Figure 1
Existing Landcover-Knightson

SOURCE:
Landcover from CCC HCP, ESA PWA 2012
Figure 3
Soils-Knightson

Source: USDA (Soils), ESA-PWA 2012
Figure 4: Historical Habitats-Knightson

Figure 6
Potential Storm Water Biofiltration Swales

SOURCE:
Aerial from NAIP 2009
Figure 7
Potential Habitat Configuration- Post Restoration

Potential Habitat Configuration- Post Restoration
- Alkali Seasonal Wetland Complex
- Freshwater Tidal Wetland
- Oak Savanna
- Stabilized Interior Dune

SOURCE:
Aerial from NAIP 2009
Appendix A:

Power line Easements
"Notice: This is neither a plat nor a survey. It is furnished merely as a convenience to aid you in locating the land indicated herein with reference to streets and other land. No liability is assumed by reason of any reliance hereon."

NOTE: Easements depicted hereon are provided as a courtesy only and no representation is made as to the accuracy or completeness thereof. The Company assumes no liability for any error occurring by reason of reliance thereon. It is recommended that a survey be obtained from a licensed professional to determine actual locations.

LEGEND

- Parcel (Fee, Property in Question)
- Item No. 13 - Easement for Polelines and wires
  09/03/1931, Book 293, Page 244, of Official Records
  Said Easement is not specifically delineated and is un-locatable
- Item No. 14 - Easement for ditches
  12/14/1945, Book 828, Page 55, of Official Records
  Said Easement is not specifically delineated and is un-locatable
- Item No. 16 - Easement for Transmission lines
  11/06/1950, Instrument No. 57162, Book 1663, Page 564, of Official Records
  Affects as described therein
- Item No. 17 - Easement for Transmission lines
  11/15/1950, Book 1668, Page 494, of Official Records
  Affects as described therein
- Item No. 19 - Easement for Power lines
  12/09/1952, Book 2041, Page 111, of Official Records
  Affects as described therein
- Item No. 20 - Easement for Irrigation ditches
  04/26/1960, Book 3606, Page 86, of Official Records
  Affects as described therein
- Item No. 22 - Easement for Pole lines
  Affects as described therein
- Item No. 23 - Easement for Poles, anchor, wires
  03/22/1963, Book 11173, Page 608, of Official Records
  Said Easement is not specifically delineated and is un-locatable
- Item No. 25 - Easement for temporary working areas
  02/06/1995, Instrument No. 95-27362, of Official Records
  Affects as described therein

Title Order No. 1117812113, Preliminary Report Dated as of July 25, 2012
Drawing Date: 12/06/2012

Reference:

Property: 8831 Byron Highway, Byron, CA 94513
Assessor's Parcel Nos.: 828-171-091 and 004

Preliminary Plat Showing the Portion of Real Property, in the County of Contra Costa, State of California.
Appendix B:

Soil Sample Results
# Soil Analysis Report

**Report Number:** 12-361-002

**Client No:** 9999-D

**Grown:**

**Date of Report:** 12/28/12

**Page:** 1

## Sample Data

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus</th>
<th>Potassium</th>
<th>Magnesium</th>
<th>Calcium</th>
<th>Sodium</th>
<th>pH</th>
<th>Hydrogen</th>
<th>Cation Exchange Capacity</th>
<th>Soil Buffer H Capacity</th>
<th>C.E.C. (meq/100g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNG06</td>
<td>52044</td>
<td>3.3M 96</td>
<td>50VH 44VH</td>
<td>369M</td>
<td>1475VH</td>
<td>2765L</td>
<td>552H</td>
<td>7.3</td>
<td>0.0</td>
<td>29.3</td>
<td>3.2</td>
<td>41.4</td>
</tr>
<tr>
<td>KNG05</td>
<td>52045</td>
<td>3.3M 96</td>
<td>38H 28VH</td>
<td>287M</td>
<td>881VH</td>
<td>2304L</td>
<td>215M</td>
<td>7.4</td>
<td>0.0</td>
<td>20.4</td>
<td>3.6</td>
<td>35.5</td>
</tr>
</tbody>
</table>

**Special Notes:**

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).

**ENR - ESTIMATED NITROGEN RELEASE**

*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM

**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P₂O₅

***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K₂O

Most soils weigh two (2) million pounds (dry weight) for an acre of soil 6-2/3 inches deep.

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

---

Mike Buttress, CPAg

A & L Western Agricultural Laboratories, Inc.
## SOIL SALINITY ANALYSIS REPORT

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Lab Number</th>
<th>SAR</th>
<th>ESP</th>
<th>Na meq/L</th>
<th>Ca meq/L</th>
<th>Mg meq/L</th>
<th>pH</th>
<th>CO$_3$ meq/L</th>
<th>HCO$_3$ meq/L</th>
<th>E.C. dS/m</th>
<th>Cl meq/L</th>
<th>B ppm</th>
<th>Saturation %</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNG06</td>
<td>52044</td>
<td>4.9</td>
<td>5.6</td>
<td>13.5</td>
<td>8.1</td>
<td>7.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>KNG05</td>
<td>52045</td>
<td>3.8</td>
<td>4.2</td>
<td>9.1</td>
<td>6.3</td>
<td>4.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>*****</td>
</tr>
</tbody>
</table>

NOTES:

**Mike Buttress, CPAg**

A & L WESTERN LABORATORIES, INC.
SOIL ANALYSIS

General Guidelines for Interpreting Soil Analysis Ratings

**Comments:** Note that the cations potassium, magnesium, calcium and sodium are rated according to what percentage of the total cation exchange capacity they take. A clay soil may have 4,000 ppm calcium whereas a sandy soil may have only 400 ppm and both may be rated as “medium” in terms of their percent cation saturation.

These ratings are not crop-specific. However, when soil fertility guidelines are requested, specific crop requirements and tolerances are taken into account.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Description</th>
<th>Units</th>
<th>VLow</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>VHigh</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM</td>
<td>Organic Matter</td>
<td>percent</td>
<td>0.3</td>
<td>2.2</td>
<td>3.7</td>
<td>5.2</td>
<td>15.0</td>
</tr>
<tr>
<td>pH</td>
<td>Soil pH</td>
<td>pH</td>
<td>5.0</td>
<td>6.0</td>
<td>7.5</td>
<td>8.5</td>
<td>10.0</td>
</tr>
<tr>
<td>PI</td>
<td>Weak Bray-phosphorus</td>
<td>ppm</td>
<td>8.0</td>
<td>17.0</td>
<td>26.0</td>
<td>39.0</td>
<td>90.0</td>
</tr>
<tr>
<td>HCO₃⁻P</td>
<td>NaHCO₃-phosphorus</td>
<td>ppm</td>
<td>3.0</td>
<td>7.0</td>
<td>13.0</td>
<td>22.0</td>
<td>50.0</td>
</tr>
<tr>
<td>K</td>
<td>Potassium</td>
<td>% Cation Sat.</td>
<td>0.6</td>
<td>2.0</td>
<td>5.0</td>
<td>10.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Mg</td>
<td>Magnesium</td>
<td>% Cation Sat.</td>
<td>5.0</td>
<td>10.0</td>
<td>20.0</td>
<td>25.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Ca</td>
<td>Calcium</td>
<td>% Cation Sat.</td>
<td>35.0</td>
<td>60.0</td>
<td>70.0</td>
<td>75.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Na</td>
<td>Sodium</td>
<td>% Cation Sat.</td>
<td>1.0</td>
<td>3.0</td>
<td>5.0</td>
<td>10.0</td>
<td>30.0</td>
</tr>
<tr>
<td>NO₃⁻N</td>
<td>Nitrate-Nitrogen</td>
<td>ppm</td>
<td>4.0</td>
<td>12.0</td>
<td>25.0</td>
<td>40.0</td>
<td>65.0</td>
</tr>
<tr>
<td>S</td>
<td>Sulfate-Sulfur</td>
<td>ppm</td>
<td>3.0</td>
<td>10.0</td>
<td>25.0</td>
<td>35.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Zn</td>
<td>Zinc</td>
<td>ppm</td>
<td>0.5</td>
<td>1.0</td>
<td>3.0</td>
<td>6.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Mn</td>
<td>Manganese</td>
<td>ppm</td>
<td>1.0</td>
<td>2.0</td>
<td>12.0</td>
<td>30.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Fe</td>
<td>Iron</td>
<td>ppm</td>
<td>5.0</td>
<td>10.0</td>
<td>16.0</td>
<td>25.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Cu</td>
<td>Copper</td>
<td>ppm</td>
<td>0.3</td>
<td>0.8</td>
<td>1.2</td>
<td>2.5</td>
<td>5.0</td>
</tr>
<tr>
<td>B</td>
<td>Boron</td>
<td>ppm</td>
<td>0.3</td>
<td>0.5</td>
<td>1.2</td>
<td>2.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Ex. Lime</td>
<td>Excess Lime</td>
<td>percent</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>4.0</td>
<td>7.0</td>
</tr>
<tr>
<td>SS (ECe)</td>
<td>Soluble Salts</td>
<td>mmhos/cm</td>
<td>0.3</td>
<td>0.7</td>
<td>2.0</td>
<td>4.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Cl</td>
<td>Chloride</td>
<td>ppm</td>
<td>70.0</td>
<td>170.0</td>
<td>350.0</td>
<td>900.0</td>
<td>999.9</td>
</tr>
<tr>
<td>Mo</td>
<td>Molybdenum</td>
<td>ppm</td>
<td>0.05</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Example: Organic matter = “Medium” between 2.3% and 3.7% (inclusive of numbers)
SOIL SALINITY PACKAGE RECOMMENDATIONS

Soils are generally categorized as follows:

<table>
<thead>
<tr>
<th>Soil</th>
<th>Soil pH</th>
<th>Electrical Conductivity</th>
<th>Sodium Adsorption Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saline</td>
<td>&lt;8.5</td>
<td>&gt;4.0 dS/m</td>
<td>&lt;13-15</td>
</tr>
<tr>
<td>Saline-Sodic</td>
<td>&lt;8.5</td>
<td>&gt;4.0 dS/m</td>
<td>&gt;13-15</td>
</tr>
<tr>
<td>Sodic</td>
<td>&gt;8.5</td>
<td>&lt;4.0 dS/m</td>
<td>&gt;13-15</td>
</tr>
</tbody>
</table>

If the sodium adsorption ratio (SAR) at the soil surface is greater than five times the electrical conductivity of the irrigation water (ECₘ), then gypsum should be applied to the surface (after tillage, preferably) to facilitate water penetration.

If the sodium adsorption ratio (SAR) at about six inches below the surface is greater than ten times the electrical conductivity of the soil extract (ECₑ), then gypsum or gypsum-forming products should be incorporated, to facilitate rapid sodium replacement.

SAR and ECₑ should increase with depth if leaching irrigation is adequate, and water quality is satisfactory.

Leaching Requirements:
It soon becomes apparent, the importance of knowing one’s irrigation water quality in order to determine leaching requirements for crops. \( LR = \frac{ECₘ}{5(ECₑ)} - ECₘ \), where ECₑ corresponds to that at an acceptable yield potential. \( ECₘ \) = irrigation water. A multiplication factor, \( ECₑ/ECₘ \) may also be used to read off a graph. Refer to the Western Fertilizer Handbook for detailed information.

Warning: Excessive leaching may raise the water table and exacerbate the situation! Minimize leaching and choose salt-tolerant crops wherever possible.

Gypsum Requirements:
We need to express Saturation Percentage in terms of Cation Exchange Capacity, in order to determine how many meq Na/100g soil we need to replace.

<table>
<thead>
<tr>
<th>Sat. %</th>
<th>C.E.C.</th>
<th>Texture</th>
<th>Available Water Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-35%</td>
<td>7-15 meq/100g</td>
<td>Sandy loam</td>
<td>0.6 – 1.0 inches/ft depth.</td>
</tr>
<tr>
<td>35-50%</td>
<td>15-30</td>
<td>Loam-silt loam</td>
<td>1.0 – 1.5</td>
</tr>
<tr>
<td>50-65%</td>
<td>30-40</td>
<td>Clay loam</td>
<td>1.5 – 2.0</td>
</tr>
<tr>
<td>65-135%</td>
<td>&gt;40</td>
<td>Clay</td>
<td>&gt; 2.0</td>
</tr>
</tbody>
</table>

Assume we wish to drop ESP from 15.0 to 5.0. We need to replace \( (15 – 5) = 10\% \) of say, a CEC of 40 meq/100g soil... = 4 meq sodium/100 g soil.

A general guideline is to apply 1 ton gypsum (86% purity) per 1 meq sodium/100 g soil per acre-six inch depth.

Boron:
Refer to the Western Fertilizer Handbook for crop tolerances to boron.

A & L Western Agricultural Laboratories, Inc.

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