acetone	ug/L	ND	20.0	01/18/10 07:33	2j
Benzene	ug/L	ND	1.0	01/18/10 07:33	
Bromodichloromethane	ug/L	ND	1.0	01/18/10 07:33	
Bromoform	ug/L	ND	1.0	01/18/10 07:33	
Bromomethane	ug/L	ND	1.0	01/18/10 07:33	
Carbon disulfide	ug/L	ND	1.0	01/18/10 07:33	
Carbon tetrachloride	ug/L	ND	1.0	01/18/10 07:33	
Chlorobenzene	ug/L	ND	1.0	01/18/10 07:33	
Chloroethane	ug/L	ND	1.0	01/18/10 07:33	
Chloroform	ug/L	ND	5.0	01/18/10 07:33	
Chloromethane	ug/L	ND	1.0	01/18/10 07:33	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/18/10 07:33	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/18/10 07:33	
Dibromochloromethane	ug/L	ND	1.0	01/18/10 07:33	
Ethylbenzene	ug/L	ND	1.0	01/18/10 07:33	
Methylene Chloride	ug/L	ND	1.0	01/18/10 07:33	
Styrene	ug/L	ND	1.0	01/18/10 07:33	
Tetrachloroethene	ug/L	ND	1.0	01/18/10 07:33	
Toluene	ug/L	ND	1.0	01/18/10 07:33	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/18/10 07:33	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/18/10 07:33	
Trichloroethene	ug/L	ND	1.0	01/18/10 07:33	
Vinyl chloride	ug/L	ND	1.0	01/18/10 07:33	
Xylene (Total)	ug/L	ND	3.0	01/18/10 07:33	
4-Bromofluorobenzene (S)	%	83	70-130	01/18/10 07:33	
Dibromofluoromethane (S)	%	108	70-130	01/18/10 07:33	
Toluene-d8 (S)	%	93	70-130	01/18/10 07:33	

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

LABORATORY CONTROL SAMPLE & LCSD: 255616 255617

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	69.9	70.4	140	141	70-132	.6	20	L0
1,1,2,2-Tetrachloroethane	ug/L	50	53.3	52.8	107	106	69-130	.9	20	
1,1,2-Trichloroethane	ug/L	50	51.0	49.4	102	99	70-130	3	20	
1,1-Dichloroethane	ug/L	50	57.0	56.8	114	114	70-130	.2	20	
1,1-Dichloroethene	ug/L	50	59.7	60.3	119	121	70-130	1	20	
1,2-Dichloroethane	ug/L	50	66.5	66.6	133	133	70-134	.09	20	
1,2-Dichloropropane	ug/L	50	51.8	52.5	104	105	70-130	1	20	
2-Butanone (MEK)	ug/L	50	67.4	65.5	135	131	36-181	3	35	2j
2-Hexanone	ug/L	50	58.2	54.6	116	109	46-171	6	27	
4-Methyl-2-pentanone (MIBK)	ug/L	50	52.8	52.1	106	104	50-150	1	20	
Acetone	ug/L	50	92.0	81.6	184	163	10-200	12	36	2j
Benzene	ug/L	50	52.9	53.4	106	107	70-131	.8	20	
Bromodichloromethane	ug/L	50	61.0	60.9	122	122	70-130	.08	20	
Bromoform	ug/L	50	52.7	53.5	105	107	70-130	2	20	
Bromomethane	ug/L	50	45.1	55.7	90	111	23-200	21	20	R1
Carbon disulfide	ug/L	50	60.8	62.8	122	126	70-138	3	20	
Carbon tetrachloride	ug/L	50	72.8	75.2	146	150	70-144	3	20	L0
Chlorobenzene	ug/L	50	53.8	52.9	108	106	70-130	2	20	
Chloroethane	ug/L	50	59.5	60.5	119	121	70-136	2	20	
Chloroform	ug/L	50	60.0	60.5	120	121	70-130	.8	20	
Chloromethane	ug/L	50	40.4	41.1	81	82	54-148	2	20	
cis-1,2-Dichloroethene	ug/L	50	52.6	54.4	105	109	70-130	3	20	
cis-1,3-Dichloropropene	ug/L	50	50.8	52.7	102	105	70-130	4	20	
Dibromochloromethane	ug/L	50	57.4	57.0	115	114	70-130	.8	20	
Ethylbenzene	ug/L	50	56.3	56.0	113	112	70-130	.6	20	
Methylene Chloride	ug/L	50	60.2	57.8	120	116	66-130	4	20	
Styrene	ug/L	50	48.2	49.2	96	98	70-130	2	20	
Tetrachloroethene	ug/L	50	52.1	53.1	104	106	75-130	2	20	
Toluene	ug/L	50	53.7	54.5	107	109	70-130	1	20	
trans-1,2-Dichloroethene	ug/L	50	62.3	62.3	125	125	70-130	.1	20	
trans-1,3-Dichloropropene	ug/L	50	53.3	52.9	107	106	70-130	.8	20	
Trichloroethene	ug/L	50	58.8	60.8	118	122	70-130	3	20	
Vinyl chloride	ug/L	50	52.2	53.1	104	106	63-141	2	20	
Xylene (Total)	ug/L	150	169	167	112	111	70-130	.8	20	
4-Bromofluorobenzene (S)	%				96	93	70-130			
Dibromofluoromethane (S)	%				95	100	70-130			
Toluene-d8 (S)	%				99	98	70-130			

