



3855 NORTH OCOEE STREET SUITE 200, CLEVELAND, TN 37312
OFFICE: (423) 336-4000 FAX: (423) 336-4166

April 30, 2009

Mr. Alex Czuhanych
New York State Dept. of Environmental Conservation
Division of Hazardous Waste
625 Broadway
Albany, NY 12233

**re: Semiannual Report: Olin Chemicals
Buffalo Ave. Facility, Niagara Falls, NY**

Dear Mr. Czuhanych:

This is the first Semiannual report for 2009 as required by Olin's Administrative Order on Consent (AOC) for our Niagara Falls Plant, (Index #R9-4171-94-08, Site Registry #9-32-051A, and B). The timeframe for this report covers the period from October 1, 2008 through March 30, 2009. A full copy of this report is also included as a PDF file on the attached CD.

Operation / Maintenance issues :

Details of the implementation of routine maintenance tasks and trouble shooting activities are included for this reporting period in the six monthly memoranda from Olin's consultant, Mactec Engineering and Consulting, (**Attachment 1, on CD**). The most significant metrics of system performance are the tracking of downtime and of target drawdown levels. Historically, when the system is running and operating efficiently, hydraulic capture is achieved. The monthly O&M reports document the details of all issues.

There have been no significant operational issues. The primary O&M concerns are maximizing the running time for the collection and treatment system.

Hydraulic Capture:

Attachment 2 on CD includes PDF files of piezometric maps for each hydraulic zone representing the most recent two quarters. That attachment also includes tables and hydrographs documenting empirical monthly hydraulic capture comparisons. Data for piezometric levels are also included electronically on that CD.

A-zone: The A-zone groundwater capture criteria are via empirical comparison to Gill Creek stage and Buffalo Avenue sewer invert levels. In general, A-zone capture is being achieved over the 300 foot boundary with Gill Creek, and relative to potential northward flow toward Buffalo Avenue. This is largely aided by seasonally dry conditions. A-zone capture has been maintained during the two reporting quarters.

B-zone: Capture is being maintained. **C-zone:** C and CD-zone capture is achieved, with flow gradients consistent over time, per the pumping at the high volume Production well in Plant 1.

Groundwater Quality:

The recovery well header groundwater data for the most recent two quarters are included on the CD as **Attachment 3**. **Attachment 4** on CD includes piezometric data and system flow data.

Overview of extracted groundwater volume and contaminant mass:

The volume of pumped groundwater for the two quarters comprising this reporting period was approximately 16.5 million gallons. The total volume of groundwater extracted and treated since

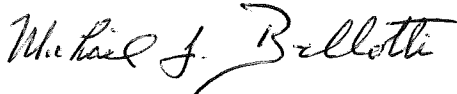
system startup is approximately 275 million gallons. Since startup the system has extracted over 59,000 pounds of organics, 269 pounds of pesticides and 4 pounds of mercury.

Since startup in 1997, the extracted groundwater volume has increased, as the system was enhanced to ensure full capture. As the system has continued to operate, the removal rate of each constituent group, measured in pounds per million gallons extracted, has begun to diminish as referenced on the Remediation Rate Graphs in Attachment 5. This is likely to be an indicator that onsite constituents have noticeably diminished and that the effects of the ongoing remediation are becoming apparent.

Attachment 5 on CD contains data and tables to support calculations of mass removed during the currently reported quarter and for the entire project duration. Included are recovery well flow data, recovery well header contaminant concentrations, estimated mass removed for each quarter by parameter group and a table of groundwater flow and mass removed since start-up.

We believe that we are continuing to make significant progress in removing contaminant mass from Olin's Niagara Falls Plant site via our remediation system. We will continue to improve the system and monitor its effectiveness. Please direct any questions or comments to me at 423/336-4587.

Sincerely,

A handwritten signature in cursive script, reading "Michael J. Bellotti". The signature is written in dark ink and is positioned above a horizontal line.

Michael J. Bellotti
OLIN CORPORATION

List of Attachments on CD

Attachment 1:

- Monthly Operation and Maintenance Status Reports:

Attachment 2:

- Piezometric maps, hydrographs and supporting data
- Piezometric data

Attachment 3:

- Groundwater Quality Data:
 - Nov, 2008 quarterly recovery well header data
 - Feb, 2009 quarterly recovery well header data

Attachment 4:

- Contaminant Removed Tables and Graphs:
 - Quarterly Contaminant mass removed tables
 - Summary of Groundwater Flow and Mass Removed
 - Remediation Rate Graphs: Organics, Pesticides, Mercury
- Groundwater collection system flow data

cc:

Pat Concannon - NYSDEC Buffalo, NY

Gina Senia: Olin Niagara Falls, NY

Ellen Stein: USEPA: Region II, New York, NY

Rick Marotte: Mactec Engineering: Kennesaw, GA

Olin Niagara Falls Plant 2 Area Remediation

Summary: Contaminant Mass and Groundwater Extracted								
Since system start-up: December - 1997								
Quarter	organics lb	Ann. Tot.	mercury lb	Ann. Tot.	pesticides lb	Ann. Tot.	g.w. extracted gal	Ann. Tot.
Startup/Q1-98 [est]	27.81		0.02		0.2		210,000	
Q2-98	154.5		0.1		1.3		1,175,799	
Q3-98	595.5		0.6		4.9		2,583,159	
Q4-98	1273.1		0.1		5.2		4,054,996	
		2,051		1		12		8,023,954
Q1-99	817.3		0.05		8.5		4,233,521	
Q2-99	1034.7		0.05		7.1		3,991,584	
Q3-99	1188.2		0.1		8.7		5,219,207	
Q4-99	976.3		0.02		6.9		6,366,935	
		4,017		0.22		31		19,811,247
Q1-00	1422.9		0.06		6.2		6,757,602	
Q2-00	1514.9		0.06		10.3		6,663,345	
Q3-00	1071.6		0.06		18.6		6,007,756	
Q4-00	1260.7		0.03		9.7		6,803,495	
		5,270		0.21		45		26,232,198
Q1-01	1406.2		0.06		8.9		7,379,548	
Q2-01	2704.8		0.04		11.9		8,474,363	
Q3-01	1576.8		0.05		9.5		7,607,539	
Q4-01	637.0		0.05		8.4		5,642,388	
		6,325		0.20		39		29,103,838
Q1-02	1319.8		0.06		6.9		6,781,550	
Q2-02	530.7		0.08		7.2		8,693,727	
Q3-02	1251.8		0.07		6.0		5,950,649	
Q4-02	490.8		0.07		3.5		5,385,584	
		3,593		0.28		24		26,811,510
Q1-03	922.6		0.58		3.6		5,151,629	
Q2-03	1884.7		0.06		5.2		7,276,723	
Q3-03	1611		0.1		0.0		6,598,467	
Q4-03	1954.4		0.1		8.5		6,735,421	
		6,373		0.84		17		25,762,240
Q1-04	1479.6		0.04		4.8		5,846,144	
Q2-04	2158.2		0.08		5.7		6,826,643	
Q3-04	1880.3	[a]	0.05	[a]	5.6	[a]	6,262,226	
Q4-04	3665.6		0.18		5.5		7,152,900	
		9,184		0.35		22		26,087,913
Q1-05	2648.9	[a]	0.14	[a]	4.3	[a]	5,870,533	
Q2-05	1168		0.04		3.5		5,910,496	
Q3-05	860.2	[a]	0.04	[a]	2.8	[a]	7,113,517	
Q4-05	887.8		0.09		6.7		5,271,114	
		5,565		0.31		17		24,165,660
Q1-06	1056		0.02		3.2		5,139,061	
Q2-06	1160		0.04		4.5		8,872,651	
Q3-06	1169		0.02		4.2		8,253,471	
Q4-06	1175.0		0.04		4.9		8,959,291	
		4,560		0.12		17		31,224,474
Q1-07	1409.0		0.02		4.0		7,250,389	
Q2-07	1692.0		0.04		4.2		8,203,421	
Q3-07	1222.0		0.004		3.5		6,553,414	
Q4-07	498.0		0.012		6.9		5,741,687	
		4,821		0.08		19		27,748,911
Q1-08	933.0		0.054		3.3		6,394,472	
Q2-08	1268.0		0.01		4.3		6,750,450	
Q3-08	1686.0		0.008		6.73		8,159,637	
Q4-08	2034.0		0.011		7.57		9,010,318	
		5,921		0.08		22		30,314,877
Q1-09	1667.0		0.007		5.8		7,487,247	
Q2-09								
Q3-09								
Q4-09								
TOTAL		1,667 59,346		0.01 4		6 269		7,487,247 275,286,822
[a] estimated loading based on replication of previous quarter's constituent concentrations.								
Flow data are actual for each quarter								

**Olin Niagara Falls Plant Site: Plant 2 Area Remediation
Groundwater Contaminant Mass Removed
Q1--09**

ORGANICS

WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	20.050	3.8	2.20E-06	0.00016762	1190476.19	348,074	58
RW2	0.230	3.8	2.20E-06	0.00000192	1190476.19	3,519,206	7
RW3	2.395	3.8	2.20E-06	0.00002002	1190476.19	494,424	10
RW4	1.949	3.8	2.20E-06	0.00001629	1190476.19	757,169	12
PR4	2.735	3.8	2.20E-06	0.00002286	1190476.19	216,269	5
RW5	97.500	3.8	2.20E-06	0.00081510	1190476.19	1,538,570	1254
PR12	64.500	3.8	2.20E-06	0.00053922	1190476.19	567,018	306
OBA9AR	38.390	3.8	2.20E-06	0.00032094	1190476.19	46,517	14.93
TOTAL							1,667

MERCURY

WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	0.0012	3.8	2.20E-06	0.00000001	1190476.19	348,074	0.003
RW2	0.0000	3.8	2.20E-06	0.00000000	1190476.19	3,519,206	0.000
RW3	0.0002	3.8	2.20E-06	0.00000000	1190476.19	494,424	0.001
RW4	0.0004	3.8	2.20E-06	0.00000000	1190476.19	757,169	0.002
PR4	0.0000	3.8	2.20E-06	0.00000000	1190476.19	216,269	0.000
RW5	0.0000	3.8	2.20E-06	0.00000000	1190476.19	1,538,570	0.000
PR12	0.0000	3.8	2.20E-06	0.00000000	1190476.19	567,018	0.000
OBA9AR	0.0000	3.8	2.20E-06	0.00000000	1190476.19	46,517	0.000
TOTAL							0.007

PESTICIDES

WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	0.0160	3.8	2.20E-06	0.00000013	1190476.19	348,074	0.05
RW2	0.0004	3.8	2.20E-06	0.00000000	1190476.19	3,519,206	0.01
RW3	0.1590	3.8	2.20E-06	0.00000133	1190476.19	494,424	0.66
RW4	0.0510	3.8	2.20E-06	0.00000043	1190476.19	757,169	0.32
PR4	0.1910	3.8	2.20E-06	0.00000160	1190476.19	216,269	0.35
RW5	0.2230	3.8	2.20E-06	0.00000186	1190476.19	1,538,570	2.87
PR12	0.2050	3.8	2.20E-06	0.00000171	1190476.19	567,018	0.97
OBA9AR	1.4190	3.8	2.20E-06	0.00001186	1190476.19	46,517	0.552
TOTAL							5.78

[A] = Total of parameter group in quarterly sample from recovery well discharge header.

7,487,247
total flow (gal)

**Olin Niagara Falls Plant Site: Plant 2 Area Remediation
Groundwater Contaminant Mass Removed
Q4-08**

ORGANICS

WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	25.930	3.8	2.20E-06	0.00021677	1190476.19	383,131	83
RW2	0.290	3.8	2.20E-06	0.00000242	1190476.19	3,820,762	9
RW3	0.690	3.8	2.20E-06	0.00000577	1190476.19	752,855	4
RW4	3.322	3.8	2.20E-06	0.00002777	1190476.19	936,550	26
PR4	3.321	3.8	2.20E-06	0.00002776	1190476.19	1,042,089	29
RW5	133.200	3.8	2.20E-06	0.00111355	1190476.19	1,434,258	1597
PR12	54.660	3.8	2.20E-06	0.00045696	1190476.19	548,651	251
OBA9AR	45.490	3.8	2.20E-06	0.00038030	1190476.19	92,022	35.00
TOTAL							2,034

MERCURY

WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	0.0016	3.8	2.20E-06	0.00000001	1190476.19	383,131	0.005
RW2	0.0000	3.8	2.20E-06	0.00000000	1190476.19	3,820,762	0.000
RW3	0.0004	3.8	2.20E-06	0.00000000	1190476.19	752,855	0.002
RW4	0.0003	3.8	2.20E-06	0.00000000	1190476.19	936,550	0.003
PR4	0.0000	3.8	2.20E-06	0.00000000	1190476.19	1,042,089	0.000
RW5	0.0000	3.8	2.20E-06	0.00000000	1190476.19	1,434,258	0.000
PR12	0.0002	3.8	2.20E-06	0.00000000	1190476.19	548,651	0.001
OBA9AR	0.0000	3.8	2.20E-06	0.00000000	1190476.19	92,022	0.000
TOTAL							0.011

PESTICIDES

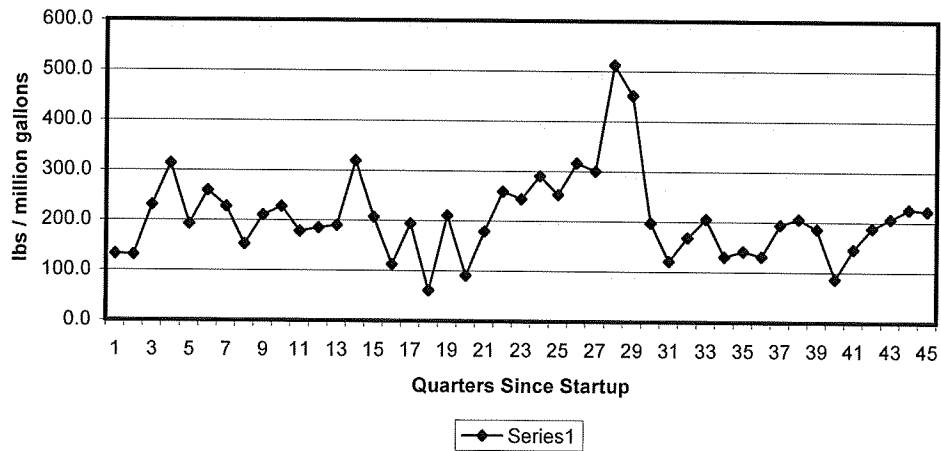
WELL	conc [A] mg/l	conv liter / gal	conv lb /mg	conversion lb/gallon	conversion gal/lb	flow gal/qtr	MASS lb/qtr
RW1	0.0247	3.8	2.20E-06	0.00000021	1190476.19	383,131	0.08
RW2	0.0005	3.8	2.20E-06	0.00000000	1190476.19	3,820,762	0.02
RW3	0.0333	3.8	2.20E-06	0.00000028	1190476.19	752,855	0.21
RW4	0.0615	3.8	2.20E-06	0.00000051	1190476.19	936,550	0.48
PR4	0.1879	3.8	2.20E-06	0.00000157	1190476.19	1,042,089	1.64
RW5	0.2690	3.8	2.20E-06	0.00000225	1190476.19	1,434,258	3.23
PR12	0.2145	3.8	2.20E-06	0.00000179	1190476.19	548,651	0.98
OBA9AR	1.2220	3.8	2.20E-06	0.00001022	1190476.19	92,022	0.940
TOTAL							7.57

[A] = Total of parameter group in quarterly sample from recovery well discharge header.

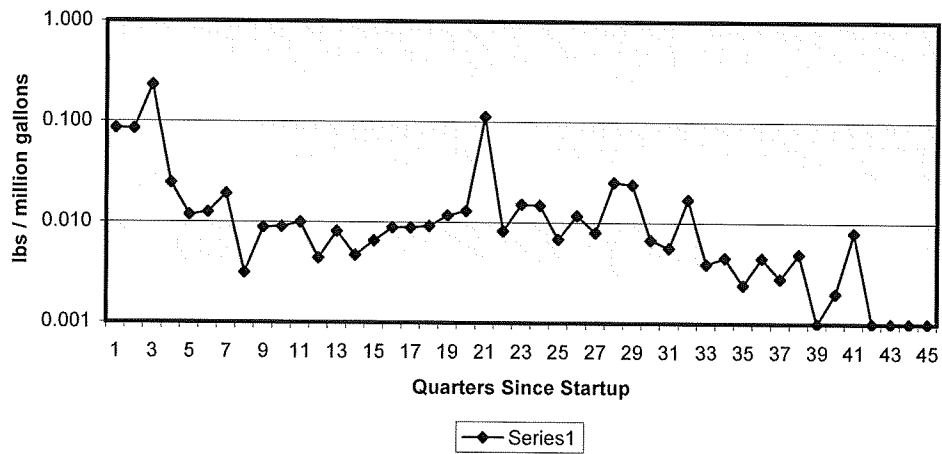
9,010,318
total flow (gal)

Olin Niagara Falls Plant 2 Area Remediation Rates

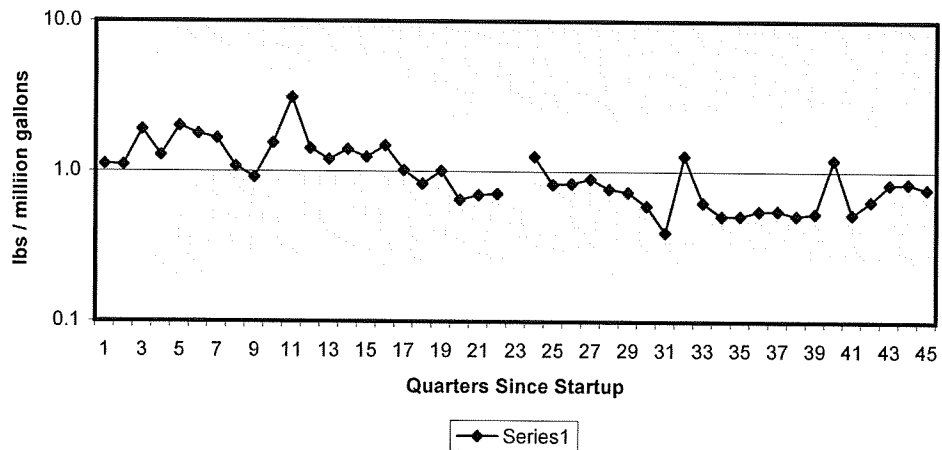
Organics Removal Rates



Hg Removal Rates



BHC Removal Rates





MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: April 9, 2009

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for March 2009**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6107090001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin –Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for March 2009:

Ground-Water Collection and Treatment System Status				
March 2009				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	2.6	557.47	557.5	19
RW-2	23.7	557.44	557.7	23
RW-3	2.1	557.55	557.5	6
RW-4	3.7	555.82	557.5	31
PR-4	2.2	552.83	556.7	30
RW-5	11.7	557.34	557.5	27
PR-12	3.5	556.87	558.5	31
OBA-9AR	0.6	557.41	557.7	29

Prepared By: CMB 4/9/2009 *CMB 4/9/09*
Checked By: AWE 4/9/2009 *AWE 4/9/09*

With the exceptions of RW-1 and RW-2, each well operated at an adequate flowrate to meet its target drawdown level for the majority of March 2009. The flowrates in RW-1 and RW-2 remained similar to the rates in February 2009, but the water levels in the wells increased likely due to seasonal high groundwater. Both pumps are at their maximum flowrate and could not be increased further.

With the exception of RW-3, exceedances in the other wells were minor and mostly due to small fluctuations in water levels and pump flow rates. RW-3 experienced a pump failure which has caused the majority of its downtime. RW-3 is awaiting a replacement pump. Prior to the pump failure, RW-3 operated at an adequate flowrate to meet the target drawdown level.

The following is a list of downtimes occurring in March and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
PR-4	3/3/09	1:10	Acid washing
RW-1	3/3/09	10:20	Bad transducer; changed on 3/5/09
System	3/7/09	14:00	High rain event
RW-2	3/11/09	5 days	Reducer connecting to pump rotted out, fixed 3/16/09
RW-3	3/16/09	4:30	Repair of protective cover
RW-3	3/17/09	15+days	Bad pump waiting on replacement
System	3/19/09	1:20	Rain event – high level in 7S sewer
RW-4	3/23/09	2:05	Piping repair
System	3/28/09	26:00	Rain event – high level in 7S sewer
System	3/29/09	5:15	Rain event – high level in 7S sewer

Prepared By: CMB 3/4/2009 CMB 4/9/09
 Checked By: AWE 3/4/2009 AWE 4/9/09

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	3/3/2009	0.14	0.06	
	3/11/2009	-0.18	-0.02	
	3/17/2009	-0.27	-0.04	
	3/24/2009	-0.16	0.00	
	3/31/2009	-0.18	-0.05	
RW-2	3/3/2009	0.03	-0.05	
	3/11/2009	0.05	-0.06	
	3/17/2009	-0.42	-0.08	
	3/24/2009	-0.03	-0.04	
	3/31/2009	0.01	-0.05	
RW-3	3/3/2009	-0.10	-0.06	
	3/11/2009	-0.07	-0.06	
	3/17/2009	-0.11	-0.05	
	3/24/2009	-0.16	-0.06	
	3/31/2009	NM	-0.06	Well down
RW-4	3/3/2009	0.11	0.07	
	3/11/2009	0.36	0.04	
	3/17/2009	-0.14	-0.12	
	3/24/2009	0.12	0.16	
	3/31/2009	0.16	0.10	
PR-4	3/3/2009	-0.04	-0.05	
	3/11/2009	-0.06	0.23	
	3/17/2009	-0.06	0.05	
	3/24/2009	-0.11	0.19	
	3/31/2009	0.05	0.33	
RW-5	3/3/2009	-0.06	-0.05	
	3/11/2009	0.04	-0.05	
	3/17/2009	-0.06	-0.03	
	3/24/2009	-0.07	-0.05	
	3/31/2009	-0.01	-0.04	
PR-12	3/3/2009	0.09	NA	
	3/11/2009	0.19	NA	
	3/17/2009	0.04	NA	
	3/24/2009	0.08	NA	
	3/31/2009	0.08	NA	
OBA-9AR	3/3/2009	0.18	-0.02	
	3/11/2009	0.18	-0.07	
	3/17/2009	0.04	0.08	
	3/24/2009	0.11	0.01	
	3/31/2009	0.07	0.09	

Prepared By: CMB 4/9/2009 CMB 4/9/09
Checked By: AWE 4/9/2009 Awiz 4/9/09

DNAPL INSPECTION

On March 16, 2009 eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-4	1.0	NO	None	
PR-12	1.0	YES	15ml	
RW-1	1.0	NO	None	
RW-2	1.0	NO	None	
RW-3	1.0	NO	None	
RW-4	1.0	NO	None	
RW-5	1.0	NO	None	
OBA-9AR	2.5	YES	2 Liters	
OBA-10A	1.0	NO	None	
PN-11B	1.0	NO	None	
PN-12B	1.0	YES	50ml	
PN-14B	1.0	NO	None	
PN-21B	1.0	YES	Trace	
PN-22B	1.5	YES	4 Liters	
PN-23B	1.0	NO	None	

Prepared By: CMB 4/9/2009 *CMB 4/9/09*
Checked By: AWE 4/9/2009 *AWE 4/9/09*



Anthony W. Englund
Senior Engineer



Frederick K. Marotte
Project Principal



MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, Greg Moslow, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: January 9, 2009

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for December 2008**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6107-09-0001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin -Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for December 2008:

Ground-Water Collection and Treatment System Status				
December 2008				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	3.0	557.27	557.5	27
RW-2	29.1	557.38	557.7	28
RW-3	5.9	557.49	557.5	24
RW-4	11.7	555.79	557.5	29
PR-4	3.8	552.98	556.7	29
RW-5	11.6	557.45	557.5	25
PR-12	4.9	557.17	558.5	29
OBA-9AR	0.9	557.30	557.7	30

Prepared By: CMB 1/8/2009 *CMB 1/12/09*
Checked By: AWE 1/8/2009 *AWE 1/8/09*

Each well operated at an adequate flowrate to meet its target drawdown level for the majority of December 2008. Exceedances were minor and mostly due to fluctuations in water levels despite consistent pumping rates. Flow rates were increased as necessary to meet the target drawdown levels.

The following is a list of downtimes occurring in December and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
System	12/12	3:50	High level in 7S sump – rain event
	12/15	1:15	High pH – acid tote replaced
	12/27	3:50	High level in 7S sump – rain event
RW-1	12/2	0:05	pH probe calibration
RW-2	12/2	0:10	pH probe calibration
RW-5	12/10 –		
	12/12	42:35	Bad pump – replaced.

Prepared By: CMB 1/8/2009 *CMB 1/12/09*
 Checked By: AWE 1/8/2009 *Awe 1/8/09*

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	12/2/2008	0.07	0.00	
	12/9/2008	0.04	0.06	
	12/16/2008	-0.03	-0.11	
	12/23/2008	-0.02	0.06	
	12/30/2008	0.04	-0.05	
RW-2	12/2/2008	0.00	-0.04	
	12/9/2008	-0.04	-0.07	
	12/16/2008	-0.05	-0.06	
	12/23/2008	0.04	-0.05	
	12/30/2008	-0.01	-0.07	
RW-3	12/2/2008	0.26	-0.05	
	12/9/2008	0.24	-0.06	
	12/16/2008	-0.06	-0.05	
	12/23/2008	0.14	-0.06	
	12/30/2008	-0.12	-0.03	
RW-4	12/2/2008	0.07	0.11	
	12/9/2008	0.10	0.06	
	12/16/2008	0.12	0.04	
	12/23/2008	0.19	0.07	
	12/30/2008	0.16	0.09	
PR-4	12/2/2008	-0.07	0.04	
	12/9/2008	0.02	-0.11	
	12/16/2008	-0.01	0.02	
	12/23/2008	0.02	-0.04	
	12/30/2008	-0.07	-0.04	
RW-5	12/2/2008	-0.02	-0.05	
	12/9/2008	-0.07	-0.05	
	12/16/2008	-0.04	-0.05	
	12/23/2008	-0.07	-0.05	
	12/30/2008	-0.10	-0.05	
PR-12	12/2/2008	0.08	NA	
	12/9/2008	0.08	NA	
	12/16/2008	0.18	NA	
	12/23/2008	0.07	NA	
	12/30/2008	0.07	NA	
OBA-9AR	12/2/2008	0.03	0.02	
	12/9/2008	0.17	-0.04	
	12/16/2008	0.16	0.05	
	12/23/2008	0.08	0.04	
	12/30/2008	0.13	-0.03	

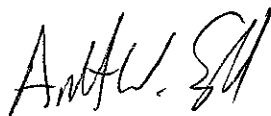
Prepared By: CMB 1/8/2009 *CMB 1/12/09*
Checked By: AWE 1/8/2009 *AWE 1/8/09*

DNAPL INSPECTION

On December 1, 2008, eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-4	1	NO	None	
PR-12	1	NO	None	
RW-1	1	NO	None	
RW-2	1	NO	None	
RW-3	1	NO	None	
RW-4	1	NO	None	
RW-5	1	YES	5 ml	
OBA-9AR	1	YES	1500 ml	
OBA-10A	1	NO	None	
PN-11B	1	NO	None	
PN-12B	1	YES	250 ml	
PN-14B	1	YES	75 ml	
PN-21B	1	YES	250 ml	

Prepared By: CMB 1/8/2009 *CMB 1/12/09*
Checked By: AWE 1/8/2009 *AWE 1/8/09*



Anthony W. Englund
Senior Engineer



Frederick K. Marotte
Project Principal



MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, Greg Moslow, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: March 6, 2009

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for February 2009**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6107090001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin -Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for February 2009:

Ground-Water Collection and Treatment System Status				
February 2009				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	2.7	557.16	557.5	23
RW-2	28.9	557.23	557.7	27
RW-3	4.4	557.39	557.5	22
RW-4	5.4	555.70	557.5	27
PR-4	1.7	552.96	556.7	27
RW-5	12.0	557.30	557.5	24
PR-12	4.3	556.43	558.5	27
OBA-9AR	0.2	558.51	557.7	19

Prepared By: CMB 3/4/2009 *CMB 3/4/09*
Checked By: AWE 3/4/2009 *AWE 3/4/09*

Each well operated at an adequate flowrate to meet its target drawdown level for the majority of February 2009. With the exception of OBA-9AR, exceedances were minor and mostly due to small fluctuations in water levels and pump flow rates. Flow rates were increased as necessary to meet the target drawdown levels. The OBA-9AR aboveground piping froze causing its extended downtime.

