

STATE OF CALIFORNIA—RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

Borrego Valley

Region 7
Investigation 229
County S.P. Near _____

Ground Water Analyses

Basin Borrego Valley
DWR No. 10S/6E-22D1 B&M
Other Nos. 10S/6E-22D1

Owner _____ Address _____
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.	15516 7227											
Sampled By	Jim Pigg											
Date Collected	5-23-63											
Date Analyzed	6-12-63											
Temperature/pH	82 7.9											
EC x 10 ⁶ @ 25° C	1694											
Constituents in	e	% RV	ppm	e	% RV	ppm	e	% RV	ppm	e	% RV	ppm
Cations:												
Ca	7.19		144									
Mg	1.87		23									
Na	8.05		185									
K	0.33		13									
Total Cations	17.44											
Anions:												
CO ₃	0		0									
HCO ₃	1.64		100									
SO ₄	9.98		479									
Cl	3.16		112									
NO ₃	2.55		158									
F	0.05		0.92									
Total Anions	17.38											
Balance												
Boron			0.30									
Silica			23									
Total Solids/Sum	1210											
Per Cent Sodium		46										
Hardness: Total/NC	453		371									
Laboratory/Chemist	5050		Tamm									
Copied: Date/By												
REMARKS: 1.	Clear no edic ppg on Apr P.C Disc Line											
2.												
3.												

KEY PUNCHED

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Lab./Field No.	<u>15516 7227</u>											
Sampled By	<u>Jim Ping</u>											
Date Collected	<u>5-23-63</u>											
Date Analyzed	<u>6-12-63</u>											
Temperature/pH	<u>84 7.9</u>											
EC x 10 ⁸ @ 25° C	<u>1694</u>											
Constituents in	<u>epm</u>	<u>% RV</u>	<u>ppm</u>	<u>epm</u>	<u>% RV</u>	<u>ppm</u>	<u>epm</u>	<u>% RV</u>	<u>ppm</u>	<u>epm</u>	<u>% RV</u>	<u>ppm</u>
Cations:												
Ca	<u>7.19</u>		<u>144</u>									
Mg	<u>1.87</u>		<u>23</u>									
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SO ₄	<u>3.98</u>		<u>479</u>									
CL	<u>3.16</u>		<u>112</u>									
NO ₃	<u>3.55</u>		<u>158</u>									
F	<u>0.05</u>		<u>0.92</u>									
Total Anions	<u>17.38</u>											
Balance												
Boron			<u>0.30</u>									
Silica			<u>23</u>									
Total Solids/Sum	<u>1210</u>		<u>1187</u>									
Per Cent Sodium		<u>46</u>										
Hardness: Total/NC	<u>453</u>		<u>371</u>									
Laboratory/Chemist	<u>5050</u>		<u>Tamm</u>									
Copied: Date/By												

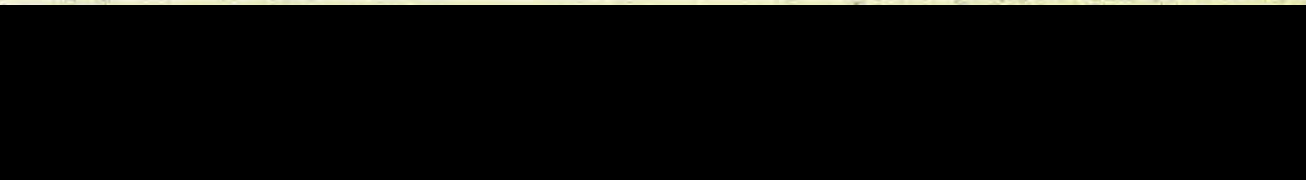
REMARKS: 1. Clear no odor ppm on App. P.C Disc Line
 2.
 3.
 4.

DIVISION OF WATER RESOURCES

Region 7
 Investigation San Wat Qual
 County San Diego Near _____

Ground Water Analyses

Basin Borrego Valley
 DWR No. 105/GE-22D/ B&M
 Other Nos. _____



Use irr Depth 735' Date Completed 8-51 Capacity (gpm) _____ SWL _____
 Drawdown _____ Perforations _____ Size Casing & Depth _____
 Gravel Packed _____ Seal _____ At What Depth _____ Log _____ Water Level Record _____
 Surface Elev. _____ Datum _____ Source of Information _____

