Water Quality Equipment Calibration Form

Project: 4Q2008 Date: 11/02/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 10:30		Time:		Time: 17:30	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Jul '10	✓	3.97			3.97	<1
Buffer 7.0	May '10	✓	7.05			7.08	1
Buffer 10.0	Jul '10	✓	9.97			10.05	<1
Conductivity							±5%
447 uS/cm			469			466	4
1413 uS/cm	Sep '09	✓	1413			1403	<1
8974 uS/cm			8879			8862	1
15,000 uS/cm							
ORP							±5%
220 mv		✓	220.0			232.8	6
@ Temp			19.31°C			19.91	
Dissolved Oxygen							±5%
Open Air mg/L		✓	7.85				
Zero Oxy Std mg/L			0.45			0.89	
Barometer (mm Hg)			650.0			~~755~~ 649.9	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time:		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	3/09	✓	0.02			0.05	
10.0 Standard	3/09	✓	10.06			10.05	<1
1,000 Standard	3/09	✓	994.3			995.3	<1

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM Date: 11/2/08

Water Quality Parameter Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TWR Assigned User: TWR

	Cal Std. Expiration Date	Initial Calibration Time:		Re-Calibration Time:		Drift Check Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	7/10	X	3.96			3.97	<1
Buffer 7.0	5/10	X	7.01			7.02	<1
Buffer 10.0	7/10	X	9.98			9.99	<1
Conductivity							±5%
447 uS/cm	7/09		469			473	6
1413 uS/cm	9/09	X	1413			1409	<1
8974 uS/cm	9/09		8917			8944	<1
15,000 uS/cm							
ORP							±5%
220 mv	4/08	X	220.0			231.5	5
@ Temp			19.26			19.78	
Dissolved Oxygen							±5%
Open Air mg/L		X	7.94				
Zero Oxy Std mg/L	3/09		0.06			0.11	
Barometer (mm Hg)			649.6			649.5	

Turbidity Meter

Unit Name/ID: Unit 1 Serial Number: 20070925

Calibrated By: TWR Assigned User: TWR

	Cal Std. Expiration Date	Initial Calibration Time:		Re-Calibration Time:		Drift Check Time: 1705	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	4/09	X	0.02			0.01	
10.0 Standard	3/09	X	9.98			8.80	13
1,000 Standard	4/09	X	995			821.6	20

* wiped dirt out of unit when sampling

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: Torrington Q4 Groundwater Date: 11-2-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: R Barringer Assigned User: R Barringer

	Cal Std. Expiration Date	Initial Calibration Time: 0910		Re-Calibration Time:		Drift Check Time: 17:15	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							
Buffer 2.0							±5%
Buffer 4.0	7-10	x	3.95		~~3.9~~	3.94	2
Buffer 7.0	5-10	x	7.06			7.07	<1
Buffer 10.0	7-10	x	9.96			10.01	<1
Conductivity							
447 uS/cm	7-09		418			435	±5%
1413 uS/cm	8-09	x	1415			1403	3
* 8974 uS/cm	6-09	✓	8974		*8895	8985	<1
15,000 uS/cm							
ORP							
220 mv	11-08	x	220			218.0	±5%
@ Temp			19.06			19.56	<1
Dissolved Oxygen							
Open Air mg/L		/					±5%
Zero Oxy Std mg/L			0.10			0.09	
Barometer (mm Hg)			649.9			649.6	

recalibrated to 8974. read, Then recalibrated to 1413 & reread 8974

Turbidity Meter

Unit Name/ID: Unit 3 Micro TPW. Serial Number:

Calibrated By: R. Barringer Assigned User: Reyanne Barringer

	Cal Std. Expiration Date	Initial Calibration Time: 1015		Re-Calibration Time:		Drift Check Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	6-09	—	0.02			0.05	
10.0 Standard	6-09	—	9.93			10.04	<1
1,000 Standard	6-09	—	996.7			950.9	5

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q2008 GW Date: 11/3/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 06:00		Time:		Time: 17:00	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Jul '10	✓	3.95		~~4.05~~	4.05	1
Buffer 7.0	May '10	✓	7.07			7.12	2
Buffer 10.0	Jun '10	✓	9.96			10.01	<1
Conductivity							±5%
447 uS/cm	Sep '09		461			451 @ 18.88°	<1
1413 uS/cm	Sep '09	✓	1413			1386	2
8974 uS/cm			8759			8739	3
15,000 uS/cm							
ORP							±5%
220 mv	Apr '09	✓	219.9			218.6	<1
@ Temp			17.97				
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.08				
Zero Oxy Std mg/L			0.32			0.18	
Barometer (mm Hg)			649.0				