The following is a list of downtimes occurring in February and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
System	2/11/2009 – 2/12/2009	10:50	Rain event – high level in 7S sewer
System	2/24/2009- 2/25/2009	12:20	Rain event – high level in 7S sewer
RW-3	2/24/2009	6:10	Well shut down inadvertently during GW sampling
OBA-9AR	2/1/2009- 2/9/2009	9 days	Aboveground piping frozen

Prepared By: CMB 3/4/2009 *CMB 3/4/09*
 Checked By: AWE 3/4/2009 *Awe 3/4/09*

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	2/3/2009	0.01	-0.01	
	2/10/2009	0.01	-0.01	
	2/17/2009	0.05	0.00	
	2/24/2009	0.04	-0.04	
RW-2	2/3/2009	0.08	-0.05	
	2/10/2009	0.03	-0.06	
	2/17/2009	0.06	-0.05	
	2/24/2009	-0.03	-0.07	
RW-3	2/3/2009	-0.03	-0.06	
	2/10/2009	-0.08	-0.06	
	2/17/2009	-0.06	-0.06	
	2/24/2009	-0.02	-0.10	
RW-4	2/3/2009	0.12	0.43	
	2/10/2009	0.17	0.08	
	2/17/2009	0.15	0.11	
	2/24/2009	0.11	0.06	
PR-4	2/3/2009	-0.06	-0.03	
	2/10/2009	-0.06	0.26	
	2/17/2009	1.35	0.09	Transducer recalibrated
	2/24/2009	0.01	0.01	
RW-5	2/3/2009	-0.04	-0.03	
	2/10/2009	-0.06	-0.05	
	2/17/2009	-0.06	-0.05	
	2/24/2009	-0.06	-0.05	
PR-12	2/3/2009	0.09	NA	
	2/10/2009	0.13	NA	
	2/17/2009	-0.06	NA	
	2/24/2009	0.04	NA	
OBA-9AR	2/3/2009	-0.03	0.02	
	2/10/2009	0.06	-0.19	
	2/17/2009	0.16	0.03	
	2/24/2009	0.17	-1.02	

Prepared By: CMB 2/13/2009 *CMB 3/4/09*
 Checked By: AWE 2/13/2009 *AWE 3/4/09*

DNAPL INSPECTION

On February 24, 2009 eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-1	1.0	NO	----	
PR-2	1.0	NO	----	
PR-3	1.0	NO	----	
PR-4	1.0	NO	----	
PR-5	1.0	NO	----	
PR-6	1.0	NO	----	
PR-7	1.0	NO	----	
PR-8	1.0	NO	----	
PR-9	1.0	YES	Trace	
PR-10	1.0	NO	----	
PR-11	1.0	NO	----	
PR-12	1.0	YES	50ml	
RW-1	1.0	NO	----	
RW-2	1.0	NO	----	
RW-3	1.0	NO	----	
RW-4	1.0	NO	----	
RW-5	1.0	YES	Trace	
OBA-9AR	1	YES	50ml	
OBA-10A	1.0	YES	Trace	
PN-11 B	1.0	NO	----	
PN-12 B	1.0	YES	100ml	
PN-14B	1.0	YES	30ml	
PN-15 B	1.0	YES	10ml	
PN-21 B	3	YES	250ml	

Prepared By: CMB 3/4/2009 *CMB 3/4/09*
 Checked By: AWE 3/4/2009 *AWE 3/4/09*

Anthony W. Englund

Anthony W. Englund
Senior Engineer

Frederick K. Marotte

Frederick K. Marotte
Project Principal



MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, Greg Moslow, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: February 13, 2009

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for January 2009**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6107090001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin –Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for January 2009:

Ground-Water Collection and Treatment System Status				
January 2009				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	2.7	556.83	557.5	30
RW-2	29	557.09	557.7	31
RW-3	5.0	557.23	557.5	30
RW-4	8.3	555.40	557.5	31
PR-4	1.1	552.82	556.7	30
RW-5	12	557.13	557.5	31
PR-12	5.2	556.44	558.5	31
OBA-9AR	0.3	560.16	557.7	10

Prepared By: CMB 2/13/2009

Checked By: AWE 2/13/2009

CMB 2/13/09
AWE 2/13/09

Each well operated at an adequate flowrate to meet its target drawdown level for the majority of January 2009. Exceedances were minor and mostly due to small fluctuations in water levels and pump flow rates. Flow rates were increased as necessary to meet the target drawdown levels.

The following is a list of downtimes occurring in January and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
System	1/11/09	31:00	High pH – acid tote replaced
RW-3	1/6/09	6:35	Well shut down by false low level signal – required manual restart – cause not determined – troubleshooting ongoing
RW-3	1/13/09	20:00	Well shut down by false low level signal – required manual restart – cause not determined – troubleshooting ongoing
RW-3	1/20/09	7:15	Well shut down by false low level signal – required manual restart – cause not determined – troubleshooting ongoing

Prepared By: CMB 2/13/2009 *CMB 2/13/09*
 Checked By: AWE 2/13/2009 *AWE 2/13/09*

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	1/6/2009	0.04	-0.05	
	1/13/2009	0.39	0.29	
	1/20/2009	0.02	-0.01	
	1/27/2009	0.09	-0.02	
RW-2	1/6/2009	0.03	-0.05	
	1/13/2009	0.04	-0.07	
	1/20/2009	0.01	-0.04	
	1/27/2009	-0.03	-0.06	
RW-3	1/6/2009	-0.08	0.16	
	1/13/2009	-0.07	-0.06	
	1/20/2009	0.08	-0.06	
	1/27/2009	0.15	-0.06	
RW-4	1/6/2009	0.11	0.39	
	1/13/2009	0.09	0.20	
	1/20/2009	0.14	0.32	
	1/27/2009	0.18	0.08	
PR-4	1/6/2009	-0.15	-0.02	
	1/13/2009	-0.06	0.12	
	1/20/2009	-0.21	0.00	
	1/27/2009	-0.17	0.05	
RW-5	1/6/2009	-0.08	-0.05	
	1/13/2009	-0.05	-0.05	
	1/20/2009	0.00	-0.05	
	1/27/2009	-0.05	-0.05	
PR-12	1/6/2009	-0.09	NA	
	1/13/2009	0.06	NA	
	1/20/2009	0.13	NA	
	1/27/2009	0.18	NA	
OBA-9AR	1/6/2009	0.15	-0.01	
	1/13/2009	-0.05	-0.08	
	1/20/2009	-0.07	-0.01	
	1/27/2009	-0.03	0.01	

Prepared By: CMB 2/13/2009 *CMB 2/13/09*
 Checked By: AWE 2/13/2009 *AWE 2/13/09*

DNAPL INSPECTION

On January 6, 2009 eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-4	1	NO	None	
PR-12	1	NO	None	
RW-1	1	NO	None	
RW-2	1	NO	None	
RW-3	1	NO	None	
RW-4	1	NO	None	
RW-5	1	NO	None	
OBA-9AR	1	YES	1250ml	
OBA-10A	1	NO	None	
PN-11B	1	NO	None	
PN-12B	1	YES	80ml	
PN-14B	1	YES	60ml	
PN-21B	1	YES	125ml	

Prepared By: CMB 2/13/2009 *CMB 2/13/09*
Checked By: AWE 2/13/2009 *Awe 2/13/09*



Anthony W. Englund
Senior Engineer



Frederick K. Marotte
Project Principal



MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, Greg Moslow, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: December 9, 2008

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for November 2008**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6100080001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin -Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for November 2008:

Ground-Water Collection and Treatment System Status				
November 2008				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	3.0	557.15	557.5	28
RW-2	28.8	557.43	557.7	29
RW-3	7.1	557.25	557.5	28
RW-4	6.4	556.55	557.5	28
PR-4	8.7	554.00	556.7	24
RW-5	10.6	557.41	557.5	26
PR-12	3.1	556.79	558.5	30
OBA-9AR	0.8	557.23	557.7	29

Prepared By: CMB 12/2/2008 *CMB 12/2/2008*
Checked By: AWE 12/2/2008 *AWE 12/2/2008*

Each well operated at an adequate flowrate to meet its target drawdown level for the majority of November 2008. Exceedances were minor and mostly due to small fluctuations in water levels and pump flow rates. Flow rates were increased as necessary to meet the target drawdown levels.

The following is a list of downtimes occurring in November and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
System	11/3	5:45	Groundwater sampling
	11/3	0:10	Power outage
	11/18	0:30	High level in 7S sump – rain event
	11/19	6:05	High level in 7S sump – rain event
	11/27 – 11/28	4:35	High differential pressure – backwashed carbon beds
RW-1	11/1	0:10	pH probe calibration
RW-2	11/1	0:05	pH probe calibration
RW-4	11/6	1:50	Transducer calibration
PR-4	11/6	0:25	Transducer calibration
RW-5	11/6	1:05	Transducer calibration
PR-12	11/1	0:20	Transducer replacement
	11/5	0:05	Transducer calibration
OBA-9AR	11/1	0:35	Transducer replacement
	11/5	0:45	Transducer calibration

Prepared By: CMB 12/2/2008 *CMB 12/2/2008*
 Checked By: AWE 12/2/2008 *AWE 12/2/2008*

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	11/4/2008	0.03	0.01	
	11/11/2008	-0.02	0.06	
	11/18/2008	0.07	0.06	
	11/25/2008	-0.01	-0.09	
RW-2	11/4/2008	0.03	-0.08	
	11/11/2008	-0.07	-0.06	
	11/18/2008	0.00	-0.10	
	11/25/2008	-0.10	-0.17	
RW-3	11/4/2008	-0.04	-0.04	
	11/11/2008	-0.10	-0.06	
	11/18/2008	-0.04	0.01	
	11/25/2008	-0.16	-0.06	
RW-4	11/4/2008	0.06	0.04	Transducer calibrated 11/6/08
	11/11/2008	-0.03	0.04	
	11/18/2008	0.07	0.04	
	11/25/2008	0.01	0.00	
PR-4	11/4/2008	-0.15	-0.04	Transducer calibrated 11/6/08
	11/11/2008	-0.46	-1.38	
	11/18/2008	0.63	-3.58	
	11/19/2008	-0.05	-0.08	
	11/25/2008	-0.07	-0.14	
RW-5	11/4/2008	0.35	-0.05	Transducer calibrated 11/6/08
	11/11/2008	-0.17	-0.05	
	11/18/2008	-0.07	-0.05	
	11/25/2008	-0.11	-0.05	
PR-12	11/4/2008	1.44	NA	Transducer calibrated 11/5/08
	11/11/2008	0.18	NA	
	11/18/2008	-0.01	NA	
	11/25/2008	0.17	NA	
OBA-9AR	11/4/2008	-1.00	-0.20	Transducer calibrated 11/5/08
	11/11/2008	0.07	-0.25	
	11/18/2008	0.24	0.74	
	11/25/2008	0.09	-0.52	

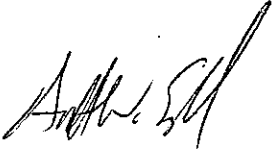
Prepared By: CMB 12/2/2008 *CMB 12/2/2008*
 Checked By: AWE 12/2/2008 *AWE 12/2/2008*

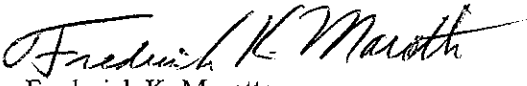
DNAPL INSPECTION

On November 3, 2008, eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-1	1.0	NO	----	
PR-2	1.0	NO	----	
PR-3	1.0	NO	----	
PR-4	1.0	NO	----	
PR-5	1.0	NO	----	
PR-6	1.0	NO	----	
PR-7	1.0	NO	----	
PR-8	1.0	NO	----	
PR-9	1.0	NO	----	
PR-10	1.0	YES	15 ml	
PR-11	1.0	NO	----	
PR-12	1.0	YES	100 ml	
RW-1	1.0	NO	----	
RW-2	1.0	NO	----	
RW-3	1.0	NO	----	
RW-4	1.0	NO	----	
RW-5	1.0	YES	50 ml	
OBA-9AR	2.5	YES	2.5 liters	
OBA-10A	1.0	YES	trace	
PN-11 B	1.0	NO	----	
PN-12 B	1.0	YES	500 ml	
PN-14B	1.0	YES	100 ml	
PN-15 B	1.0	NO	----	
PN-21 B	3	YES	2.25 liters	

Prepared By: CMB 12/2/2008 *CMB 12/2/2008*
Checked By: AWE 12/2/2008 *AWE 12/2/2008*


Anthony W. Englund
Senior Engineer


Frederick K. Marotte
Project Principal



MEMORANDUM

To: Mike Bellotti @ Olin-Charleston; Don Greer, Mike Sebring, Greg Moslow, and Gina Senia @ Olin-Niagara.

From: Tony Englund/Rick Marotte

Date: November 13, 2008

Subject: **Monthly O&M Status Update for Ground-Water Collection and Treatment System for October 2008**
Olin Corporation, Niagara Falls, New York
MACTEC Job # 6100080001

This memo addresses the status of the O&M issues for the ground-water collection and treatment system at the Olin –Niagara Plant, Niagara Falls, New York.

SYSTEM STATUS

The following table presents general treatment system data for October 2008:

Ground-Water Collection and Treatment System Status				
October 2008				
Recovery Well	Average Flowrate (gpm)	Average GW Elevation (ft MSL)	Target Drawdown Level (ft MSL)	Days Meeting Target Drawdown
RW-1	2.7	557.02	557.5	31
RW-2	28.7	557.32	557.7	31
RW-3	4.1	557.17	557.5	30
RW-4	3.1	556.77	557.5	31
PR-4	11.1	554.90	556.7	28
RW-5	10.3	557.08	557.5	31
PR-12	4.4	555.82	558.5	31
OBA-9AR	0.3	557.30	557.7	31

Prepared By: CMB 11/4/2008 *CMB 11/4/08*
Checked By: AWE 11/4/2008 *AWE 11/4/08*

Each well operated at an adequate flowrate to meet its target drawdown level for the majority of October 2008. Exceedances were minor and mostly due to small fluctuations in water levels and pump flow rates. Flow rates were increased as necessary to meet the target drawdown levels.

The following is a list of downtimes occurring in October and their associated causes.

DOWNTIMES

Well	Date	Duration (hrs:min)	Reason
System	10/16	1:45	
	10/24	0:40	
	10/28	1:50	
	10/28	0:15	
PR-4	10/8 – 10/9	33:15	Low level shut down
	10/12 – 10/13	11:25	Low level shut down
	10/13 – 10/14	13:35	Low level shut down
	10/14 – 10/15	9:30	Low level shut down
	10/23 – 10/24	15:20	Low level shut down – pump flow rate and control points changed to minimize low level conditions

Prepared By: CMB 11/4/2008

Checked By: AWE 11/4/2008

CMB 11/4/08
AWE 11/4/08

WELL INSPECTIONS

Each week, the recovery wells are inspected for well loss and transducer calibration. Consistent differences of a foot or greater between the well and the piezometer indicate unacceptable well loss and is generally corrected by acid washing the well. Any differences seen between the OMNX measurement and the actual measurement are generally a result of level changes between the time the readings are collected or differences caused by signal noise. If high differences (>1 ft) are seen consistently, the transducer will be checked, cleaned, and/or replaced, if necessary. The following table summarizes the results of those inspections and any actions taken to correct problems:

	Date	Piez/OMNX Difference (ft)	Piez/Well Difference (ft)	Comment
RW-1	10/7/2008	0.24	-0.06	
	10/21/2008	0.33	0.05	Transducer zeros reset on 10/27/2008
	10/28/2008	0.10	-0.01	
RW-2	10/7/2008	0.18	-0.04	
	10/21/2008	0.21	0.00	Transducer zeros reset on 10/27/2008
	10/28/2008	-0.03	-0.03	
RW-3	10/7/2008	0.14	-0.06	
	10/21/2008	0.23	-0.06	Transducer zeros reset on 10/27/2008
	10/28/2008	0.09	-0.05	
RW-4	10/7/2008	0.08	0.01	
	10/21/2008	0.13	0.04	Transducer zeros reset on 10/27/2008
	10/28/2008	0.05	0.04	
PR-4	10/7/2008	0.44	-0.65	
	10/21/2008	0.42	-0.22	Transducer zeros reset on 10/27/2008
	10/28/2008	-0.22	-0.04	
RW-5	10/7/2008	0.34	-0.05	
	10/21/2008	0.38	-0.05	Transducer zeros reset on 10/27/2008
	10/28/2008	0.29	-0.01	
PR-12	10/7/2008	-0.63	NA	
	10/21/2008	-0.65	NA	Transducer zeros reset on 10/27/2008
	10/28/2008	1.25	NA	Transducer replaced 11/1/2008
OBA-9AR	10/7/2008	0.36	-0.15	
	10/21/2008	0.33	0.14	Transducer zeros reset on 10/27/2008
	10/28/2008	1.00	-0.10	Transducer replaced 11/1/2008

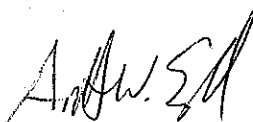
Prepared By: CMB 11/4/2008 CMB 11/4/08
 Checked By: AWE 11/4/2008 AWE 11/4/08

DNAPL INSPECTION

On October 3, 2008, eight recovery wells and five monitoring wells were inspected for the presence of DNAPL. The following table presents the results of the inspection:

Well	Volume Purged (gallons)	DNAPL Presence	DNAPL Quantity Removed (mL)	Comment
PR-4	1	No		
PR-12	1	Yes	1 L	
RW-1	1	No		
RW-2	1	No		
RW-3	1	No		
RW-4	1	No		
RW-5	1	Yes	5 mL	
OBA-9AR	1	Yes	7 L	
OBA-10A	1	No		
PN-11B	1	No		
PN-12B	1	Yes	500 mL	
PN-14B	1	Yes	20 mL	
PN-21B	1	Yes	40 mL	

Prepared By: CMB 11/4/2008 *CMB 11/4/08*
Checked By: AWE 11/4/2008 *AWE 11/4/08*


Anthony W. Englund
Senior Engineer


Frederick K. Marotte
Project Principal



engineering and constructing a better tomorrow

April 16, 2009

Mr. Mike Bellotti
Principal Scientist
Olin Corporation
Environmental Remediation Group
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

**Subject: First Quarter 2009 Deliverable
Niagara Falls Plant No. 2
Niagara Falls, NY
MACTEC Project No. 6107-09-0001**

Dear Mr. Bellotti:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to provide you with the First Quarter 2009 Deliverable for Plant No. 2 in Niagara Falls, NY. The deliverable includes hydrographs, potentiometric surface maps and cross sections generated with February 2009 water levels.

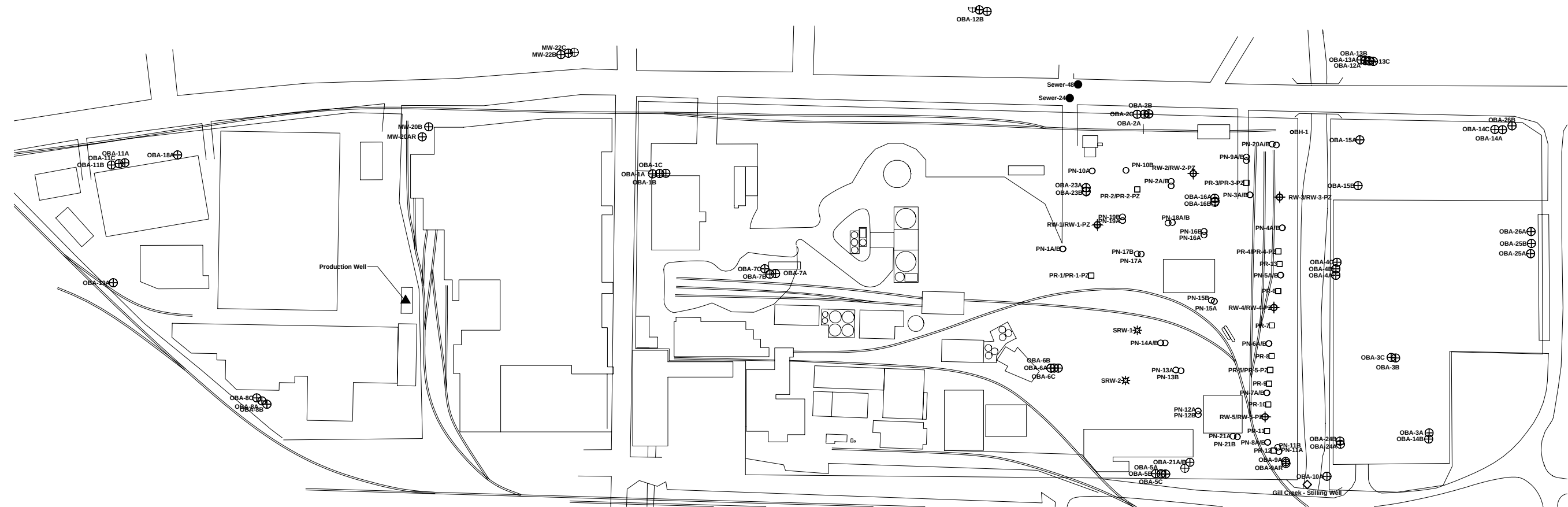
MACTEC appreciates this opportunity to be of service to Olin Corporation. If you have any questions or comments about this project, please call us at (770) 421-3400.

Sincerely,

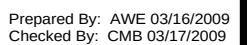
MACTEC ENGINEERING AND CONSULTING, INC.


Anthony W. Englund
Senior Engineer


Frederick K. Marotte
Project Principal



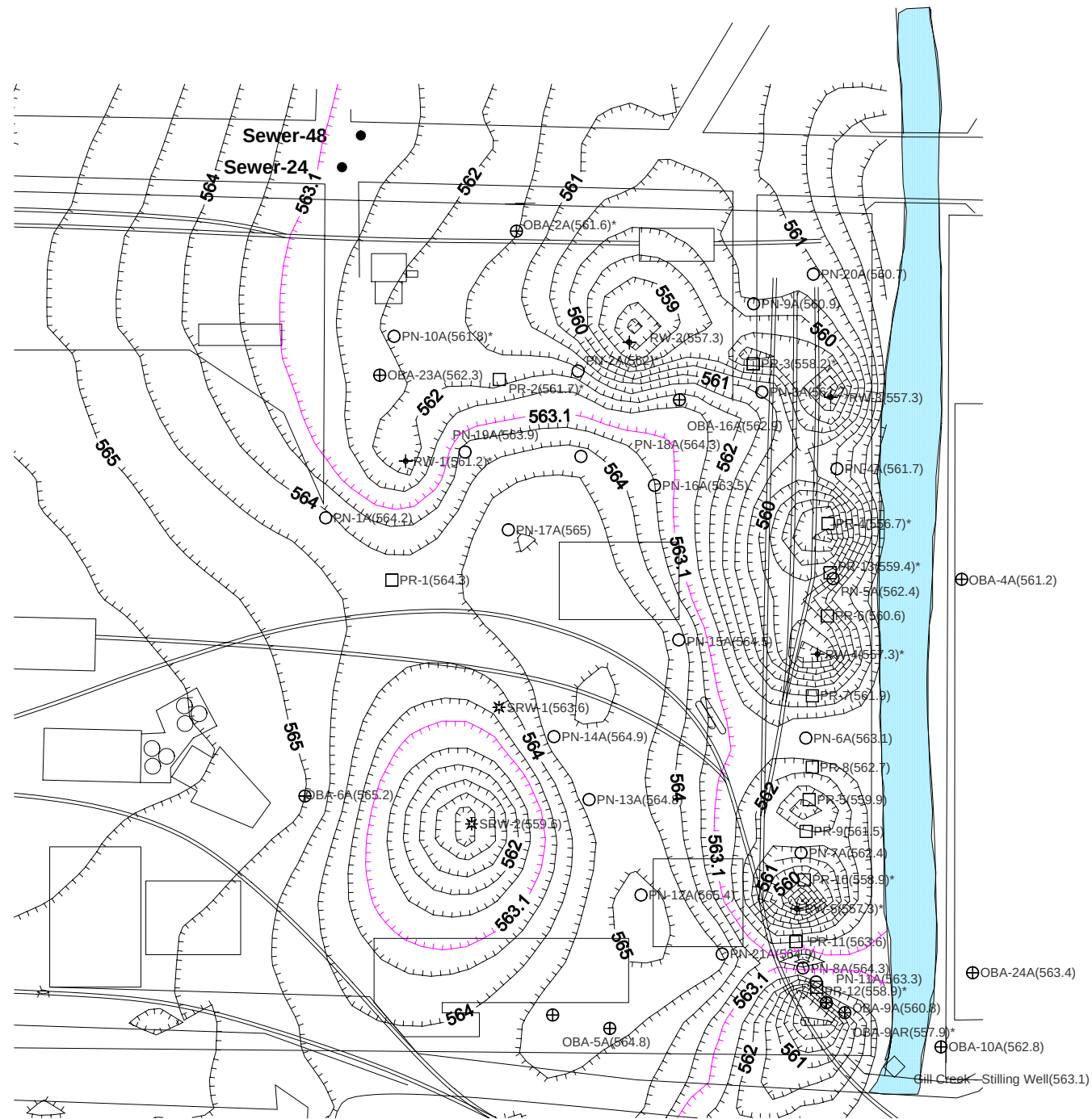
	GILL CREEK MONITORING POINT
	OLIN PRODUCTION WELL
	WATER QUALITY MONITORING WELLS
	A/B ZONE PIEZOMETER NESTS
	GROUNDWATER RECOVERY WELLS
	PASSIVE RELIEF WELLS
	SEWER INVERT ELEVATION
	SUPPLEMENTAL REMEDIATION WELL
	PROPERTY LINE



MACTEC

Job No.: 6300-06-0005

POTENTIOMETRIC SURFACE MAPS

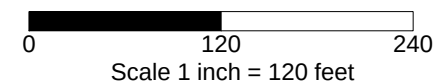


Extraction Well	Average Flow Rate (gpm)***
RW-1	2.3
RW-2	23.3
RW-3	2.3
RW-4	3.9
RW-5	9.7
PR-4	0.7
PR-12	3.4
OBA-9AR	0.2

*** : Averaged using daily flow rates for February 24, 2009.
: The water levels in RW-1, RW-4, RW-5, PR-4, PR-12, and OBA-9AR were below the bottom of the A-zone.

LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUND WATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE
- 565 — ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)
- EQUIPOTENTIAL CONTOUR EQUIVALENT TO GILL CREEK ELEVATION
- GILL CREEK AREA



NOTES

- * : Well dry or water level below the bottom of the A-zone, elevation of bottom of A-Zone used in contouring.
- : Buffalo Avenue Sewer invert is assumed to be a groundwater sink. The piezometric surface is estimated as the bottom of the A-zone. The bottom of the A-zone along Buffalo Avenue was estimated from borings OBA-1A, OBA-2A, OBA-3A, and OBA-11A.

NM : Not measured

The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well. The average diurnal elevation on February 24, 2009 (563.1 ft msl) was used in contouring the A zone.

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

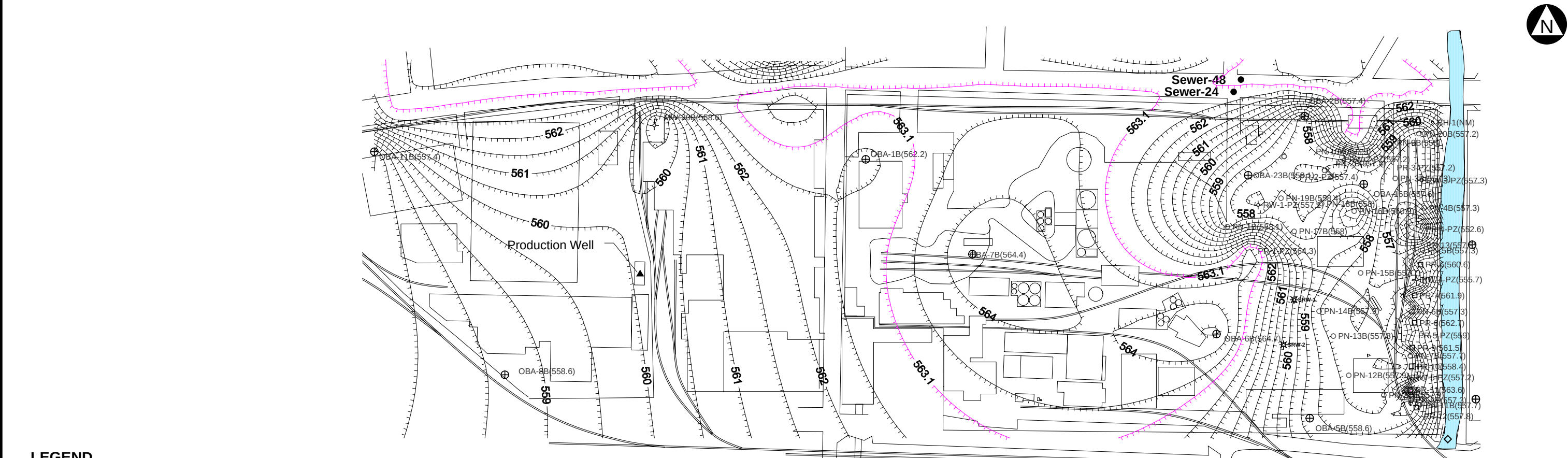
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



ARGC AREA
POTENTIOMETRIC SURFACE -- A ZONE
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 1A



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL

PROPERTY LINE

565 ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)

GILL CREEK AREA

Extraction Well	Average Flow Rate (gpm)***
RW-1	2.3
RW-2	23.3
RW-3	2.3
RW-4	3.9
RW-5	9.7
PR-4	0.7
PR-12	3.4
OBA-9AR	0.2

*** : Averaged using daily flow rates for February 24, 2009.
: The water levels in RW-1, RW-4, RW-5, PR-4, PR-12, and OBA-9AR were below the bottom of the A-zone.

0 200 400
Scale: 1 inch = 200 feet

NOTES

- ▲ : Olin Production Well.
- : Buffalo Avenue Sewer invert is assumed to be a groundwater sink. The piezometric surface is not known. The ground water contours were estimated based on the sewer invert elevation.
- : The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well.
- : Contour interval = 0.5 foot
- : Hypothetical data points (563.1 feet msl) added along southern portion of Gill Creek in area without monitoring wells to account for leakage.

