

105/6E-21B1

OF WATER FROM DI GIORGIO WELLS 7, ~~11~~ AND ~~14~~

↓ MG/L

<u>March</u> <u>1979</u>	DWR <u>July</u> <u>1965</u>	DWR <u>May</u> <u>1963</u>	DWR <u>April</u> <u>1955</u>	<u>Oct.</u> <u>1954</u>
200	306	138	126	172
178	214	152	124	118
180	201	168	163	153
122	168	101	88	111
590	723	447	397	457
76	213	87	66	6

STATE OF CALIFORNIA—RESOURCES AGENCY  
**DEPARTMENT OF WATER RESOURCES**

7-24  
 Borrego Valley

Region 7  
 Investigation 229  
 County Riv Near \_\_\_\_\_

**Ground Water Analyses**

Basin Borrego Valley  
 DWR No. 105/65-21B1 B&M  
 Other Nos. 10S/6E-21B1  
 No. 7-- -Special.



Use \_\_\_\_\_ Depth \_\_\_\_\_ Date Completed \_\_\_\_\_ Capacity (gpm) \_\_\_\_\_ SWL \_\_\_\_\_  
 Drawdown \_\_\_\_\_ Perforations \_\_\_\_\_ Size Casing and Depth \_\_\_\_\_  
 Gravel Packed \_\_\_\_\_ Seal \_\_\_\_\_ At What Depth \_\_\_\_\_ Log \_\_\_\_\_ Water Level Record \_\_\_\_\_  
 Surface Elev. \_\_\_\_\_ Datum \_\_\_\_\_ Source of Information \_\_\_\_\_

Lab./Field No.	15517   7228											
Sampled By	Jim Piro											
Date Collected	5-23-63											
Date Analyzed	6-12-63											
Temperature/pH	81   7.9											
EC x 10 <sup>6</sup> @ 25° C	1548											
Constituents in	epm	% RV	ppm	epm	% RV	ppm	epm	% RV	ppm	epm	% RV	ppm
<b>Cations:</b>												
Ca	6.89		138									
Mg	2.39		29									
Na	6.61		152									
K	0.33		13									
<b>Total Cations</b>	16.22											
<b>Anions:</b>												
CO <sub>3</sub>	0		0									
HCO <sub>3</sub>	2.76		168									
SO <sub>4</sub>	9.32		447									
CL	2.85		101									
NO <sub>3</sub>	1.40		87									
F	0.04		0.7									
<b>Total Anions</b>	16.37											
<b>Balance</b>												
Boron			0.25									
Silica			32									
<b>Total Solids/Sum</b>	1066											
Per Cent Sodium		41										
Hardness: Total/NC	464		326									
Laboratory/Chemist	5050		Tarrin									
Copied: Date/By												

REMARKS: 1. P.C. Disc Line clear no odor pp9 on arrival

- 2.
- 3.
- 4.

AGRICULTURAL CONSULTANTS  
CHEMISTS  
APPROVED WATER LABORATORY

PHONE 684-1881  
AREA CODE 714

LABORATORIES  
3215 CHICAGO AVENUE

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS, Inc.

P. O. BOX 432  
RIVERSIDE, CALIFORNIA 92502



3/9/79

TO Roadrunner Tree Farm  
P.O. Box A  
Borrego Springs, CA. 92004

Lab No. 790305-2

Invoice No. 86346

Submitted Sampled

By Mail

Date 3/5/79

Time 8:30

SAMPLE MARKED Well #7

*for*

General Mineral     Inorganic Chemical     General Physical     As Marked     Basic     Domestic