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time:		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	0.02			0.01	
10.0 Standard	"	✓	10.07			10.15	1
1,000 Standard	"	✓	1002			998.7	<1

Field Review: P Bassett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 3Q08 GWM Date: 11/3/08

Water Quality Parameter Meter

Unit Name/ID: Unit 1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0550		Time:		Time: 1420	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							± 5%
Buffer 2.0							
Buffer 4.0	7/10	X	3.99			4.08	2
Buffer 7.0	5/10	X	7.02			7.08	1
Buffer 10.0	7/10	X	9.98			9.90	1
Conductivity							± 5%
447 uS/cm	9/09		456			460	3
1413 uS/cm	10/09	X	1415			1414	<1
8974 uS/cm	9/09		8883			8900	<1
15,000 uS/cm							
ORP							± 5%
220 mv	4/09	X	220.0			217.3	1
@ Temp			17.44			18.42	
Dissolved Oxygen							± 5%
Open Air mg/L		X	8.15				
Zero Oxy Std mg/L	3/09		0.10			0.10	
Barometer (mm Hg)			648.5			643.7	

Turbidity Meter

Unit Name/ID: Unit 1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0645		Time:		Time: 1420	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							± 5%
0.02 Standard	4/09	X	0.02			0.08	
10.0 Standard	3/09	X	9.96			10.01	<1
1,000 Standard	4/09	X	997.2			993.1	<1

Field Review: PBarrett QA/QC Review: T Richards

return for maintenance

Equipco - 925-609-1088 R19466

Water Quality Equipment Calibration Form

Project: Q4 Groundwater Monitoring Date: 11-3-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time: 1700	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	7-10	✓	3.98			3.99	<1
Buffer 7.0	7-10	✓	7.04			7.04	<1
Buffer 10.0	9-10	✓	10.00			9.98	<1
Conductivity							±5%
447 uS/cm	9-09		470			474	5
1413 uS/cm	9-09		1423			1430	2 (1432)
8974 uS/cm	9-09	✓	8974			9001	<1
15,000 uS/cm							
ORP							±5%
220 mv		✓	220.0			215.9	2
@ Temp			17.42			19.43	
Dissolved Oxygen							±5%
Open Air mg/L	3-09	✓	8.26				
Zero Oxy Std mg/L			0.17			0.12	
Barometer (mm Hg)			648.6			642.6	

Turbidity Meter

Unit Name/ID: Unit #3 Micro TPW Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time: 1700	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	6-09	✓	0.02			0.03	
10.0 Standard	8-09	✓	10.01			10.03	<1
1,000 Standard		✓	992.8		0	942.9	6

Field Review: P Barrett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q 2008 Date: 11/4/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1700	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Jul '10	✓	3.95			4.05	1
Buffer 7.0	May '10	✓	7.05			7.08	1
Buffer 10.0	Jun '10	✓	9.97			10.03	<1
Conductivity							±5%
447 uS/cm	Sep '09	✓	448			444	<1
1413 uS/cm			1351			1352	4
8974 uS/cm							
15,000 uS/cm							
ORP							±5%
220 mv	Apr 2010	✓	219.8			214.6	2
@ Temp			16.36 °C			19.33 °C	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.32			6.89	
Zero Oxy Std mg/L			0.29			0.30	
Barometer (mm Hg)			647.3			650.1	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1700	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	.02			0.05	
10.0 Standard	↓	✓	10.09			10.21	2
1,000 Standard	↓	✓	998.2			995.6	<1

Field Review: P Bassett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: HG Groundwater Date: 11-4-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time: 1700	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	7-10	✓	3.97			3.97	<1
Buffer 7.0	5-10	/	7.04			7.11	2
Buffer 10.0	6-10	-	9.97			10.10	<1
Conductivity							±5%
447 uS/cm			462			463	4
1413 uS/cm			1423			1422	<1
8974 uS/cm	9.09	✓	8974			8965	<1
15,000 uS/cm							
ORP							±5%
220 mv							
@ Temp							
Dissolved Oxygen							±5%
Open Air mg/L							
Zero Oxy Std mg/L							
Barometer (mm Hg)							

