10S/6E-15D1

Well 11	March 1979	July 1973	July 1972	Dec. 1954	May 1952
Calcium	220	344	320	302	176
Sodium	174	100	184	55	61
Bicarbonate	177	195	183	175	184
Chloride	122	139	190	166	97
Sulfate	630	735	856	614	294
Nitrate	84	10	15	7	34
TDS	1520	1506	1488	1259	725

10S/6E-15D1

HORNKOHL LABORATORIES

Telephone 2-7252

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

1016 18th STREET
BAKERSFIELD, CALIFORNIA

February 1, 1947

Laboratory No. 24309

Sample Water

Marked Well #1 - (Bechtel's Well - Borrego Farms)

Received January 22, 1947

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * *

IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Irrigation Water Classification
Carbonates	(CO_3)	0.0	0.00	Good
Bicarbonates	(HCO_3)	215.2	12.62	Good
Chlorides	(Cl)	68.8	4.02	Good
Sulphates	(SO_4)	274.0	16.03	Good
Sulphides	(S)	0.0	0.00	Good
Calcium	(Ca)	97.8	5.72	Good
Magnesium	(Mg)	14.9	0.87	Good
Sodium	(Na)	116.7	6.82	Good
Hardness		305.5	17.87	Good
Boron	(B)	0.28		Good
pH	-- 7.9			Good
Sodium Percentage	-- 45.3%			Good
Color	-- Water White			
Odor	-- None			
Turbidity	-- Clear			
Total Solids @ 105°C.		802.0	46.90	
Total Solida @ Red Heat		781.0	45.67	

Theoretical Analysis

Silica & Undissolved Parts	16.8	0.98
Iron & Aluminum Oxide	4.4	0.26
Calcium Bicarbonate	286.3	16.74
Calcium Sulphate	92.1	5.39
Magnesium Sulphate	73.9	4.32
Sodium Sulphate	240.7	14.08
Sodium Chloride	113.4	6.63

EMARKS:

This water would be classified as excellent for irrigation purposes.

#11 drilled in 1946

~~This is not #11, No. 11 drilled in 1952~~

Respectfully submitted,
HORNKOHL LABORATORIES

Frank Hornkohl

10S/6E-15D1

AGRICULTURAL CONSULTANTS
CHEMISTS
APPROVED WATER LABORATORY

PHONE 684-1081
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. 790305-3
Invoice No. 86346

	Submitted	Sampled
By	Mail	
Date	3/5/79	
Time	8:30	

SAMPLE MARKED Well #11

☐ General Mineral ☐ Inorganic Chemical ☐ General Physical ☐ As Marked ☐ Basic ☐ Domestic

☒ Total Hardness as $CaCO_3$ 650 mg/l	☒ Total Alkalinity as $CaCO_3$ 145 mg/l	☒ Electrical Conductivity EC x 10^6 @ 25°C 1980 µmho/cm² AM 3/5	☒ Total Dissolved Residue @ 180°C 1520 mg/l AC 3/7	☐ mg/l	☐ mg/l
☒ Calcium (Ca) 220 mg/l 11.00 me/l	☒ Hydroxide (OH) 0 mg/l 0.00 me/l	☒ pH 7.6 units AM 3/5	☐ Arsenic (As) mg/l	☐ Copper (Cu) mg/l	☐ Mercury (Hg) mg/l
☒ Magnesium (Mg) 24 mg/l 200 me/l AM 3/7	☒ Carbonate (CO_3) 0 mg/l 0.00 me/l	☒ Color 0 units AM 3/6	☐ Barium (Ba) mg/l	☒ Fluoride (F) 0.4 mg/l AC 3/6	☐ MBAS mg/l
☒ Sodium (Na) 174 mg/l 7.57 me/l AC 3/7	☒ Bicarbonate (HCO_3) 177 mg/l 2.90 me/l AM 3/6	☒ Odor No Odor Observed TON AM 3/6	☒ Boron (B) 0.0 mg/l AC 3/6	☒ Iron (Fe) 0.20 mg/l AM 3/5	☐ Selenium (Se) mg/l
☒ Potassium (K) 16 mg/l 0.41 me/l AC 3/7	☒ Sulfate (SO_4) 630 mg/l 13.13 me/l AM 3/8	☒ Turbidity 0 NTU AM 3/6	☐ Cadmium (Cd) mg/l	☐ Lead (Pb) mg/l	☐ Silver (Ag) mg/l
☐ Ammonium (NH_4) mg/l me/l	☒ Chloride (Cl) 122 mg/l 3.45 me/l AM 3/5	☐ mg/l	☐ Chromium (Cr) Total mg/l	☒ Manganese (Mn) 0.00 mg/l LJC 3/8	☐ Zinc (Zn) mg/l
	☒ Nitrate (NO_3) 84 mg/l 1.35 me/l AM 3/5				
Cations Total 20.98 me/l	Anions Total 20.83 me/l				

