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| | | | | | |
|---|--|--|--|--|--|
| Lab No.: 93131 | | SOIL ANALYSIS RESULTS | | Date Reported: 02/01/2022 | |
| Send To: 18250 | | OWN RESOURCES OPERATING LLC 36695 HWY 385 PO BOX 250 WRAY, CO 80758 | |  Hans Burken Agronomist | |
| Results For: OWN RESOURCES Sample Identification: WELLHEAD Sample Depth: 0-36" | | Invoice No.: 638818 Date Received: 01/24/2022 Field ID BROPHY 01-12 | | | |

| | | | | | |
|---------------------|------------|----------|--|--|------|
| Exchangable: | | | | | |
| | <u>ppm</u> | <u>%</u> | | | |
| Calcium, Ca | 3932 | 77 | Cation Exchange Capacity, CEC meq/100g | | 25 |
| Magnesium, Mg | 415 | 14 | Soil pH - 1:1 | | 8.5 |
| Potassium, K | 857 | 9 | Soil pH - Saturated Paste | | 8.1 |
| Sodium, Na | 27 | 0 | Soluble Salts, mmho/cm | | 0.18 |
| Excess Lime Rating | | HIGH | Exchangable Sodium Percent, ESP | | 0 |

| | | | | | |
|---|-------------|--------------|--|--|--|
| Extractable (from saturated paste, based on 34% water saturation): | | | | | |
| | <u>mg/L</u> | <u>meq/L</u> | | | |
| Calcium (Ca) | 27 | 1.3 | | | |
| Magnesium (Mg) | 12 | 1.0 | | | |
| Sodium (Na) | 5 | 0.2 | | | |
| Sulfur (S) | 6 | 0.4 | | | |
| Boron (B) | 0.12 | | | | |
| Potassium (K) | 59 | 1.5 | | | |
| Chloride (Cl) | 8 | 0.2 | | | |
| Bicarbonate (HCO ₃) | 150 | 2.5 | | | |
| Carbonate (CO ₃) | <10 | <0.3 | | | |

| | |
|--|-----------|
| Sodium Adsorption Ratio (SAR) | 0.20 |
| Electrical Conductivity (ECe), mmho/cm | 0.46 |
| Cation:Anion | 4.1 / 3.4 |

| | | | |
|---|-----------------------------------|-----------------|--------|
| Calculated Gypsum Recommendation (from ESP and CEC) | | | |
| Soil Texture | | Gypsum Rec. T/A | |
| COARSE | (sands, loamy sands, sandy loams) | 0.0 | To 0.0 |
| MEDIUM | (loams, silt loams, clay loams) | 0.0 | To 0.0 |
| FINE | (silty clay, clay loams, clays) | 0.0 | To 0.0 |

This soil is considered: NON-SALINE/NON-SODIC

The reported analytical results apply only to the sample as it was supplied.

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| Send To: 18250 | | OWN RESOURCES OPERATING LLC 36695 HWY 385 PO BOX 250 WRAY, CO 80758 | |  Hans Burken Agronomist | |
| Results For: | | OWN RESOURCES | | Invoice No.: 638818 | |
| Sample Identification: | | WELLHEAD | | Date Received: 01/24/2022 | |
| Sample Depth: | | 0-36" | | Field ID BROPHY 01-12 | |
| SOIL PERMEABILITY HAZARD (based on ESP and SAR): | | | | | |
| Soil texture | | Potential hazard | | | |
| ----- | | ----- | | | |
| COARSE (sands, loamy sands, sandy loams) | | LOW | | | |
| MEDIUM (loams, silt loams, clay loams) | | LOW | | | |
| FINE (silty clay loams, clays) | | LOW | | | |
| SOIL SALINITY HAZARD (based on extractable salts, ECe): | | | | | |
| Crop type | | Potential hazard | | | |
| ----- | | ----- | | | |
| SALT SENSITIVE (onions, carrots, many ornamentals, many fruit crops, etc.) | | LOW | | | |
| MODERATELY SENSITIVE (seedling alfalfa, corn, soybeans, many vegetables, etc.) | | LOW | | | |
| MODERATELY TOLERANT (wheat, wheatgrass, sudangrass, sorghum, fescue, oats, brome grass, etc.) | | LOW | | | |
| SALT TOLERANT (barley, bermudagrass, sugarbeets, cotton, etc.) | | LOW | | | |
| EXTRACTABLE BORON HAZARD (based on soil extractable boron, B): | | | | | |
| Crop type | | Potential hazard | | | |
| ----- | | ----- | | | |
| BORON SENSITIVE (such as sunflower, barley, onions, citrus, fruit trees, grapes, etc.) | | LOW | | | |
| MODERATELY SENSITIVE (such as potatoes, peppers, peas, radishes, etc.) | | LOW | | | |
| MODERATELY TOLERANT (such as wheat, corn, oats, clover, lettuce, turnips, celery, etc.) | | LOW | | | |
| BORON TOLERANT (such as alfalfa, beets, cotton, grain sorghum, tomatoes, vetch, etc.) | | LOW | | | |