Only doing Production Pump sampling - so only calibrated Conductivity + pH

Turbidity Meter

Unit Name/ID: Micro TPW #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barring

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	6-09	-	0.01		0.05		
10.0 Standard	6-09	-	10.13		10.27		
1,000 Standard	6-09	-	998.9		996.1		

Field Review: P Barnett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM Date: 11/4/08

Water Quality Parameter Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0815		Time:		Time: 1650	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0	6/10						
Buffer 4.0	7/10	X	3.98			3.99	<1
Buffer 7.0	9/10	X	7.02			7.04	<1
Buffer 10.0		X	10.00			10.03	<1
Conductivity							±5%
447 uS/cm	9/09		456			457	2
1413 uS/cm	9/09	X	1413			1405	<1
8974 uS/cm	9/09		8881			8893	<1
15,000 uS/cm							
ORP							±5%
220 mv	4/10	X	220.1			219.3	<1
@ Temp			16.96			19.13	
Dissolved Oxygen							±5%
Open Air mg/L		X	8.32				
Zero Oxy Std mg/L	3/09		0.11			0.10	
Barometer (mm Hg)			648.2			649.7	

Turbidity Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0815		Time:		Time: 1650	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	4/09	X	0.02			0.02	0
10.0 Standard	3/09	X	10.01			10.05	<1
1,000 Standard	4/09	X	999.2			1004	<1

Field Review: P Barnett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q Groundwater Date: 11-5-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time: 1633	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							± 5%
Buffer 2.0							
Buffer 4.0	9-09	✓	397			4.02	<1
Buffer 7.0	6-09	✓	6.97 ~~7.01~~			7.11	2
Buffer 10.0	6-09	✓	9.98			10.08	<1
Conductivity							± 5%
447 uS/cm	9-09		455			448	2
1413 uS/cm	9-09	✓	1413			1417	<1
8974 uS/cm	9-09		8885			8853	1
15,000 uS/cm							
ORP							± 5%
220 mv	4-10	✓	220.0			211.2	4
@ Temp			13.91			12.55	
Dissolved Oxygen							± 5%
Open Air mg/L		✓	9.03				
Zero Oxy Std mg/L			0.22			0.13	
Barometer (mm Hg)			654.5			654.4	

Turbidity Meter

Unit Name/ID: Micro TPW Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time: 1633	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							± 5%
0.02 Standard	6-09	✓	0.02			0.00	
10.0 Standard	6-09	✓	10.01			9.68	3
1,000 Standard	6-09	✓	994.0			1005	<1

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q 2008 GW Date: 11/5/08

Water Quality Parameter Meter

Unit Name/ID: YSI # 2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check		
		Time: 0600		Time:		Time: 1640		
		Cal	Read	Cal	Read	Read	Acceptable Performance	
pH (3-point)							± 5%	
Buffer 2.0								
Buffer 4.0	Jul '10	✓	3.93		4	4.06	1	
Buffer 7.0	Aug '10	✓	7.02			7.09	1	
Buffer 10.0	Jun '10	✓	9.96			10.01	<1	
Conductivity							± 5%	
447 uS/cm	Sep '09		432			430	4	
1413 uS/cm	Sep '09	✓	1414			1330	6	*
8974 uS/cm	Sep '09		8373			8387	6	*
15,000 uS/cm								
ORP							± 5%	
220 mv	Apr '10	✓	219.9			211.4	4	
@ Temp			14.54°C			18.03°C		
Dissolved Oxygen							± 5%	
Open Air mg/L		✓	8.69			7.10		
Zero Oxy Std mg/L	Mar '09		0.31			0.19		
Barometer (mm Hg)			654.4			654.6		

Turbidity Meter

Unit Name/ID: Micro # 2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1640	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							± 5%
0.02 Standard	Mar '09	✓	0.02			0.01	
10.0 Standard	Mar '09	✓	10.01			10.32	3
1,000 Standard	Mar '09	✓	1001			1014	1

