Linda Poole
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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 # W1181

SOURCE: 1 Warm tap water

"Routine Package"

	Results	Recommended Limit	
Conductivity	2621	µmhos/cm	
pH	8.7	6.5 to 8.5	
		mg/L	
Calcium	2.21	N/A	
Magnesium	0.60	N/A	
Sodium	646	20	
Potassium	2.96	N/A	
Carbonate	31.2	N/A	
Bicarbonate	451	7.4	
Chloride	135	250	
Sulfate	593	250	
Nitrate	<0.1	45	
Nitrate-Nitrogen	<0.1	10	
Total Alkalinity as $CaCO_3$	422	400	
Total Hardness as $CaCO_3$	8	300	0.5 grains per gallon
Total Dissolved Solids	1,862	500	

"Metals" and "Individual Element" Analysis

	Results mg/L	Recommended Limit mg/L
Boron	1.35	N/A
Phosphorus	<0.01	N/A
Aluminum	<0.01	0.05 to 0.2
Iron	<0.01	0.3
Manganese	<0.01	0.05
Copper	0.01	1.3
Zinc	0.01	5.0
Nickel	0.04	0.1
Molybdenum	0.01	N/A
Cadmium	<0.005	0.005
Chromium	0.02	0.10
Barium	0.01	2.0
Lead	0.006	0.015
Ammonium	*	N/A
Fluoride	*	4.0
Arsenic	*	0.010
Selenium	*	0.05
Mercury	*	0.002

* Not requested

COMMENTS: The pH, sulfate, alkalinity and total dissolved solids 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 # W1181 L

SOURCE: 1 Warm tap water

"Routine Package"

		Recommended Limit	
Conductivity	2621	µmhos/cm	
pH	8.7		
	mg/L	**mg/L**	
Calcium	2.21	N/A	
Magnesium	0.6	N/A	
Sodium	646	N/A	
Potassium	2.96	N/A	
Carbonate	31.2	N/A	
Bicarbonate	451	N/A	
Chloride	135	N/A	
Sulfate	593	N/A	
Nitrate	<0.1	443	
Nitrate-Nitrogen	<0.1	100	
Total Alkalinity as $CaCO_3$	422	N/A	
Total Hardness as $CaCO_3$	8	N/A	0.5 grains per gallon
Total Dissolved Solids	1,862	10,000	

"Metals" and "Individual Element" Analysis

	mg/L	Recommended Limit mg/L
Boron	1.35	5.0
Phosphorus	<0.01	N/A
Aluminum	<0.01	5.0
Iron	<0.01	N/A
Manganese	<0.01	N/A
Copper	0.01	0.5
Zinc	0.01	24.0
Nickel	0.04	N/A
Molybdenum	0.01	N/A
Cadmium	<0.005	0.05
Chromium	0.02	1.0
Barium	0.01	1.0
Lead	0.006	0.1
Ammonium	*	N/A
Fluoride	*	2.0
Arsenic	*	0.2
Selenium	*	0.05
Mercury	*	0.01

* Not requested

COMMENTS: This water is satisfactory for all classes of livestock and poultry. It may cause mild, temporary diarrhea in livestock and watery droppings in poultry not accustomed to the salt content.

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Billing:

IRRIGATION WATER ANALYSIS

LAB # W1181 I

SOURCE: 1 Warm tap water

"Routine Package"

	Results	Results
Conductivity	2621	**µmhos/cm**
pH	8.7	
pHc	8.5	
	mg/L	**meq/L**
Calcium	2.21	0.11
Magnesium	0.60	0.05
Sodium	646	28.10
Potassium	2.96	0.08
Carbonate	31.2	0.52
Bicarbonate	451	7.40
Chloride	135	3.80
Sulfate	593	12.34
Nitrate	<0.1	<0.1
Nitrate-Nitrogen	<0.1	<0.1
Boron	1.35	
Pounds of Sulfate per acre foot	527	
Pounds of Nitrate per acre foot	<0.1	

SAR 99.5

Salinity Hazard: High

Sodium Hazard: Very High

COMMENTS: This water is classified as a high salinity, high sodium irrigation water and would not be suitable for irrigation purposes. Soils irrigated with this water will accumulate salts, in particular sodium, which would eventually be detrimental to plants.