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(920)469-2436

QUALIFIERS

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.
U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1j	Filtered analyte greater than total analyte: analysis passed QC based on precision criteria.
2j	The Initial Calibration Verification for this compound is above method control limits.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 71238.47 T-2 SANGAMO-BREAZEALE
Pace Project No.: 4027465

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4027465001	**BRMW-04A**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027465002	**EW-201**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027465003	**EW-204**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027465004	**SW-02**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027465005	**SW-01**	EPA 3010	MPRP/3595	EPA 6010	ICP/3055
4027465001	**BRMW-04A**	EPA 6010	ICP/3056		
4027465002	**EW-201**	EPA 6010	ICP/3056		
4027465003	**EW-204**	EPA 6010	ICP/3056		
4027465004	**SW-02**	EPA 6010	ICP/3056		
4027465005	**SW-01**	EPA 6010	ICP/3056		
4027465001	**BRMW-04A**	EPA 8260	MSV/6646		
4027465002	**EW-201**	EPA 8260	MSV/6646		
4027465003	**EW-204**	EPA 8260	MSV/6646		
4027465004	**SW-02**	EPA 8260	MSV/6646		
4027465005	**SW-01**	EPA 8260	MSV/6646		

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RMT

CHAIN OF CUSTODY RECORD

77178
AEN 4027465

30 Patewood Drive, Suite 100, Patewood Plaza One, Greenville, SC 29615-3535
Phone 864/281-0030 • Fax 864/281-0288

Project No. 71238.47T-2
Project/Client: Sangamo - Breazeale Site
Project Manager/Contact Person: Mike Parker / Britney Barnes / Terry Hertz

Lab No.	Yr. 10 Date	Time	Sample Station ID	Total Number of Containers	MATRIX	Analyses Requested: VOCs-TCL 3.4 method 8260B	Total Mn per w/o	Diss. Mn per w/o						Comments:
Filtered (Yes/No)						N	N	Y						
Preserved (Code)						E	B	B						
001	1-12	1320	BRMW-04A	5	GW	3	1	1		3-40ml E		2-250ml B		*NOTE: TCL VOC's - Report
002	1-12	1250	EW-201											both cis-1,2-DCE and
003	1-12	1250	EW-204	5	GW	3	1	1						trans 1,2-DCE
004	1-12	1405	SW-02	5	SW	3	1	1						
005	1-12	1445	SW-01	5	SW	3	1	1						

PRESERVED CODES
A — NONE
B — HNO_3
C — H_2SO_4
D — NaOH
E — HCl
F — METHANOL
G — _____

Thanks
B Medlin

SPECIAL INSTRUCTIONS

SAMPLER Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Bill Medlin	1/13/10 1730	Fed Ex # 8682 8759 2239	
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Fed Ex	1/14/10 1010	[signature]	1/14/10 1010
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES
- ☐ Flammable
- ☐ Corrosive
- ☐ Highly Toxic
- ☐ Other (list) _____