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q2008 GW Date: 11/6/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration Time: 0600		Re-Calibration Time:		Drift Check Time: 15:45	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Aug '10	✓	3.97			4.10	2
Buffer 7.0	May '10	✓	7.05			7.12	2
Buffer 10.0	Jul '10	✓	9.98			10.00	0
Conductivity							±5%
447 uS/cm	Sep '09		455			460	3
1413 uS/cm	Sep '09	✓	1413			1408	<1
8974 uS/cm	Sep '09		8869			8896	<1
15,000 uS/cm							
ORP							±5%
220 mv	Apr '10	✓	220.0			203.0	8 *
@ Temp			16.81			20.80	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.37				
Zero Oxy Std mg/L	Mar '09		0.14		~~0.16~~	0.16	
Barometer (mm Hg)			657.8		~~6~~	658.7	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration Time: 0600		Re-Calibration Time:		Drift Check Time: 1545	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	0.02			0.05	
10.0 Standard	Mar '09	✓	9.97			10.25	2
1,000 Standard	Mar '09	✓	1004			1003	<1

Field Review: QA/QC Review: T. Richards

Water Quality Equipment Calibration Form

Project: H th Q Groundwater Monitoring Date: 11-6-08

Water Quality Parameter Meter

Unit Name/ID: YSI # 3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							
Buffer 2.0		✓					±5%
Buffer 4.0	8-10	✓	4.04		4.06	→	1
Buffer 7.0	8-10	✓	7.00		7.11	→	2
Buffer 10.0	7-10	✓	10.01		10.02	→	<1
Conductivity							
447 uS/cm							±5%
1413 uS/cm		✓	456		457	→	2
8974 uS/cm		✓	1413		1413	→	0
15,000 uS/cm			8922		8920	→	<1
ORP							
220 mv		✓	220		202.1	→	8 *
@ Temp			16.03			20.14	
Dissolved Oxygen							
Open Air mg/L		✓	8.52				±5%
Zero Oxy Std mg/L			0.15 ~~8.5~~			0.15	
Barometer (mm Hg)			657.3			655.8	

Turbidity Meter

Unit Name/ID: Microtpw #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0530		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							
0.02 Standard		✓	0.02				±5%
10.0 Standard		✓	10.06			0.05	
1,000 Standard		✓	1000		997.8 →	1027	2
							<1

Field Review: QA/QC Review: T. Richards

Water Quality Equipment Calibration Form

Project: 4Q 2008 GW Date: 11/9/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 10:00		Time:		Time: 1620	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Aug '10	✓	3.96			4.01	<1
Buffer 7.0	May '10	✓	7.04			7.08	1
Buffer 10.0	Jul '10	✓	9.98			10.03	<1
Conductivity							±5%
447 uS/cm	Sep '09	✓	447			445	<1
1413 uS/cm	Sep '09		1382			1380	2
8974 uS/cm							
15,000 uS/cm							
ORP							±5%
220 mv	Jun '09	✓	219.9			218.3	<1
@ Temp			16.20				
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.31				
Zero Oxy Std mg/L	Mar '09		0.30			0.26	
Barometer (mm Hg)			645.0			646.5	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 10:15		Time:		Time: 1645	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	0.02			0.00	
10.0 Standard	↓	✓	9.97			10.45	4
1,000 Standard	↓	✓	997.6			1013	1

Field Review: P Bassett QA/QC Review: T. Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM

Date: 11/9/08

Water Quality Parameter Meter

Unit Name/ID: Unit #1

Serial Number:

Calibrated By: TMR

Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0905		Time:		Time: 1615	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8/10	X	4.00			4.02	<1
Buffer 7.0	5/10	X	7.03			7.05	<1
Buffer 10.0	7/10	X	9.98			9.99	<1
Conductivity							±5%
447 uS/cm	9/09		456			463	4
1413 uS/cm	9/09	X	1413			1415	<1
8974 uS/cm	9/09		8924			8938	<1
15,000 uS/cm							
ORP							±5%
220 mv	6/09	X	220.0			218.9	<1
@ Temp			15.90			16.06	
Dissolved Oxygen							±5%
Open Air mg/L		X	8.52				
Zero Oxy Std mg/L	3/09		0.13			0.11	
Barometer (mm Hg)			643.8			646.0	

Turbidity Meter

Unit Name/ID: Unit 1

Serial Number:

Calibrated By: TMR

Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 1000		Time:		Time: 1640	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard		X	0.02			0.09	
10.0 Standard		X	10.00			10.14	1
1,000 Standard		X	1003			1011	1