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

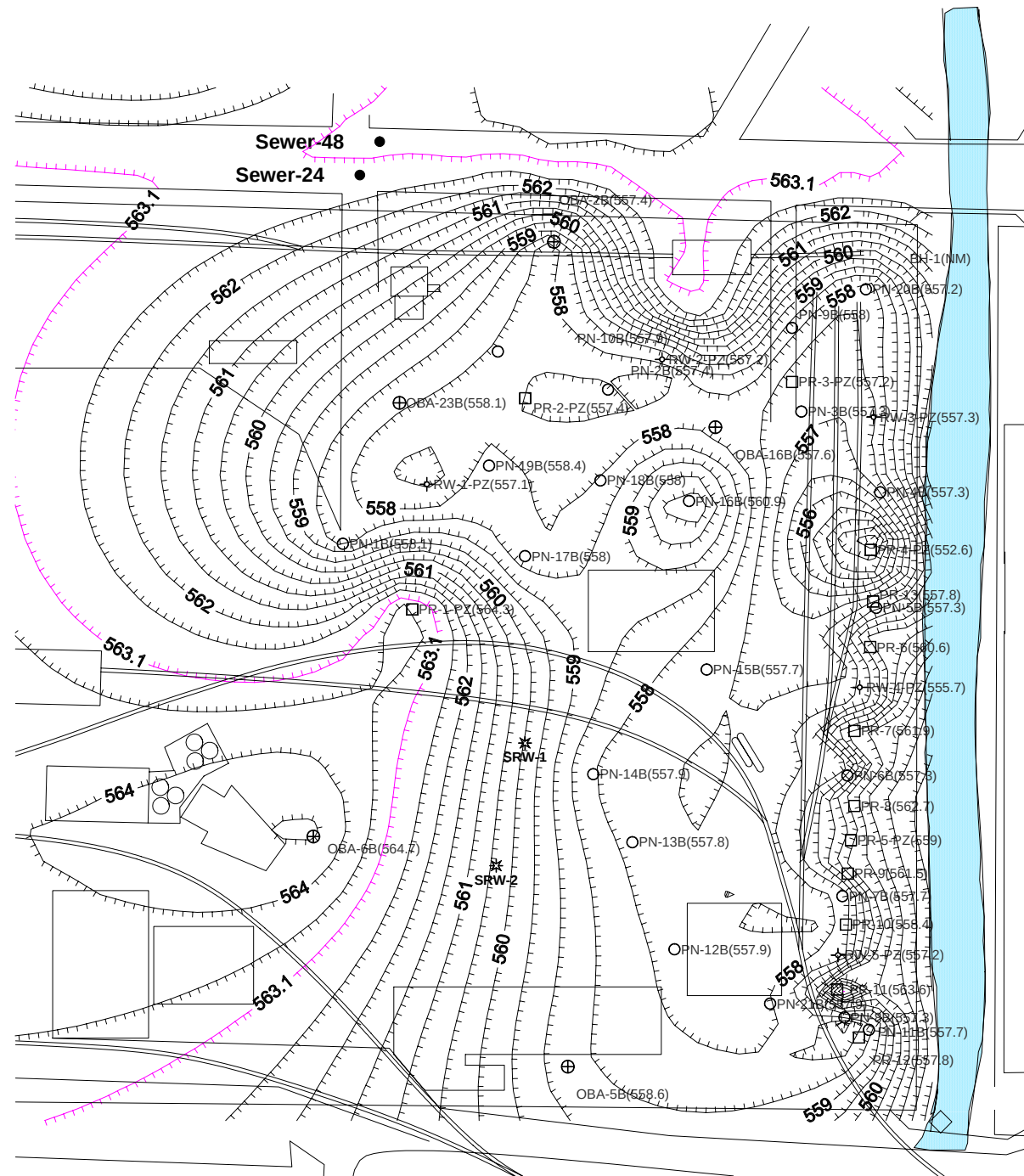
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



POTENTIOMETRIC SURFACE -- B ZONE
(February 24, 2009)

Job No.: 6107-09-0001

Figure 2



Extraction Well	Average Flow Rate (gpm)**
RW-1	2.3
RW-2	23.3
RW-3	2.3
RW-4	3.9
RW-5	9.7
PR-4	0.7
PR-12	3.4
OBA-9AR	0.2

*** : Averaged using daily flow rates for February 24, 2009.
: The water levels in RW-1, RW-4, RW-5, PR-4, PR-12, and OBA-9AR were below the bottom of the A-zone.

LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUND WATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE
- 565 — ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FEET)
- GILL CREEK AREA

0 120 240
Scale: 1 inch = 120 feet

NOTES

- * : Elevation not used in contouring.
- ▲ : Olin Production Well.
- : Buffalo Avenue Sewer invert is assumed to be a ground-water sink. The piezometric surface is not known. The ground water contours were estimated based on the sewer invert elevation.
- : The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well.
- : Contour interval = 1 foot
- : Hypothetical data points (563.1 feet msl) added along southern portion of Gill Creek in area without monitoring wells to account for leakage.

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

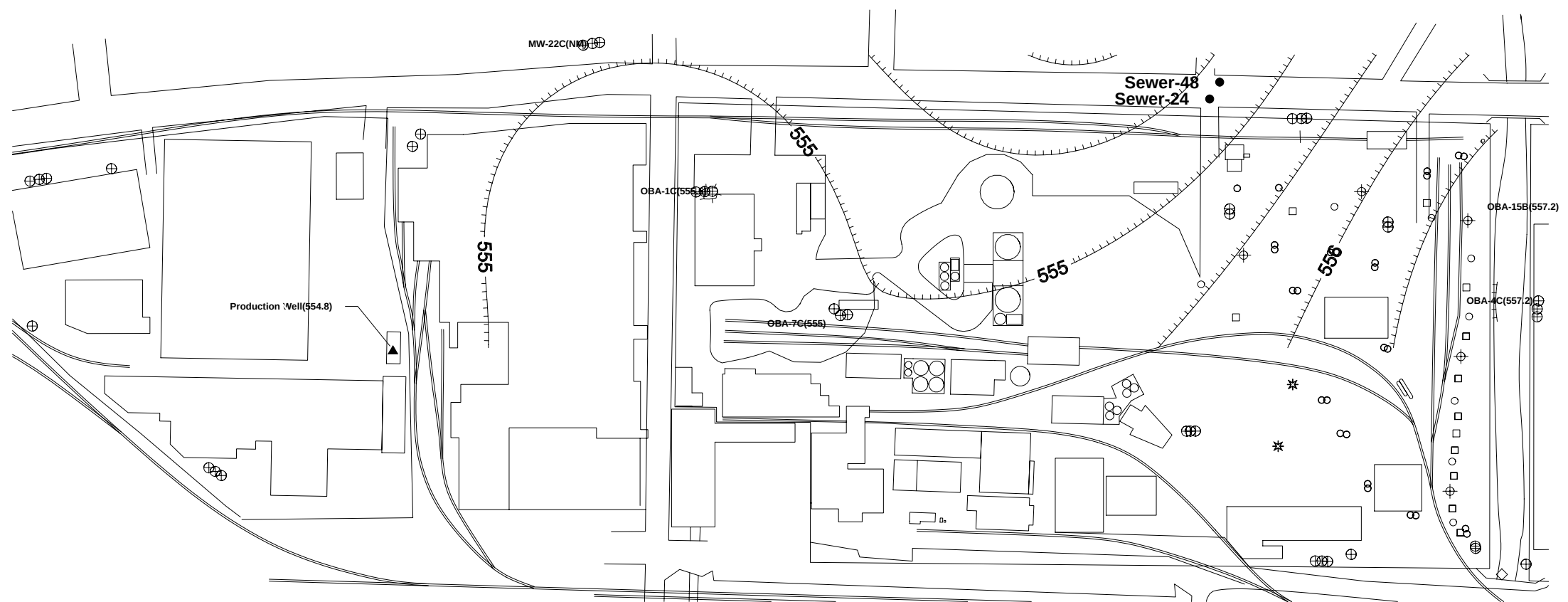
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



ARGC AREA
POTENTIOMETRIC SURFACE -- B ZONE
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 2A



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS (FLOW RATE FROM OMNX SYSTEM)
- PASSIVE RELIEF WELLS
- SEWER INVERT
- PROPERTY LINE
- 565 ——— ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)

Well	Average Flow Rate (gpm)
Olin Production Well	512

Pumping Rate to Water Elevation Conversion:
 $Y = -0.00613915 (X) + 557.951$

Where:
Y = Water Elevation (ft)
X = Pumping Rate (gpm)

0 200 400
Scale 1 inch = 200 feet

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

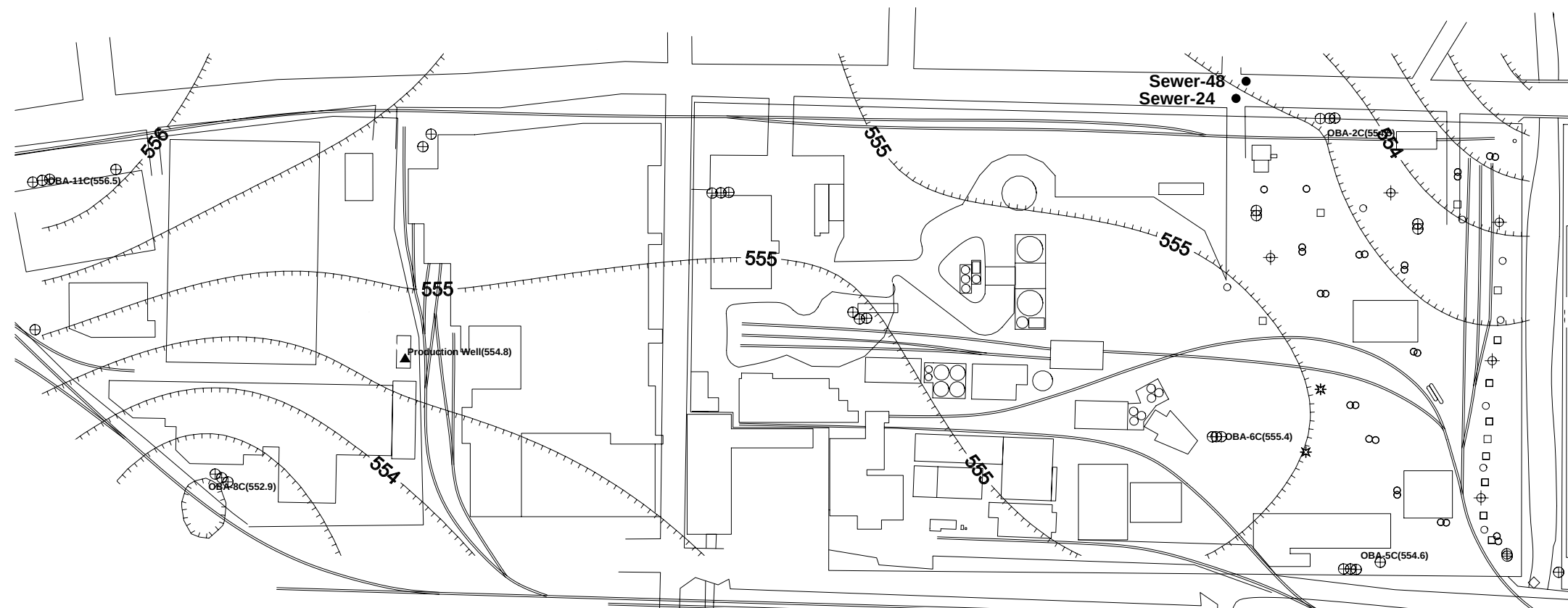
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



POTENTIOMETRIC SURFACE -- C ZONE
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 3



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS (FLOW RATE FROM OMNX SYSTEM)
- PASSIVE RELIEF WELLS
- SEWER INVERT

- PROPERTY LINE
- 565 — ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)

Well	Average Flow Rate (gpm)
Olin Production Well	512

Pumping Rate to Water Elevation Conversion:
 $Y = -0.00613915 (X) + 557.951$

Where:
Y = Water Elevation (ft)
X = Pumping Rate (gpm)

0 200 400
Scale 1 inch = 200 feet

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

OLIN CORPORATION
NIAGARA FALLS, NEW YORK

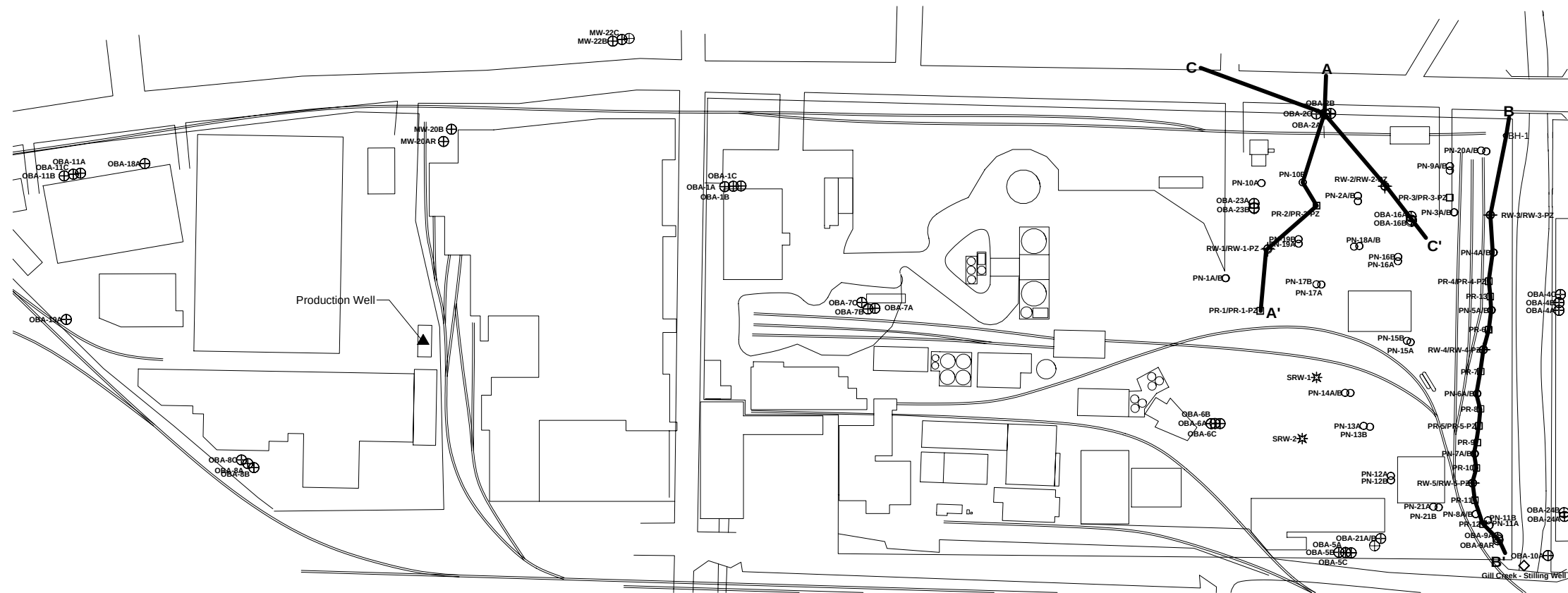


POTENTIOMETRIC SURFACE -- CD ZONE
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 4

CROSS SECTIONS



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT ELEVATION
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE

0 200 400
Scale 1 inch = 200 feet

Prepared By: AWE 03/16/2009
Checked By: CMB 03/17/2009

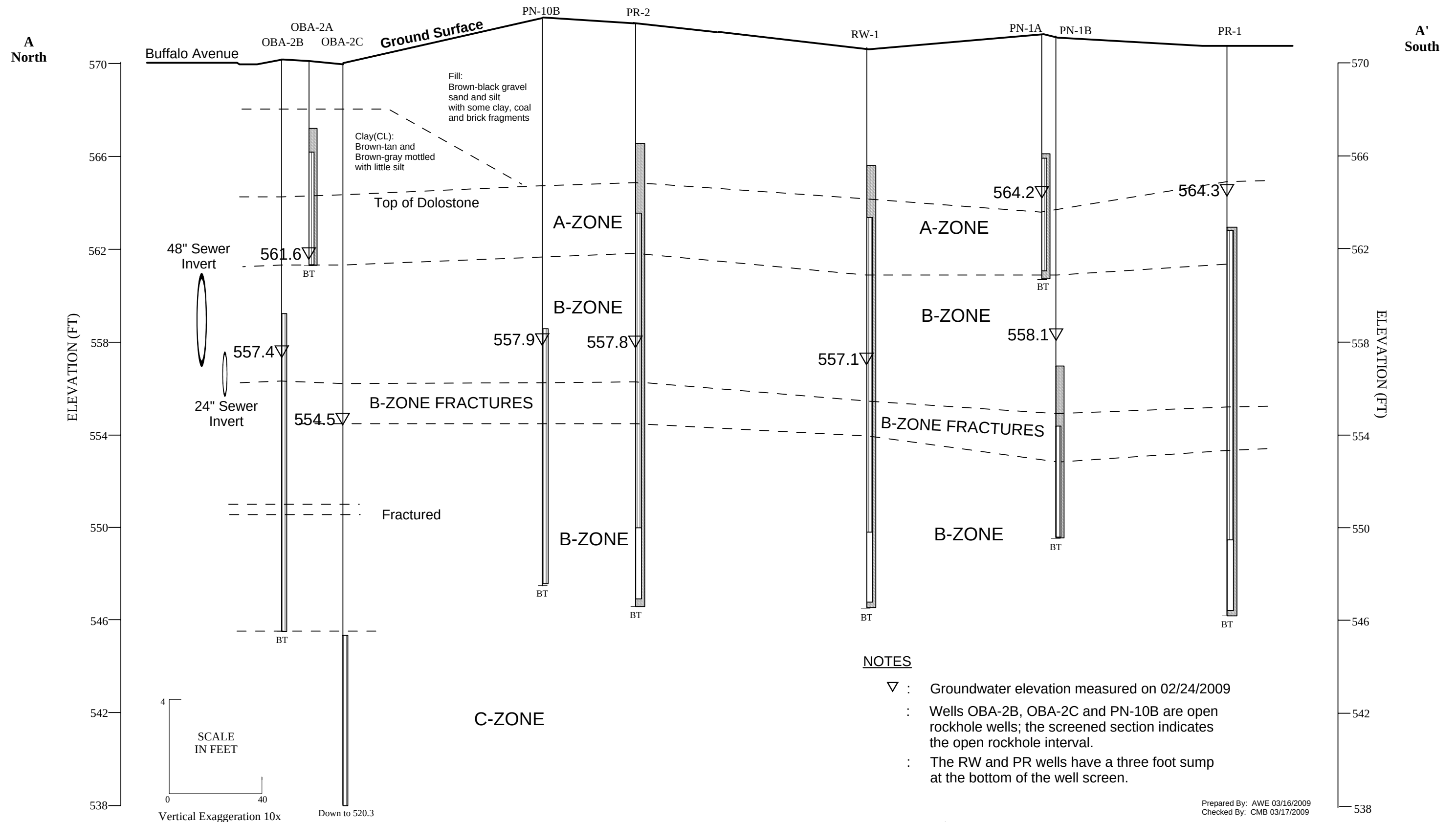
**OLIN CORPORATION
NIAGARA FALLS, NEW YORK**



**CROSS SECTION LOCATION MAP
(FEBRUARY 24, 2009)**

Job No.: 6107-09-0001

Figure 5



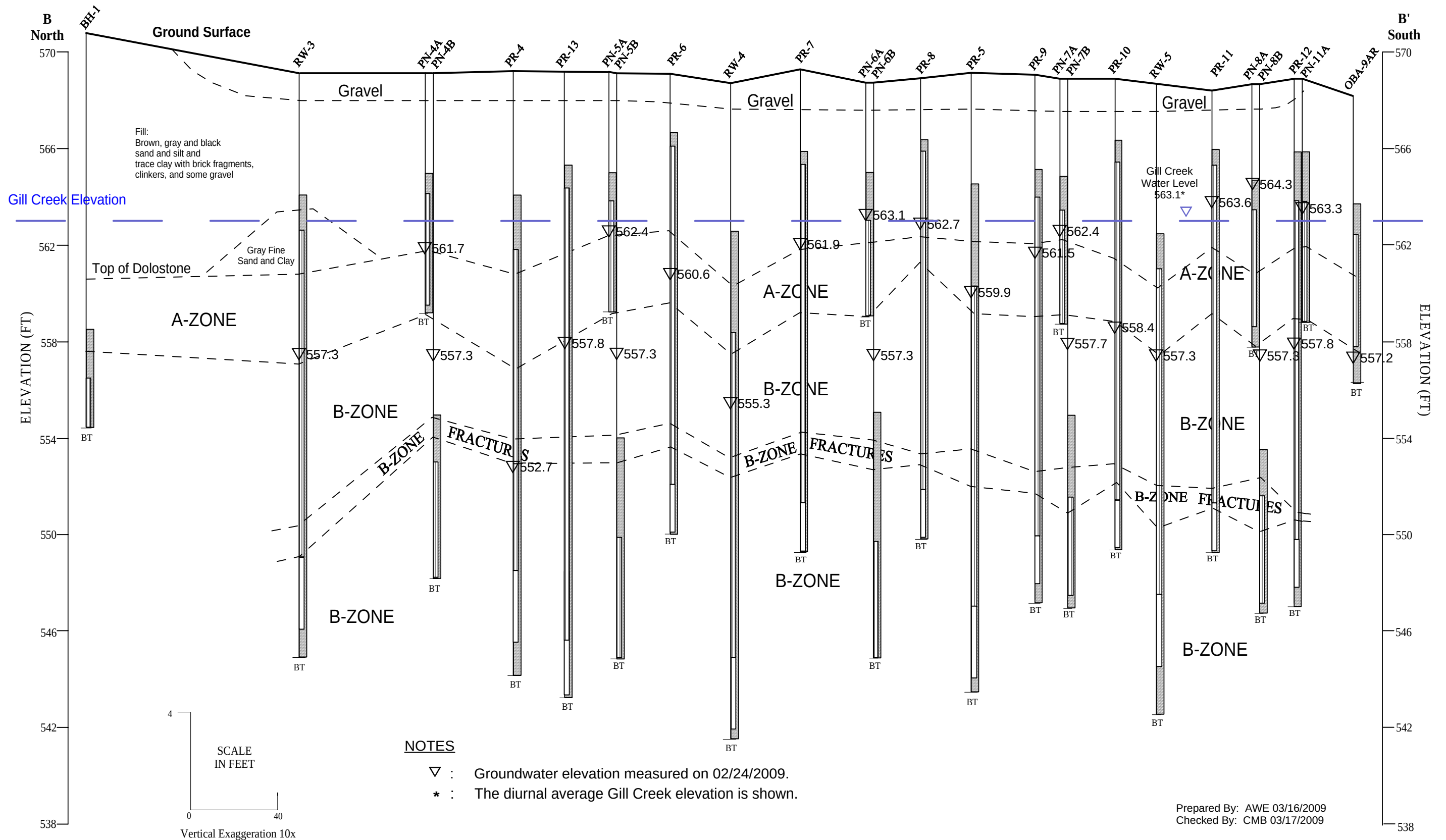
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



HYDROGEOLOGIC CROSS SECTION AA'
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 6



OLIN CORPORATION
NIAGARA FALLS, NEW YORK



HYDROGEOLOGIC CROSS SECTION BB'
(FEBRUARY 24, 2009)

Job No.: 6107-09-0001

Figure 7

HYDROGRAPHS

Table A-1
A-Zone
RW-1 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
PR-1	563.18	562.75	563.53	563.98	564.12	564.20	564.20	563.51	563.21	563.76	563.87	563.11	563.24	563.53	564.20	564.31	564.30	564.55
PN-1A	563.87	563.26	564.00	564.10	564.25	564.20	564.20	563.72	563.44	564.12	564.12	563.35	563.46	563.80	564.15	564.41	564.22	564.27
RW-1	554.90	555.30	558.66	558.28	557.21	557.33	556.91	557.40	557.41	558.01	557.77	557.30	557.33	557.07	557.22	557.11	557.10	557.28
OBA-23A	561.89	561.40	562.29	562.51	562.40	563.86	562.31	562.04	561.82	562.17	562.30	561.64	562.32	562.10	562.80	562.28	562.30	562.46
PR-2	558.11	557.90	558.30	559.24	558.06	558.16	557.94	558.04	557.91	558.16	558.24	557.97	557.84	557.82	558.12	557.88	557.83	558.04
RW-1 A-zone Target	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20	561.20

Notes:

Elevations are reported in feet above mean seal level (msl)

*An elevation of 561.40 feet msl for OBA-23A indicates that this well is dry.

#N/A Unable to collect water level

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-1
RW-1 Drawdown and Adjacent A-Zone Water Table Surface

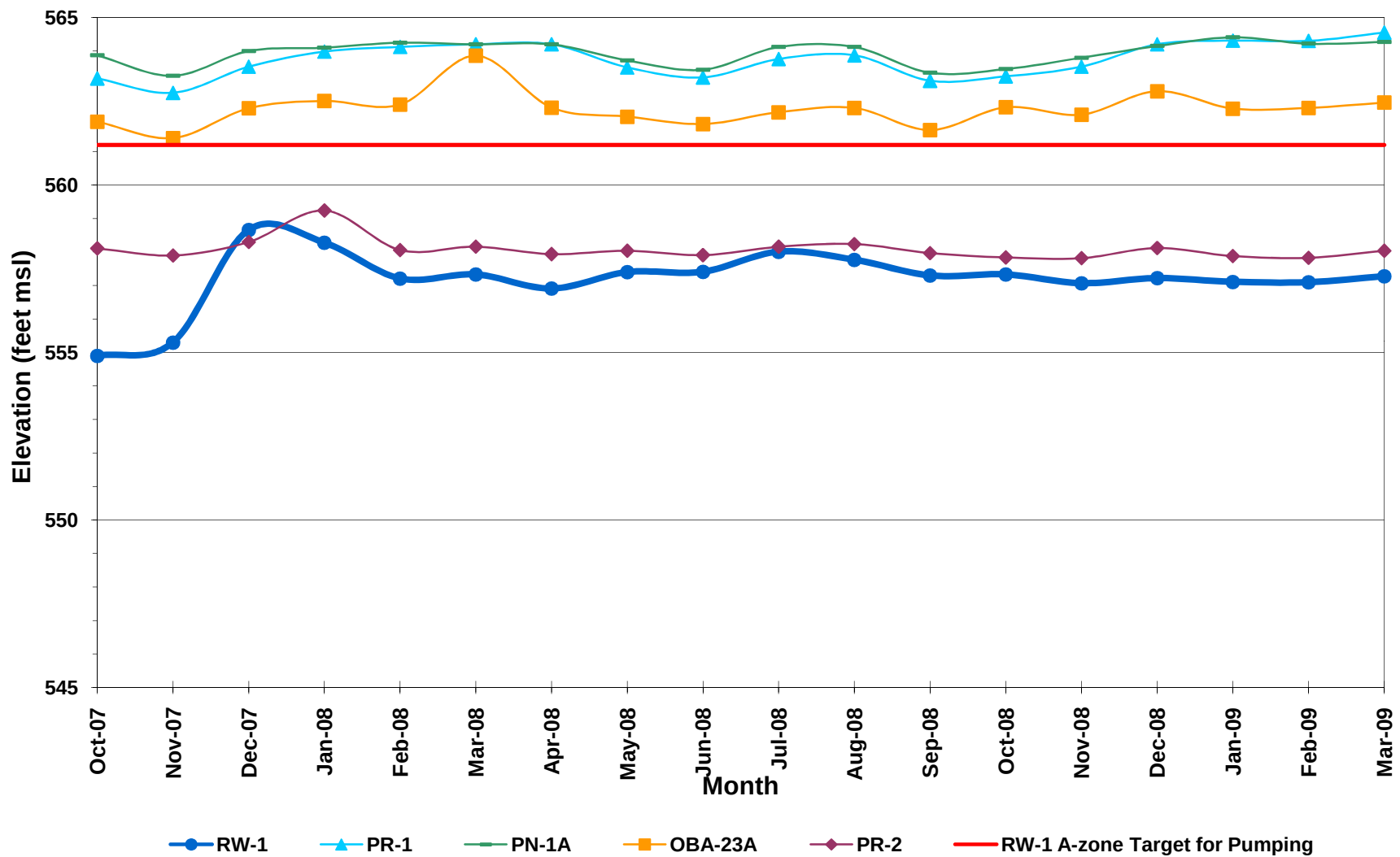


Table A-2
A-Zone
RW-2 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
PN-2A*	562.00	562.00	562.00	562.00	562.00	562.00	562.00	562.00	562.00	562.00	562.42	562.00	562.00	562.00	562.41	562.82	562.00	562.00
RW-2	557.65	557.47	557.46	557.25	557.40	557.44	557.31	557.53	557.68	557.70	557.79	557.71	557.52	557.37	557.49	557.23	557.26	557.38
OBA-16A	562.56	562.54	562.97	563.33	563.37	562.70	563.06	562.64	560.90	562.89	563.67	562.59	562.88	562.59	563.64	563.47	562.93	563.34
PR-3	557.69	557.50	557.45	557.35	557.42	557.48	557.34	557.57	557.71	557.72	557.79	557.73	557.54	557.37	557.50	557.21	557.27	557.35
PR-2	558.11	557.90	558.30	559.24	558.06	558.16	557.94	558.04	557.91	558.16	558.24	557.97	557.84	557.82	558.12	557.88	557.83	558.04
RW-2 A-zone Target	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00	557.00

Notes:

Elevations are reported in feet above mean seal level (msl)

*An elevation of 562.00 feet msl for PN-2A indicates that the piezometer is dry.