<input checked="" type="checkbox"/> Total Hardness as CaCO <sub>3</sub> 600 mg/l  <input checked="" type="checkbox"/> Calcium (Ca) 200 mg/l 1000 mg/l  <input checked="" type="checkbox"/> Magnesium (Mg) 24 mg/l 2.00 me/l  AM 3/7	<input checked="" type="checkbox"/> Total Alkalinity as CaCO <sub>3</sub> 148 mg/l  <input checked="" type="checkbox"/> Hydroxide (OH) 0 mg/l 0.00 me/l  <input checked="" type="checkbox"/> Carbonate (CO <sub>3</sub> ) 0 mg/l 0.00 me/l  <input checked="" type="checkbox"/> Bicarbonate (HCO <sub>3</sub> ) 180 mg/l 2.95 me/l  AM 3/6	<input checked="" type="checkbox"/> Electrical Conductivity EC x 10 <sup>4</sup> @ 25°C  1920 $\mu$ mho/cm <sup>2</sup>  AM 3/5	<input checked="" type="checkbox"/> Total Dissolved Residue @ 180°C  1470 mg/l  AC 3/7	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sodium (Na) 178 mg/l 7.74 me/l  AC 3/7	<input checked="" type="checkbox"/> Sulfate (SO <sub>4</sub> ) 590 mg/l 12.29 me/l  AM 3/8	<input checked="" type="checkbox"/> pH 7.6 units  AM 3/5	<input type="checkbox"/> Arsenic (As) mg/l	<input type="checkbox"/> Copper (Cu) mg/l	<input type="checkbox"/> Mercury (Hg) mg/l
<input checked="" type="checkbox"/> Potassium (K) 17 mg/l 0.44 me/l  AC 3/7	<input checked="" type="checkbox"/> Chloride (Cl) 122 mg/l 3.45 me/l  AM 3/5	<input checked="" type="checkbox"/> Color 0 units  AM 3/6	<input type="checkbox"/> Barium (Ba) mg/l	<input checked="" type="checkbox"/> Fluoride (F) 0.4 mg/l  AC 3/6	<input type="checkbox"/> MBAS mg/l
<input type="checkbox"/> Ammonium (NH <sub>4</sub> ) mg/l me/l	<input checked="" type="checkbox"/> Nitrate (NO <sub>3</sub> ) 76 mg/l 1.23 me/l  AM 3/5	<input checked="" type="checkbox"/> Odor No Odor TON Observed  AM 3/6	<input checked="" type="checkbox"/> Boron (B) 0.1 mg/l  AC 3/6	<input checked="" type="checkbox"/> Iron (Fe) 0.32 mg/l  AM 3/5	<input type="checkbox"/> Selenium (Se) mg/l
<input type="checkbox"/> Cations Total 20.18 me/l	<input type="checkbox"/> Anions Total 19.92 me/l	<input checked="" type="checkbox"/> Turbidity 0 NTU  AM 3/6	<input type="checkbox"/> Cadmium (Cd) mg/l	<input type="checkbox"/> Lead (Pb) mg/l	<input type="checkbox"/> Silver (Ag) mg/l
		<input type="checkbox"/> Chromium (Cr) Total mg/l	<input checked="" type="checkbox"/> Manganese (Mn) 0.00 mg/l  AC 3/8	<input type="checkbox"/> Zinc (Zn) mg/l	

# HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS

714 TRUXTUN AVENUE

BAKERSFIELD, CALIFORNIA

Laboratory No. 79505

October 8, 1954

Sample Water

Marked Well #7

Received September 29, 1954

Submitted by A. F. Peterson  
 1603 California Avenue  
 Bakersfield, California

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## IRRIGATION WATER ANALYSIS