Turn Around (circle one) Normal Rush
Report Due _____

(For Lab Use Only)
Receipt Temp: 6°
Temp Blank (Y) N
Receipt pH (Wet/Metals): adjusted

Custody Seal: Present/(Absent) Intact/Not Intact Seal #s

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010B/6020	Field Filtered Dissolved Mn Method 6010B/6020	VOCs TCL 8260 Method 8260B Reporting to MCL and [illegible]	Field pH, Temp, Spec Cond, Turbidity, DO, ORP	Notes
BRMW-02	X	X	X	X	Measure water levels in all monitoring and recovery wells
BRMW-02A	X	X	X	X	
BRMW-03	X	X	X	X	
BRMW-03A	X	X	X	X	
BRMW-03B	X	X	X	X	Field filter dissolved Mn
BRMW-04	X	X	X	X	
BRMW-04A	X	X	X	X	Note color in permanganate area wells. If purple
BRMW-05	X	X	X	X	estimate permanganate concentration and note in field
BRMW-05A	X	X	X	X	book
BRMW-05B	X	X	X	X	If permanganage concentration is GREATER THAN
BRMW-07	X	X	X	X	___ DO NOT COLLECT SAMPLE FOR VOCs ONLY FOR
BRMW-08	X	X	X	X	MANGANESE TOTAL and DISSOLVED
BRMW-08A	X	X	X	X	
BRMW-08B	X	X	X	X	
BRMW-10	X	X	X	X	The wells without shading need to be done under
BRMW-10A	X	X	X	X	71238.47 Task 2, on separate COCs from the wells
BRMW-11	X	X	X	X	Accounting of field time, [illegible] sampling
BRMW-11A	X	X	X	X	these wells
BRMW-12	X	X	X	X	Also include notes [illegible]
BRMW-12A	X	X	X	X	
BRMW-14	X	X	X	X	
BRMW-14A	X	X	X	X	
BRMW-15	X	X	X	X	
BRMW-16	X	X	X	X	
BRMW-17	X	X	X	X	
BRMW-17A	X	X	X	X	
BRMW-18	X	X	X	X	

Work Order for ... Sangamo, Breazeale Site 2010 Annual GW Sampling

Project: Sangamo - Breazeale Site
Project Number: 71238.47 task 2 & 3
Sample Date: Week of January 1, 2010
Type of Turnaround: Standard
QC Package: Level 2
RMT-Format EDD
Must meet the Federal MCLs.

RMT Project Manager: Mike Parker
RMT Project Contact: Britney Barnes
RMT Alternate Contacts: Terry Hertz
WO Prepared By/Date: BCB/7-7-09

Lab: Pace Analytical Services, Inc.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
Contact: Kang Khang
Ph: 1-800-736-2436 Fax: 920-469-8827

STATION	Total Mn Method 6010/6020	Field Filtered Dissolved Mn Method 6010/6020	VOC TCL 54 Method 8260B Report both cis & trans 1,2-DCE	Field pH, Temp, Spec Cond, Turbidity, DO, ORP	Notes
BRMW-13A	X	X	X	X	
EW-101	X	X	X	X	
EW-105	X	X	X	X	
EW-201	X	X	X	X	
EW-204	X	X	X	X	
PM-02S	X	X	X	X	
PM-02D	X	X	X	X	
ZM-01S	X	X	X	X	
ZM-01D	X	X	X	X	
DU-10101	X	X	X		
TBLK-10101			X		
TBLK-10102			X		

Metals: one 500 mL wide-mouth plastic; HNO3, ice; HT - 180 days; methods 6010B/6020/Series 7000.
VOC: three 40 mL septum vials; HCl preservative; ice; HT - 14 days; method SW-846 8260B - report both *cis & trans* 1,2-DCE

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Pace Analytical

Sample Condition Upon Receipt

Client Name: RMT Project # 4027465

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None Other

Optional
Proj. Due Date:
Proj. Name:

Thermometer Used SB Type of Ice: (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature 6° Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☑ yes ☐ no

Person examining contents:
Date: 1/14/10
Initials: MRN

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. 1mL HNO3 added to total metals volume for -004 1/14@ 1300 MRN 1/14
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	Initial when completed MRN / Lot # of added preservative H114024
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 1/14/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Neutralization of Residual Permanganate in VOC Samples