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-2
RW-2 Drawdown and Adjacent A-Zone Water Table Surface

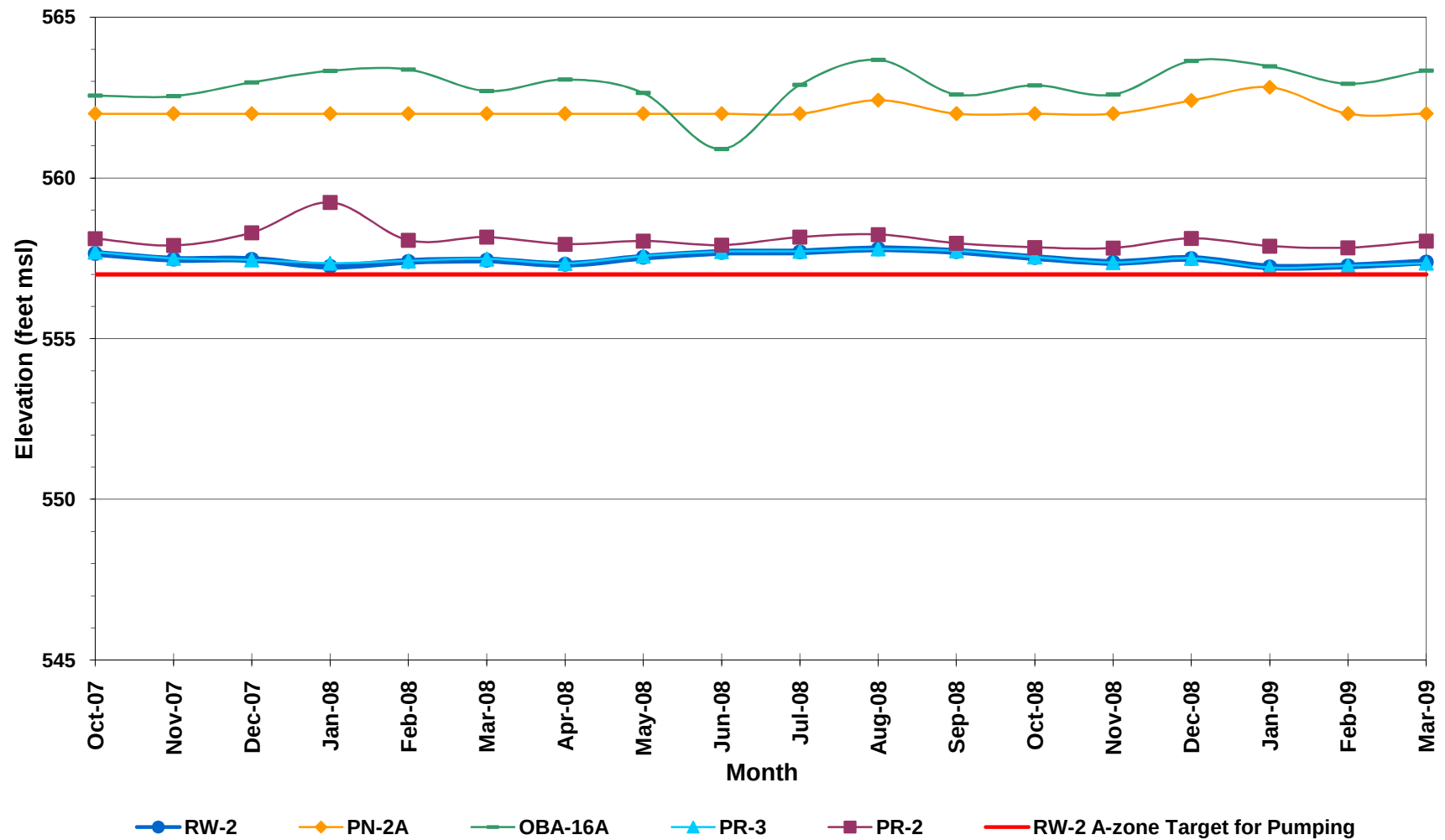


Table A-3
A-Zone
RW-3 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PN-3A	561.97	561.58	562.21	562.47	562.98	563.06	562.28	562.01	561.74	562.51	563.12	561.79	562.52	562.01	562.92	562.29	562.15	562.40
RW-3	557.49	557.17	557.13	556.98	558.17	557.42	557.29	557.11	557.57	557.59	557.84	557.80	557.42	557.09	557.22	557.31	557.32	557.39
PN-4A	561.29	560.90	561.69	561.77	559.10	562.69	562.05	561.84	561.36	561.93	562.24	561.16	561.56	561.45	561.97	561.88	561.69	562.08
PR-3	557.69	557.50	557.45	557.35	557.42	557.48	557.34	557.57	557.71	557.72	557.79	557.73	557.54	557.37	557.50	557.21	557.27	557.35
RW-3 A-zone Target	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10	557.10

Note:

Elevations are reported in feet above mean seal level (msl)

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-3
RW-3 Drawdown and Adjacent A-Zone Water Table Surface

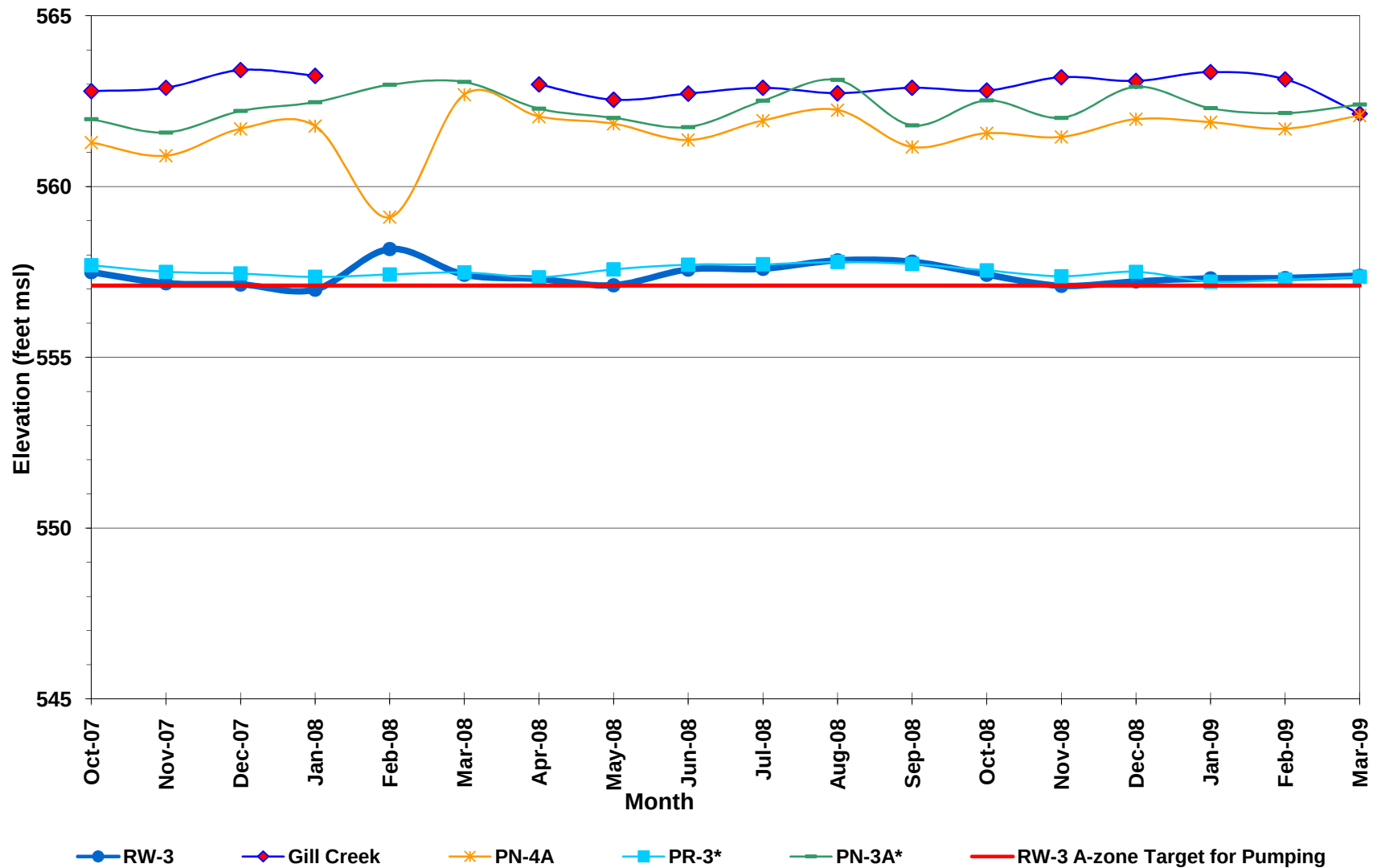


Table A-4
A-Zone
RW-4 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek -Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PN-5A	562.28	562.08	562.41	562.63	562.93	562.81	562.53	557.49	562.26	562.67	562.93	562.31	562.52	562.33	562.77	562.47	562.38	562.53
PR-13**	558.54	558.21	558.36	558.58	558.55	558.70	558.80	558.50	558.42	558.58	558.38	558.08	557.88	557.66	557.86	557.84	557.78	557.91
RW-4	557.55	557.25	557.36	557.16	557.29	557.00	556.78	556.42	557.61	557.55	556.39	556.66	556.71	556.76	555.89	555.27	555.29	555.50
PN-6A	562.66	562.36	562.96	562.99	563.35	563.29	563.06	562.82	562.56	563.02	563.23	562.43	562.70	562.64	563.15	563.05	563.06	563.25
PR-6*	559.44	559.28	559.48	559.82	559.85	559.99	560.07	559.80	559.56	559.74	559.58	559.19	558.98	559.32	559.56	559.92	560.62	560.49
PR-7*	562.02	561.77	562.22	562.40	562.51	563.94	562.38	562.26	562.07	562.37	563.45	562.06	562.25	562.02	563.86	562.25	561.86	562.03
RW-4 A-zone Target	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30

Notes:

Elevations are reported in feet above mean seal level (msl)

Due to significant well loss documented in RW-4 for March-02, the water level in RW-4-PZ is used as a more accurate water level for RW-4.

* Passive relief well installed in September 2002.

** Passive relief well Installed June 2003

NI - Not Installed

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-4
RW-4 Drawdown and Adjacent A-Zone Water Table Surface

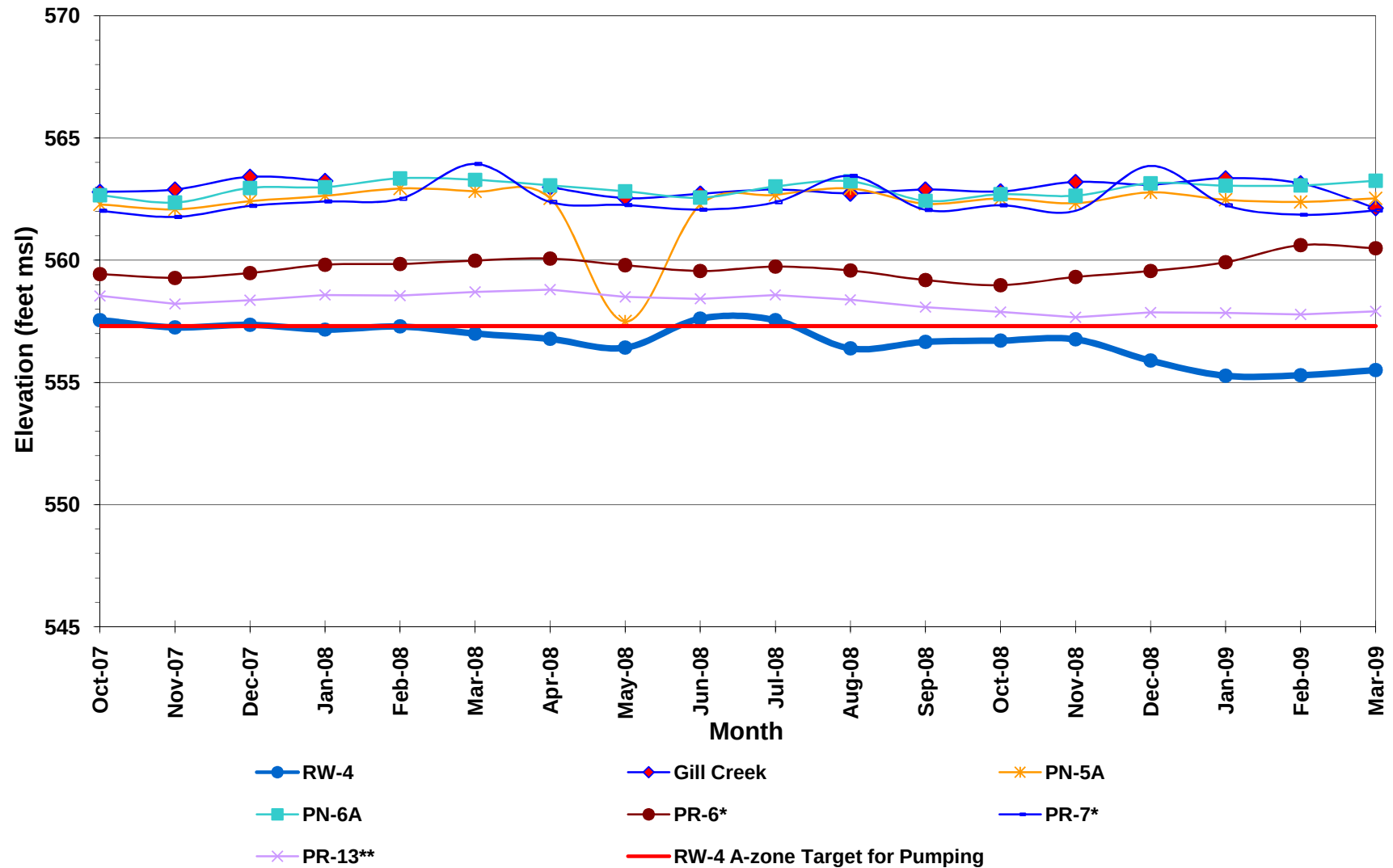


Table A-5
A-Zone
RW-5 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
RW-5	557.56	557.31	557.52	558.28	548.40	557.51	557.43	557.51	557.75	556.76	557.68	557.71	557.63	557.46	557.47	557.22	557.26	557.35
PN-8A	563.92	563.74	564.34	564.30	564.40	564.57	564.33	564.09	563.96	564.30	564.30	563.82	564.17	564.15	564.50	564.27	564.34	564.51
PR-10*	558.53	561.35	558.61	558.70	558.45	558.30	558.36	558.46	558.36	558.50	558.68	558.52	558.42	558.45	558.67	557.37	558.41	558.81
PR-11*	563.69	562.84	564.05	564.25	564.01	564.53	564.02	563.99	563.81	564.37	564.18	563.50	564.48	563.80	564.46	563.56	563.59	563.43
RW-5 A-zone Target	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30	557.30

Notes:

Elevations are reported in feet above mean seal level (msl)

*Passive relief well installed September 2002.

NI - Not Installed

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-5
RW-5 Drawdown and Adjacent A-Zone Water Table Surface

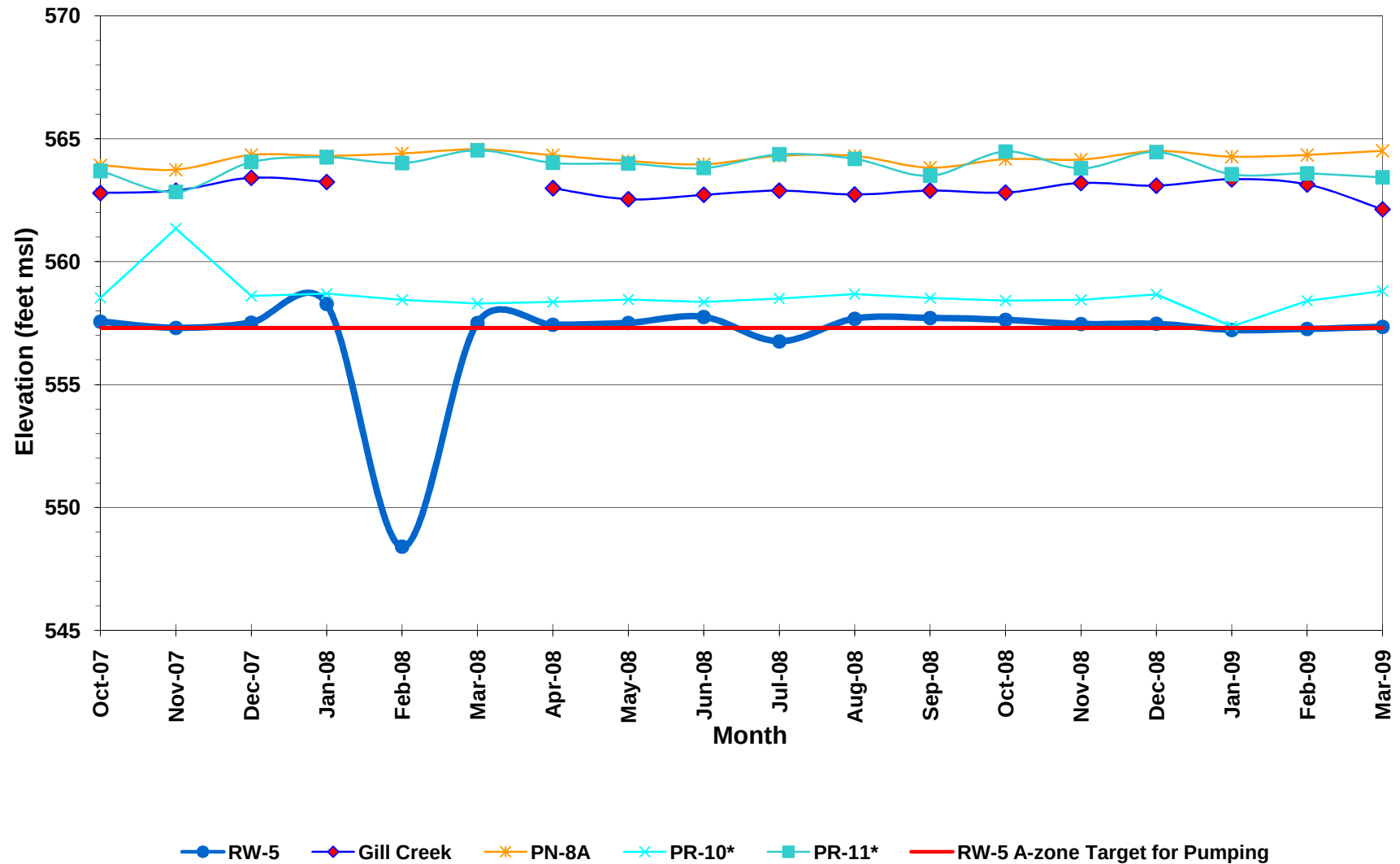


Table A-6
A-Zone
PR-4 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PR-4	555.93	555.05	552.19	552.20	557.43	556.12	553.83	552.29	552.26	557.38	556.91	556.91	554.59	556.33	552.08	552.42	552.66	552.32
PN-4A	561.29	560.90	561.69	561.77	559.10	562.69	562.05	561.84	561.36	561.93	562.24	561.16	561.56	561.45	561.97	561.88	561.69	562.08
PN-5A	562.28	562.08	562.41	562.63	562.93	562.81	562.53	557.49	562.26	562.67	562.93	562.31	562.52	562.33	562.77	562.47	562.38	562.53
PR-4 A-zone Target	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70	556.70

Notes:

Elevations are reported in feet above mean seal level (msl)

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-6
PR-4 Drawdown and Adjacent A-Zone Water Table Surface

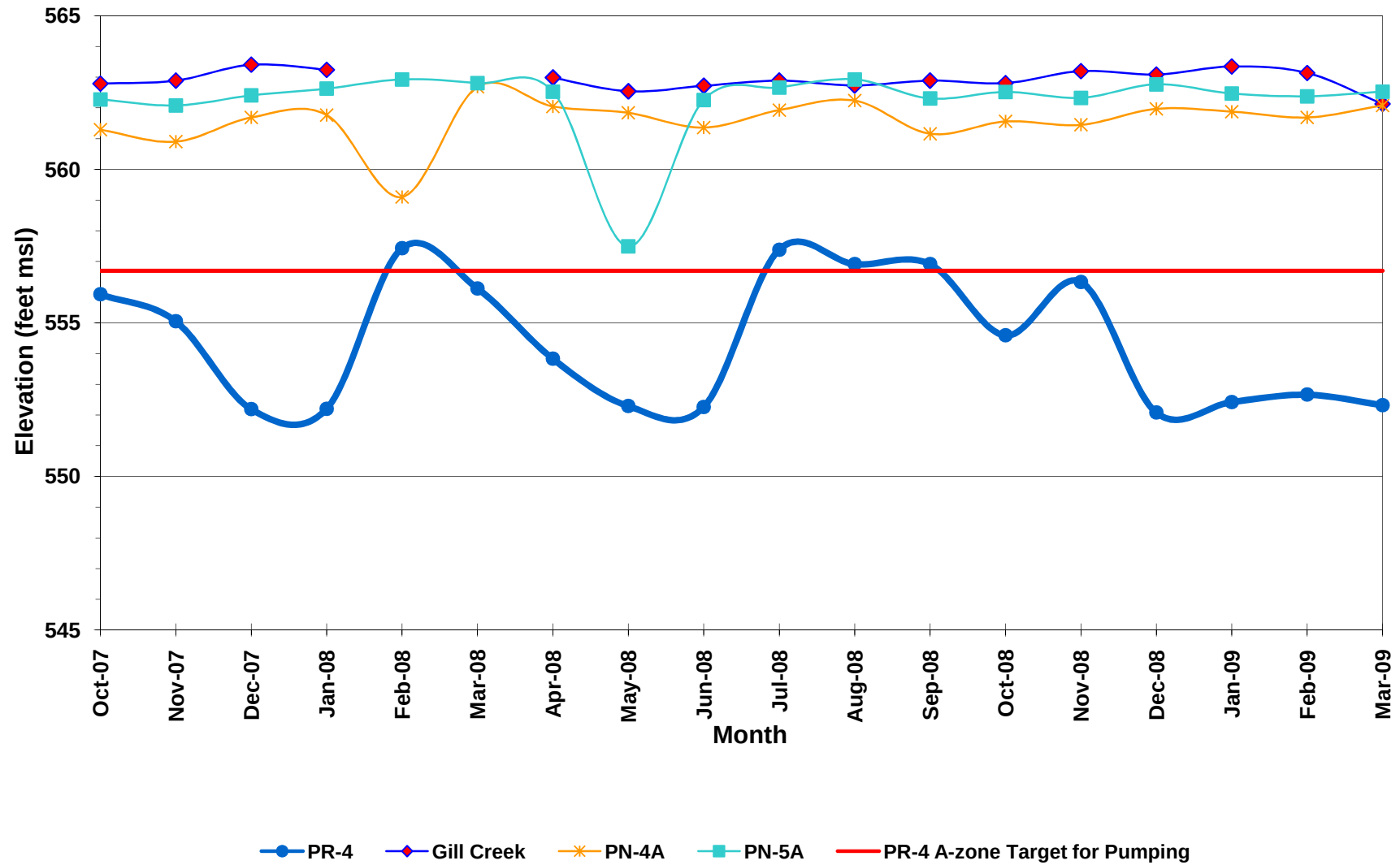


Table A-7
A-Zone
PR-5 and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PR-5	559.44	559.24	559.57	561.40	561.49	559.67	559.85	560.17	559.84	559.96	561.04	560.43	560.40	560.07	562.16	560.11	559.88	560.02
PN-7A	561.71	561.35	562.31	562.39	563.30	562.94	561.83	562.65	561.57	562.37	562.86	561.43	562.42	561.67	562.85	562.33	562.40	562.78
PR-9*	561.59	561.19	561.91	561.90	561.76	561.89	561.72	562.07	561.52	561.99	562.20	561.25	561.91	561.30	562.25	561.50	561.50	562.00
PN-6A	562.66	562.36	562.96	562.99	563.35	563.29	563.06	562.82	562.56	563.02	563.23	562.43	562.70	562.64	563.15	563.05	563.06	563.25
PR-5 A-zone Target	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10

Notes:

Elevations are reported in feet above mean seal level (msl)

* Passive relief well installed September 2002.

NM - Not Measured

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-7
PR-5 Drawdown and Adjacent A-Zone Water Table Surface

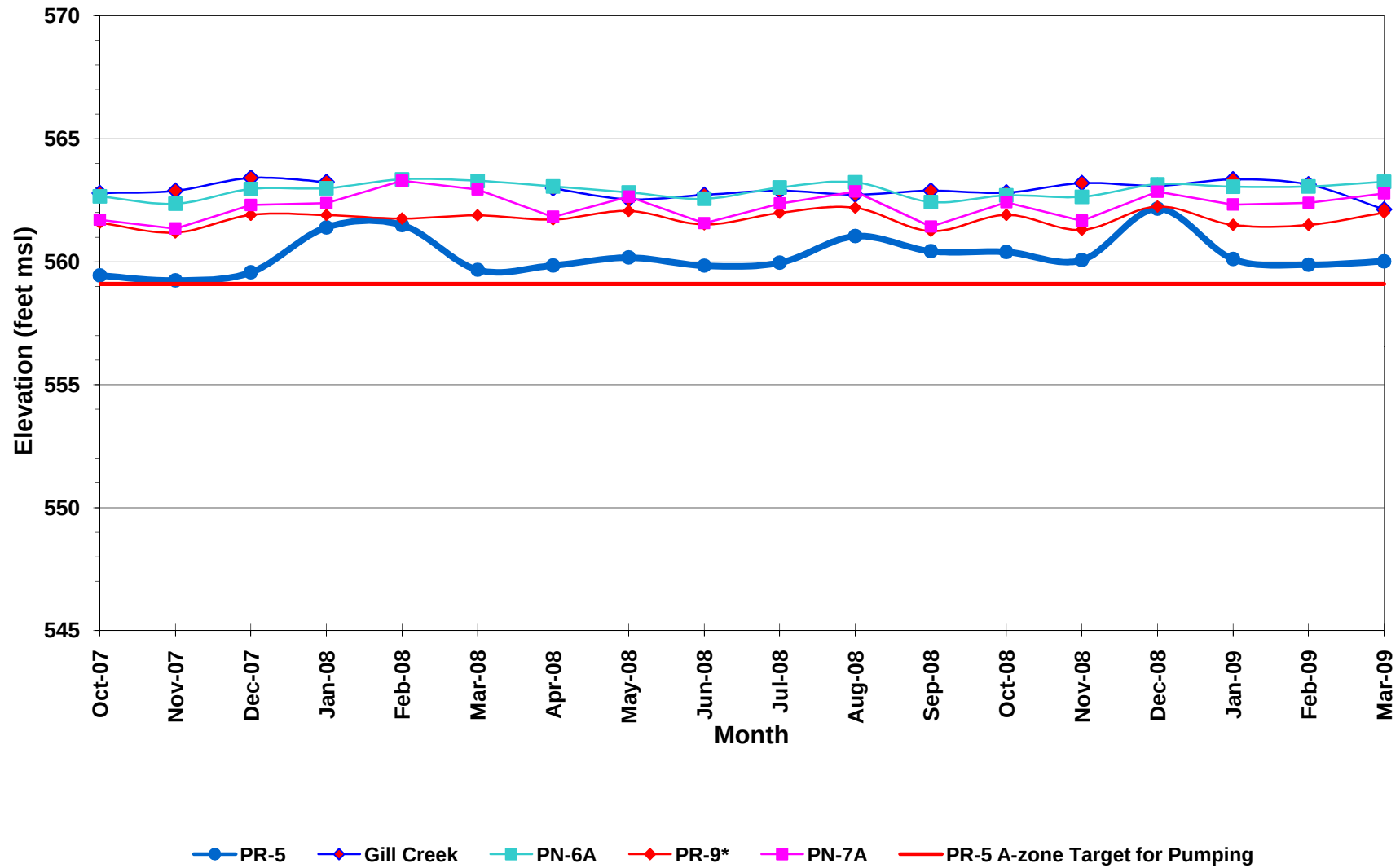


Table A-8
A-Zone
PR-12 and OBA-9AR and Adjacent Monitoring Point Water Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Gill Creek -Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PN-8A	563.92	563.74	564.34	564.30	564.40	564.57	564.33	564.09	563.96	564.30	564.30	563.82	564.17	564.15	564.50	564.27	564.34	564.51
PR-12*	557.75	557.42	557.44	560.70	557.13	557.44	561.98	557.38	557.56	557.64	556.92	556.37	556.44	556.50	557.38	556.67	557.73	557.04
PN-11A*	563.18	563.11	563.27	563.77	563.43	563.32	563.33	563.28	563.21	563.31	563.37	563.11	563.28	563.29	563.38	563.33	563.34	563.37
OBA-9A**	561.31	561.14	563.13	563.76	563.44	563.09	563.17	562.34	562.01	562.22	561.93	NM	560.48	561.00	560.52	560.54	560.82	560.77
OBA-9AR**	557.04	557.07	556.35	561.77	561.49	561.20	556.11	561.31	561.21	562.03	561.58	557.87	557.94	561.49	557.25	557.41	557.17	556.74
PR-12 A-zone Target	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10
OBA-9AR A-zone Target	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70	557.70

Notes:

Elevations are reported in feet above mean seal level (msl)

* Passive relief well installed September 2002.