CONSTITUENTS			PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES	(ALKALI)	(CO <sub>3</sub> )	10.8	0.63	Good
BICARBONATES		(HCO <sub>3</sub> )	152.5	9.92	Good
CHLORIDES	(SALT)	(Cl)	110.7	6.47	Good
SULPHATES		(SO <sub>4</sub> )	456.6	26.70	Good
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO <sub>3</sub> )	6.0		Good
CALCIUM	(LIME)	(Ca)	172.0	10.06	Good
MAGNESIUM		(Mg)	21.5	1.26	Good
SODIUM		(Na)	117.8	6.09	Good
BORON		(B)	.05		Good
IRON		(Fe)	.1		Good
HARDNESS AS CaCO <sub>3</sub>			518.0	30.29	Good
TOTAL SOLIDS @ 105°C			871.7	56.82	
TOTAL SOLIDS @ RED HEAT			907.5	53.07	
pH (HYDROGEN ION CONCENTRATION)			8.3		
SODIUM PERCENTAGE			33.1%		
COLOR	Water White				
ODOR	None				
TURBIDITY	Clear				
CONDUCTIVITY, MHOS/CM <sup>2</sup> X10 <sup>5</sup> @25°C.			150.3		

### Theoretical Analysis

Calcium Carbonate	18.0	1.05
Calcium Bicarbonate	202.6	11.85
Calcium Sulfate	390.7	22.85
Magnesium Sulfate	105.9	6.19
Sodium Sulfate	142.1	8.31
Sodium Chloride	182.4	10.67

Remarks: As noted by the last column above this sample would be classified as excellent for irrigation use.

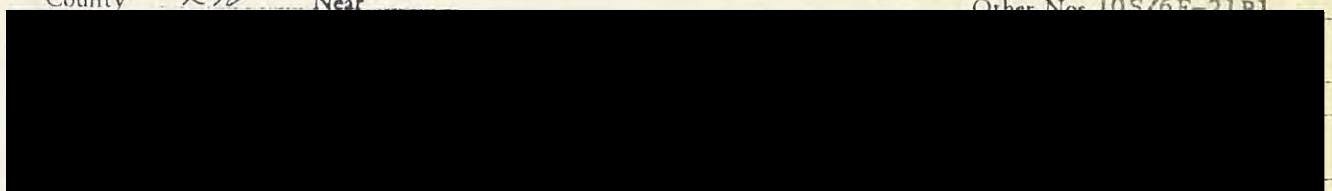
STATE OF CALIFORNIA—RESOURCES AGENCY  
**DEPARTMENT OF WATER RESOURCES**

7-24  
 Borrego Valley

Region 7  
 Investigation 229  
 County Riv Near \_\_\_\_\_

**Ground Water Analyses**

Basin Borrego Valley  
 DWR No. 105/65-21B1 B&M  
 Other No. 108/65-21B1



Use \_\_\_\_\_ Depth \_\_\_\_\_ Date Completed \_\_\_\_\_ Capacity (gpm) \_\_\_\_\_ SWL \_\_\_\_\_  
 Drawdown \_\_\_\_\_ Perforations \_\_\_\_\_ Size Casing and Depth \_\_\_\_\_  
 Gravel Packed \_\_\_\_\_ Seal \_\_\_\_\_ At What Depth \_\_\_\_\_ Log \_\_\_\_\_ Water Level Record \_\_\_\_\_  
 Surface Elev. \_\_\_\_\_ Datum \_\_\_\_\_ Source of Information \_\_\_\_\_

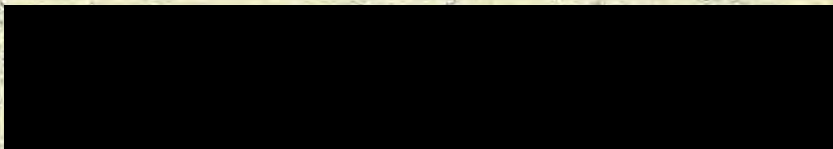
Lab./Field No.	<u>15517   7228</u>								
Sampled By	<u>Tim Piro</u>								
Date Collected	<u>5-23-63</u>								
Date Analyzed	<u>6-12-63</u>								
Temperature/pH	<u>81   7.9</u>								
EC x 10 <sup>6</sup> @ 25° C	<u>1548</u>								
Constituents in	e	% RV	ppm	e	% RV	ppm	e	% RV	ppm
Cations:									
Ca	<u>6.89</u>		<u>138</u>						
Mg	<u>2.39</u>		<u>29</u>						
Na	<u>9.01</u>		<u>152</u>						
K	<u>0.33</u>		<u>13</u>						
Total Cations	<u>16.23</u>								
Anions:									
CO <sub>3</sub>	<u>0</u>		<u>0</u>						
HCO <sub>3</sub>	<u>2.79</u>		<u>168</u>						
SO <sub>4</sub>	<u>9.32</u>		<u>447</u>						
CL	<u>2.85</u>		<u>101</u>						
NO <sub>3</sub>	<u>1.40</u>		<u>87</u>						
F	<u>0.04</u>		<u>0.7</u>						
Total Anions	<u>16.37</u>								
Balance									
Boron			<u>0.28</u>						
Silica			<u>32</u>						
Total Solids/Sum	<u>1086</u>								
Per Cent Sodium		<u>41</u>							
Hardness: Total/NC	<u>484</u>		<u>326</u>						
Laboratory/Chemist	<u>5050</u>		<u>Tamm</u>						
Copied: Date/By									