EDWARD S. BABCOCK & SONS, Inc.

40 acre Henderson Canyon Rd
+
De Giorgio Rd

GHT LABORATORIES OF IMPERIAL VALLEY, INC.
106 SO. 8th STREET, BRAWLEY, CALIFORNIA 92227
344-2532

#11 = 10S/6E-15D1

001358 E 10-13-78

SUNLIT FARMS

WATER 10-11-78

SUNLIT #2 WELL 11

SW corn Section 16 TO ?
R 6

ALL REPORTED IN MG/L

BICARBONATES (HCO3)	204
CARBONATES	NONE DETECTED
CALCIUM (Ca)	91
MAGNESIUM (Mg)	18
SODIUM (Na)	106
POTASSIUM (K)	10
CHLORIDE (Cl)	70
SULFATE (SO4)	274
NITRATES (NO3)	1.9
pH	7.5
TOTAL DISSOLVED SOLIDS	567
SPECIFIC CONDUCTANCE	1050 Micromhos/cm
BORON (B)	0.16
LITHIUM (Li)	0.08
SODIUM ADSORPTION RATIO	2.66
EXCHANGEABLE SODIUM PERCENT	2.59

NOTES: This water classifies as C3-S4 in the U.S.Salinity Laboratory Index or "High Salinity, Low Sodium"irrigation water. It can be safely used for any vegetables that will grow in the high or low deserts. Since the exchangeable sodium percent is very low, it can be used even on fairly "tight" soil without any danger of salt buildup. Boron and Lithium are at an excellent level for vegetable growth.

Robert A. Reynolds

ROBERT A. REYNOLDS

EDWARD S. BABCOCK
ARTHUR L. BABCOCK
WILLARD G. BABCOCK
SHERMAN G. BABCOCK

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS
P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT
CHEMICAL
LABORATORIES
3445 FIRST STREET

10S/6E-15D1

TO DiGiorgio Fruit Corp.
P. O. Box A
Borrego Springs, Calif.

December 13, 1954

LABORATORY NO. 541202-E

SAMPLE MARKED Water, Well #E 11

Electrical Conductance ($EC \times 10^6$) determined at 25°Centigrade.

Electrical Conductance - - - - - - 2555

Sodium Percent (Na%) - - - - - - - 31.0%

	Parts per Million:	Milligrams Equivalent:
Calcium (Ca)	298	14.90
Magnesium (Mg)	30	2.50
Sodium (Na)	180	7.82
Carbonate (CO_3)	None	----
Bicarbonate (HCO_3)	134	2.20
Sulfate (SO_4)	873	18.18
Chloride (Cl)	146	4.10
Nitrate (NO_3)	46	.74
Boron (B)	.05	

EDWARD S. BABCOCK & SONS

Sherman G. Babcock

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

105/6E-15D1

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

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 Springs, Calif.