** Well added to quarterly monitoring program in October 2002.

NM - Not Measured

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure A-8
PR-12 and OBA-9AR Drawdown and Adjacent A-Zone Water Table Surface

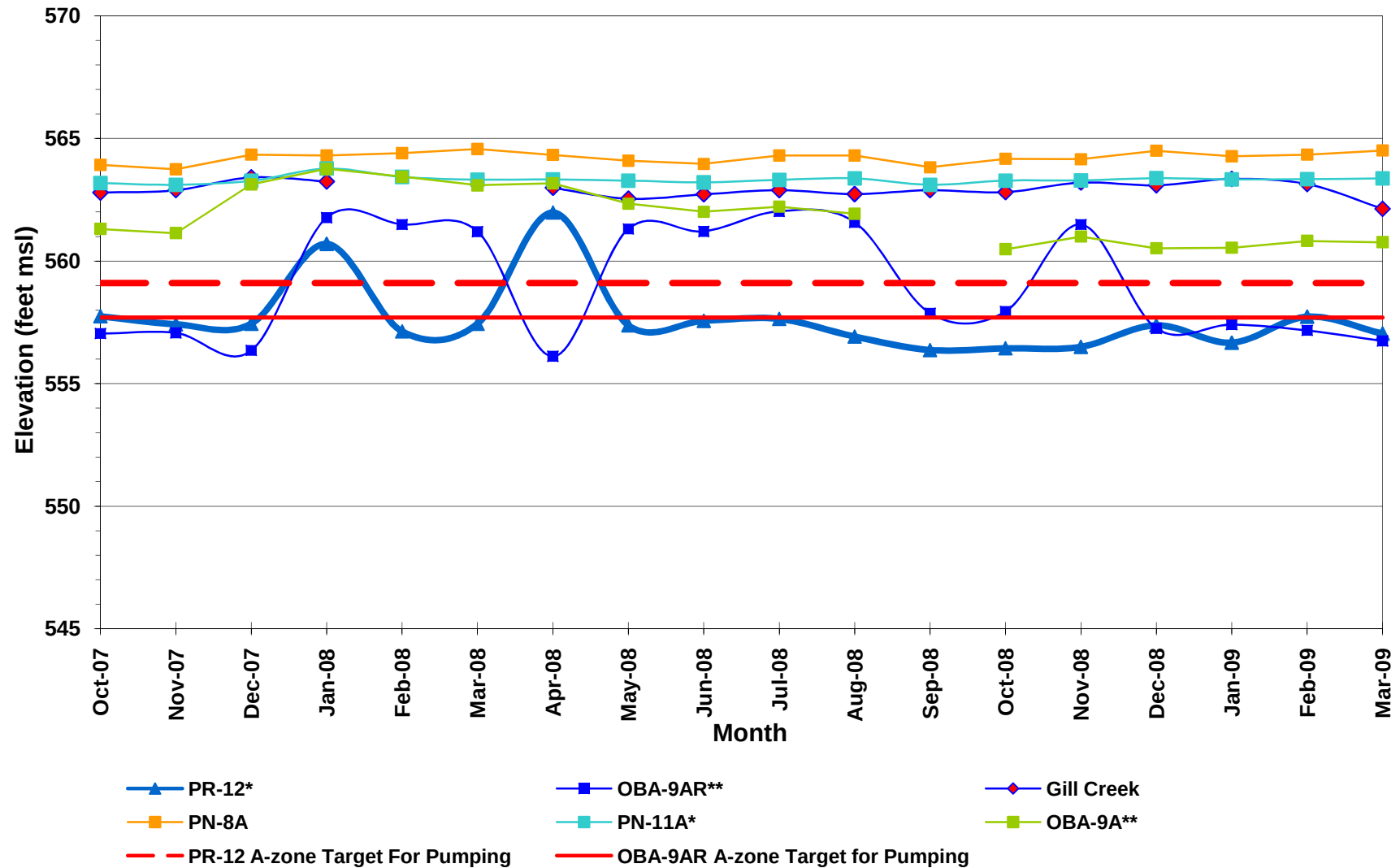


Table B-1
B-Zone
RW-1 and Adjacent Monitoring Point Peizometric Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
RW-1	554.90	555.30	558.66	558.28	557.21	557.33	556.91	557.40	557.41	558.01	557.77	557.30	557.33	557.07	557.22	557.11	557.10	557.28
Gill Creek -Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
OBA-23B	558.29	558.03	558.62	558.52	558.24	558.35	558.08	558.17	558.06	558.41	558.35	557.95	557.93	557.92	558.28	558.04	558.11	558.32
PN-10B	558.15	557.97	558.45	558.41	558.06	558.22	557.93	558.03	557.92	558.24	558.24	557.92	557.86	557.82	558.12	557.91	557.93	558.14
PN-1B	558.40	558.20	558.70	558.68	558.30	558.44	558.19	558.20	558.11	558.49	558.50	558.09	558.07	558.04	558.36	558.11	558.14	558.34
RW-1 B-zone Target	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559

Notes:

Elevations are reported in feet above mean seal level (msl)

Gill Creek level data is provided only for reference and does not effect B-zone capture.

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure B-1
RW-1 Drawdown and Adjacent B-Zone Potentiometric Surface

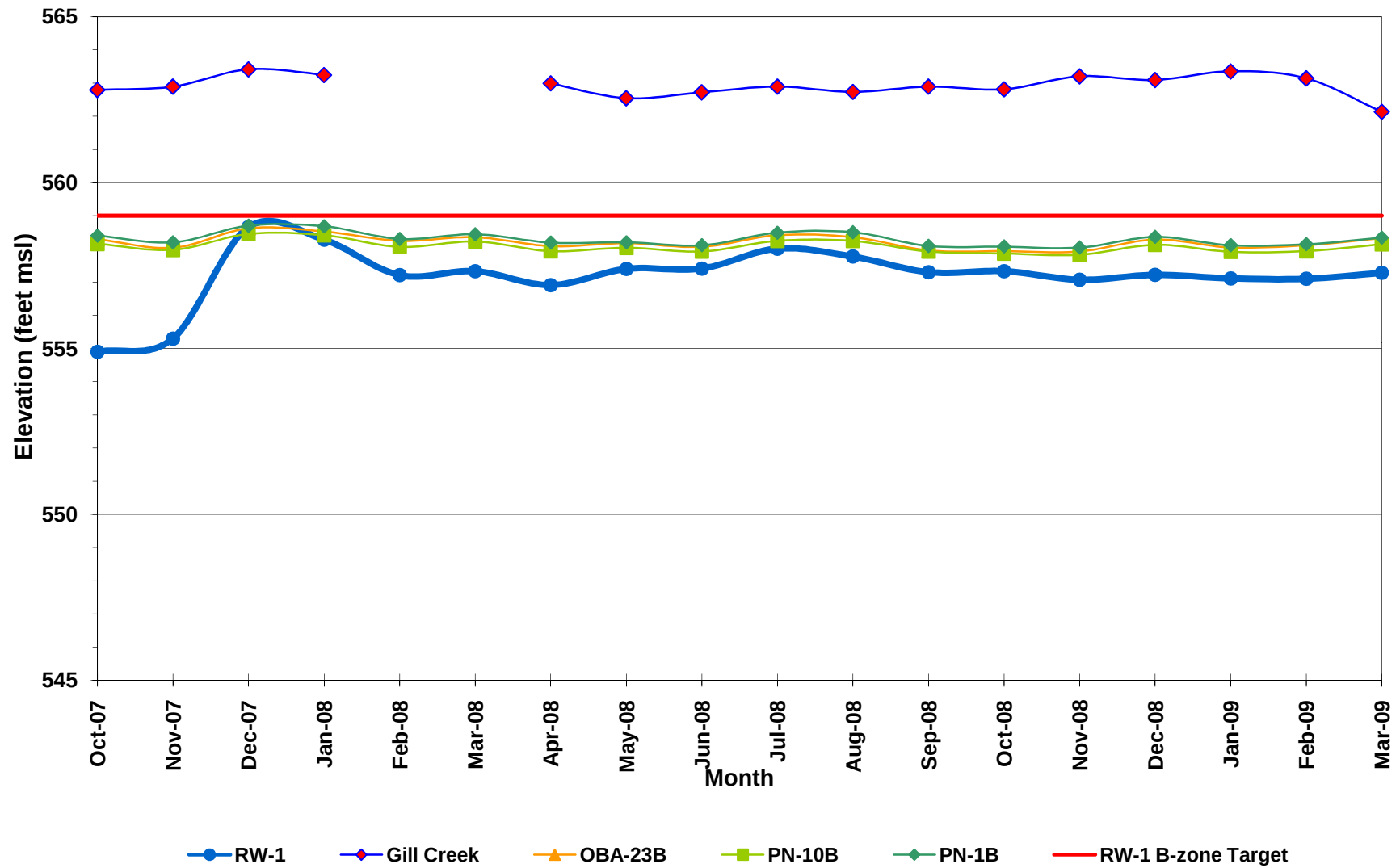


Table B-2
B-Zone
RW-2 and Adjacent Monitoring Point Peizometric Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
RW-2	557.65	557.47	557.46	557.25	557.40	557.44	557.31	557.53	557.68	557.70	557.79	557.71	557.52	557.37	557.49	557.23	557.26	557.38
Gill Creek -Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
OBA-16B	557.96	557.75	557.90	557.83	557.80	557.86	557.69	557.89	557.89	557.95	558.06	557.86	557.72	557.65	557.83	557.61	557.60	557.74
PN-2B	557.77	557.58	557.65	557.49	557.57	557.79	557.49	557.71	557.79	557.80	557.90	558.75	557.58	557.46	557.60	557.38	557.43	557.48
PN-9B	558.42	558.23	558.18	557.99	558.16	558.21	558.08	558.27	558.46	558.47	558.53	558.48	558.27	558.10	558.24	557.97	558.01	558.08
RW-2 B-zone Target	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556

Notes:

Elevations are reported in feet above mean seal level (msl)

Gill Creek level data is provided only for reference and does not effect B-zone capture.

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure B-2
RW-2 Drawdown and Adjacent B-Zone Potentiometric Surface

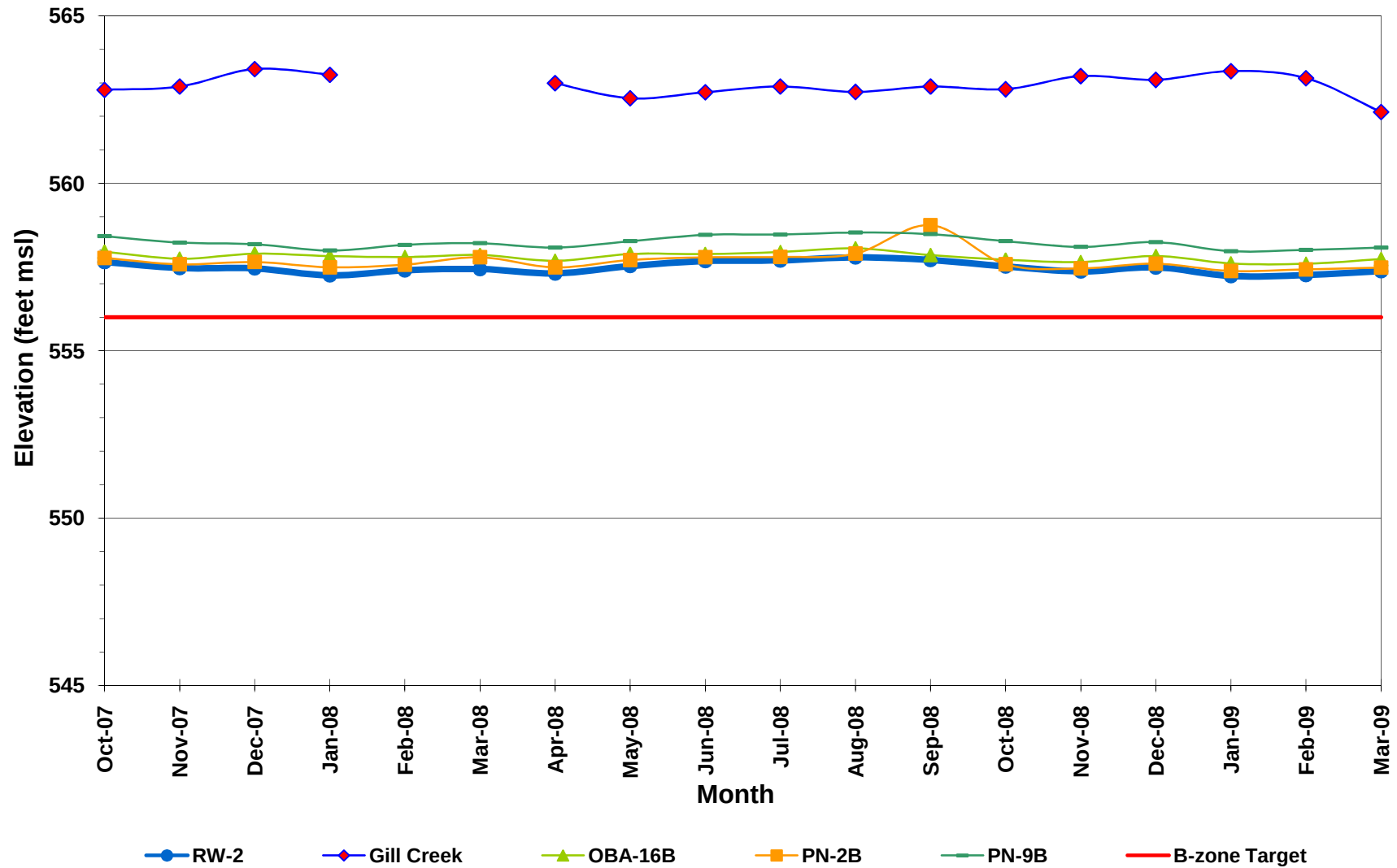


Table B-3
B-Zone
RW-3 and Adjacent Monitoring Point Peizometric Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
RW-3	557.49	557.17	557.13	556.98	558.17	557.42	557.29	557.11	557.57	557.59	557.84	557.80	557.42	557.09	557.22	557.31	557.32	557.39
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
OBA-16B	557.96	557.75	557.90	557.83	557.80	557.86	557.69	557.89	557.89	557.95	558.06	557.86	557.72	557.65	557.83	557.61	557.60	557.74
PN-3B	557.68	557.47	557.47	557.33	557.40	557.45	557.35	557.54	557.69	557.71	557.77	557.75	552.50	557.34	557.50	557.23	557.25	557.33
PN-4B	557.70	557.46	557.46	557.31	557.38	557.47	557.32	557.51	557.72	557.72	557.74	557.71	557.47	557.35	557.51	557.26	557.27	557.36
PN-9B	558.42	558.23	558.18	557.99	558.16	558.21	558.08	558.27	558.46	558.47	558.53	558.48	558.27	558.10	558.24	557.97	558.01	558.08
B-zone Target	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3	558.3

Notes:

Elevations are reported in feet above mean seal level (msl)

Gill Creek level data is provided only for reference and does not effect B-zone capture.

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure B-3
RW-3 Drawdown and Adjacent B-Zone Potentiometric Surface

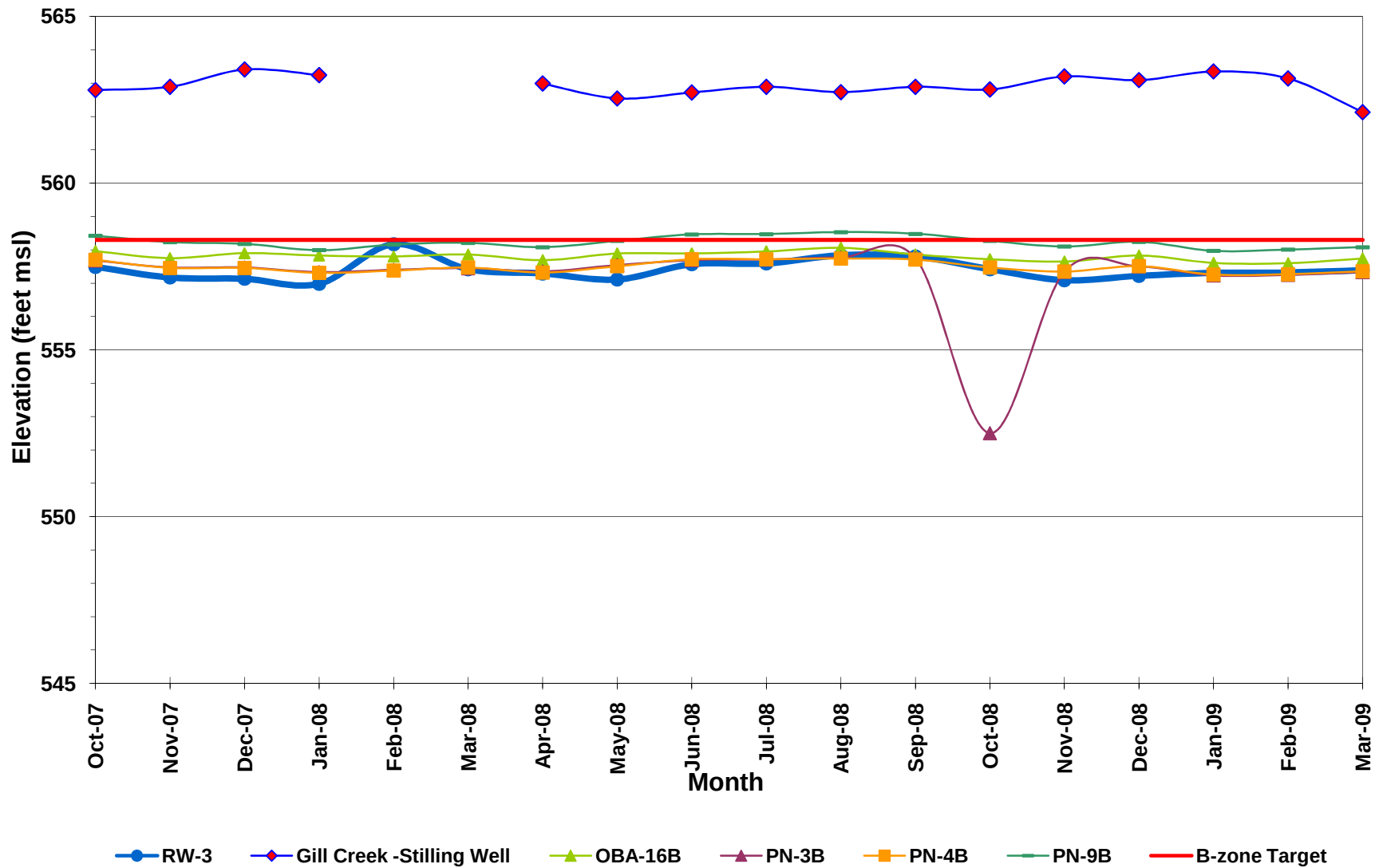


Table B-4
B-Zone
RW-4, PR-4 and Adjacent Monitoring Point Peizometric Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
RW-4	557.55	557.25	557.36	557.16	557.29	557.00	556.78	556.42	557.61	557.55	556.39	556.66	556.71	556.76	555.89	555.27	555.29	555.50
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PR-4	555.93	555.05	552.19	552.20	557.43	556.12	553.83	552.29	552.26	557.38	556.91	556.91	554.59	556.33	552.08	552.42	552.66	552.32
PN-6B	557.72	557.46	557.48	557.29	557.41	557.48	557.32	557.49	557.74	557.76	557.68	557.73	557.58	557.47	557.51	557.26	557.28	557.36
PN-4B	557.70	557.46	557.46	557.31	557.38	557.47	557.32	557.51	557.72	557.72	557.74	557.71	557.47	557.35	557.51	557.26	557.27	557.36
PN-5B	557.76	557.52	557.51	557.36	557.45	557.50	557.37	562.51	557.78	557.78	557.79	557.74	557.52	557.41	557.55	557.30	557.33	557.40
PR-6*	559.44	559.28	559.48	559.82	559.85	559.99	560.07	559.80	559.56	559.74	559.58	559.19	558.98	559.32	559.56	559.92	560.62	560.49
PR-7*	562.02	561.77	562.22	562.40	562.51	563.94	562.38	562.26	562.07	562.37	563.45	562.06	562.25	562.02	563.86	562.25	561.86	562.03
PR-8*	562.38	562.05	562.55	562.54	562.96	562.65	562.68	562.37	562.19	562.64	562.80	562.04	562.26	562.16	562.61	562.61	562.70	562.88
B-zone Target	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10	558.10

Notes:

Elevations are reported in feet above mean seal level (msl)

Gill Creek level data is provided only for reference and does not effect B-zone capture.

*Installed September 2002

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure B-4
RW-4 and PR-4 Drawdown and Adjacent B-Zone Potentiometric Surface

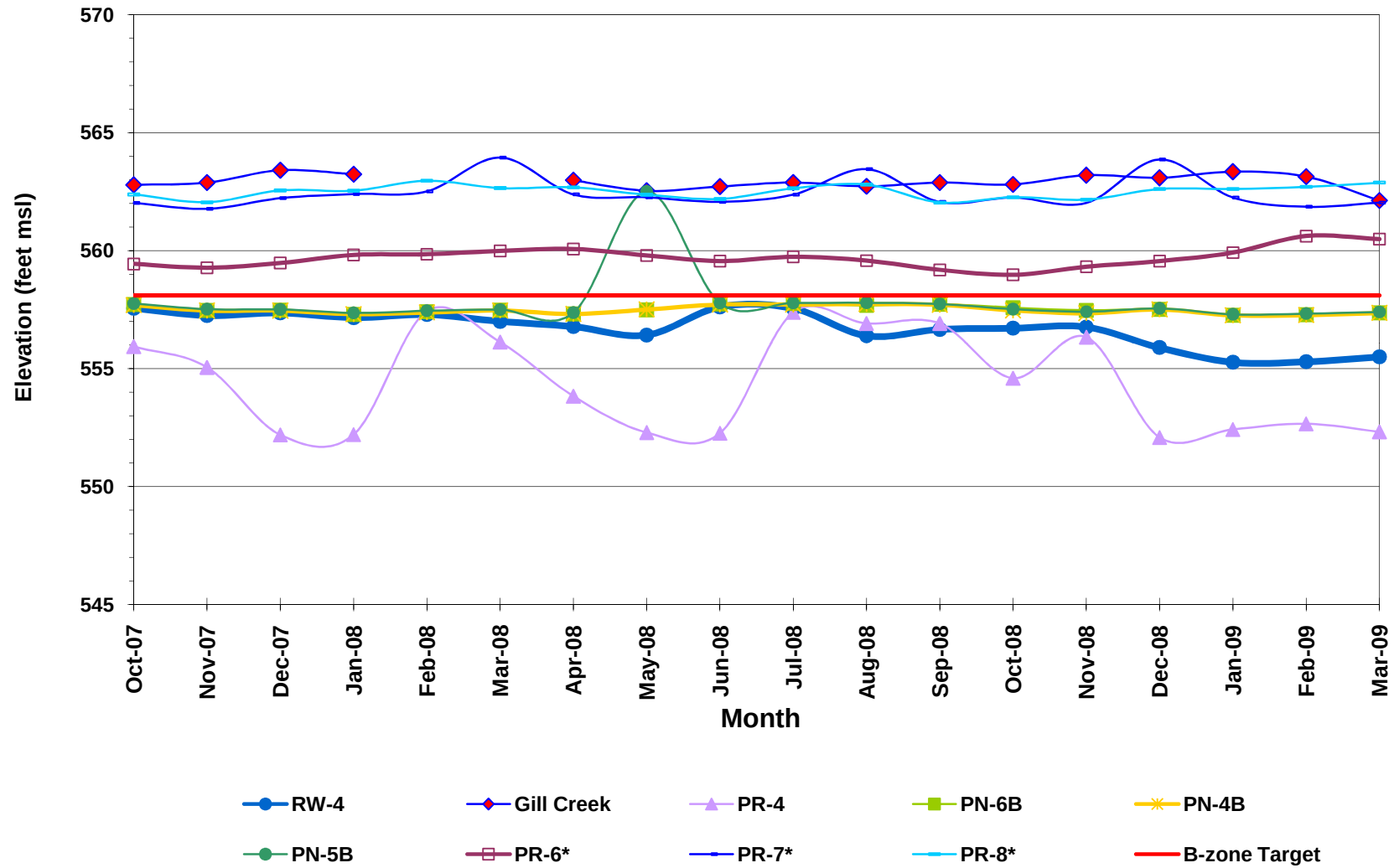


Table B-5
B-Zone
RW-5 and Adjacent Monitoring Point Peizometric Elevations

Location ID	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
RW-5	557.56	557.31	557.52	558.28	548.40	557.51	557.43	557.51	557.75	556.76	557.68	557.71	557.63	557.46	557.47	557.22	557.26	557.35
Gill Creek - Stilling Well	562.79	562.89	563.41	563.24	ICE	NM	562.99	562.54	562.72	562.89	562.73	562.89	562.81	563.20	563.09	563.35	563.14	562.13
PN-7B	558.35	558.09	558.15	558.23	558.04	557.93	557.96	557.93	558.13	558.14	558.12	558.11	557.93	557.84	557.96	557.68	557.74	557.92
PN-8B	557.70	557.42	557.44	557.17	557.35	557.45	557.33	557.45	557.68	557.72	557.68	557.68	557.62	557.47	557.48	557.23	557.26	557.36
PR-9*	561.59	561.19	561.91	561.90	561.76	561.89	561.72	562.07	561.52	561.99	562.20	561.25	561.91	561.30	562.25	561.50	561.50	562.00
PR-10*	558.53	561.35	558.61	558.70	558.45	558.30	558.36	558.46	558.36	558.50	558.68	558.52	558.42	558.45	558.67	557.37	558.41	558.81
PR-11*	563.69	562.84	564.05	564.25	564.01	564.53	564.02	563.99	563.81	564.37	564.18	563.50	564.48	563.80	564.46	563.56	563.59	563.43
PR-12*	557.75	557.42	557.44	560.70	557.13	557.44	561.98	557.38	557.56	557.64	556.92	556.37	556.44	556.50	557.38	556.67	557.73	557.04
B-zoneTarget	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5	557.5

Notes:

Elevations are reported in feet above mean seal level (msl)

Gill Creek level data is provided only for reference and does not effect B-zone capture.

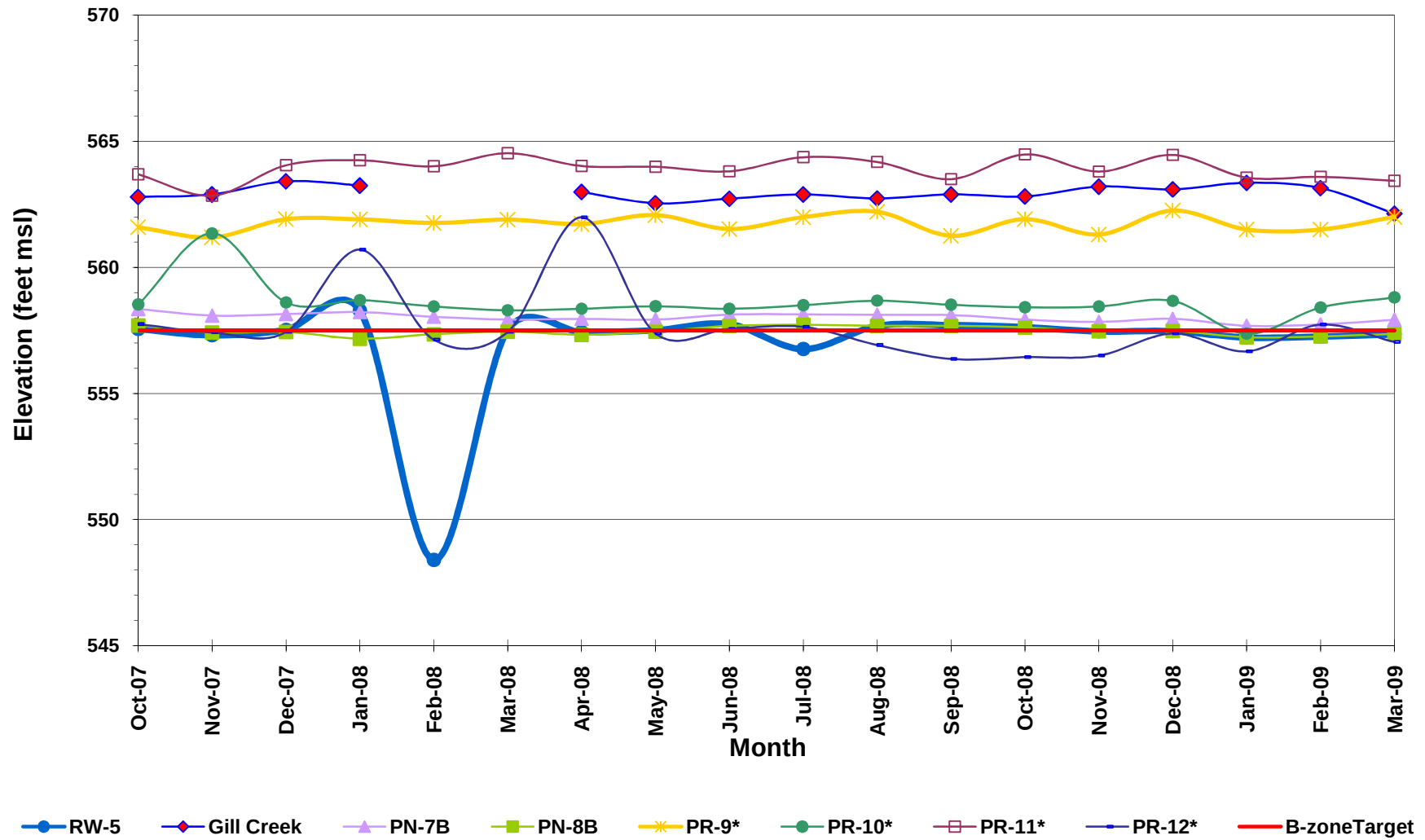
*Installed September 2002

NI - Not Installed

Prepared by : AWE 03/25/2009

Checked by: CMB 03/25/2009

Figure B-5
RW-5 Drawdown and Adjacent B-Zone Potentiometric Surface





engineering and constructing a better tomorrow

March 19, 2009

Mr. Mike Bellotti
Olin Corporation
1186 Lower River Road
Charleston, TN 37310

**Subject: Fourth Quarter 2008 Deliverable
Niagara Falls Plant No. 2
Niagara Falls, NY
MACTEC Project No. 6107-09-0001**

Dear Mr. Bellotti:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to provide you with the Fourth Quarter 2008 Deliverable for Plant No. 2 in Niagara Falls, NY. The deliverable includes potentiometric surface maps and cross sections generated with November 2008 water levels.