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| Results For: | | OWN RESOURCES | | Invoice No.: 638818 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample Identification: | | BACKGROUND | | Date Received: 01/24/2022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample Depth: 0-36" | | | | Field ID BROPHY 01-12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exchangable: <table border="0"> <thead> <tr> <th></th> <th>ppm</th> <th>%</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Calcium, Ca</td> <td>5409</td> <td>87</td> <td>Cation Exchange Capacity, CEC meq/100g</td> <td>29</td> </tr> <tr> <td>Magnesium, Mg</td> <td>219</td> <td>6</td> <td>Soil pH - 1:1</td> <td>7.9</td> </tr> <tr> <td>Potassium, K</td> <td>735</td> <td>7</td> <td>Soil pH - Saturated Paste</td> <td>7.6</td> </tr> <tr> <td>Sodium, Na</td> <td>26</td> <td>0</td> <td>Soluble Salts, mmho/cm</td> <td>0.53</td> </tr> <tr> <td>Excess Lime Rating</td> <td></td> <td>LOW</td> <td>Exchangable Sodium Percent, ESP</td> <td>0</td> </tr> </tbody> </table> | | | | | | | ppm | % | | | Calcium, Ca | 5409 | 87 | Cation Exchange Capacity, CEC meq/100g | 29 | Magnesium, Mg | 219 | 6 | Soil pH - 1:1 | 7.9 | Potassium, K | 735 | 7 | Soil pH - Saturated Paste | 7.6 | Sodium, Na | 26 | 0 | Soluble Salts, mmho/cm | 0.53 | Excess Lime Rating | | LOW | Exchangable Sodium Percent, ESP | 0 |
| | ppm | % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calcium, Ca | 5409 | 87 | Cation Exchange Capacity, CEC meq/100g | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Magnesium, Mg | 219 | 6 | Soil pH - 1:1 | 7.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Potassium, K | 735 | 7 | Soil pH - Saturated Paste | 7.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sodium, Na | 26 | 0 | Soluble Salts, mmho/cm | 0.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excess Lime Rating | | LOW | Exchangable Sodium Percent, ESP | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extractable (from saturated paste, based on 43% water saturation): <table border="0"> <thead> <tr> <th></th> <th>mg/L</th> <th>meq/L</th> </tr> </thead> <tbody> <tr> <td>Calcium (Ca)</td> <td>208</td> <td>10.4</td> </tr> <tr> <td>Magnesium (Mg)</td> <td>19</td> <td>1.6</td> </tr> <tr> <td>Sodium (Na)</td> <td>5</td> <td>0.2</td> </tr> <tr> <td>Sulfur (S)</td> <td>10</td> <td>0.6</td> </tr> <tr> <td>Boron (B)</td> <td>0.12</td> <td></td> </tr> <tr> <td>Potassium (K)</td> <td>63</td> <td>1.6</td> </tr> <tr> <td>Chloride (Cl)</td> <td>54</td> <td>1.5</td> </tr> <tr> <td>Bicarbonate (HCO₃)</td> <td>430</td> <td>7.0</td> </tr> <tr> <td>Carbonate (CO₃)</td> <td><10</td> <td><0.3</td> </tr> </tbody> </table> | | | | | | | mg/L | meq/L | Calcium (Ca) | 208 | 10.4 | Magnesium (Mg) | 19 | 1.6 | Sodium (Na) | 5 | 0.2 | Sulfur (S) | 10 | 0.6 | Boron (B) | 0.12 | | Potassium (K) | 63 | 1.6 | Chloride (Cl) | 54 | 1.5 | Bicarbonate (HCO ₃) | 430 | 7.0 | Carbonate (CO ₃) | <10 | <0.3 |
