2008 Water Source Samples

Microscopic Part Sampled Spring and Fall — For GROUNDWATER SOURCES less than 100 feet from surface water

Marshall Well

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Algae					ND					ND		
Amoebae										ND		
Crustaceans					ND					ND		
Diatoms					ND					ND		
Insect/Parts					ND					ND		
Invertebrates/Eggs					ND					ND		
Nematodes/Eggs					ND					5.00E+00		
Pollen					ND					7.00E+00		
Protozoa (Free Living)					ND					ND		
Rotifers/Eggs					ND					1.00E+00		
Spores					ND					ND		
Vegetatie Debris					ND					ND		
Observations			Iron bacteria present in high Concentration									

	RANGE/RISK FACTOR		RANGE/RISK FACTOR	
Giardia	Not Significant / 0		Not Significant / 0	
Coccidia	Not Significant / 0		Not Significant / 0	
Diatoms	Not Significant / 0		Not Significant / 0	
Other Algae	Not Significant / 0		Not Significant / 0	
Insects/Larva	Not Significant / 0		Not Significant / 0	
Rotifers	Not Significant / 0		Rare / 1	
Plant Debris	Not Significant / 0		Not Significant / 0	
TOTAL	0	Low	1	Low

Duffy's Well

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Algae					ND					ND		
Amoebae										ND		
Crustaceans					ND					ND		
Diatoms					ND					ND		
Insect/Parts					ND					ND		
Invertebrates/Eggs					ND					1.00E+00		
Nematodes/Eggs					ND					1.10E+01		
Pollen					1.00E+00					1.00E+00		
Protozoa (Free Living)					ND					2.40E+01		
Rotifers/Eggs					1.00E+00					4.00E+00		
Spores					ND					ND		
Vegetatie Debris					ND					ND		
Observations			Iron bacteria present in high Concentration									

	RANGE/RISK FACTOR		RANGE/RISK FACTOR	
Giardia	Not Significant / 0		Not Significant / 0	
Coccidia	Not Significant / 0		Not Significant / 0	
Diatoms	Not Significant / 0		Not Significant / 0	
Other Algae	Not Significant / 0		Rare / 4	
Insects/Larva	Not Significant / 0		Not Significant / 0	
Rotifers	Rare / 1		Rare / 1	
Plant Debris	Not Significant / 0		Not Significant / 0	
TOTAL	1	Low	0	Low

2008 Water Source Samples (CONTINUED)

Secondary Contaminants	Recommended Maximum		Commissioners Well 7/29	Marshall Well 7/29	Duffy's Landing Well 7/29	Treatment Plant - Blended RAW 7/29	Treatment Plant - Treated 7/29	Water Office - Moulton Street 7/29
Aluminum	None	mg/L	0.05	ND	ND	0.02	ND	ND
Calcium	None	mg/L	22.4	13.6	23.2	26.5	27.3	28.9
Copper	1.3	mg/L	0.014	0.03	0.001	0.001	0.3	0.024
Iron	0.3	mg/L	1	1.4	4.2	3.7	ND	0.09
Magnesium	None	mg/L	8.7	3.9	5.8	5.3	6.8	3.9
Manganese	0.05	mg/L	0.59	0.51	0.98	0.9	0.01	0.088
Sodium	None	mg/L	4.5	16	19	16	20	18
Potassium	None	mg/L	1.6	1.4	1.6	9.8	11	10
Silver	0.1	mg/L	ND	ND	ND	ND	ND	ND
Zinc	5	mg/L	0.016	0.013	ND	0.008	0.005	ND
Alkalinity	None	mg/L	25	28	74	75	75	69
Chloride	250	mg/L	6	31.5	38.1	29	34.8	34
Color	15		12	25	88	150	10	ND
Hardness (mg/L)	None	mg/L	92	50	82	88	96	88
Hardness (Grains/Gal)	None		5.38	2.92	4.80	5.15	5.61	5.15
pH	6.5-8.5		6	5.9	6.1	6.3	6.4	6.5
Odor	3		1	1	1	1	0	0
Sulfates	250	mg/L	69.3	9.8	3.7	20.7	21.3	21
Turbidity	1 to 5		3.8	2	3	16	1.3	0.45
Total Disolved Solids	500	mg/L	178	134	186	198	206	186

