

Linda Poole  
28593 Content Rd  
Malta MT 59538

COLORADO STATE UNIVERSITY  
Soil, Water & Plant Testing Laboratory  
Room A320, NESB  
Fort Collins, CO 80523-1120  
Phone: 970-491-5061 / Fax: 970-491-2930

Date Received: 1/19/2016  
Date Reported: 1/26/2016

**Billing:**

**DOMESTIC WATER ANALYSIS**

LAB # W1183

**SOURCE:** 3 Alum Mordant exhaust

*"Routine Package"*

	<u>Results</u>	<u>Recommended Limit</u>	
Conductivity	8844	µmhos/cm	
pH	3.8	6.5 to 8.5	
		<u>mg/L</u>	
Calcium	30.2	N/A	
Magnesium	4.37	N/A	
Sodium	728	20	
Potassium	2052	N/A	
Carbonate	<0.1	N/A	
Bicarbonate	120	N/A	
Chloride	124	250	
Sulfate	3869	250	
Nitrate	<0.1	45	
Nitrate-Nitrogen	<0.1	10	
Total Alkalinity as CaCO <sub>3</sub>	98	400	
Total Hardness as CaCO <sub>3</sub>	93	300	grains per gallon 5.4
<b>Total Dissolved Solids</b>	<b>6,927</b>	<b>500</b>	

*"Metals" and "Individual Element" Analysis*

	<u>Results</u>	<u>Recommended Limit</u>
	<u>mg/L</u>	<u>mg/L</u>
Boron	1.85	N/A
Phosphorus	1.47	N/A
Aluminum	691	0.05 to 0.2
Iron	1.43	0.3
Manganese	0.26	0.05
Copper	0.01	1.3
Zinc	7.22	5.0
Nickel	0.05	0.1
Molybdenum	0.01	N/A
Cadmium	<0.005	0.005
Chromium	0.05	0.10
Barium	0.09	2.0
Lead	0.005	0.015
Ammonium	*	N/A
Fluoride	*	4.0
Arsenic	*	0.010
Selenium	*	0.05
Mercury	*	0.002

\* Not requested

**COMMENTS:**

The pH, sulfate, total dissolved solids, aluminum, iron, manganese and zinc exceed the EPA suggested limits for domestic use. Sodium exceeds the EPA drinking water health advisory limit for domestic use. The EPA has not set a maximum contaminant level (MCL) for sodium in municipal water supplies where it is required to have sodium below a legal limit. They have determined that there may be a health issue for individuals on sodium restricted diets if the sodium level exceeds 20 ppm.

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**Billing:**

**LIVESTOCK WATER ANALYSIS**

**LAB #** W1183 L

**SOURCE:** 3 Alum Mordant exhaust

*"Routine Package"*

*"Metals" and "Individual Element" Analysis*

	Recommended Limit	
Conductivity	8844	µmhos/cm
pH	3.8	
	mg/L	mg/L
Calcium	30.2	N/A
Magnesium	4.37	N/A
Sodium	728	N/A
Potassium	2052	N/A
Carbonate	<0.1	N/A
Bicarbonate	120	N/A
Chloride	124	N/A
Sulfate	3869	N/A
Nitrate	<0.1	443
Nitrate-Nitrogen	<0.1	100
Total Alkalinity as CaCO <sub>3</sub>	98	N/A
Total Hardness as CaCO <sub>3</sub>	93	N/A
		grains per gallon
		5.4
Total Dissolved Solids	6,927	10,000

	Recommended Limit	
	mg/L	mg/L
Boron	1.85	5.0
Phosphorus	1.47	N/A
Aluminum	690.96	5.0
Iron	1.43	N/A
Manganese	0.262	N/A
Copper	0.014	0.5
Zinc	7.22	24.0
Nickel	0.054	N/A
Molybdenum	0.01	N/A
Cadmium	<0.005	0.05
Chromium	0.053	1.0
Barium	0.085	1.0
Lead	0.005	0.1
Ammonium	*	N/A
Fluoride	*	2.0
Arsenic	*	0.2
Selenium	*	0.05
Mercury	*	0.01

\* Not requested

**COMMENTS:**

This water can be used with reasonable safety for dairy and beef cattle, sheep, swine, and horses. Its use should be avoided for pregnant or lactating animals. This is not acceptable water for poultry.

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**Billing:**

**IRRIGATION WATER ANALYSIS**

**LAB #** W1183 I

**SOURCE:** 3 Alum Mordant exhaust

*"Routine Package"*

	<u>Results</u>	<u>Results</u>
Conductivity	8844	$\mu\text{mhos/cm}$
pH	3.8	
pHc	8.1	
	<u>mg/L</u>	<u>meq/L</u>
Calcium	30.2	1.51
Magnesium	4.37	0.36
Sodium	728	31.66
Potassium	2052	52.47
Carbonate	<0.1	<0.1
Bicarbonate	120	1.96
Chloride	124	3.51
Sulfate	3869	80.56
Nitrate	<0.1	<0.1
Nitrate-Nitrogen	<0.1	<0.1
Boron	1.85	
Pounds of Sulfate per acre foot	3440	
Pounds of Nitrate per acre foot	<0.1	

SAR 32.8

Salinity	Sodium
Hazard <u>Very High</u>	Hazard <u>Very High</u>

**COMMENTS:** This is very poor quality water and should not be used for irrigation.