| | mg/L | meq/L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calcium (Ca) | 208 | 10.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Magnesium (Mg) | 19 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sodium (Na) | 5 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulfur (S) | 10 | 0.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Potassium (K) | 63 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chloride (Cl) | 54 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bicarbonate (HCO ₃) | 430 | 7.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbonate (CO ₃) | <10 | <0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sodium Adsorption Ratio (SAR) <0.10 Electrical Conductivity (ECe), mmho/cm 1.37 Cation:Anion 13.8 / 9.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calculated Gypsum Recommendation (from ESP and CEC) <table border="0"> <thead> <tr> <th colspan="2">Soil Texture</th> <th colspan="3">Gypsum Rec. T/A</th> </tr> </thead> <tbody> <tr> <td>COARSE</td> <td>(sands, loamy sands, sandy loams)</td> <td>0.0</td> <td>To</td> <td>0.0</td> </tr> <tr> <td>MEDIUM</td> <td>(loams, silt loams, clay loams)</td> <td>0.0</td> <td>To</td> <td>0.0</td> </tr> <tr> <td>FINE</td> <td>(silty clay, clay loams, clays)</td> <td>0.0</td> <td>To</td> <td>0.0</td> </tr> </tbody> </table> | | | | | | Soil Texture | | Gypsum Rec. T/A | | | COARSE | (sands, loamy sands, sandy loams) | 0.0 | To | 0.0 | MEDIUM | (loams, silt loams, clay loams) | 0.0 | To | 0.0 | FINE | (silty clay, clay loams, clays) | 0.0 | To | 0.0 | | | | | | | | | | |
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| Soil texture | | Potential hazard | | | |
| ----- | | ----- | | | |
| COARSE (sands, loamy sands, sandy loams) | | LOW | | | |
| MEDIUM (loams, silt loams, clay loams) | | LOW | | | |
| FINE (silty clay loams, clays) | | LOW | | | |
| SOIL SALINITY: Saline soils can be managed by choosing tolerant crops, keeping the seedbed moist until crop establishment, and/or irrigating with relatively good quality irrigation water. Good internal soil drainage is needed to reclaim saline areas, so lowering water tables may be necessary. Test soil (and water) annually to monitor changes in salinity levels. | | | | | |
| SOIL SALINITY HAZARD (based on extractable salts, ECe): | | | | | |
| Crop type | | Potential hazard | | | |
| ----- | | ----- | | | |
| SALT SENSITIVE (onions, carrots, many ornamentals, many fruit crops, etc.) | | CAUTION | | | |
| MODERATELY SENSITIVE (seedling alfalfa, corn, soybeans, many vegetables, etc.) | | LOW | | | |
| MODERATELY TOLERANT (wheat, wheatgrass, sudangrass, sorghum, fescue, oats, brome grass, etc.) | | LOW | | | |
| SALT TOLERANT (barley, bermudagrass, sugarbeets, cotton, etc.) | | LOW | | | |
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| Crop type | | Potential hazard | | | |
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| BORON SENSITIVE (such as sunflower, barley, onions, citrus, fruit trees, grapes, etc.) | | LOW | | | |
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