SAMPLE MARKED Water, Well 11

October 3, 1956

Laboratory No. 560921-H

Cations	Parts per million	Milligram equivalents per liter	Anions	Parts per million	Milligram equivalent per liter
Calcium (Ca)	156	7.80	Carbonate (CO_3)	5	.15
Magnesium (Mg)	21	1.75	Bicarbonate (HCO_3)	143	2.35
Sodium (Na)	136	5.91	Sulfate (SO_4)	450	9.38
Potassium (K)			Chloride (Cl)	99	2.80
			Nitrate (NO_3)	48	.77

			Parts per million
Conductivity, $EC \times 10^6$ @ 25° C.	1543	Total Hardness calculated as $CaCO_3$	478
Percent Sodium	38.2	Fluoride (F)	
Hydrogen-ion activity (pH)		Boron (B)	.2

EDWARD S. BABCOCK & SONS

Sherman G. Babcock

TEL. 8-8567

P. O. BOX 867

10S/6E-15D1

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

October 8, 1954

Laboratory No. 79496

Sample Water

Marked 9/25, Well # 11

Received Sept. 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)	10.8	0.63	Fair-Good
BICARBONATES		(HCO_3)	154.9	9.06	Good
CHLORIDES	(SALT)	(C1)	170.3	9.96	Good
SULPHATES		(SO_4)	653.3	38.21	Good
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO_3)	2.8		Good
CALCIUM	(LIME)	(CA)	324.8	19.00	Good
MAGNESIUM		(MG)	40.0	2.34	Good
SODIUM		(NA)	41.2	2.41	Good
BORON		(B)	.05		Good
IRON		(FE)	.1		Good
HARDNESS AS $CaCO_3$			974.0	56.96	
TOTAL SOLIDS @ 105°C			1320.7	77.23	
TOTAL SOLIDS @ RED HEAT			1255.6	73.43	
pH (HYDROGEN ION CONCENTRATION)			8.3		Fair
SODIUM PERCENTAGE			8.4%		Good
COLOR			Water White		
ODOR			None		
TURBIDITY			Clear		
CONDUCTIVITY, MHOS/CM³X10⁵@25°C.			231.9		

THEORETICAL ANALYSIS		
Calcium Carbonate	18.0	1.05
Calcium Bicarbonate	205.9	12.04
Calcium Sulfate	908.1	53.11
Magnesium Sulfate	16.3	0.95
Magnesium Chloride	143.3	8.38
Sodium Chloride	104.6	6.12

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

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KERN PTG. CO.

C O P Y

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

714 Truxtun Ave.
Bakersfield, California

C O P Y

105/6E-15D1 11

Laboratory No. 64818

P. O. Box 1673

Sample Water

May 9, 1952

Received April 28, 1952

Marked - Well #11

Submitted by Di Giorgio Farms
Di Giorgio, Calif.

. . . . . .

COMPLETE IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	EPm	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0		0.00	Good
Bicarbonates	HCO_3	184.2	3.02	10.77	Good
Chlorides	Cl	96.5	2.72	5.64	Good
Sulfates	SO_4	294.4	6.13	17.22	Good
Sulfides	S	0.0		0.00	Good
Calcium	Ca	176.0	8.78	10.29	Good
Magnesium	Mg	4.9	.40	0.28	Good
Sodium	Na	61.4	2.67	3.59	Good
Boron	B	0.05			Good
Nitrates	NO_3	34.0	.55		
Iron	Fe	0.1			
Hardness as $CaCO_3$		450.0		26.32	Good
pH — 7.6					Good
Sodium Percentage — 22.4					Good

Color: Water White
Odor: None
Turbidity: Clear
Conductivity: $K \times 10^5$ @ 25°C. — 177.4

Total Solids @ 105°C.	725.2	Sum=759	42.41
Total Solids @ Red Heat	656.8		38.41

Theoretical Analysis

Calcium Bicarbonate	244.8	14.32
Calcium Sulfate	393.4	23.01
Magnesium Sulfate	24.1	1.41
Sodium Sulfate	7.1	0.42
Sodium Chloride	159.0	9.29

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

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

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT

LABORATORIES
3445 FIRST STREET

10S/6E-15D1

TO DiGiorgio Fruit Corporation
Box A
Borrego Springs, Calif.

SAMPLE MARKED Water #11

September 1, 1955

LABORATORY NO. 550818-J

Electrical Conductance ($EC \times 10^6$) determined at 25° Centigrade.