REMARKS: 1. P.C. Disc Line clear no odor ppq on arrival  
 2.  
 3.  
 4.

DIVISION OF WATER RESOURCES

Region 9 7  
 Investigation Region Wide Ground Water Analyses  
 County San Diego Near \_\_\_\_\_

Basin Barrego Valley  
 DWR No. 108/6E-21B SBB&M  
 Other Nos. 21B1  
 no. 7



Use \_\_\_\_\_ Depth Est. 700' Date Completed 8-2-56 Capacity (gpm) \_\_\_\_\_ SWL \_\_\_\_\_  
 Drawdown \_\_\_\_\_ Perforations \_\_\_\_\_ Size Casing & Depth 16"  
 Gravel Packed \_\_\_\_\_ Seal \_\_\_\_\_ At What Depth \_\_\_\_\_ Log \_\_\_\_\_ Water Level Record \_\_\_\_\_  
 Surface Elev. \_\_\_\_\_ Datum \_\_\_\_\_ Source of Information \_\_\_\_\_

Lab./Field No.	2642	61125	64814	5588	62741	T-2311	0949		
Sampled By	Willets			RIS GUNDERSON		EGLINTON			
Date Collected	1/1/53			4-12-55 (1230)		7-23-58			
Date Analyzed	1/7/53		4-28-52	4-19-55		8-12-58			
Temperature/pH	Est. 75°F   7.7		7.8	7.7		85°F   7.75			
EC x 10 <sup>6</sup> @ 25° C	1543		1718	1247		1355			
Constituents in	epm	% RV	ppm	epm	% RV	ppm	epm	% RV	ppm
Cations:									
Ca	7.20		111	154.0		6.29	126		
Mg	2.14		26	3.7		1.89	23		
Na	5.87		135	126.0		5.39	124		
K	0.288		11.2			0.31	12.2		
Total Cations	5.5			13.9					
Anions:									
CO <sub>3</sub>	0		0	0.0		0	0		0
HCO <sub>3</sub>	2.80		171	169.6		2.68	163		2.74
SO <sub>4</sub>	8.91		128	381.3		8.28	397		
Cl	2.82		100	97.9		2.48	88		2.51
NO <sub>3</sub>	1.45		90	28.6		1.06	66		89
F			0.7			0.03	0.6		
Total Anions	5.9			14.5					
Balance									
Boron			0.26	0.25		0.20			
Silica									
Fe				0.1					
Total Solids/Sum	1085   (1020)		784.9   876	940   (922)					
Per Cent Sodium	(38)		40.6	(39)					
Hardness: Total/NC	(467)		400.0	409		390			
Laboratory/Chemist	San Edno. Kopenhefer		Hornkohl	SB	SHAW	Jensen			
Copied: Date/By			9-1-53   H. Blaney						

REMARKS: 1. Clear; used to irrigate grapes. P.C.-irrigation pipe. pumping at  
 2. time of collection  
 3. CLEAR - PUMPING EST 1000 GPM  
 4. CLEAR, PPG. P.C. DISCA INTO IRR. PIPE