Lab./Field No.	<u>64826 </u>			<u>7719 16819</u>								
Sampled By				<u>AS/aj</u>								
Date Collected				<u>3-6-57</u>								
Date Analyzed	<u>4-28-52</u>			<u>3-20-57</u>								
Temperature/pH	<u>7.4</u>			<u>85°F 7.6</u>								
EC x 10 ⁶ @ 25° C	<u>1417</u>			<u>1282</u>								
Constituents in	epm	% RV	ppm	epm	% RV	ppm	epm	% RV	ppm	epm	% RV	ppm
Cations:												
Ca			<u>100.6</u>	<u>6.94</u>		<u>139</u>						
Mg			<u>2.4</u>	<u>1.48</u>		<u>18</u>						
Na			<u>121.2</u>	<u>6.26</u>		<u>144</u>						
K				<u>0.271</u>		<u>10.6</u>						
Total Cations				<u>14.95</u>								
Anions:												
CO ₃			<u>0.0</u>	<u>0</u>		<u>0</u>						
HCO ₃			<u>127.5</u>	<u>2.44</u>		<u>149</u>						
SO ₄			<u>247.1</u>	<u>8.28</u>		<u>397</u>						
CL			<u>85.1</u>	<u>2.68</u>		<u>95</u>						
NO ₃			<u>21.1</u>	<u>1.81</u>		<u>112</u>						
F				<u>0.021</u>		<u>0.4</u>						
Total Anions				<u>15.23</u>								
Balance												
Boron						<u>0.22</u>						
Silica			<u>0.05</u>			<u>30</u>						
Fe			<u>0.1</u>									
Total Solids/Sum	<u>611.8</u>	<u>684</u>		<u>1040</u>	<u>1019</u>							
Per Cent Sodium	<u>50.3</u>			<u>42</u>								
Hardness: Total/NC	<u>260.0</u>			<u>421</u>								
Laboratory/Chemist	<u>Horn Ho 46 </u>			<u>S.B. Shaw</u>								
Copied: Date/By	<u>9-1-53 H. Blaney</u>											
REMARKS:	<ol style="list-style-type: none"> <u>1. submitted by Dr. Giorgio Farms</u> <u>2. pumping, clear - PC. Pump disch.</u> <u>3.</u> <u>4.</u> 											

HORNKOHL LABORATORIES

105/6E-2201

CHEMICAL AND TESTING ENGINEERS

714 TRUXTON AVENUE
BAKERSFIELD, CALIFORNIA

October 8, 1954

Laboratory No. 79498

Sample Water

Marked 9/25/ Dr. Campbell, #1

Received September 29, 1954

Submitted by A. F. Peterson
1603 California Ave. * * * * *
Bakersfield, Calif.

IRRIGATION WATER ANALYSIS

CONSTITUENTS	PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES (ALKALI) (CO ₃)	7.2	0.45	Fair-Good
BICARBONATES (HCO ₃)	131.8	7.71	Good
CHLORIDES (SALT) (Cl)	105.0	6.14	Good
SULPHATES (SO ₄)	493.5	28.86	Good
SULPHIDES (S)	0.0	0.00	Good
NITRATES (NO ₃)	7.8		Good
CALCIUM (LIME) (CA)	144.0	8.42	Good
MAGNESIUM (MG)	19.5	1.14	Good
SODIUM (NA)	157.3	9.20	Good
BORON (B)	.05		Good
IRON (FE)	.1		Good
HARDNESS AS CaCO ₃	440.0	25.73	Good
TOTAL SOLIDS @ 105°C	999.0	58.42	
TOTAL SOLIDS @ RED HEAT	946.3	55.34	
pH (HYDROGEN ION CONCENTRATION)	8.3		
SODIUM PERCENTAGE	43.7%		Fair
COLOR	Water White		Good
ODOR	None		
TURBIDITY	Clear		
CONDUCTIVITY, MHOS/CM ³ X10 ⁵ @25°C.	145.3		

THEORETICAL ANALYSIS

Calcium Carbonate	12.0	0.70
Calcium Bicarbonate	175.1	10.24
Calcium Sulfate	326.7	19.11
Magnesium Sulfate	96.3	5.57
Sodium Sulfate	275.6	16.12
Sodium Chloride	173.0	10.12

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

105/6E-2201

WILLARD G. BABCOCK
ARTHUR L. BABCOCK
SHERMAN G. BABCOCK

CERTIFICATE OF ANALYSIS
ESTABLISHED 1908
EDWARD S. BABCOCK & SONS
P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT

LABORATORIES
3445 FIRST ST.

to DiGiorgio Fruit Corp.
Box A
Borrego Spring, Calif.

Oct. 3, 1956

SAMPLE MARKED Dr. "C"

Laboratory No. 560921-E

Cations	Parts per million	Milligram equivalents per liter	Anions	Parts per million	Milligram equivalents per liter
Calcium (Ca)	119	5.95	Carbonate (CO ₃)	none	-----
Magnesium (Mg)	26	2.17	Bicarbonate (HCO ₃)	107	1.75
Sodium (Na)	168	7.30	Sulfate (SO ₄)	450	9.38
Potassium (K)			Chloride (Cl)	107	3.00
			Nitrate (NO ₃)	70	1.13
Conductivity, ECx10 ⁶ @ 25° C.			Total Hardness calculated as CaCO ₃		406
Percent Sodium			Fluoride (F)		
Hydrogen-ion activity (pH)			Boron (B)		.2

EDWARD S. BABCOCK & SONS

Sherman G. Babcock