Electrical Conductance - - - - - 2311

Sodium Percent (Na%) - - - - - - - 35.2%

	Parts per Million:	Milligrams Equivalent:
Calcium (Ca)	264	13.20
Magnesium (Mg)	24	2.00
Sodium (Na)	190	8.26
Carbonate (CO_3)	6	.20
Bicarbonate (HCO_3)	92	1.50
Sulfate (SO_4)	763	15.89
Chloride (Cl)	117	3.30
Nitrate (NO_3)	150	2.42
Boron (B)	.1	

EDWARD S. BABCOCK & SONS

Sherman G. Babcock

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

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT

LABORATORIES
3445 FIRST ST.

10S/6E-15D1

TO Borrego Farms
P. O. Box A
Borrego Springs
California

SAMPLE MARKED Water, Well #11

March 5, 1956

Laboratory No. 560223-I

Cations	Parts per million	Milligram equivalents per liter	Anions	Parts per million	Milligram equivalents per liter
Calcium (Ca)	173	8.65	Carbonate (CO_3)	Trace	----
Magnesium (Mg)	23	1.92	Bicarbonate (HCO_3)	180	2.95
Sodium (Na)	150	6.52	Sulfate (SO_4)	514	16.71
Potassium (K)			Chloride (Cl)	85	2.40
			Nitrate (NO_3)	62	1.00

			Parts per million
Conductivity, $EC \times 10^6$ @ 25° C.	1691	Total Hardness calculated as $CaCO_3$	529
Percent Sodium	38.2	Fluoride (F)	
Hydrogen-ion activity (pH)		Boron (B)	.3

EDWARD S. BABCOCK & SONS

TEL. 8-8567 P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

October 8, 1954

105/6E-15D1

Laboratory No. 79496

Sample Water Marked 9/25, Well # 11

Received Sept. 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)			
BICARBONATES		(HCO_3)	10.8	0.63	Fair-Good
CHLORIDES	(SALT)	(Cl)	154.9	9.06	Good
SULPHATES		(SO_4)	170.3	9.96	Good
SULPHIDES		(S)	653.3	38.21	Good
NITRATES		(NO_3)	0.0	0.00	Good
CALCIUM	(LIME)	(CA)	2.8		Good
MAGNESIUM		(MG)	324.8	19.00	Good
SODIUM		(NA)	40.0	2.34	Good
BORON		(B)	41.2	2.41	Good
IRON		(FE)	.05		Good
HARDNESS AS $CaCO_3$			.1		Good
TOTAL SOLIDS @ 105°C			974.0	56.96	
TOTAL SOLIDS @ RED HEAT			1320.7	77.23	
pH (HYDROGEN ION CONCENTRATION)			1255.6	73.43	
SODIUM PERCENTAGE			8.3		Fair
COLOR			8.4%		Good
ODOR			Water White		
TURBIDITY			None		
CONDUCTIVITY, MHOS/CM³X10⁵@25°C.			Clear		
			231.9		

THEORETICAL ANALYSIS

Calcium Carbonate	18.0	1.05
Calcium Bicarbonate	205.9	12.04
Calcium Sulfate	908.1	53.11
Magnesium Sulfate	16.3	0.95
Magnesium Chloride	143.3	8.38
Sodium Chloride	104.6	6.12

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

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KERN PTG. CO.

TEL. 8-8567 P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA December 10, 1954