MACTEC appreciates this opportunity to be of service to Olin Corporation. If you have any questions or comments about this project, please call us at (770) 421-3400.

Sincerely,

MACTEC ENGINEERING AND CONSULTING, INC.

A handwritten signature in blue ink, appearing to read "Anthony W. Englund".

Anthony W. Englund
Senior Engineer

A handwritten signature in blue ink, appearing to read "Frederick K. Marotte".

Frederick K. Marotte
Project Principal

QUALITY CONTROL SIGNATURE PAGE
FOURTH QUARTER 2008 DELIVERABLE

MARCH 19, 2009

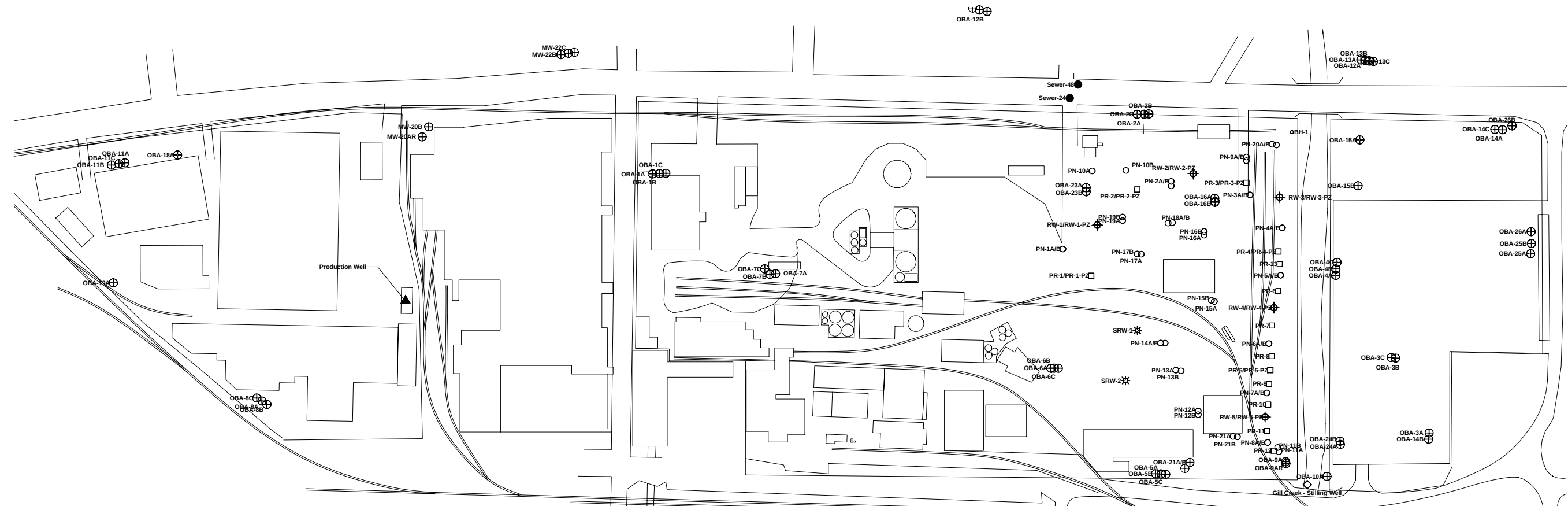
6107-09-0001

Figures	Prepared By/Date	Checked By/Date:
Well Location Map	VUO 12/03/2008	AWE 12/04/2008
Figure 1	VUO 12/03/2008	AWE 12/04/2008
Figure 1A	VUO 12/03/2008	AWE 12/04/2008
Figure 2	VUO 12/03/2008	AWE 12/04/2008
Figure 2A	VUO 12/03/2008	AWE 12/04/2008
Figure 3	VUO 12/03/2008	AWE 12/04/2008
Figure 4	VUO 12/03/2008	AWE 12/04/2008
Figure 5	VUO 12/03/2008	AWE 12/04/2008
Figure 6	VUO 12/03/2008	AWE 12/04/2008
Figure 7	VUO 12/03/2008	AWE 12/04/2008
Figure 8	VUO 12/03/2008	AWE 12/04/2008

The undersigned have prepared or reviewed the tables and/or figures in this document as indicated in the table above.


VUO: Victor Onwueme
Project Engineer


AWE: Anthony W. Englund
Senior Engineer



	GILL CREEK MONITORING POINT
	OLIN PRODUCTION WELL
	WATER QUALITY MONITORING WELLS
	A/B ZONE PIEZOMETER NESTS
	GROUNDWATER RECOVERY WELLS
	PASSIVE RELIEF WELLS
	SEWER INVERT ELEVATION
	SUPPLEMENTAL REMEDIATION WELL

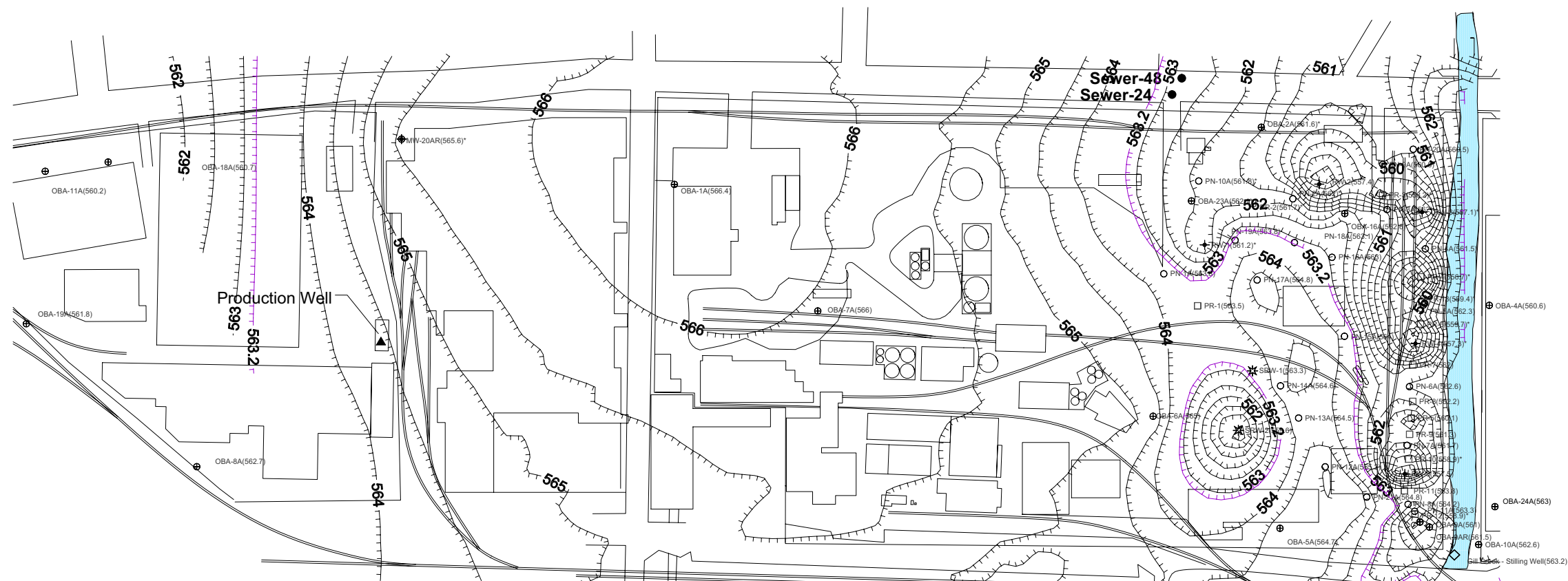
Scale 1 inch = 200 feet



MACTEC

Job No.: 6300-06-0005

POTENTIOMETRIC SURFACE MAPS



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL

PROPERTY LINE

ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)

EQUIPOTENTIAL CONTOUR EQUIVALENT TO GILL CREEK ELEVATION

GILL CREEK AREA

Extraction Well	Average Flow Rate (gpm)***
RW-1	3.1
RW-2	28.8
RW-3	7.8
RW-4	2.0
RW-5	10.2
PR-4	10.1
PR-12	4.1
OBA-9AR	0.3

*** : Averaged using daily flow rates for November 3, 2008.
: The water levels in RW-1, RW-3, RW-4, PR-4, and PR-12 were below the bottom of the A-zone.

0 200 400
Scale 1 inch = 200 feet

NOTES

- * : Well dry or water level below the bottom of the A-zone, elevation of bottom of A-Zone used in contouring.
- ** : Lid on pro-casing is broken.
- : Buffalo Avenue Sewer invert is assumed to be a groundwater sink. The piezometric surface is estimated as the bottom of the A-zone. The bottom of the A-zone along Buffalo Avenue was estimated from borings OBA-1A, OBA-2A, OBA-3A, and OBA-11A.
- NM : Not measured

The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well. The average diurnal elevation on November 3, 2008 (563.2 ft msl) was used in contouring the A zone.

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

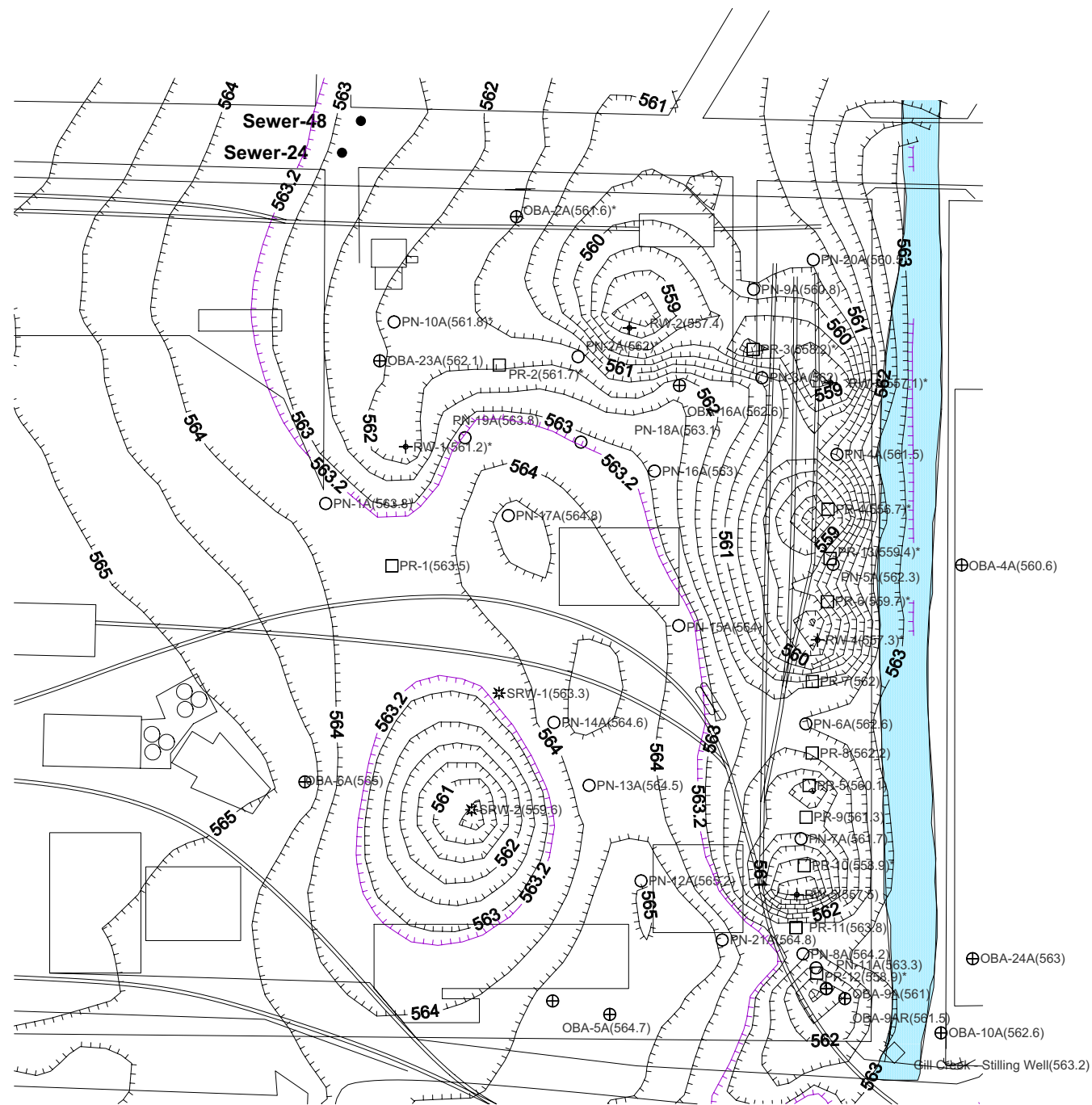
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



POTENTIOMETRIC SURFACE -- A ZONE
(NOVEMBER 3, 2008)

Job No.: 6100-08-0001

Figure 1

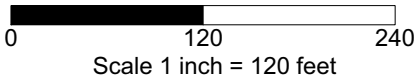


Extraction Well	Average Flow Rate (gpm)***
RW-1	3.1
RW-2	28.8
RW-3	7.8
RW-4	2.0
RW-5	10.2
PR-4	10.1
PR-12	4.1
OBA-9AR	0.3

*** : Averaged using daily flow rates for November 3, 2008.
: The water levels in RW-1, RW-3, RW-4, PR-4, and PR-12 were below the bottom of the A-zone.

LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUND WATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE
- 565 — ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)
- EQUIPOTENTIAL CONTOUR EQUIVALENT TO GILL CREEK ELEVATION
- GILL CREEK AREA



NOTES

- * : Well dry or water level below the bottom of the A-zone, elevation of bottom of A-Zone used in contouring.
- : Buffalo Avenue Sewer invert is assumed to be a groundwater sink. The piezometric surface is estimated as the bottom of the A-zone. The bottom of the A-zone along Buffalo Avenue was estimated from borings OBA-1A, OBA-2A, OBA-3A, and OBA-11A.

NM : Not measured

The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well. The average diurnal elevation on November 3, 2008 (563.2 ft msl) was used in contouring the A zone.

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

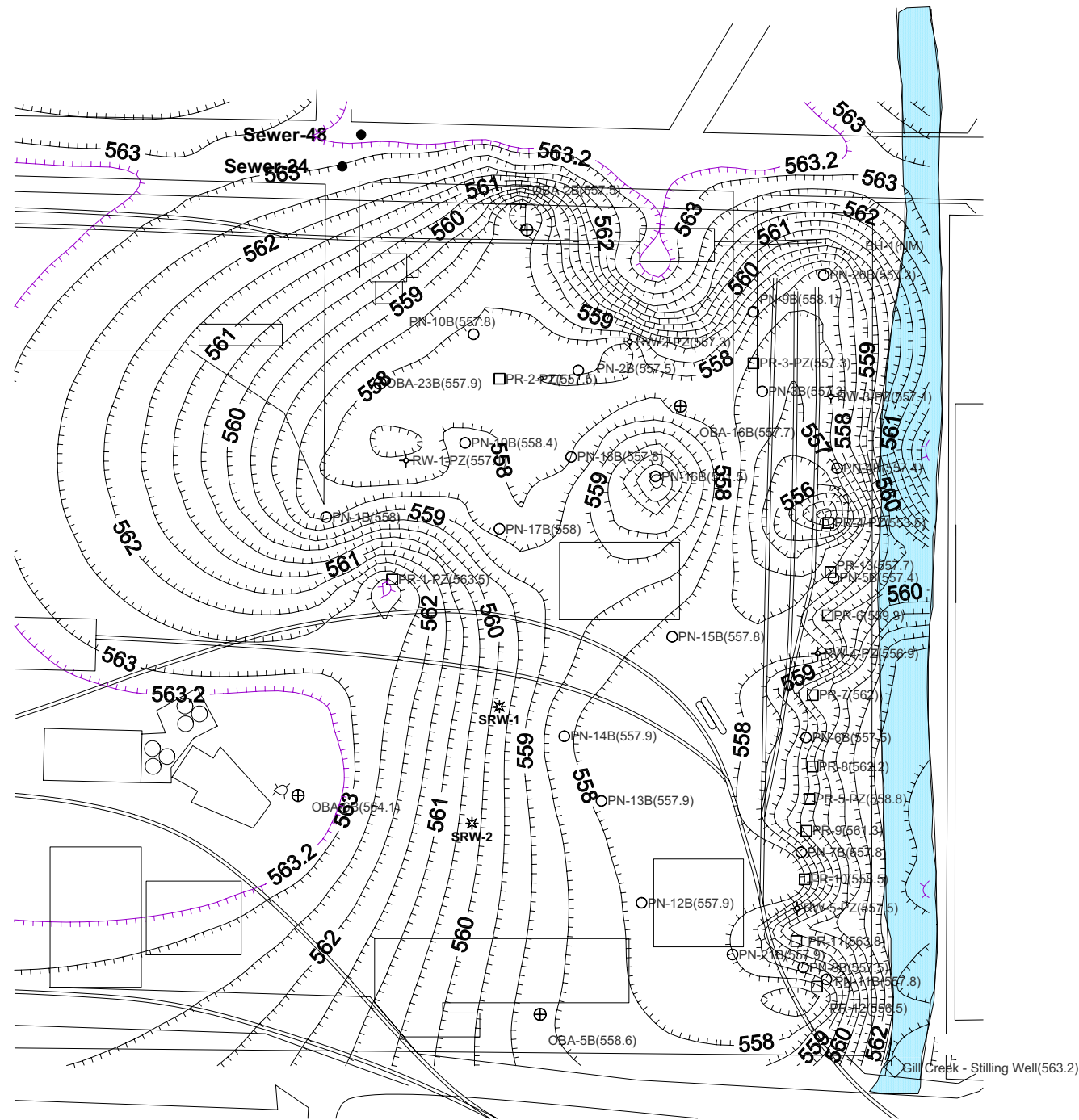
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NIAGARA FALLS, NEW YORK



ARGC AREA
POTENTIOMETRIC SURFACE -- A ZONE
(NOVEMBER 3, 2008)

Job No.: 6100-08-0001

Figure 1A



Extraction Well	Average Flow Rate (gpm)***
RW-1	3.1
RW-2	28.8
RW-3	7.8
RW-4	2.0
PR-4	10.2
PR-12	4.1
OBA-9AR	0.309

*** : Averaged using daily flow rates for November 3, 2008.
: The water levels in RW-1, RW-3, RW-4, PR-4, and PR-12 were below the bottom of the A-zone.

LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUND WATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE
- 565 — ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FEET)
- GILL CREEK AREA

0 120 240
Scale: 1 inch = 120 feet

NOTES

- * : Elevation not used in contouring.
- ▲ : Olin Production Well.
- : Buffalo Avenue Sewer invert is assumed to be a ground-water sink. The piezometric surface is not known. The ground water contours were estimated based on the sewer invert elevation. PN-2B elevation used as dummy points north of RW-2.
- : The Gill Creek elevation is continuously monitored (1 hr intervals), using a data logging transducer installed in the Gill Creek stilling well.
- : Contour interval = 1 foot
- : Hypothetical data points (563.4 feet msl) added along southern portion of Gill Creek in area without monitoring wells to account for leakage.

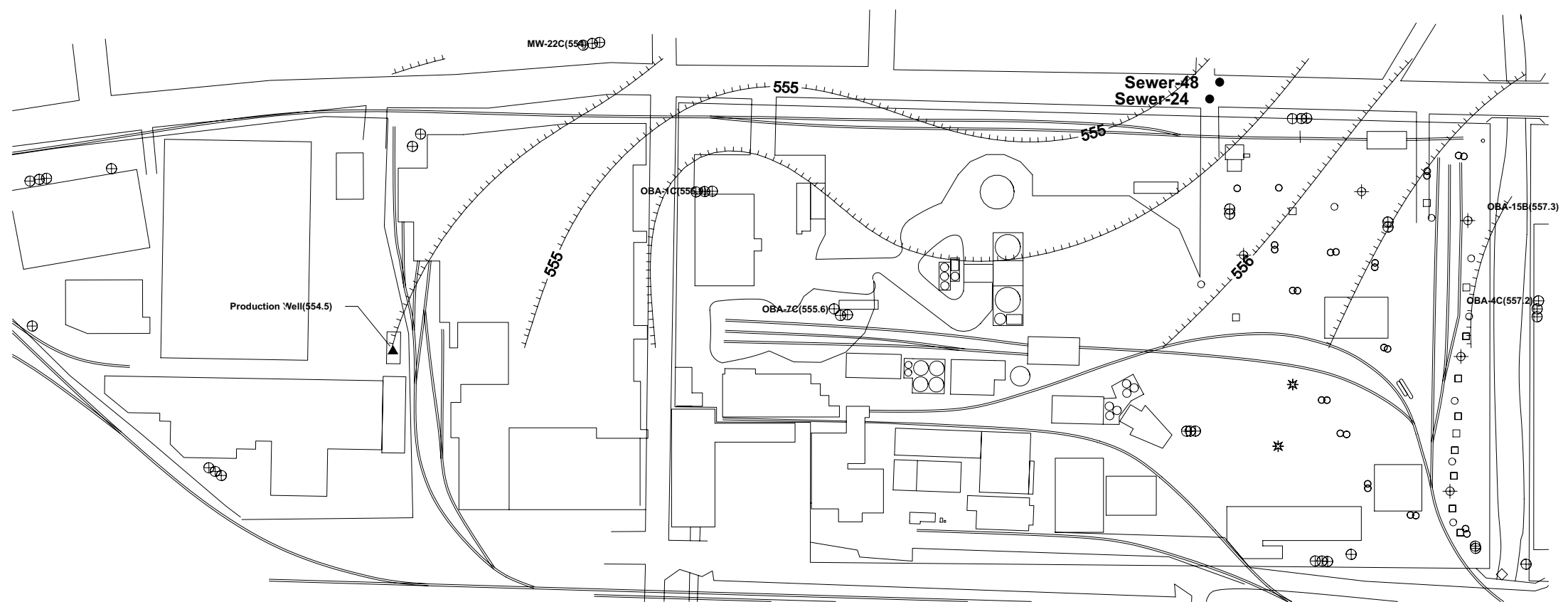
POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

OLIN CORPORATION
NIAGARA FALLS, NEW YORK



ARGC AREA
POTENTIOMETRIC SURFACE -- B ZONE
(NOVEMBER 3, 2008)



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS (FLOW RATE FROM OMNX SYSTEM)
- PASSIVE RELIEF WELLS
- SEWER INVERT
- PROPERTY LINE
- 565 ——— ESTIMATED GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL: 0.5 FOOT)

Well	Average Flow Rate (gpm)
Olin Production Well	556

Pumping Rate to Water Elevation Conversion:
 $Y = -0.00613915 (X) + 557.951$

Where:
Y = Water Elevation (ft)
X = Pumping Rate (gpm)

0 200 400
Scale 1 inch = 200 feet

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

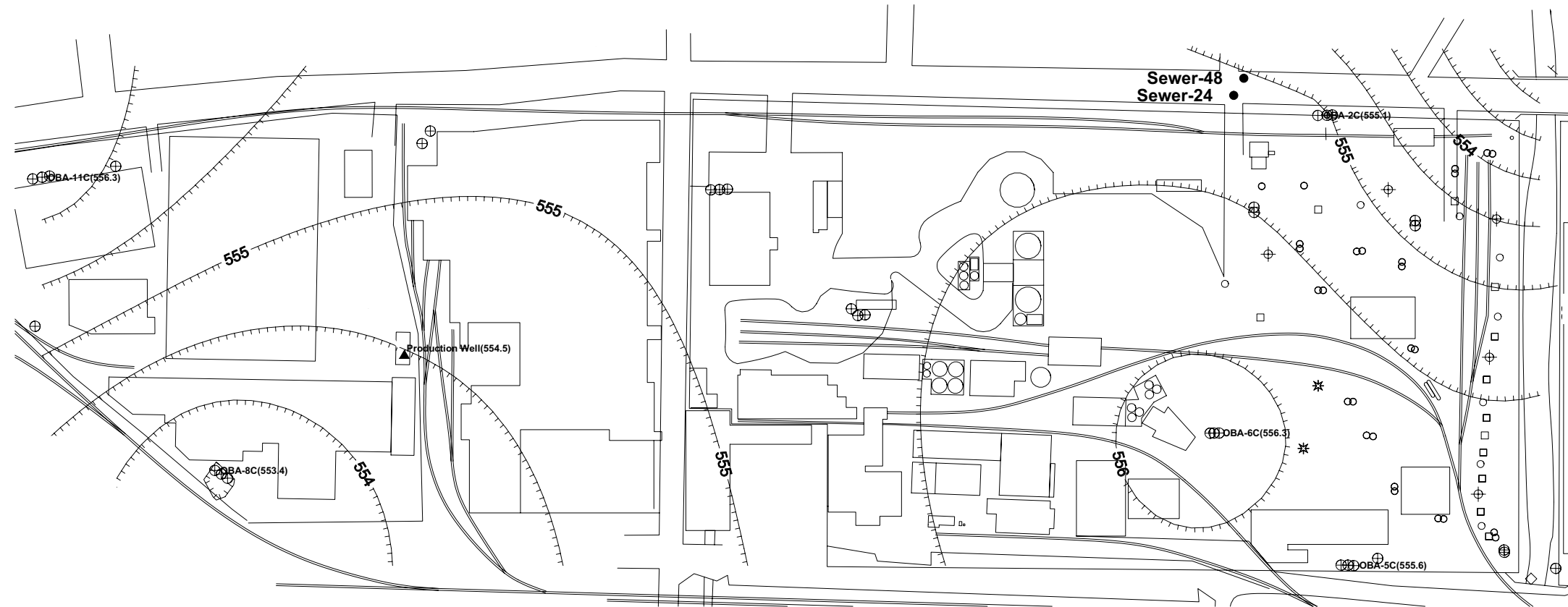
**OLIN CORPORATION
NIAGARA FALLS, NEW YORK**



**POTENTIOMETRIC SURFACE -- C ZONE
(NOVEMBER 3, 2008)**

Job No.: 6100-08-0001

Figure 3



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL (FLOW RATE FROM DUPONT)
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS (FLOW RATE FROM OMNX SYSTEM)
- PASSIVE RELIEF WELLS
- SEWER INVERT

- PROPERTY LINE
- 565 —— ESTIMATED GROUNDWATER CONTOUR LINES

Well	Average Flow Rate (gpm)
Olin Production Well	556

Pumping Rate to Water Elevation Conversion:
 $Y = -0.00613915 (X) + 557.951$

Where:
Y = Water Elevation (ft)
X = Pumping Rate (gpm)

0 200 400
Scale 1 inch = 200 feet

POTENTIOMETRIC SURFACE CONTOUR GENERATED USING SURFER 8 FOR WINDOWS BY GOLDEN SOFTWARE, INC. 2002.