Field Review: P Barrett

QA/QC Review: T. Richards

Water Quality Equipment Calibration Form

Project: 4th Qtr Groundwater Date: 11-09-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0800		Time:		Time: 1644	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0		—	3.99			3.96	1
Buffer 7.0		—	7.04			7.09	1
Buffer 10.0		—	9.98			10.04	<1
Conductivity							±5%
447 uS/cm			461			462	3
1413 uS/cm			1424			1425	<1
8974 uS/cm		—	8974			8972	<1
15,000 uS/cm							
ORP							±5%
220 mv		—	220			217.4	1
@ Temp			15.64			16.3	
Dissolved Oxygen							±5%
Open Air mg/L		—	9.02				
Zero Oxy Std mg/L			0.32 ~~[illegible]~~			0.45	
Barometer (mm Hg)			643.9			646.1	

Turbidity Meter

Unit Name/ID: MicroTPW #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0800		Time:		Time: 1644	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard		—	0.00			0.00	
10.0 Standard		—	9.89			9.89	1
1,000 Standard		—	1011			1008	<1

Field Review: Penny Barrett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM Date: 11-10-08

Water Quality Parameter Meter

Unit Name/ID: YSI MPS Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0630		Time:		Time: 1545	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8-10	X	3.97			~~4.07~~ 4.03	<1
Buffer 7.0	8-10	X	6.98			6.99	<1
Buffer 10.0	7-10	X	9.98			9.99	<1
Conductivity							±5%
447 uS/cm	9/09		461			464	4
1413 uS/cm	9/09	X	1413			1412	<1
8974 uS/cm	9/09		8915			8908	<1
15,000 uS/cm							
ORP							±5%
220 mv	6/09	X	220.0			215.9	2
@ Temp			14.82			16.73	
Dissolved Oxygen							±5%
Open Air mg/L		X	8.78				
Zero Oxy Std mg/L	3/09		0.11			0.14	
Barometer (mm Hg)			650.0			650.6	

Turbidity Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0700		Time:		Time: 1545	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	4/09	X	0.02			0.01	
10.0 Standard	3/09	X	9.93			10.02	<1
1,000 Standard	4/09	X	999.9			1009	<1

Field Review: QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q

Date: 11-10-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3

Serial Number:

Calibrated By: Royanne Barringer

Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1652	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8-10	✓	3.93			4.01	<1
Buffer 7.0	8-10	✓	6.98			7.05	<1
Buffer 10.0	7-10	✓	9.97			10.01	<1
Conductivity							±5%
447 uS/cm	9-09		457 ~~447~~			457	2
1413 uS/cm	9-09	✓	1413			1399	<1
8974 uS/cm	9-09		8829			8818	2
15,000 uS/cm							
ORP							±5%
220 mv	6-09	✓	220			211.9	4
@ Temp			14.71			17.37	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.66				
Zero Oxy Std mg/L	3-09		0.34			0.32	
Barometer (mm Hg)			649.6				

Turbidity Meter

Unit Name/ID: Micro TPW #3

Serial Number:

Calibrated By: Royanne Barringer

Assigned User: Royanne B

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1652	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard		✓	0.04			0.05	
10.0 Standard		✓	10.11			10.12	1
1,000 Standard		✓	1004			1006	<1

Field Review:

QA/QC Review: T Richards

rbidity meter → reset to factory calibrations because of error message then recalibrate.

Water Quality Equipment Calibration Form

Project: 4Q 2008 GW Date: 11/10/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration Time: 06:00		Re-Calibration Time:		Drift Check Time: 1620	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Aug '10	✓	3.96			4.12	3
Buffer 7.0	May '10	✓	7.01			7.01	<1
Buffer 10.0	Jun '10	✓	9.98			9.93	<1
Conductivity							±5%
447 uS/cm			458			464	4
1413 uS/cm	Sep '09	✓	1413			1412	<1
8974 uS/cm			8884			8932	<1
15,000 uS/cm							
ORP							±5%
220 mv	Jun '09	✓	219.9			218.8	<1
@ Temp			14.93			16.81	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.56				
Zero Oxy Std mg/L			0.38			0.53	
Barometer (mm Hg)			650.1			651.1	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration Time: 06:40		Re-Calibration Time:		Drift Check Time: 1620	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	0.02			0.05	
10.0 Standard	↓	✓	10.04			10.27	3
1,000 Standard	↓	✓	998.9			1003	<1

