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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 ₃ | 98 | 400 | |
| Total Hardness as CaCO ₃ | 93 | 300 | grains per gallon 5.4 |
| Total Dissolved Solids | 6,927 | 500 | |

"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 | |
| | <u>mg/L</u> | <u>mg/L</u> |
| 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 ₃ | 98 | N/A |
| Total Hardness as CaCO ₃ | 93 | N/A |
| | | grains per gallon |
| | | 5.4 |
| Total Dissolved Solids | 6,927 | 10,000 |

| | Recommended Limit | |
|------------|-------------------|-------------|
| | <u>mg/L</u> | <u>mg/L</u> |
| 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.