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

**OLIN CORPORATION
NIAGARA FALLS, NEW YORK**

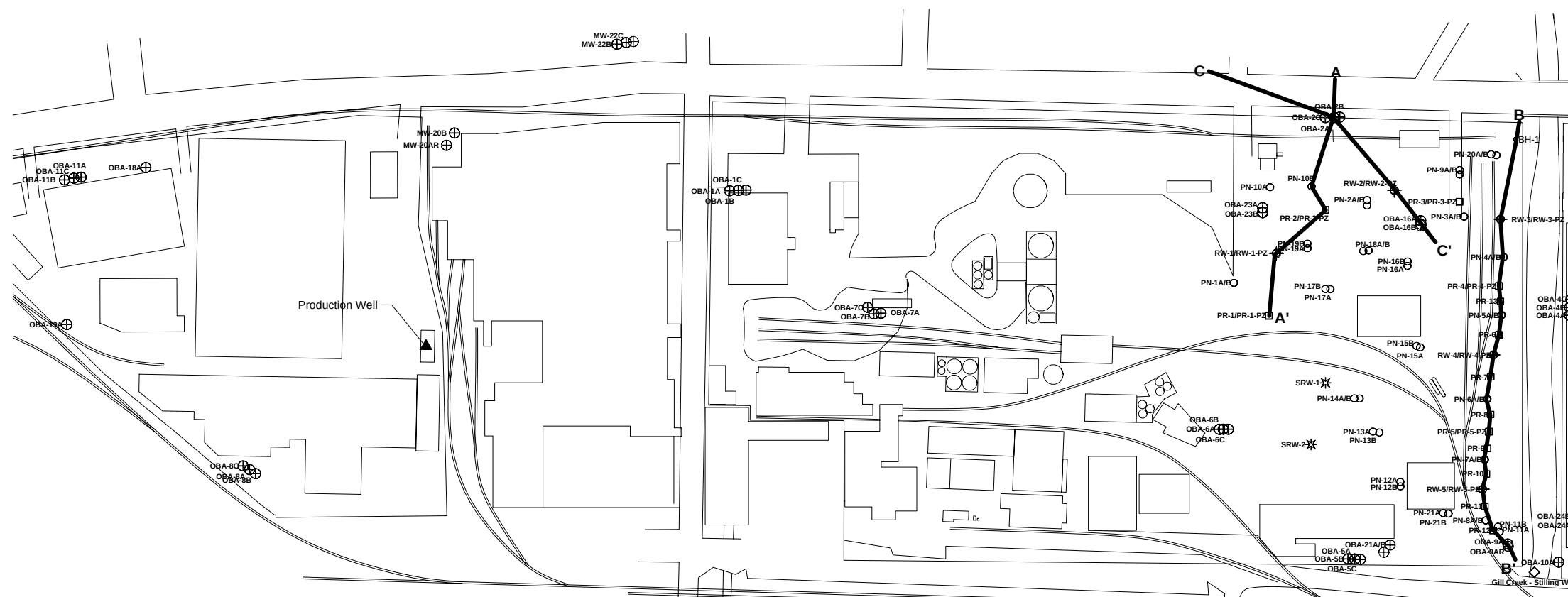


**POTENTIOMETRIC SURFACE -- CD ZONE
(NOVEMBER 3, 2008)**

Job No.: 6100-08-0001

Figure 4

CROSS SECTIONS



LEGEND

- ◇ GILL CREEK MONITORING POINT
- ▲ OLIN PRODUCTION WELL
- ⊕ WATER QUALITY MONITORING WELLS
- A/B ZONE PIEZOMETER NESTS
- ⊕ GROUNDWATER RECOVERY WELLS
- PASSIVE RELIEF WELLS
- SEWER INVERT ELEVATION
- ✱ SUPPLEMENTAL REMEDIATION WELL
- PROPERTY LINE

0 200 400
Scale 1 inch = 200 feet

Prepared By: VUO 12/03/2008
Checked By: AWE 12/04/2008

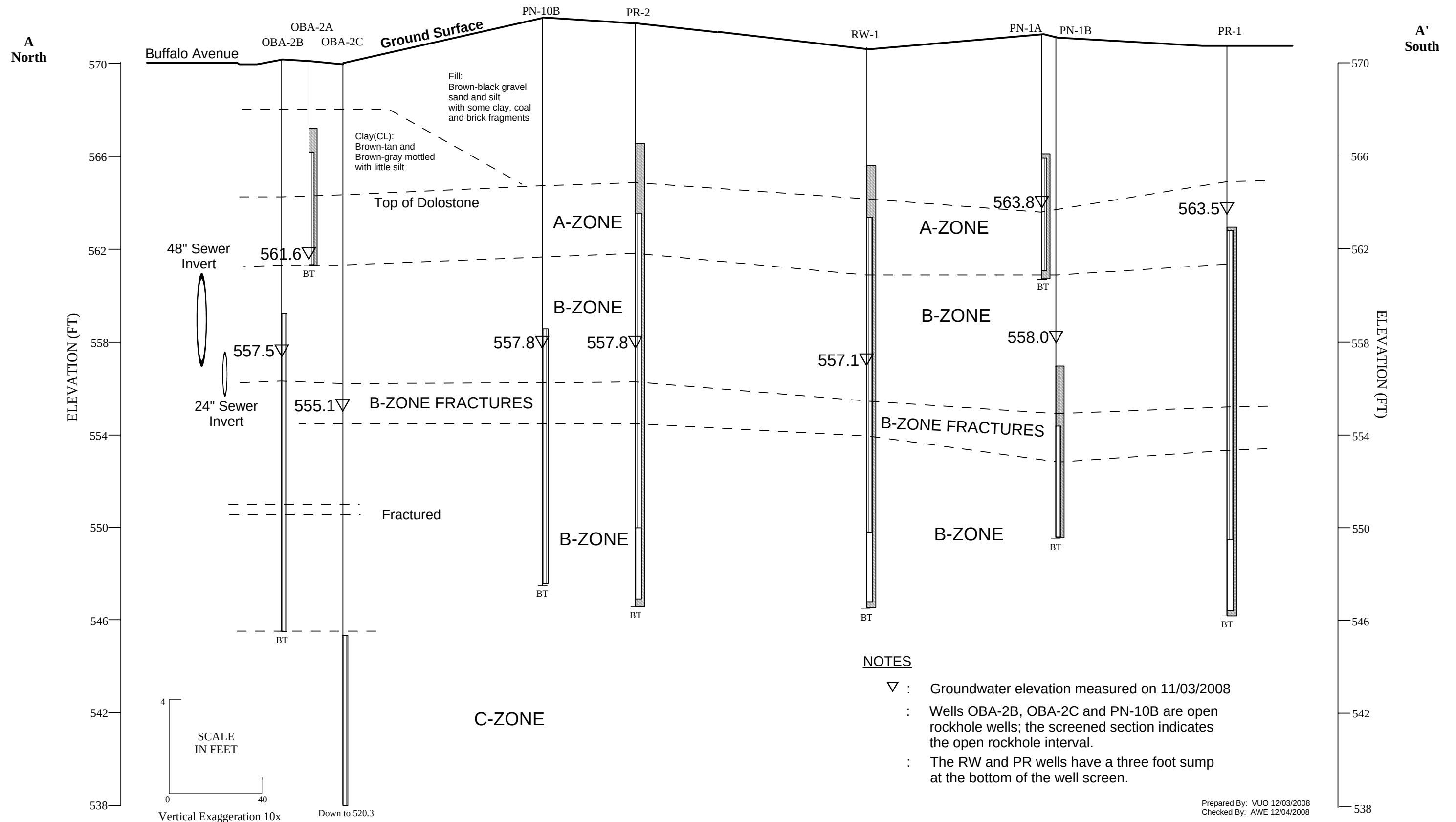
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



CROSS SECTION LOCATION MAP
(FEBRUARY 6, 2006)

Job No.: 6100-07-0001

Figure 5



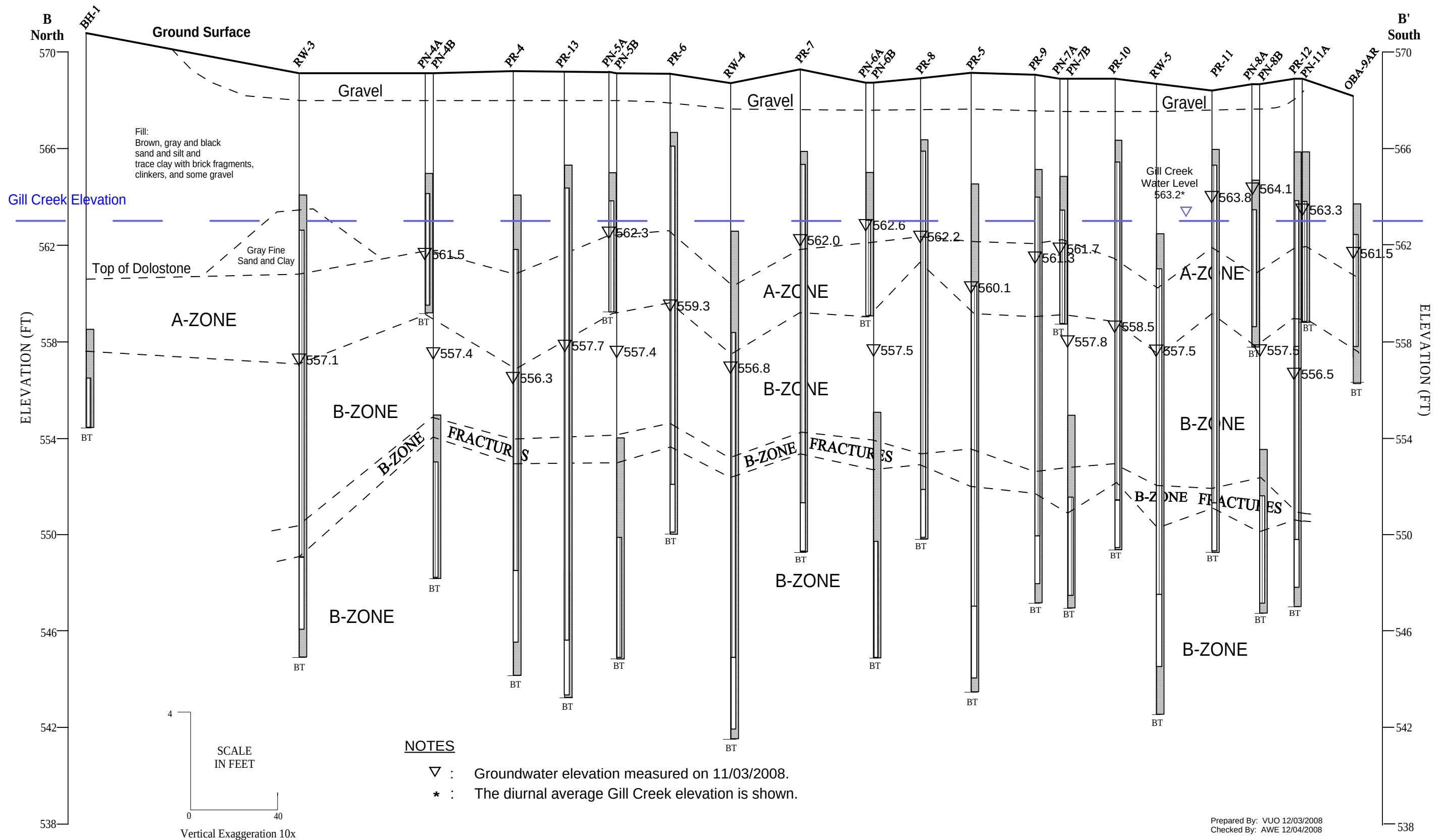
OLIN CORPORATION
NIAGARA FALLS, NEW YORK



HYDROGEOLOGIC CROSS SECTION AA'
(NOVEMBER 3, 2008)

Job No.: 6100-08-0001

Figure 6



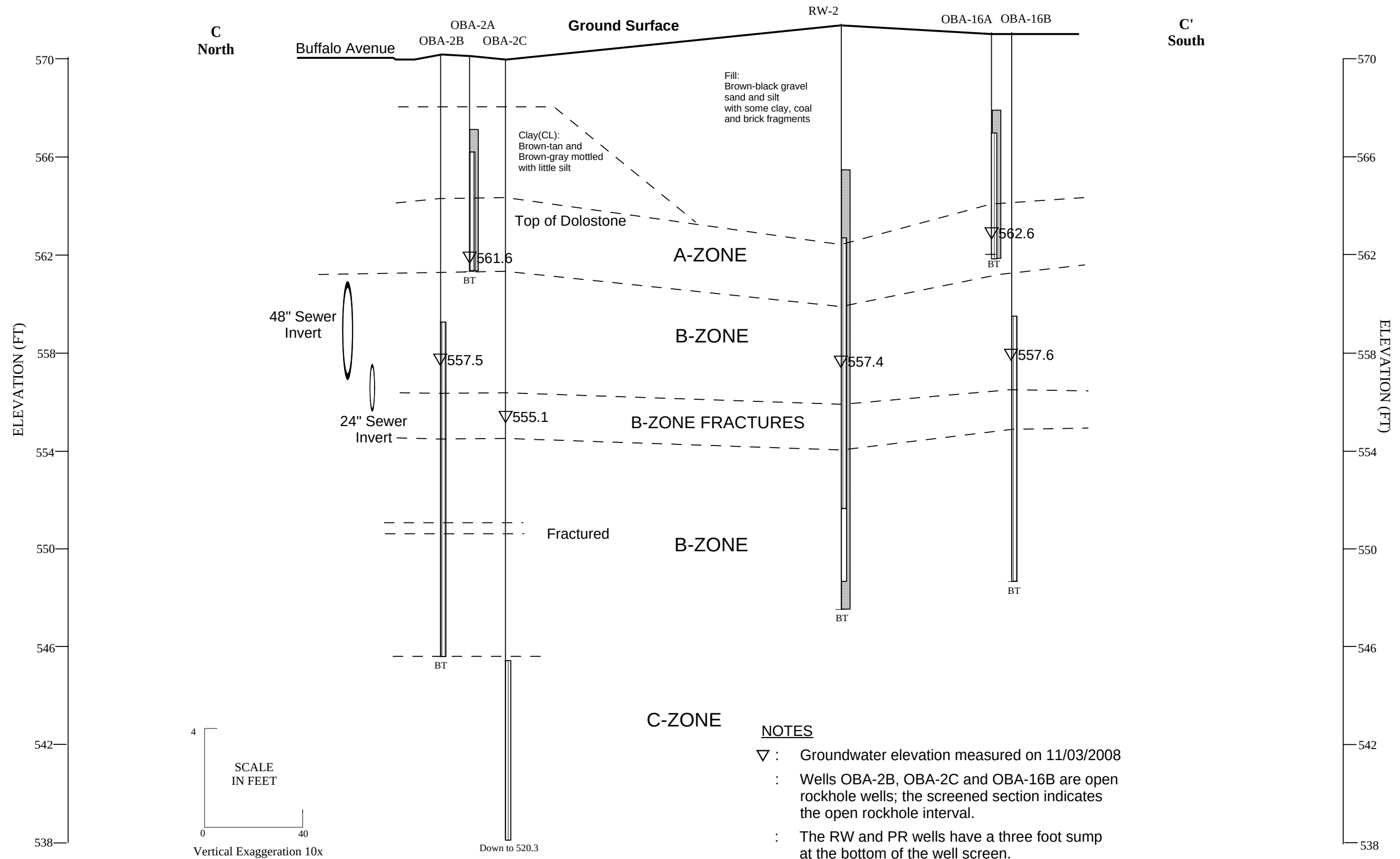
**OLIN CORPORATION
NIAGARA FALLS, NEW YORK**



**HYDROGEOLOGIC CROSS SECTION BB'
(NOVEMBER 3, 2008)**

Job No.: 6100-08-0001

Figure 7



Prepared By: VUQ 12/03/2008
Checked By: AWE 12/04/2008

OLIN CORPORATION
NIAGARA FALLS, NEW YORK



HYDROGEOLOGIC CROSS SECTION CC'
(NOVEMBER 3, 2008)

Job No.: 6100-08-0001

Figure 8

Organics - November 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	total
PR-4	SW8260B	1,3-Dichlorobenzene	330		Y	1.3	30	0.043	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,4-Dichlorobenzene	320		Y	1.5	30	0.049	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Benzene	61		Y	0.75	30	0.025	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Carbon tetrachloride		U	N	1.6	30	0.054	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Chlorobenzene	240		Y	1.2	30	0.041	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Chloromethane (Methyl chloride)		U	N	1.9	30	0.064	11/3/2008	N	ug/l	N	
PR-4	SW8260B	cis-1,2-Dichloroethene	450		Y	1.1	30	0.036	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Methylene chloride (Dichloromethane)		U	N	2.1	150	0.070	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Tetrachloroethene (PCE)	100		Y	1.5	30	0.051	11/3/2008	N	ug/l	N	
PR-4	SW8260B	trans-1,2-Dichloroethene		U	N	1.2	30	0.040	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Trichloroethene (TCE)	280		Y	1.3	30	0.043	11/3/2008	N	ug/l	N	
PR-4	SW8260B	Vinyl Chloride	220		Y	2.6	30	0.088	11/3/2008	N	ug/l	N	3,321
PR-4	SW8260B	1,1,1-Trichloroethane		U	N	2.1	30	0.070	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,1,2,2-Tetrachloroethane		U	N	9.6	30	0.32	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,1,2-Trichloroethane		U	N	2.4	30	0.079	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,1-Dichloroethene		U	N	1.1	30	0.036	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,2,4-Trichlorobenzene	1300		Y	2.2	30	0.074	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,2-Dichlorobenzene	120		Y	1.1	30	0.036	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,3-Dichlorobenzene	320		Y	1.3	30	0.043	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	1,4-Dichlorobenzene	320		Y	1.5	30	0.049	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Benzene	57		Y	0.75	30	0.025	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Carbon tetrachloride		U	N	1.6	30	0.054	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Chlorobenzene	230		Y	1.2	30	0.041	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Chloromethane (Methyl chloride)		U	N	1.9	30	0.064	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	cis-1,2-Dichloroethene	430		Y	1.1	30	0.036	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Methylene chloride (Dichloromethane)		U	N	2.1	150	0.070	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Tetrachloroethene (PCE)	90		Y	1.5	30	0.051	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	trans-1,2-Dichloroethene		U	N	1.2	30	0.040	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Trichloroethene (TCE)	260		Y	1.3	30	0.043	11/3/2008	FD	ug/l	N	duplicate
PR-4	SW8260B	Vinyl Chloride	190		Y	2.6	30	0.088	11/3/2008	FD	ug/l	N	3,317
RW-1	SW8260B	1,1,1-Trichloroethane		U	N	23	330	0.070	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,1,2,2-Tetrachloroethane		U	N	110	330	0.32	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,1,2-Trichloroethane		U	N	26	330	0.079	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,1-Dichloroethene		U	N	12	330	0.036	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,2,4-Trichlorobenzene	4500		Y	25	330	0.074	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,2-Dichlorobenzene		U	N	12	330	0.036	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,3-Dichlorobenzene		U	N	14	330	0.043	11/3/2008	N	ug/l	N	
RW-1	SW8260B	1,4-Dichlorobenzene		U	N	16	330	0.049	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Benzene		U	N	8.3	330	0.025	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Carbon tetrachloride		U	N	18	330	0.054	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Chlorobenzene		U	N	14	330	0.041	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Chloromethane (Methyl chloride)		U	N	21	330	0.064	11/3/2008	N	ug/l	N	

Organics - November 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	total
RW-1	SW8260B	cis-1,2-Dichloroethene	2500		Y	12	330	0.036	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Methylene chloride (Dichloromethane)		U	N	23	1700	0.070	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Tetrachloroethene (PCE)	3400		Y	17	330	0.051	11/3/2008	N	ug/l	N	
RW-1	SW8260B	trans-1,2-Dichloroethene		U	N	13	330	0.040	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Trichloroethene (TCE)	15000		Y	14	330	0.043	11/3/2008	N	ug/l	N	
RW-1	SW8260B	Vinyl Chloride	530		Y	29	330	0.088	11/3/2008	N	ug/l	N	25,930
RW-2	SW8260B	1,1,1-Trichloroethane		U	N	0.14	2.0	0.070	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,1,2,2-Tetrachloroethane	7.5		Y	0.64	2.0	0.32	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,1,2-Trichloroethane		U	N	0.16	2.0	0.079	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,1-Dichloroethene		U	N	0.072	2.0	0.036	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,2,4-Trichlorobenzene	23		Y	0.15	2.0	0.074	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,2-Dichlorobenzene		U	N	0.072	2.0	0.036	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,3-Dichlorobenzene	2.1		Y	0.086	2.0	0.043	11/3/2008	N	ug/l	N	
RW-2	SW8260B	1,4-Dichlorobenzene		U	N	0.098	2.0	0.049	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Benzene		U	N	0.050	2.0	0.025	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Carbon tetrachloride		U	N	0.11	2.0	0.054	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Chlorobenzene		U	N	0.082	2.0	0.041	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Chloromethane (Methyl chloride)		U	N	0.13	2.0	0.064	11/3/2008	N	ug/l	N	
RW-2	SW8260B	cis-1,2-Dichloroethene	31		Y	0.072	2.0	0.036	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Methylene chloride (Dichloromethane)		U	N	0.14	10	0.070	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Tetrachloroethene (PCE)	96		Y	0.10	2.0	0.051	11/3/2008	N	ug/l	N	
RW-2	SW8260B	trans-1,2-Dichloroethene		U	N	0.080	2.0	0.040	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Trichloroethene (TCE)	130		Y	0.086	2.0	0.043	11/3/2008	N	ug/l	N	
RW-2	SW8260B	Vinyl Chloride		U	N	0.18	2.0	0.088	11/3/2008	N	ug/l	N	290
RW-3	SW8260B	1,1,1-Trichloroethane		U	N	0.35	5.0	0.070	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,1,2,2-Tetrachloroethane	11		Y	1.6	5.0	0.32	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,2-Trichloroethane		U	N	0.40	5.0	0.079	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,1-Dichloroethene		U	N	0.18	5.0	0.036	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,2,4-Trichlorobenzene	180		Y	0.37	5.0	0.074	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,2-Dichlorobenzene	25		Y	0.18	5.0	0.036	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,3-Dichlorobenzene	79		Y	0.22	5.0	0.043	11/3/2008	N	ug/l	N	
RW-3	SW8260B	1,4-Dichlorobenzene	61		Y	0.24	5.0	0.049	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Benzene	8.5		Y	0.12	5.0	0.025	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Carbon tetrachloride		U	N	0.27	5.0	0.054	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Chlorobenzene	37		Y	0.20	5.0	0.041	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Chloromethane (Methyl chloride)		U	N	0.32	5.0	0.064	11/3/2008	N	ug/l	N	
RW-3	SW8260B	cis-1,2-Dichloroethene	100		Y	0.18	5.0	0.036	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Methylene chloride (Dichloromethane)		U	N	0.35	25	0.070	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Tetrachloroethene (PCE)	72		Y	0.26	5.0	0.051	11/3/2008	N	ug/l	N	
RW-3	SW8260B	trans-1,2-Dichloroethene		U	N	0.20	5.0	0.040	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Trichloroethene (TCE)	77		Y	0.22	5.0	0.043	11/3/2008	N	ug/l	N	
RW-3	SW8260B	Vinyl Chloride	39		Y	0.44	5.0	0.088	11/3/2008	N	ug/l	N	690

Organics - November 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	total
RW-4	SW8260B	1,1,1-Trichloroethane		U	N	2.8	40	0.070	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,1,2,2-Tetrachloroethane		U	N	13	40	0.32	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,1,2-Trichloroethane		U	N	3.2	40	0.079	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,1-Dichloroethene		U	N	1.4	40	0.036	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,2,4-Trichlorobenzene	450		Y	3.0	40	0.074	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,2-Dichlorobenzene		U	N	1.4	40	0.036	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,3-Dichlorobenzene	89		Y	1.7	40	0.043	11/3/2008	N	ug/l	N	
RW-4	SW8260B	1,4-Dichlorobenzene	43		Y	2.0	40	0.049	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Benzene		U	N	1.0	40	0.025	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Carbon tetrachloride		U	N	2.2	40	0.054	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Chlorobenzene		U	N	1.6	40	0.041	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Chloromethane (Methyl chloride)		U	N	2.6	40	0.064	11/3/2008	N	ug/l	N	
RW-4	SW8260B	cis-1,2-Dichloroethene	670		Y	1.4	40	0.036	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Methylene chloride (Dichloromethane)		U	N	2.8	200	0.070	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Tetrachloroethene (PCE)	670		Y	2.0	40	0.051	11/3/2008	N	ug/l	N	
RW-4	SW8260B	trans-1,2-Dichloroethene		U	N	1.6	40	0.040	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Trichloroethene (TCE)	1400		Y	1.7	40	0.043	11/3/2008	N	ug/l	N	
RW-4	SW8260B	Vinyl Chloride		U	N	3.5	40	0.088	11/3/2008	N	ug/l	N	3,322
RW-5	SW8260B	1,1,1-Trichloroethane		U	N	120	1800	0.070	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,1,2,2-Tetrachloroethane	11000		Y	570	1800	0.32	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,1,2-Trichloroethane		U	N	140	1800	0.079	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,1-Dichloroethene		U	N	64	1800	0.036	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,2,4-Trichlorobenzene	2400		Y	130	1800	0.074	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,2-Dichlorobenzene		U	N	64	1800	0.036	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,3-Dichlorobenzene		U	N	77	1800	0.043	11/3/2008	N	ug/l	N	
RW-5	SW8260B	1,4-Dichlorobenzene		U	N	87	1800	0.049	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Benzene		U	N	45	1800	0.025	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Carbon tetrachloride		U	N	96	1800	0.054	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Chlorobenzene		U	N	73	1800	0.041	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Chloromethane (Methyl chloride)	6800		Y	110	1800	0.064	11/3/2008	N	ug/l	N	
RW-5	SW8260B	cis-1,2-Dichloroethene		U	N	64	1800	0.036	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Methylene chloride (Dichloromethane)		U	N	120	8900	0.070	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Tetrachloroethene (PCE)	32000		Y	91	1800	0.051	11/3/2008	N	ug/l	N	
RW-5	SW8260B	trans-1,2-Dichloroethene		U	N	71	1800	0.040	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Trichloroethene (TCE)	81000		Y	77	1800	0.043	11/3/2008	N	ug/l	N	
RW-5	SW8260B	Vinyl Chloride		U	N	160	1800	0.088	11/3/2008	N	ug/l	N	133,200

Organics - November 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	total
OBA-9AR	SW8260B	1,1,1-Trichloroethane		U	N	14	200	0.070	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,1,2,2-Tetrachloroethane		U	N	64	200	0.32	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,1,2-Trichloroethane		U	N	16	200	0.079	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,1-Dichloroethene		U	N	7.2	200	0.036	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,2,4-Trichlorobenzene	10000		Y	15	200	0.074	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,2-Dichlorobenzene	12000		Y	7.2	200	0.036	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,3-Dichlorobenzene	1600		Y	8.6	200	0.043	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	1,4-Dichlorobenzene	12000		Y	9.8	200	0.049	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Benzene	460		Y	5.0	200	0.025	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Carbon tetrachloride		U	N	11	200	0.054	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Chlorobenzene	840		Y	8.2	200	0.041	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Chloromethane (Methyl chloride)		U	N	13	200	0.064	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	cis-1,2-Dichloroethene	290		Y	7.2	200	0.036	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Methylene chloride (Dichloromethane)		U	N	14	1000	0.070	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Tetrachloroethene (PCE)	3200		Y	10	200	0.051	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	trans-1,2-Dichloroethene		U	N	8.0	200	0.040	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Trichloroethene (TCE)	5100		Y	8.6	200	0.043	11/3/2008	N	ug/l	N	
OBA-9AR	SW8260B	Vinyl Chloride		U	N	18	200	0.088	11/3/2008	N	ug/l	N	45,490
PR-12	SW8260B	1,1,1-Trichloroethane		U	N	56	810	0.070	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,1,2,2-Tetrachloroethane	5400		Y	260	810	0.32	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,1,2-Trichloroethane		U	N	64	810	0.079	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,1-Dichloroethene		U	N	29	810	0.036	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,2,4-Trichlorobenzene	1600		Y	60	810	0.074	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,2-Dichlorobenzene		U	N	29	810	0.036	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,3-Dichlorobenzene		U	N	35	810	0.043	11/3/2008	N	ug/l	N	
PR-12	SW8260B	1,4-Dichlorobenzene	860		Y	40	810	0.049	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Benzene		U	N	20	810	0.025	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Carbon tetrachloride		U	N	44	810	0.054	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Chlorobenzene		U	N	33	810	0.041	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Chloromethane (Methyl chloride)		U	N	52	810	0.064	11/3/2008	N	ug/l	N	
PR-12	SW8260B	cis-1,2-Dichloroethene	2800		Y	29	810	0.036	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Methylene chloride (Dichloromethane)		U	N	56	4000	0.070	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Tetrachloroethene (PCE)	12000		Y	41	810	0.051	11/3/2008	N	ug/l	N	
PR-12	SW8260B	trans-1,2-Dichloroethene		U	N	32	810	0.040	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Trichloroethene (TCE)	32000		Y	35	810	0.043	11/3/2008	N	ug/l	N	
PR-12	SW8260B	Vinyl Chloride		U	N	71	810	0.088	11/3/2008	N	ug/l	N	54,660
PR-4	SW8260B	1,1,1-Trichloroethane		U	N	2.1	30	0.070	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,1,2,2-Tetrachloroethane		U	N	9.6	30	0.32	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,1,2-Trichloroethane		U	N	2.4	30	0.079	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,1-Dichloroethene		U	N	1.1	30	0.036	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,2,4-Trichlorobenzene	1200		Y	2.2	30	0.074	11/3/2008	N	ug/l	N	
PR-4	SW8260B	1,2-Dichlorobenzene	120		Y	1.1	30	0.036	11/3/2008	N	ug/l	N	