2008 Required Treated Water Samples

West Street Water Treatment Plant **Sampled Annually**

Secondary Contaminants	Recommended Maximum		**6-Feb** Treat. Plant Treated	**29-Jul** Treat. Plant Raw	**29-Jul** Treat. Plant Treated	**29-Jul** Water Office
Aluminum	None	mg/L	0.05	0.02	ND	ND
Calcium	None	mg/L	24.9	26.5	27.3	28.9
Copper	1.3	mg/L	0.21	0.001	0.3	0.024
Iron	0.3	mg/L	0.02	3.7	ND	0.09
Magnesium	None	mg/L	3.2	5.3	6.8	3.9
Manganese	0.05	mg/L	ND	0.9	0.01	0.088
Sodium	None	mg/L	25.9	16	20	18
Potassium	None	mg/L	3.6	9.8	11	10
Silver	0.1	mg/L	ND	ND	ND	ND
Zinc	5	mg/L	0.01	0.008	0.005	ND
Alkalinity	None	mg/L	71	75	75	69
Chloride	250	mg/L	41.8	29	34.8	34
Color	15		5	150	10	ND
Hardness (mg/L)	None	mg/L	75	88	96	88
Hardness (Grains/Gal)	None		4.39	5.15	5.61	5.15
pH	6.5-8.5		6.1	6.3	6.4	6.5
Odor	3		2	1	0	0
Sulfates	250	mg/L	9.2	20.7	21.3	21
Turbidity	1 to 5		0.65	16	1.3	0.45
Total Disolved Solids	500	mg/L	185	198	206	186

Nitrogen Compounds			14-May
Nitrate	10	Treatment Plant	0.22
		Water Office	0.23
Nitrite	1	Treatment Plant	ND
		Water Office	ND

2008 Required Water Distribution Samples

Coliform Bacteria	Sampled Monthly	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Colonies/100ml												
001 - Water Office		0	0	0	0	0	0	0	0	0	0	0	0
002 - Penn Brook School		0	0	0	0	0	0	0	0	0	0	0	0
003 - Erie Fire Station		0	0	0	0	0	0	0	0	0	0	0	0
004 - High School		0	0	0	0	0	0	0	0	0	0	0	0
005 - Baldpate Hospital		0	0	0	0	0	0	0	0	0	0	0	0
006 - Hi -Tech Hose		0	0	0	0	0	0	0	0	0	0	0	0
007 - Elderly Housing		0	0	0	0	0	0	0	0	0	0	0	0
008 - Marshall GP Well		0	0	0	0	0	0	0	0	0	0	0	0
009 - West Street Garage		0	0	0	0	0	0	0	0	0	0	0	0
010 - Commissioner's GP Well		0	0	0	0	0	0	0	0	0	0	0	0
011 - Duffy's GP Well		0	0	0	0	0	0	0	0	0	0	0	0
012 - Farm Lane Realty Trust		0	0	0	0	0	0	0	0	0	0	0	0
013 - Treatment Plant Finish		0	0	0	0	0	0	0	0	0	0	0	0
375 Central Street					0	0	0	0	0	0	0	0	0
Patriot Lane Booster Station						0	0	0	0	0	0	0	0
Patriot Lane Building #9						0	0	0	0	0	0	0	0

Chlorine Residual	Sampled Monthly	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Milligrams/Liter												
001 - Water Office		0.4	1	0.5	1	0.8	0.4	0.6	0.2	0.2	0.3	0.4	0.1
002 - Penn Brook School		0.1	0.3	0.1	0.2	0.2	0.1	0.0	0.2	0	0.2	0.0	0
003 - Erie Fire Station		0.3	0.2	0.2	0.4	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0
004 - High School		0.7	0.5	0.6	0.3	0.3	0.6	0.1	0.1	0.1	0.2	0.3	0
005 - Baldpate Hospital		0.3	0.5	0.3	0.8	0.5	0.2	0.0	0.1	0.1	0.1	0.1	0.1
006 - Hi -Tech Hose		0.2	0.1	0.1	0.2	0.1	0.2	0.0	0.1	0	0.0	0.0	0
007 - Elderly Housing		0.5	0.8	0.6	1.2	0.3	0.4	0.6	0.3	0.2	0.4	0.4	0.4
009 - West Street Garage		0.4	0.1	0	0.1	0.2	0.4	0.0	0.1	0	0.0	0.0	0
012 - Farm Lane Realty Trust		0.1	0.1	0.2	0.1	0.2	0.2	0.0	0.1	0	0.1	0.1	0
014 - Patriot Lane Booster Station						0.1	0.2	2.0	0.2	0	0.1	0.0	0
015 - Patriot Lane Building #9						0.2	0.2	0.0	0.1	0	0.2	0.0	0
016 - 375 Central Street					0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.1
013 - Treatment Plant Finished		1.5	1.8	1	1.8	2.8	2.3	2.0	2.9	2.7	2.3	1.9	1.6

2008 Required Water Distribution Samples (CONTINUED)

Perchlorate **Sampled Annually** **8/13/2008**

		MCL	
Perchlorate	at Erie 4	2.0 ug/L	**ND**
Conductivity	at Erie 4	umhos/cm	**350**

Lead & Copper **Sampled Annually - in AUGUST** **form at least 20 homes plus the three schools**

90th Percentile **milligrams / Liter**

21 Households throughout Georgetown are sampled every August along with all three schools. 90% of the households had lead and copper levels at or below this:

		Lead			Copper
				0.015	**Action Levels mg/L**	**1.3**
			Retest		
		13-Aug	**10-Oct**	**12-Nov**	**13-Aug**
Penn Brook Elementary	Kitchen	0.055	0.004		0.063
	Bubbler	0.009			0.028
Perley Elementary School	Kitchen	0.056	0.049	ND	0.022
	Bubbler	0.002			0.087
Georgetown Middle / High	Kitchen	0.048	0.008		0.056
	Bubbler	0.001			0.031

Residential

Sample #	Lead	Copper		Sample #	Lead	Copper
1	0.000	0.010		12	0.006	0.072
2	0.000	0.015		13	0.006	0.087
3	0.001	0.026		14	0.006	0.088
4	0.002	0.031		15	0.006	0.095
5	0.002	0.039		16	0.009	0.120
6	0.002	0.040		17	0.011	0.140
7	0.002	0.044	**90th %**	18	**0.011**	**0.140**
8	0.003	0.061		19	0.015	0.180
9	0.003	0.062		20	0.020	0.260
10	0.004	0.062		21		
11	0.004	0.070		22		

Total Trihalomethane

micrograms / Liter (Parts Per Billion)

		28-Aug
Bromoform		ND
Chloroform		50
Bromodichlorommethane		12
Dibromochloromethane		1.5
TOTAL TRIHALOMETHANES	**(MCL -80ug/L)**	**63.5**

Haloacetic Acids 5

micrograms / Liter (Parts Per Billion)

Monochloroacetic Acid		ND
Dichloroacetic Acid		2.6
Trichloroacetic Acid		5.6
Momobromoacetic Acid		ND
Dibromoacetic Acid		ND
TOTAL HALOACETIC ACIDS	**(MCL-60ug/L)**	**8.5**

2008 Required Water Distribution Samples (CONTINUED)

Iron & Manganese - End of West Street			1/9	2/6	2/20 HYD	3/20	4/29	5/14 Sillcock	5/28	6/25	7/29	8/26	9/23	11/12	12/30
Iron	0.3	mg/L	1	0.42	1.6	0.46	0.32	0.52	0.3	0.92	6.1	0.69	1.37	1.55	0.77
Manganese	0.05	mg/L	0.82	0.46	0.53	0.61	0.4	0.47	0.36	0.46	0.09	0.7	0.908	0.98	0.774
pH	6.5-8.5	units	6.5	6.5	6.5	6.7	6.9	6.8	6.8	6.8	0.35	7.3		6.8	6.9
Sulfate	300	mg/L	13.2	7.9	7.8	7.9	8.3		6.1	17	20.9	6.4	4.2	3.6	4
Arsenic	0.01	mg/L						ND							
Alkalinity			81			81									
Lead	0.015	mg/L						ND							

Iron & Manganese - West Street Garage			2/6	2/20	3/20	4/29	5/14	6/25	7/29	8/26	9/23	11/12	12/30
Iron	0.3	mg/L	0.17	1.1	0.55	0.01	0.19	0.08	1.1	0.35	0.09	0.28	0.11
Manganese	0.05	mg/L	0.25	0.78	0.76	0.02	0.39	0.24	0.73	0.93	0.383	0.017	0.353
pH	6.5-8.5	units	6.3	6.7	6.6	6.5	6.8	6.7	6.2	7.4		6.5	6.7
Sulfate	250	mg/L	9	8.5	7.9	9.1		19.8	17	20.3	5	6.5	4.8
Arsenic	0.01	mg/L						ND					
Alkalinity					86								
Lead	0.015	mg/L						ND					

2008 NOT REQUIRED Water Distribution Samples - Metals

Secondary Contaminants	Recommended MCL		AVERAGE RESULTS 2008	Jackman Street - Middle 1/9	Rainbow Ridge - Middle 1/9	Treatment Plant - Treated 2/6	West Street - Near End 2/6	West Street - Near End (110) 3/20	Central Street - Near End 3/20	Prospect Street 5/28	Deer Run Lane 8/13	Pine Needle Lane 8/13	Patriot Lane - Softened 8/13	Access Road at Longview Apart. 8/26	Patriot Lane Office - Softened 8/26	Ordway Street - Low 10/23
Aluminum	None	mg/L	**0.038**	0.04	0.04	0.05	0.04	0.04	0.02	ND	ND	ND	ND	ND	ND	ND
Arsenic	0.01	mg/L	**ND**							ND						
Calcium	None	mg/L	**30.031**	31.1	31.7	24.9	26.9	32.6	30.8	28.1	34.5	34.5	29.6	28.9	29.1	27.7
Copper	1.3	mg/L	**0.154**	0.02	0.04	0.21	0.03	0.02	1.1	0.048	0.002	ND	0.006	ND	0.059	ND
Iron	0.3	mg/L	**0.493**	0.14	0.34	0.02	0.42	0.8	0.46	ND	0.89	0.77	0.13	0.09	0.073	1.78
Magnesium	None	mg/L	**3.815**	3.8	3.6	3.2	3.1	3.6	3.7	4.6	4.4	3.9	4.9	3.6	3.8	3.4
Manganese	0.05	mg/L	**0.175**	0.11	0.11	ND	0.46	0.49	ND	0.008	0.11	0.12	0.12	0.1	0.12	0.18
Potassium	None	mg/L	**5.369**	2.2	3.4	3.6	3.1	3.1	3.4	3.1	12	12	12	4.6	4.6	2.7
Sodium	None	mg/L	**22.086**	16	25.4	25.9	24.9	19.6	20.8		22					
Silver	0.1	mg/L	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	5	mg/L	**0.037**	0.14	0.01	0.01	0.03	0.01	0.06	0.01	ND	ND	0.043	0.009	0.047	ND
Alkalinity	None	mg/L	**82.846**	74	79.5	71	82	80.5	77	98	90	88	84	89	81	83
Chloride	250	mg/L	**39.708**	40.2	41.5	41.8	42.4	39.5	39.4	39.1	34.8	34.7	36.7	42.3	41.6	42.2
Color	15		**14.250**	5	7.5	5	12.5	12.5	0	2	20	18	ND	ND	ND	60
Hardness (mg/L)	None	mg/L	**90.615**	93	94	75	80.00	96.00	92.00	90	104	102	94	87	88	83.00
Hardness (Grains/Gal)	None		**5.299**	5.44	5.50	4.39	4.68	5.61	5.38	5.26	6.08	5.96	5.50	5.09	5.15	4.85
pH	6.5-8.5		**6.846**	6.6	6.6	6.1	6.5	6.6	6.6	6.9	7.6	7.5	7.3	6.9	7.1	6.7
Odor	3		**0.615**	0	0	2	0	1	0	1	1	1	0	0	0	2
Sulfates	250	mg/L	**11.392**	16.5	9.2	9.2	7.9	7.6	9.4	6.7	20	20.4	21	8	8.8	3.4
Turbidity	1 to 5		**2.089**	0.9	1.1	0.65	1	1.2	0.3	0.06	1.9	2.2	0.95	0.45	0.45	16
Total Disolved Solids	500	mg/L	**196.154**	183	190	185	198	213	203	168	188	204	224	200	202	192
Lead	0.15	mg/L	**0.001**			0.001	0.001			0.001			ND			

2008 NOT REQUIRED Water Distribution Samples - Iron, Manganese,Sulfate, Arsenic, Lead, Alkalinity

Other Iron & Manganese (Staining & Odor Complaint Samples)			Rainbow Ridge - Middle 1/8	Jackman Street - Middle 1/9	Parish Road - Low 1/9	West Street - Middle - Street 2/6	West Street - Middle - Filtered 2/6	West Street - Middle - No Filter 2/6	Parish Road - Low 2/6	Raymond Court - Low 2/20	West Street - Near End 3/20	West Street - EOL HYD 3/20	Central Street - Near End 3/20	Water Office - Moulton Street 4/29	Parish Road - Low 4/29	Accdess Road at Longview Apart 4/29	Central Street - Near End 4/29	Water Office 5/14
Iron	0.3	mg/L	0.34	0.14	0.23	0.33	ND	0.38	0.29	0.07	0.8	0.78	0.46	0.09	0.18	0.08	0.02	0.05
Manganese	0.05	mg/L	0.11	0.11	0.01	0.32	0.22	0.34	0.07	0.01	0.49	0.42	ND	0.06	0.08	0.03	0.01	0.03
pH	6.5-8.5	units	6.8	6.6	6.4	6.3	6.5	6.3	6.3	6.3	6.6	6.5	6.6	6.4	6.6	6.7	6.4	6.7
Sulfate	250	mg/L	9.2	16.5	9.1	8.5	8.6	8.5	8.7	9.7	7.9	8.5	89.4	11.3	8.9	9.2	9.3	
Arsenic	0.01	mg/L																ND
Alkalinity			79.5	74	76						86	79.5	77					
Lead	0.015	mg/L																ND

Other Iron & Manganese (Staining & Odor Complaint Samples)			Penn Brook School 5/14	Erie Fire Station - North St - End 5/14	High / Middle School 5/14	Baldpate Hospital 5/14	National Way 5/14	Tresile Way 5/14	Fann Lane 5/14	Patriot Lane - Softened 5/14	Access Road at Longview Apart. 5/14	Central Street - Near End 5/14	Prospect Street 5/28	Pond Street - Middle 5/28	Prescott Street - Middle 5/28	West St - Low - Street 5/28	West St - Low - Filtered 5/28	Patriot Lane Apartment - HOT 8/13
Iron	0.3	mg/L	ND	ND	0.11	ND	0.09	0.002	0.13	0.06	0.09	ND	ND	0.18	0.33	0.37	..13	0.17
Manganese	0.05	mg/L	0.01	0.03	0.02	0.001	0.03	0.01	0.055	ND	0.014	ND	0.01	0.1	0.17	0.12	0.12	0.13
pH	6.5-8.5	units	6.8	6.7	6.7	6.6	6.7	6.7	6.7	6.6	6.8	6.9	6.8	6.8	6.8	6.8	6.8	
Sulfate	250	mg/L											6.7	6.4	6.3	6.5	7.1	23.4
Arsenic	0.01	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Alkalinity																		
Lead	0.015	mg/L	0.001	ND	ND	ND	ND	ND	ND	ND	0.002	0.006						

Other Iron & Manganese (Staining & Odor Complaint Samples)			Belleau Woods - EOL 8/22	Parish Road - End 9/23	Parish Road - EOL Hyd 9/23	Parish Road - Low 9/23	Lake Ave 10/22	Ordway Street - Low 12/30	Treatment Plant Treated 4/29	Treatment Plant Treated 5/14	Treatment Plant RAW 8/26	Treatment Plant Treated 8/26	Treatment Plant Treated 9/24	Treatment Plant Treated 11/12	Elevated Water Tank 11/12	Concrete Reservoirs 11/12	Treatment Plant Treated 12/30
Iron	0.3	mg/L	0.7	0.66	0.058	0.2	0.51	1.33	6.6	6.7	6.7	6.7		6.4	0.05	0.28	6.6
Manganese	0.05	mg/L	0.15	0.149	0.158	0.136	0.173	0.175	0.08	ND	4.3	ND	0.09	0.06	0.048	0.017	0.02
pH	6.5-8.5	units	6.8					6.8	0.19	0.007	0.95	0.035	0.087	0.099	6.4	6.5	0.136
Sulfate	250	mg/L	6.7	4.5	4.5	4.7	3.6	4.3	9.1		6	6.2	4.7	4.5	4.5	6.5	4.9
Arsenic	0.01	mg/L								ND							
Alkalinity																	
Lead	0.015	mg/L								ND							