Laboratory No. 81660

105/6E-15D1

Sample Water *Marked* Well #E #11

Received December 3, 1954

Submitted by Borrego Farms, Attn: Mr. Hasel
Borrego Springs,
California

* * * * * * * * * * *

IRRIGATION WATER ANALYSIS

CONSTITUENTS			PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES	(ALKALI)	(CO_3)	0.0	0.00	Good
BICARBONATES		(HCO_3)	174.5	10.20	Good
CHLORIDES	(SALT)	(Cl)	166.0	9.71	Good
SULPHATES		(SO_4)	614.4	35.93	Good
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO_3)	6.6	---	Good
CALCIUM	(LIME)	(CA)	301.6	17.64	Good
MAGNESIUM		(MG)	35.1	2.05	Good
SODIUM		(NA)	54.7	3.20	Good
BORON		(B)	0.05	---	Good
IRON		(FE)	.1	---	Good
HARDNESS AS $CaCO_3$			898.0	52.51	Good
TOTAL SOLIDS @ 105°C			1259.1	73.62	
TOTAL SOLIDS @ RED HEAT			1201.3	70.25	
pH (HYDROGEN ION CONCENTRATION)			7.3		Good
SODIUM PERCENTAGE			11.7 %		
COLOR	Water White				
ODOR	None				
TURBIDITY	Clear				
CONDUCTIVITY, MHOS/CM³X10⁵@25°C.			227.0		

THEORETICAL ANALYSIS

Calcium Bicarbonate	231.8	13.56
Calcium Sulfate	831.8	48.64
Magnesium Sulfate	34.9	2.04
Magnesium Chloride	109.5	6.40
Sodium Chloride	139.1	8.13

REMARKS: The above sample would be classified as good for irrigation use.

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KERN PTG. CO.

AGRICULTURAL EXTENSION SERVICE
University of California
San Diego, California

4005 Rosecrans, San Diego, Calif.
Woodcrest 6321, Ext. 271

105/6E-15D1

REPORT OF WATER ANALYSIS

8/6

County San Diego Date Received August 19, 1954

Laboratory No. 9287 Sampler's No. 49

Submitted by E. C. Moore, Farm Advisor, San Diego

[redacted]

Color - Turbidity - Odor -

E. C. Millimhos/cm 1.47 pH 7.2 Boron (p.p.m.) 0.21

CONSTITUENT	P.P.M.	M.E./L.	CONSTITUENT	P.P.M.	M.E./L
Calcium (Ca)	150	7.5	Carbonate (CO_3)	0	0
Magnesium (Mg)	20	1.5	Bicarbonate (HCO_3)	190	3.1
Sodium (Na)	130	5.7	Chloride (Cl)	90	2.6
			Sulfate (SO4)	400	8.4
Total Cations		14.7	Total Anions		14.1

Per cent Na 39 Possible per cent Na 49 Analyst RH

Recommendation

Date Reported 8/21/54 Reported by EDM

TEL. 8-8567

P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS

714 TRUXTUN AVENUE

BAKERSFIELD, CALIFORNIA

10S/6E-15D1

January 20, 1954

Laboratory No. 74762

Sample Water *Marked* Well No. 11

Received Jan. 15, 1954

Submitted by Mr. A. F. Peterson FOR
DIGiorgio Fruit Corporation
Borrego Farms

* * * * * * * * * * *

IRRIGATION WATER ANALYSIS

CONSTITUENTS			PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES	(ALKALI)	(CO_3)	0.0	0.00	Good
BICARBONATES		(HCO_3)	200.1	11.70	Good
CHLORIDES	(SALT)	(Cl)	103.6	6.06	Good
SULPHATES		(SO_4)	476.0	27.84	Godd
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO_3)			
CALCIUM	(LIME)	(CA)			
MAGNESIUM		(MG)		—	
SODIUM		(NA)			
BORON		(B)	0.05	—	Godd
IRON		(FE)			
HARDNESS AS $CaCO_3$			562.0	32.87	Good
TOTAL SOLIDS @ 105°C					
TOTAL SOLIDS @ RED HEAT					
pH (HYDROGEN ION CONCENTRATION)			7.5		Good
SODIUM PERCENTAGE			30.3%		Good
COLOR	Water White				
ODOR	None				
TURBIDITY	Clear				
CONDUCTIVITY, MHOS/CM^3X10^5@25°C.			145.3		

REMARKS:

As indicated above, this sample would be classified as excellent for irrigation use.

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KERN PTG. CO.