Mercury - Nov 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detecti	Quantitation	Method Deted	SampleDate	Sample	Units	Total or Dissolved
OBA-9AR	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
PR-12	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	FD	mg/l	D
RW-1	SW7470	Mercury	0.00048		Y	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
RW-2	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
RW-3	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
RW-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
RW-5	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	D
OBA-9AR	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
PR-12	SW7470	Mercury	0.00020		Y	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	FD	mg/l	T
RW-1	SW7470	Mercury	0.0016		Y	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
RW-2	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
RW-3	SW7470	Mercury	0.00039		Y	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
RW-4	SW7470	Mercury	0.00034		Y	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T
RW-5	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	11/3/2008	N	mg/l	T

BHC - November 2008

LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	total
OBA-9AR	SW8081A	alpha-BHC	660		Y	4.3	50	0.0043	11/3/2008	N	ug/l	
OBA-9AR	SW8081A	beta-BHC	55		Y	7.5	50	0.0075	11/3/2008	N	ug/l	
OBA-9AR	SW8081A	delta-BHC	37	J	Y	8.1	50	0.0081	11/3/2008	N	ug/l	
OBA-9AR	SW8081A	gamma-BHC	470		Y	6.8	50	0.0068	11/3/2008	N	ug/l	1222
PR-12	SW8081A	alpha-BHC	100		Y	1.1	12	0.0043	11/3/2008	N	ug/l	
PR-12	SW8081A	beta-BHC	12		Y	1.9	12	0.0075	11/3/2008	N	ug/l	
PR-12	SW8081A	delta-BHC	9.5	J	Y	2.0	12	0.0081	11/3/2008	N	ug/l	
PR-12	SW8081A	gamma-BHC	93		Y	1.7	12	0.0068	11/3/2008	N	ug/l	214.5
PR-4	SW8081A	alpha-BHC	99		Y	0.86	10	0.0043	11/3/2008	N	ug/l	
PR-4	SW8081A	beta-BHC	7.9	J	Y	1.5	10	0.0075	11/3/2008	N	ug/l	
PR-4	SW8081A	delta-BHC	10		Y	1.6	10	0.0081	11/3/2008	N	ug/l	
PR-4	SW8081A	gamma-BHC	71		Y	1.4	10	0.0068	11/3/2008	N	ug/l	187.9
PR-4	SW8081A	alpha-BHC	93		Y	0.43	5.0	0.0043	11/3/2008	FD	ug/l	
PR-4	SW8081A	beta-BHC	6.9		Y	0.75	5.0	0.0075	11/3/2008	FD	ug/l	
PR-4	SW8081A	delta-BHC	9.7		Y	0.81	5.0	0.0081	11/3/2008	FD	ug/l	
PR-4	SW8081A	gamma-BHC	66		Y	0.68	5.0	0.0068	11/3/2008	FD	ug/l	175.6
RW-1	SW8081A	alpha-BHC	19		Y	0.43	5.0	0.0043	11/3/2008	N	ug/l	
RW-1	SW8081A	beta-BHC	4.7	J	Y	0.75	5.0	0.0075	11/3/2008	N	ug/l	
RW-1	SW8081A	delta-BHC		U	N	0.81	5.0	0.0081	11/3/2008	N	ug/l	
RW-1	SW8081A	gamma-BHC	1.0	J	Y	0.68	5.0	0.0068	11/3/2008	N	ug/l	24.7
RW-2	SW8081A	alpha-BHC	0.21		Y	0.0043	0.050	0.0043	11/3/2008	N	ug/l	
RW-2	SW8081A	beta-BHC	0.14		Y	0.0075	0.050	0.0075	11/3/2008	N	ug/l	
RW-2	SW8081A	delta-BHC	0.017	J COL	Y	0.0081	0.050	0.0081	11/3/2008	N	ug/l	
RW-2	SW8081A	gamma-BHC	0.15		Y	0.0068	0.050	0.0068	11/3/2008	N	ug/l	0.517
RW-3	SW8081A	alpha-BHC	16		Y	0.086	1.0	0.0043	11/3/2008	N	ug/l	
RW-3	SW8081A	beta-BHC	1.5	B	Y	0.15	1.0	0.0075	11/3/2008	N	ug/l	
RW-3	SW8081A	delta-BHC	3.8		Y	0.16	1.0	0.0081	11/3/2008	N	ug/l	
RW-3	SW8081A	gamma-BHC	12		Y	0.14	1.0	0.0068	11/3/2008	N	ug/l	33.3
RW-4	SW8081A	alpha-BHC	32		Y	0.22	2.5	0.0043	11/3/2008	N	ug/l	
RW-4	SW8081A	beta-BHC	3.6		Y	0.38	2.5	0.0075	11/3/2008	N	ug/l	
RW-4	SW8081A	delta-BHC	2.9		Y	0.40	2.5	0.0081	11/3/2008	N	ug/l	
RW-4	SW8081A	gamma-BHC	23		Y	0.34	2.5	0.0068	11/3/2008	N	ug/l	61.5
RW-5	SW8081A	alpha-BHC	140		Y	1.3	15	0.0043	11/3/2008	N	ug/l	
RW-5	SW8081A	beta-BHC	17	B	Y	2.2	15	0.0075	11/3/2008	N	ug/l	
RW-5	SW8081A	delta-BHC	13	J	Y	2.4	15	0.0081	11/3/2008	N	ug/l	
RW-5	SW8081A	gamma-BHC	99		Y	2.0	15	0.0068	11/3/2008	N	ug/l	269

Organics - Feb-09

LocationID	Analytical Method	Parameter Name	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	Result	total
OBA-9AR	SW8260B	1,1,1-Trichloroethane		U	N	14	200	0.070	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	1,1,2,2-Tetrachloroethane		U	N	64	200	0.32	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	1,1,2-Trichloroethane		U	N	16	200	0.079	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	1,1-Dichloroethane		U	N	7.2	200	0.036	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	1,2,4-Trichlorobenzene	10000		Y	15	200	0.074	2/24/2009	Normal	ug/l	N	10,000	
OBA-9AR	SW8260B	1,2-Dichlorobenzene	10000		Y	7.2	200	0.036	2/24/2009	Normal	ug/l	N	10,000	
OBA-9AR	SW8260B	1,3-Dichlorobenzene	1400		Y	8.6	200	0.043	2/24/2009	Normal	ug/l	N	1,400	
OBA-9AR	SW8260B	1,4-Dichlorobenzene	9200		Y	9.8	200	0.049	2/24/2009	Normal	ug/l	N	9,200	
OBA-9AR	SW8260B	Benzene	480		Y	5.0	200	0.025	2/24/2009	Normal	ug/l	N	480	
OBA-9AR	SW8260B	Carbon tetrachloride		U	N	11	200	0.054	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	Chlorobenzene	710		Y	8.2	200	0.041	2/24/2009	Normal	ug/l	N	710	
OBA-9AR	SW8260B	Chloromethane (Methyl chloride)		U	N	13	200	0.064	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	cis-1,2-Dichloroethene		U	N	7.2	200	0.036	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	Methylene chloride (Dichloromethane)		U	N	14	1000	0.070	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	Tetrachloroethene (PCE)	2600		Y	10	200	0.051	2/24/2009	Normal	ug/l	N	2,600	
OBA-9AR	SW8260B	trans-1,2-Dichloroethene		U	N	8.0	200	0.040	2/24/2009	Normal	ug/l	N	-	
OBA-9AR	SW8260B	Trichloroethene (TCE)	4000		Y	8.6	200	0.043	2/24/2009	Normal	ug/l	N	4,000	
OBA-9AR	SW8260B	Vinyl Chloride		U	N	18	200	0.088	2/24/2009	Normal	ug/l	N	-	38,390
PR-12	SW8260B	1,1,1-Trichloroethane		U	N	56	800	0.070	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	1,1,2,2-Tetrachloroethane	5500		Y	260	800	0.32	2/24/2009	Normal	ug/l	N	5,500	
PR-12	SW8260B	1,1,2-Trichloroethane		U	N	63	800	0.079	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	1,1-Dichloroethene		U	N	29	800	0.036	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	1,2,4-Trichlorobenzene	2000		Y	59	800	0.074	2/24/2009	Normal	ug/l	N	2,000	
PR-12	SW8260B	1,2-Dichlorobenzene		U	N	29	800	0.036	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	1,3-Dichlorobenzene		U	N	34	800	0.043	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	1,4-Dichlorobenzene		U	N	39	800	0.049	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Benzene		U	N	20	800	0.025	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Carbon tetrachloride		U	N	43	800	0.054	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Chlorobenzene		U	N	33	800	0.041	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Chloromethane (Methyl chloride)		U	N	51	800	0.064	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	cis-1,2-Dichloroethene	3000		Y	29	800	0.036	2/24/2009	Normal	ug/l	N	3,000	
PR-12	SW8260B	Methylene chloride (Dichloromethane)		U	N	56	4000	0.070	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Tetrachloroethene (PCE)	16000		Y	41	800	0.051	2/24/2009	Normal	ug/l	N	16,000	
PR-12	SW8260B	trans-1,2-Dichloroethene		U	N	32	800	0.040	2/24/2009	Normal	ug/l	N	-	
PR-12	SW8260B	Trichloroethene (TCE)	38000		Y	34	800	0.043	2/24/2009	Normal	ug/l	N	38,000	
PR-12	SW8260B	Vinyl Chloride		U	N	70	800	0.088	2/24/2009	Normal	ug/l	N	-	64,500
PR-4	SW8260B	1,1,1-Trichloroethane		U	N	2.1	29	0.070	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	1,1,2,2-Tetrachloroethane		U	N	9.4	29	0.32	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	1,1,2-Trichloroethane		U	N	2.3	29	0.079	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	1,1-Dichloroethene		U	N	1.1	29	0.036	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	1,2,4-Trichlorobenzene	860		Y	2.2	29	0.074	2/24/2009	Normal	ug/l	N	860	
PR-4	SW8260B	1,2-Dichlorobenzene	38		Y	1.1	29	0.036	2/24/2009	Normal	ug/l	N	38	
PR-4	SW8260B	1,3-Dichlorobenzene	130		Y	1.3	29	0.043	2/24/2009	Normal	ug/l	N	130	
PR-4	SW8260B	1,4-Dichlorobenzene	78		Y	1.4	29	0.049	2/24/2009	Normal	ug/l	N	78	
PR-4	SW8260B	Benzene	53		Y	0.74	29	0.025	2/24/2009	Normal	ug/l	N	53	
PR-4	SW8260B	Carbon tetrachloride		U	N	1.6	29	0.054	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	Chlorobenzene	120		Y	1.2	29	0.041	2/24/2009	Normal	ug/l	N	120	
PR-4	SW8260B	Chloromethane (Methyl chloride)		U	N	1.9	29	0.064	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	cis-1,2-Dichloroethene	230		Y	1.1	29	0.036	2/24/2009	Normal	ug/l	N	230	
PR-4	SW8260B	Methylene chloride (Dichloromethane)		U	N	2.1	150	0.070	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	Tetrachloroethene (PCE)	330		Y	1.5	29	0.051	2/24/2009	Normal	ug/l	N	330	
PR-4	SW8260B	trans-1,2-Dichloroethene		U	N	1.2	29	0.040	2/24/2009	Normal	ug/l	N	-	
PR-4	SW8260B	Trichloroethene (TCE)	820		Y	1.3	29	0.043	2/24/2009	Normal	ug/l	N	820	
PR-4	SW8260B	Vinyl Chloride	76		Y	2.6	29	0.088	2/24/2009	Normal	ug/l	N	76	2,735
RW-1	SW8260B	1,1,1-Trichloroethane		U	N	16	230	0.070	2/24/2009	Normal	ug/l	N	-	

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LocationID	Analytical Method	Parameter Name	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	Result	total
RW-1	SW8260B	1,1,2,2-Tetrachloroethane		U	N	73	230	0.32	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	1,1,2-Trichloroethane		U	N	18	230	0.079	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	1,1-Dichloroethane		U	N	8.2	230	0.036	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	1,2,4-Trichlorobenzene	3800		Y	17	230	0.074	2/24/2009	Normal	ug/l	N	3,800	
RW-1	SW8260B	1,2-Dichlorobenzene		U	N	8.2	230	0.036	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	1,3-Dichlorobenzene		U	N	9.8	230	0.043	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	1,4-Dichlorobenzene		U	N	11	230	0.049	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Benzene		U	N	5.7	230	0.025	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Carbon tetrachloride		U	N	12	230	0.054	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Chlorobenzene		U	N	9.3	230	0.041	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Chloromethane (Methyl chloride)		U	N	15	230	0.064	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	cis-1,2-Dichloroethene	1800		Y	8.2	230	0.036	2/24/2009	Normal	ug/l	N	1,800	
RW-1	SW8260B	Methylene chloride (Dichloromethane)		U	N	16	1100	0.070	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Tetrachloroethene (PCE)	3100		Y	12	230	0.051	2/24/2009	Normal	ug/l	N	3,100	
RW-1	SW8260B	trans-1,2-Dichloroethene		U	N	9.1	230	0.040	2/24/2009	Normal	ug/l	N	-	
RW-1	SW8260B	Trichloroethene (TCE)	11000		Y	9.8	230	0.043	2/24/2009	Normal	ug/l	N	11,000	
RW-1	SW8260B	Vinyl Chloride	350		Y	20	230	0.088	2/24/2009	Normal	ug/l	N	350	20,050
RW-2	SW8260B	1,1,1-Trichloroethane		U	N	0.21	2.9	0.070	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	1,1,2,2-Tetrachloroethane	9.4		Y	0.94	2.9	0.32	2/24/2009	Normal	ug/l	N	9	
RW-2	SW8260B	1,1,2-Trichloroethane		U	N	0.23	2.9	0.079	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	1,1-Dichloroethene		U	N	0.11	2.9	0.036	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	1,2,4-Trichlorobenzene	15		Y	0.22	2.9	0.074	2/24/2009	Normal	ug/l	N	15	
RW-2	SW8260B	1,2-Dichlorobenzene		U	N	0.11	2.9	0.036	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	1,3-Dichlorobenzene		U	N	0.13	2.9	0.043	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	1,4-Dichlorobenzene		U	N	0.14	2.9	0.049	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Benzene		U	N	0.074	2.9	0.025	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Carbon tetrachloride		U	N	0.16	2.9	0.054	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Chlorobenzene		U	N	0.12	2.9	0.041	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Chloromethane (Methyl chloride)		U	N	0.19	2.9	0.064	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	cis-1,2-Dichloroethene	26		Y	0.11	2.9	0.036	2/24/2009	Normal	ug/l	N	26	
RW-2	SW8260B	Methylene chloride (Dichloromethane)		U	N	0.21	15	0.070	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Tetrachloroethene (PCE)	81		Y	0.15	2.9	0.051	2/24/2009	Normal	ug/l	N	81	
RW-2	SW8260B	trans-1,2-Dichloroethene		U	N	0.12	2.9	0.040	2/24/2009	Normal	ug/l	N	-	
RW-2	SW8260B	Trichloroethene (TCE)	99		Y	0.13	2.9	0.043	2/24/2009	Normal	ug/l	N	99	
RW-2	SW8260B	Vinyl Chloride		U	N	0.26	2.9	0.088	2/24/2009	Normal	ug/l	N	-	250
RW-3	SW8260B	1,1,1-Trichloroethane		U	N	1.8	25	0.070	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	1,1,2,2-Tetrachloroethane		U	N	8.0	25	0.32	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	1,1,2-Trichloroethane		U	N	2.0	25	0.079	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	1,1-Dichloroethene		U	N	0.90	25	0.036	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	1,2,4-Trichlorobenzene	670		Y	1.8	25	0.074	2/24/2009	Normal	ug/l	N	670	
RW-3	SW8260B	1,2-Dichlorobenzene	35		Y	0.90	25	0.036	2/24/2009	Normal	ug/l	N	35	
RW-3	SW8260B	1,3-Dichlorobenzene	120		Y	1.1	25	0.043	2/24/2009	Normal	ug/l	N	120	
RW-3	SW8260B	1,4-Dichlorobenzene	69		Y	1.2	25	0.049	2/24/2009	Normal	ug/l	N	69	
RW-3	SW8260B	Benzene	42		Y	0.62	25	0.025	2/24/2009	Normal	ug/l	N	42	
RW-3	SW8260B	Carbon tetrachloride		U	N	1.4	25	0.054	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	Chlorobenzene	110		Y	1.0	25	0.041	2/24/2009	Normal	ug/l	N	110	
RW-3	SW8260B	Chloromethane (Methyl chloride)		U	N	1.6	25	0.064	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	cis-1,2-Dichloroethene	220		Y	0.90	25	0.036	2/24/2009	Normal	ug/l	N	220	
RW-3	SW8260B	Methylene chloride (Dichloromethane)		U	N	1.8	120	0.070	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	Tetrachloroethene (PCE)	310		Y	1.3	25	0.051	2/24/2009	Normal	ug/l	N	310	
RW-3	SW8260B	trans-1,2-Dichloroethene		U	N	1.0	25	0.040	2/24/2009	Normal	ug/l	N	-	
RW-3	SW8260B	Trichloroethene (TCE)	750		Y	1.1	25	0.043	2/24/2009	Normal	ug/l	N	750	
RW-3	SW8260B	Vinyl Chloride	69		Y	2.2	25	0.088	2/24/2009	Normal	ug/l	N	69	2,395
RW-3D	SW8260B	1,1,1-Trichloroethane		U	N	1.8	25	0.070	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	1,1,2,2-Tetrachloroethane		U	N	8.0	25	0.32	2/24/2009	Normal	ug/l	N	-	

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LocationID	Analytical Method	Parameter Name	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	Result	total
RW-3D	SW8260B	1,1,1-Trichloroethane		U	N	2.0	25	0.079	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	1,1-Dichloroethane		U	N	0.90	25	0.036	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	1,2,4-Trichlorobenzene	670	Y	Y	1.8	25	0.074	2/24/2009	Normal	ug/l	N	670	
RW-3D	SW8260B	1,2-Dichlorobenzene	35	Y	Y	0.90	25	0.036	2/24/2009	Normal	ug/l	N	35	
RW-3D	SW8260B	1,3-Dichlorobenzene	110	Y	Y	1.1	25	0.043	2/24/2009	Normal	ug/l	N	110	
RW-3D	SW8260B	1,4-Dichlorobenzene	66	Y	Y	1.2	25	0.049	2/24/2009	Normal	ug/l	N	66	
RW-3D	SW8260B	Benzene	41	Y	Y	0.62	25	0.025	2/24/2009	Normal	ug/l	N	41	
RW-3D	SW8260B	Carbon tetrachloride		U	N	1.4	25	0.054	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	Chlorobenzene	100	Y	Y	1.0	25	0.041	2/24/2009	Normal	ug/l	N	100	
RW-3D	SW8260B	cis-1,2-Dichloroethene	210	Y	Y	1.6	25	0.064	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	Methylene chloride (Dichloromethane)		U	N	0.90	25	0.036	2/24/2009	Normal	ug/l	N	210	
RW-3D	SW8260B	Tetrachloroethene (PCE)	290	Y	Y	1.3	25	0.051	2/24/2009	Normal	ug/l	N	-	
RW-3D	SW8260B	trans-1,2-Dichloroethene		U	N	1.0	25	0.040	2/24/2009	Normal	ug/l	N	290	
RW-3D	SW8260B	Trichloroethene (TCE)	740	Y	Y	1.1	25	0.043	2/24/2009	Normal	ug/l	N	740	
RW-3D	SW8260B	Vinyl Chloride	68	Y	Y	2.2	25	0.088	2/24/2009	Normal	ug/l	N	68	2,330
RW-4	SW8260B	1,1,1-Trichloroethane		U	N	1.9	27	0.070	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	1,1,2,2-Tetrachloroethane		U	N	8.6	27	0.32	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	1,1,2-Trichloroethane		U	N	2.1	27	0.079	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	1,1-Dichloroethane		U	N	0.97	27	0.036	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	1,2,4-Trichlorobenzene	340	Y	Y	2.0	27	0.074	2/24/2009	Normal	ug/l	N	340	
RW-4	SW8260B	1,2-Dichlorobenzene	35	Y	Y	0.97	27	0.036	2/24/2009	Normal	ug/l	N	35	
RW-4	SW8260B	1,3-Dichlorobenzene	100	Y	Y	1.2	27	0.043	2/24/2009	Normal	ug/l	N	100	
RW-4	SW8260B	1,4-Dichlorobenzene	65	Y	Y	1.3	27	0.049	2/24/2009	Normal	ug/l	N	65	
RW-4	SW8260B	Benzene		U	N	0.68	27	0.025	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	Carbon tetrachloride		U	N	1.5	27	0.054	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	Chlorobenzene	100	Y	Y	1.1	27	0.041	2/24/2009	Normal	ug/l	N	100	
RW-4	SW8260B	Chloromethane (Methyl chloride)		U	N	1.7	27	0.064	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	cis-1,2-Dichloroethene	170	Y	Y	0.97	27	0.036	2/24/2009	Normal	ug/l	N	170	
RW-4	SW8260B	Methylene chloride (Dichloromethane)		U	N	1.9	140	0.070	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	Tetrachloroethene (PCE)	330	Y	Y	1.4	27	0.051	2/24/2009	Normal	ug/l	N	330	
RW-4	SW8260B	trans-1,2-Dichloroethene		U	N	1.1	27	0.040	2/24/2009	Normal	ug/l	N	-	
RW-4	SW8260B	Trichloroethene (TCE)	730	Y	Y	1.2	27	0.043	2/24/2009	Normal	ug/l	N	730	
RW-4	SW8260B	Vinyl Chloride	79	Y	Y	2.4	27	0.088	2/24/2009	Normal	ug/l	N	79	1,949
RW-5	SW8260B	1,1,1-Trichloroethane		U	N	70	1000	0.070	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	1,1,2,2-Tetrachloroethane	7600	Y	Y	320	1000	0.32	2/24/2009	Normal	ug/l	N	7,600	
RW-5	SW8260B	1,1,2-Trichloroethane		U	N	79	1000	0.079	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	1,1-Dichloroethane		U	N	36	1000	0.036	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	1,2,4-Trichlorobenzene	2000	Y	Y	74	1000	0.074	2/24/2009	Normal	ug/l	N	2,000	
RW-5	SW8260B	1,2-Dichlorobenzene		U	N	36	1000	0.036	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	1,3-Dichlorobenzene		U	N	43	1000	0.043	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	1,4-Dichlorobenzene		U	N	49	1000	0.049	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Benzene		U	N	25	1000	0.025	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Carbon tetrachloride		U	N	54	1000	0.054	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Chlorobenzene		U	N	41	1000	0.041	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Chloromethane (Methyl chloride)		U	N	64	1000	0.064	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	cis-1,2-Dichloroethene	4900	Y	Y	36	1000	0.036	2/24/2009	Normal	ug/l	N	4,900	
RW-5	SW8260B	Methylene chloride (Dichloromethane)		U	N	70	5000	0.070	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Tetrachloroethene (PCE)	27000	Y	Y	51	1000	0.051	2/24/2009	Normal	ug/l	N	27,000	
RW-5	SW8260B	trans-1,2-Dichloroethene		U	N	40	1000	0.040	2/24/2009	Normal	ug/l	N	-	
RW-5	SW8260B	Trichloroethene (TCE)	56000	Y	Y	43	1000	0.043	2/24/2009	Normal	ug/l	N	56,000	
RW-5	SW8260B	Vinyl Chloride		U	N	88	1000	0.088	2/24/2009	Normal	ug/l	N	-	97,500

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LocationID	Analytical Method	Parameter Name	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved	Result	Total
OBA-9AR	SW8081A	alpha-BHC	800		Y	4.3	50	0.0043	2/24/2009	Normal	ug/l	N	800	
OBA-9AR	SW8081A	beta-BHC	58		Y	7.5	50	0.0075	2/24/2009	Normal	ug/l	N	58	
OBA-9AR	SW8081A	delta-BHC	31	J	Y	8.1	50	0.0081	2/24/2009	Normal	ug/l	N	31	
OBA-9AR	SW8081A	gamma-BHC	530		Y	6.8	50	0.0068	2/24/2009	Normal	ug/l	N	530	1,419
PR-12	SW8081A	alpha-BHC	97		Y	0.86	10	0.0043	2/24/2009	Normal	ug/l	N	97	
PR-12	SW8081A	beta-BHC	9.9	J	Y	1.5	10	0.0075	2/24/2009	Normal	ug/l	N	9.9	
PR-12	SW8081A	delta-BHC	9.9	J	Y	1.6	10	0.0081	2/24/2009	Normal	ug/l	N	9.9	
PR-12	SW8081A	gamma-BHC	88		Y	1.4	10	0.0068	2/24/2009	Normal	ug/l	N	88	205
PR-4	SW8081A	alpha-BHC	73		Y	0.86	10	0.0043	2/24/2009	Normal	ug/l	N	73	
PR-4	SW8081A	beta-BHC	7.7	J	Y	1.5	10	0.0075	2/24/2009	Normal	ug/l	N	7.7	
PR-4	SW8081A	delta-BHC	10		Y	1.6	10	0.0081	2/24/2009	Normal	ug/l	N	10	
PR-4	SW8081A	gamma-BHC	100		Y	1.4	10	0.0068	2/24/2009	Normal	ug/l	N	100	191
RW-1	SW8081A	alpha-BHC	13		Y	0.086	1.0	0.0043	2/24/2009	Normal	ug/l	N	13	
RW-1	SW8081A	beta-BHC	2.9		Y	0.15	1.0	0.0075	2/24/2009	Normal	ug/l	N	2.9	
RW-1	SW8081A	delta-BHC		U	N	0.16	1.0	0.0081	2/24/2009	Normal	ug/l	N	0	
RW-1	SW8081A	gamma-BHC	0.52	J	Y	0.14	1.0	0.0068	2/24/2009	Normal	ug/l	N	0.52	16
RW-2	SW8081A	alpha-BHC	0.16		Y	0.0043	0.050	0.0043	2/24/2009	Normal	ug/l	N	0.16	
RW-2	SW8081A	beta-BHC	0.12		Y	0.0075	0.050	0.0075	2/24/2009	Normal	ug/l	N	0.12	
RW-2	SW8081A	delta-BHC	0.023	J	Y	0.0081	0.050	0.0081	2/24/2009	Normal	ug/l	N	0.023	
RW-2	SW8081A	gamma-BHC	0.11		Y	0.0068	0.050	0.0068	2/24/2009	Normal	ug/l	N	0.11	0.4
RW-3	SW8081A	alpha-BHC	52		Y	0.43	5.0	0.0043	2/24/2009	Normal	ug/l	N	52	
RW-3	SW8081A	beta-BHC	5.7		Y	0.75	5.0	0.0075	2/24/2009	Normal	ug/l	N	5.7	
RW-3	SW8081A	delta-BHC	7.0		Y	0.81	5.0	0.0081	2/24/2009	Normal	ug/l	N	7	
RW-3	SW8081A	gamma-BHC	64		Y	0.68	5.0	0.0068	2/24/2009	Normal	ug/l	N	64	129
RW-3D	SW8081A	alpha-BHC	63		Y	0.43	5.0	0.0043	2/24/2009	Normal	ug/l	N	63	
RW-3D	SW8081A	beta-BHC	6.5		Y	0.75	5.0	0.0075	2/24/2009	Normal	ug/l	N	6.5	
RW-3D	SW8081A	delta-BHC	8.2		Y	0.81	5.0	0.0081	2/24/2009	Normal	ug/l	N	8.2	
RW-3D	SW8081A	gamma-BHC	81		Y	0.68	5.0	0.0068	2/24/2009	Normal	ug/l	N	81	159
RW-4	SW8081A	alpha-BHC	26		Y	0.22	2.5	0.0043	2/24/2009	Normal	ug/l	N	26	
RW-4	SW8081A	beta-BHC	2.9		Y	0.38	2.5	0.0075	2/24/2009	Normal	ug/l	N	2.9	
RW-4	SW8081A	delta-BHC	2.6		Y	0.40	2.5	0.0081	2/24/2009	Normal	ug/l	N	2.6	
RW-4	SW8081A	gamma-BHC	19		Y	0.34	2.5	0.0068	2/24/2009	Normal	ug/l	N	19	51
RW-5	SW8081A	alpha-BHC	120		Y	1.1	12	0.0043	2/24/2009	Normal	ug/l	N	120	
RW-5	SW8081A	beta-BHC	13		Y	1.9	12	0.0075	2/24/2009	Normal	ug/l	N	13	
RW-5	SW8081A	delta-BHC	10	J	Y	2.0	12	0.0081	2/24/2009	Normal	ug/l	N	10	
RW-5	SW8081A	gamma-BHC	80		Y	1.7	12	0.0068	2/24/2009	Normal	ug/l	N	80	223

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LocationID	AnalyticalMethod	ParameterName	Result	LabFlag	Detect Flag	Reporting Detection Limit	Quantitation n Limit	Method Detection Limit	SampleDate	SampleType	Units	Total or Dissolved
OBA-9AR	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
PR-12	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-1	SW7470	Mercury	0.0012		Y	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-2	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-3	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-3D	SW7470	Mercury	0.00023		Y	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-4	SW7470	Mercury	0.00037		Y	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
RW-5	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	T
OBA-9AR	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
PR-12	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
PR-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-1	SW7470	Mercury	0.0014		Y	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-2	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-3	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-3D	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-4	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D
RW-5	SW7470	Mercury		U	N	0.000062	0.00020	0.000062	2/24/2009	Normal	mg/l	D