Review: QA/QC Review: T. Richards

Water Quality Equipment Calibration Form

Project: 4th Q Groundwater Date: 11-11-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration Time: 0530		Re-Calibration Time:		Drift Check Time: 1615	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8/10	✓	4.01		~~4.08~~	4.08	2
Buffer 7.0	8/10	✓	7.01			7.06	<1
Buffer 10.0	7/10	✓	9.99			10.03	<1
Conductivity							±5%
447 uS/cm	9/09		524			463	4
1413 uS/cm	9/09	✓	1413			1410	<1
8974 uS/cm	9/09		8880			8878	1
15,000 uS/cm							
ORP							±5%
220 mv	9/09	✓	220			212.9	3
@ Temp			14.35			16.97	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.90				
Zero Oxy Std mg/L	03-09		0.10		0.1	0.29	
Barometer (mm Hg)			653.3			653.8	

Turbidity Meter

Unit Name/ID: Micro TPW #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration Time: 0530		Re-Calibration Time:		Drift Check Time: 1615	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity			~~0.02~~				±5%
0.02 Standard	6-09	✓	0.02			0.03	
10.0 Standard	3-09		9.81			10.01	<1
1,000 Standard	6-09		1005			989.5	1

Field Review: P Barnett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q2008 GW Date: 11/11/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1530	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Aug '10	✓	3.98			4.08	2
Buffer 7.0	Aug '10	✓	7.04			7.08	1
Buffer 10.0	Jul '10	✓	9.99			10.03	<1
Conductivity							±5%
447 uS/cm	Sep '09	✓	447			443	<1
1413 uS/cm	Sep '09		1347			1350	5
8974 uS/cm							
15,000 uS/cm							
ORP							±5%
220 mv	Jun 09	✓	219.9			215.9	2
@ Temp			14.39			16.41	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.64				
Zero Oxy Std mg/L			0.35			0.22	
Barometer (mm Hg)			653.6			654.1	

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: P Bassett Assigned User: P Bassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Sep '09	✓	0.02			0.00	
10.0 Standard	↓	✓	10.00			10.26	3
1,000 Standard	↓	✓	999.7			1000	0

Field Review: P Bassett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM Date: 11-11-08

Water Quality Parameter Meter

Unit Name/ID: YSI MPS unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1530	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8-10	X	3.98			4.05	1
Buffer 7.0	8-10	X	7.00			7.02	<1
Buffer 10.0	7-10	X	10.01			9.97	<1
Conductivity							±5%
447 uS/cm	9-09		471			471	5
1413 uS/cm	9-09	X	1413			1417	<1
8974 uS/cm	9-09		8953			8941	<1
15,000 uS/cm							
ORP							±5%
220 mv	6/09	X	220.0			214.6	2
@ Temp			14.35			16.69	
Dissolved Oxygen							±5%
Open Air mg/L		X	8.83				
Zero Oxy Std mg/L	3/09		0.05			0.07	
Barometer (mm Hg)			653.2			653.7	

Turbidity Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0600		Time:		Time: 1530	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	3/09	X	0.02			0.02	
10.0 Standard	3/09	X	10.02			10.01	<1
1,000 Standard	4/09	X	993.0			1003	<1

Field Review: P Barrett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4th Quarter Ground Date: 11-12-08

Water Quality Parameter Meter

Unit Name/ID: YSI #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0545		Time:		Time: 1500	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	8-10	✓	4.01			4.04	<1
Buffer 7.0	8-10	✓	7.02			7.09	1
Buffer 10.0	8-10	✓	9.99			9.97	<1
Conductivity							±5%
447 uS/cm			462			463	4
1413 uS/cm		✓	1413			1717	19 *
8974 uS/cm			8861			8875	1
15,000 uS/cm							
ORP							±5%
220 mv		✓	220.0			209.8	5
@ Temp			15.54			19.88	
Dissolved Oxygen							±5%
Open Air mg/L			8.89				
Zero Oxy Std mg/L			0.31			0.31	
Barometer (mm Hg)			652.4				

* reading may be inaccurate, other solution readings are fine

Turbidity Meter

Unit Name/ID: Micro TPW #3 Serial Number:

Calibrated By: Royanne Barringer Assigned User: Royanne Barringer

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0545		Time:		Time: 1500	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	6-09	✓	0.02			0.04	
10.0 Standard	3-09	✓	9.95			10.00	0
1,000 Standard	6-09	✓	1000			986.9	1

Field Review: P Barrett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q08 GWM Date: 11-12-08

Water Quality Parameter Meter

Unit Name/ID: Unit #9 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0640		Time:		Time: 1511	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							± 5%
Buffer 2.0							
Buffer 4.0	8-10	X	3.97			4.03	<1
Buffer 7.0	8-10	X	7.00			7.04	<1
Buffer 10.0	7-10	X	10.00			9.98	<1
Conductivity							± 5%
447 uS/cm	9-09		459			461	3
1413 uS/cm	9-09	X	1413			1411	<1
8974 uS/cm			8910			8849	1
15,000 uS/cm							
ORP							± 5%
220 mv	7-10	X	220.0			212.2	4
@ Temp			15.85			19.86	
Dissolved Oxygen							± 5%
Open Air mg/L		X	8.70				
Zero Oxy Std mg/L			0.09			0.09	
Barometer (mm Hg)			657.5				

Turbidity Meter

Unit Name/ID: Unit #1 Serial Number:

Calibrated By: TMR Assigned User: TMR

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0745		Time:		Time: 1511	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							± 5%
0.02 Standard	3-09	X	0.02			0.02	0
10.0 Standard	3-09	X	10.04			998	<1
1,000 Standard	4-09	X	997.8			1002	<1

Field Review: P Barnett QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q2008 GW

Date: 11/12/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2

Serial Number:

Calibrated By: PBassett

Assigned User: PBassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0615		Time:		Time: 1545	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							±5%
Buffer 2.0							
Buffer 4.0	Aug '10	✓	3.95			4.00	0
Buffer 7.0	Aug '10	✓	6.97			7.07	<1
Buffer 10.0	Jul '10	✓	9.99			9.97	<1
Conductivity							±5%
447 uS/cm	Sep '09	✓	446			447	0
1413 uS/cm	Sep '09		1308			1312	7
8974 uS/cm							
15,000 uS/cm							
ORP							±5%
220 mv	Jun 09	✓	219.9			209.9	5
@ Temp			15.73			20.64 °C	
Dissolved Oxygen							±5%
Open Air mg/L		✓	8.44				
Zero Oxy Std mg/L			0.42				
Barometer (mm Hg)			657.9				

Turbidity Meter

Unit Name/ID: Micro #2

Serial Number:

Calibrated By: PBassett

Assigned User: PBassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0900		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							±5%
0.02 Standard	Mar '09	✓	0.02			0.09	
10.0 Standard	↓	✓	10.08			10.09	<1
1,000 Standard	↓	✓	999.1			998.0	<1

Field Review: PBassett

QA/QC Review: T Richards

Water Quality Equipment Calibration Form

Project: 4Q 2008 GW Date: 11/13/08

Water Quality Parameter Meter

Unit Name/ID: YSI #2 Serial Number:

Calibrated By: PBassett Assigned User: PBassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0630		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
pH (3-point)							± 5%
Buffer 2.0							
Buffer 4.0	Aug 10	✓	3.95				
Buffer 7.0	Jul 10	✓	7.04				
Buffer 10.0	Jul 10	✓	9.98				
Conductivity							± 5%
447 uS/cm	Sep '09	✓	446				
1413 uS/cm	Oct '09		1332				
8974 uS/cm							
15,000 uS/cm							
ORP							± 5%
220 mv	Jun '10	✓	220.0				
@ Temp			16.72 °C				
Dissolved Oxygen							± 5%
Open Air mg/L		✓	8.38				
Zero Oxy Std mg/L	Mar '09		0.27				
Barometer (mm Hg)			656.5				

Turbidity Meter

Unit Name/ID: Micro #2 Serial Number:

Calibrated By: PBassett Assigned User: PBassett

	Cal Std. Expiration Date	Initial Calibration		Re-Calibration		Drift Check	
		Time: 0700		Time:		Time:	
		Cal	Read	Cal	Read	Read	Acceptable Performance
Turbidity							± 5%
0.02 Standard	Mar '09	✓	0.02				
10.0 Standard	↓	✓	~~8.38~~ 10.01				
1,000 Standard	↓	✓	998.0				

Field Review: QA/QC Review: