



CUMBERLAND VALLEY ANALYTICAL SERVICES, INC.  
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## WATER ANALYSIS REPORT

Analysis Report For:		Copy To:	
John Jones Bridgewater Nutritional Services 21340 Old National Pike Bridgewater, VA 22678			
Sample ID:	Date/Time Sampled:	Date/Time Received:	Date Reported:
6888-413	09/25/06 9:00pm	09/26/06 11:00am	09/28/06

Farm/Client:	Sample Description:	Test(s) Requested:
Birch Lane Holsteins Sample #1	ENVIRO-037	Coliform/E coli quant count (received >30hrs after collection)

	Results	Farm Survey Average	Expected Levels in Drinking Water	Possible Problem Levels for Cattle
pH		7.0*	6.8-7.5	<5.5 or >8.5
Nitrate as Nitrogen, ppm		7.7*	0-10	23
Nitrate as NO <sub>3</sub> , ppm		33.8*	0-44	100
Total Coliform-presence/absence			<1	15
Total Coliform, per 100ml	<b>23.8</b>		<1	15
E. Coli – presence/absence			<1	10
E. Coli, per 100ml	<b>6.4</b>		<1	10
Hardness, ppm CaCO <sub>3</sub>		208*	0-180	
Total Dissolved Solids (TDS), ppm		368*	0-500	3000
Chloride, ppm		59	0-250	300
Sulfates, ppm		81	0-250	2000
Calcium (Ca), ppm		65	0-100	150
Phosphorus (P), ppm		.7	0-0.3	0.7
Magnesium (Mg), ppm		24	0-29	100
Potassium (K), ppm		4	0-20	20
Sodium (Na), ppm		46	0-100	300
Iron (Fe), ppm		.79	0-0.3	0.4 (taste)
Manganese (Mn), ppm		.17	0-0.05	0.05 (taste)
Zinc (Zn), ppm		.12	0-5	25
Copper (Cu), ppm		.07	0-0.6	0.6

“Farm Survey Average” is from a survey of 3600 water samples collected from livestock operations throughout the United States in a study by Socha et al. Those values with an \* are an average of 350 samples from problem farms reported by R. Adams and W. Sharpe. “Expected Levels” are based primarily on criteria for water fit for human consumption. “Possible Problem Levels for Cattle” is based primarily on research literature and field experiences. Source: Variability of Water Composition and Potential Impact on Animal Performance. Mike T. Socha, et al. University of Nebraska, North Platte, NE 69101; Water Intake and Quality for Dairy Cattle. Richard S. Adams and William Sharpe. Penn State College of Agricultural Sciences, Cooperative Extension.