C  
O  
P  
Y

MORNING LABORATORIES  
Analyses of Oil, Waters, Soils, Oil Cores

C  
O  
P  
Y

714 Truxton Ave.  
Bakersfield, California

P. O. Box 1673

Laboratory No. 64814

May 9, 1952

~~Water~~  
Sample Water Marked - Well #7

Received April 28, 1952

Submitted by Di Giorgio Farms  
Di Giorgio, California

.....  
COMPLETE IRRIGATION WATER ANALYSIS

<u>Constituents</u>		<u>Parts Per Million</u>	<u>Grains per Gallon</u>	<u>Water Classification</u>
Carbonates	CO <sub>3</sub>	0.0	0.00	Good
Bicarbonates	HCO <sub>3</sub>	169.6	9.92	Good
Chlorides	Cl	97.9	5.73	Good
Sulfates	SO <sub>4</sub>	381.3	22.29	Good
Sulfides	S	0.0	0.00	Good
Calcium	Ca	154.0	9.01	Good
Magnesium	Mg	3.7	0.22	Good
Sodium	Na	126.0	7.37	Good
Boron	B	0.25	—	Good
Nitrates	NO <sub>3</sub>	28.6	—	Good
Iron	Fe	0.1	—	Good
Hardness as CaCO <sub>3</sub>		400.0	23.39	Good
pH	—	7.8		
Sodium Percentage	—	40.6%		Good

Color: Water White  
Odor: None  
Turbidity: Clear  
Conductivity: Kx10<sup>5</sup>@25°C. - 171.8

Total Solids @ 105°C. 847.0 49.53  
Total Solids @ Red Heat 784.9 45.90

Theoretical Analysis

Calcium Bicarbonate	225.3	13.17
Calcium Sulfate	334.9	19.58
Magnesium Sulfate	18.1	1.06
Sodium Sulfate	193.2	11.29
Sodium Chloride	161.3	9.43

REMARKS: As noted by the last column above, this sample would be classified as excellent for irrigation use.

AGRICULTURAL CONSULTANTS  
 APPROVED WATER LABORATORY

PHONE 684-1881  
 AREA CODE 714

LABORATORIES  
 3215 CHICAGO AVE.

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432  
 RIVERSIDE, CALIFORNIA 92502



#7

105/6E-21B1

TO Riviera Farms Inc.  
 P.O. Box 1127  
 Borrego Springs, CA. 92004

SAMPLE MARKED

Di Giorgio Corp.  
 Well #7 7:30 am after 7 1/2 hrs  
 cont. running 12/15/75

Dec. 31, 1975

Laboratory No. 751219-25

Cations	Milligrams per liter (ppm)	Milli equivalents per liter	Anions	Milligrams per liter (ppm)	Milli equivalents per liter
Calcium (Ca)	244	12.20	Alkalinity as Hydroxide (OH)	0	-
Magnesium (Mg)	22	1.80	Carbonate (CO <sub>3</sub> )	0	-
Sodium (Na)	210	9.13	Bicarbonate (HCO <sub>3</sub> )	210	3.45
Potassium (K)	17	0.44	Sulfate (SO <sub>4</sub> )	670	13.96
Ammonium (NH <sub>4</sub> )			Chloride (Cl)	133	3.75
			Nitrate (NO <sub>3</sub> )	200	3.23
			Phosphate (PO <sub>4</sub> )		
Conductivity, ECx10 <sup>6</sup> @ 25 ° C.		2357			2439
Total Sodium		2130			Milligram per liter (ppm)
pH		7.4			
			Total Hardness calculated as CaCO <sub>3</sub>		700
			Total Dissolved Residue (180° C)		1625
			Fluoride (F)		
			Boron (B)		
			Iron (Fe)		
			Manganese (Mn)		0.0

Edward S. Babcock & Sons

*James F. Babcock*