Attachment 4
Technical Memorandum on Neutralization of Residual Permanganate in VOC Samples

RMT

Technical Memorandum

Date: January 19, 2010

To: Britney Barnes

cc: Mike Parker

From: Terry Hertz

Project No.: 00-71238.44, Task 00002

Subject: Neutralization of Residual Permanganate in Volatile Organic Compound (VOC) Samples

Background

One of the remedial options for soil and groundwater impacted by trichloroethene (TCE) and tetrachloroethene (PCE) is *in situ* chemical oxidation (ISCO). Permanganate is a commonly used chemical oxidant on sites where ISCO is the selected remedy for these VOCs. However, dissolved permanganate is destructive to laboratory equipment used in performing purge and trap sample preparation for gas chromatography – mass spectrometry (GC-MS) analysis. Equipment damage can occur if permanganate is present in groundwater samples at concentrations as low as single digit parts per million (ppm) (or mg/L). Concentrations in the single digit ppm range have a faint violet color that is still detectable by the human eye.

Permanganate has been injected into the subsurface at Schlumberger's Breazeale Site near Pickens, South Carolina, as part of an United States Environmental Protection Agency (USEPA)-approved ISCO remediation plan. The project team desires to perform analyses for TCE and PCE on samples with relatively low dissolved permanganate concentrations (*i.e.*, less than 100 ppm) to evaluate the progress of the implemented remedy. In order to perform the analyses, the oxidative capacity of the permanganate needs to be neutralized without degrading sample integrity (including introducing contamination to the sample) and also without generating byproducts that could damage analytical instrumentation or affect the performance of the analytical method. This memo describes a permanganate neutralization procedure that meets these criteria.

Approach

Permanganate is an oxidizing agent which needs to be neutralized by a reducing agent. Ferrous iron (Fe^{+2}) can serve as an electron donor to reduce permanganate. Ferrous sulfate was selected as a candidate compound to provide the ferrous iron.

Note that by reducing permanganate, manganese dioxide is formed and will precipitate as visible particles if the permanganate concentration is high enough. At relatively high concentrations, the perceived color of the solution, and therefore the perceived permanganate concentration, can be affected by the precipitated manganese dioxide.

Evaluation Tests Performed

1. Approximately 5 to 10 mg of ferrous sulfate was added to a 40 mL septum vial before adding groundwater containing permanganate at approximately 10 to 20 ppm concentration (estimated from the violet color of the groundwater). The permanganate was neutralized in a few minutes as indicated by the decrease in intensity of the violet color until the sample appeared colorless. The sample was analyzed by USEPA Method 8260 without damage to the purge and trap equipment or the GC-MS. This indicates that the ferrous sulfate is effective at neutralizing the permanganate without producing byproducts that damage the instrumentation.

2. A sample from a monitoring well BRMW-09, which has no visible violet color indicative of permanganate, was collected and analyzed as usual by Method 8260. Another sample was collected from the same monitoring well with approximately 5 to 10 mg of ferrous sulfate added to the septum vial before filling with groundwater. The results for analyses of the treated and untreated sample were comparable indicating that addition of ferrous sulfate hydrate does not negatively affect the performance of the analytical method (see Table 1).

Table 1

ANALYTE\SAMPLE	BRMW-09	BRMW-09 TREATED
PCE (ug/L)	0.81 J	0.83 J

J Concentration detected equal to or greater than the method detection limit but less than the reporting limit.

Field Technique

Monitoring wells having visible presence of permanganate (known by historical site activities and/or existing analytical data) that are to be sampled for VOC analyses need to have the permanganate neutralized at the time of sample collection. This can be accomplished by adding approximately 5 to 10 mg of ferrous sulfate to the septum vial (along with hydrochloric acid [HCl] if the vials are pre-preserved) before sample collection. The ferrous sulfate can be added using a clean plastic or metal scoop. The amount of solid does not need to be weighed, it can be estimated visually. If permanganate concentrations are greater than 100 mg/L (this can be estimated using a field permanganate colorimetric kit) it is suggested that the sample not be collected for analysis.