REPORT OF WATER ANALYSIS

County: Fresno  Date Received: 6-26-47

Laboratory No.: 7671  Sampler's No.: Without gypsum

Submitted by: E. E. Saunders, Asst. Farm Advisor, Fresno

Location and Description: L. G. Haney, 2 miles N of Rolinda NW1/4 sec. 36 T. 13 S R. 18 E

Well is 1/8 mile W. of McKinley A 200 yds. S of Well 60 ft. deep; 10 years old; Use: Irrig. 40 A Alfalfa & Cotton, some corn.

Land is white ash soil known as Fresno Sandy Clay Loam. Trouble with lateral penetration; gypsum added to soil 1946.

Color: None  Turbidity: None  Odor: None

K x 10^6  87.6  pH  7.8  Boron (p.p.m.)  0.20

<table>
<thead>
<tr>
<th>CONSTITUENT</th>
<th>P.P.M.</th>
<th>M.E./L.</th>
<th>CONSTITUENT</th>
<th>P.P.M.</th>
<th>M.E./L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium (Ca)</td>
<td>65</td>
<td>3.2</td>
<td>Carbonate (CO₃)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>10</td>
<td>0.9</td>
<td>Bicarbonate (HCO₃)</td>
<td>305</td>
<td>5.0</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>90</td>
<td>3.3</td>
<td>Chloride (Cl)</td>
<td>80</td>
<td>2.2</td>
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<tr>
<td>Potassium (K)</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Total Cations: 7.9  Total Anions: 7.9

Per cent Na: 48  Per cent Cl: 22  Analyst: J. J. J.

Recommendation: Good quality water for irrigation

Date Reported: 3-29-47  Reported by: J. C. Martin
REPORT OF WATER ANALYSIS

County: Fresno
Date Received: 7-23-47

Laboratory No.: 7672
Sampler's No.: with gypsum added.

Submitted by: E. E. Saunders, Ass't. Farm Advisor, Fresno.

Location and Description: L. G. Haney, 2 miles north of Holinda. NW 1/4 sec. 36, T13S R13E
Use: irrigation alfalfa, cotton, corn.
See #7671

Color: none
Turbidity: none
Odor: none

K x 10^{-5} \quad 124
pH \quad 7.8
Boron (p.p.m.) \quad 0.16

<table>
<thead>
<tr>
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<th>CONSTITUENT</th>
<th>P.P.M.</th>
<th>M.E./L.</th>
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</thead>
<tbody>
<tr>
<td>Calcium (Ca)</td>
<td>165</td>
<td>8.3</td>
<td>Carbonate (CO_3)</td>
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<tr>
<td>Magnesium (Mg) By Diff.</td>
<td>5</td>
<td>0.4</td>
<td>Bicarbonate (HCO_3)</td>
<td>305</td>
<td>5.0</td>
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<tr>
<td>Sodium (Na)</td>
<td>85</td>
<td>3.6</td>
<td>Chloride (Cl)</td>
<td>80</td>
<td>2.3</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td></td>
<td></td>
<td>Sulfate (SO_4)</td>
<td>240</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Total Cations \quad 12.3
Total Anions \quad 12.3

Per cent Na. 23
Per cent Cl. 19
Analyst: J. J.

Recommendation: Has been materially increased in Ca and SO_4 and would be expected to improve penetration into the soil.

Date Reported: 8-29-47
Reported by: J. C. Martin
Mr. E. Eugene Saunders  
Assistant Farm Advisor, USDA  
Room 20, U. S. Post Office  
Fresno 1, California

Dear Mr. Saunders:

Enclosed are the reports of our analyses of the well water samples, one before and one after the addition of gypsum, referred to in your letter of June 25.

As you may note on the reports, I have indicated that the untreated water is of good quality for irrigation, having a conductance value appreciably below 100 and not too high a sodium percentage. However, after treatment the calcium content has been materially increased along with the sulfate content, and consequently the sodium percentage has been materially decreased. This changed quality of the water is no doubt responsible for the improved water penetration as would be expected.

Examination of the soil samples referred to in your same letter, Mr. Schoonover and I decided, would not yield enough additional information to warrant the time necessary to make our usual alkalinity salinity tests. It would seem that if your treatment of the water with gypsum has produced a noticeably better water penetration, and this was the original problem, an examination of the soil involved would only corroborate what has been observed, in that the soluble calcium has been increased and sodium would comprise a smaller proportion of the soluble bases in the liquid phase.

Very truly yours,

J.C. Martin  
Associate Chemist
COLLECTION DATA SHEET FOR WATER ANALYSIS

Collector's sample No. 3. Date June 19, 1947. Collector... Elizab...y Saunders...

Submitted by... Elizab...y Saunders...

Owner or operator of property... I. J. Haney. County... Pla...a...a...

Nearest town... Haney. Distance and direction from town... 2 miles North...

Location: N.W. 1/4, Sec. 16, T. 23, R. 18 E....

Other description, such as distance and direction from a landmark or road intersection... well... 1/4 mile west...

Depth of well... 60. Depth to upper perforations...

Casing diameter... 10 in. Discharge (cubic feet per second, gallons per minute, or miner's inches)...

Age of well... 10 years... about 1000 gallons per minute...

Static water level (feet depth from ground surface)... 30 ft...

Draws down to (feet depth from ground surface)... 40 ft...

Use: Irrigation, domestic, stock watering. (Underscore.)...

Approximate acreage served, and kinds of crops... 40 acres alfalfa & b. cotton... some corn...

Condition or symptoms of land or crops... land is white and soil known as... 1. needs sandy clay loam...

Owner's or operator's opinion of water quality... the water may be too... 1.5 times... to soil 1.5 times. Crop's low. The growing. Last year alfalfa. 1000 lbs of gypsum to acre. Own's crop... 1.5 times. Glyphosate. Collector's or sender's remarks...

I believe the water is saline then... new... need analyses, however, 3. believe the soil has considerable... 1.5 times. Soil samples are taken from these stations for soil depth. Water... 1.5 times... 1.5 times. Plantation resulted...

Laboratory No. Date received...