Telephone 8-8567

HORNKOHL LABORATORIES

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

10S/6E-15D1

May 12, 1953

Laboratory No. 71032-33

Sample Water

Received May 8, 1953

Marked BORREGO as shown below

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * * *

PARTIAL IRRIGATION WATER ANALYSES

WELL #11

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	183.0	10.70	Good
Chlorides	Cl	101.4	5.93	Good
Sulfates	SO_4	474.1	27.73	Good
Sulfides	S	0.0	0.00	Good
Boron	B	0.10		Good
Hardness as $CaCO_3$		508.0	29.71	Good
pH — 7.6				Good
Sodium Percentage — 35.4%				Good
Color:	Water White			Good
Odor:	None			Good
Turbidity:	Clear			
Conductivity: (Mhos/cm^3 x 10^5 @25°C.) — 149.3				

HORNKOHL LABORATORIES

Telephone 8-8567

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

May 9, 1952

Laboratory No. 64818

Sample Water Marked Well #11 10S/6E-15D1

Received April 28, 1952

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * *

COMPLETE IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	184.2	10.77	Good
Chlorides	Cl	96.5	5.64	Good
Sulfates	SO_4	294.4	17.22	Good
Sulfides	S	0.0	0.00	Good
Calcium	Ca	176.0	10.29	Good
Magnesium	Mg	4.9	0.28	Good
Sodium	Na	61.4	3.59	Good
Boron	B	0.05		Good
Nitrates	NO_3	34.0		
Iron	Fe	0.1		
Hardness as $CaCO_3$		450.0	26.32	Good
pH — 7.6				Good
Sodium Percentage — 22.4				Good

Color: Water White
Odor: None
Turbidity: Clear

Conductivity: $K \times 10^5$ @ 25°C. — 177.4

Total Solids @ 105°C.	725.2	42.41
Total Solids @ Red Heat	656.8	38.41

Theoretical Analysis

Calcium Bicarbonate	244.8	14.32
Calcium Sulfate	393.4	23.01
Magnesium Sulfate	24.1	1.41
Sodium Sulfate	7.1	0.42
Sodium Chloride	159.0	9.29

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

HORNKOHL LABORATORIES

TELEPHONE 8-8567

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

10S/6E-15D1

Laboratory No. 44716 March 15, 1949

Sample Water Marked Well #11 3/5/49

Received March 8, 1949

Submitted by Di Giorgio Farms
Arvin, California

* * * * * * *

IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Irrigation Water Classification
Carbonates	CO_3	3.6	0.21	Fair
Bicarbonates	HCO_3	175.7	10.27	Good
Chlorides	Cl	95.0	5.56	Good
Sulphates	SO_4	317.2	18.55	Good
Sulphides	S	0.0	0.00	Good
Calcium	Ca	182.8	10.69	Good
Magnesium	Mg	23.9	1.40	Good
Sodium	Na	27.4	1.60	Good
Hardness as $CaCO_3$		555.0	32.46	Good
Boron	B	0.28		Good
pH --	8.2			Fair
Sodium Percentage	9.7			Good

Color: Water White
Odor: None
Turbidity: Clear after filtering
Conductivity $Kx10^5$ @ 25° C.= 162

Total Solids @ 105° C	1039.0	60.76
Total Solids @ Red Heat	865.0	50.59
Silica & Undissolved Parts	27.6	1.61
Iron & Aluminum Oxides	10.8	0.64

Theoretical Analysis

Calcium Carbonate	6.0	0.35
Calcium Bicarbonate	233.4	13.65
Calcium Sulphate	418.0	24.44
Magnesium Sulphate	28.3	1.65
Magnesium Chloride	71.0	4.15
Sodium Chloride	69.6	4.07

REMARKS:

The above sample may be classified as satisfactory for irrigation use.

C O P Y

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

C O P Y

714 Truxtun Ave.
Bakersfield, California

P. O. Box 1673

Laboratory No. 64818

May 9, 1952

Sample Water

Received April 28, 1952 Marked - Well #11

Submitted by Di Giorgio Farms
Di Giorgio, Calif.

COMPLETE IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	184.2	10.77	Good
Chlorides	Cl	96.5	5.64	Good
Sulfates	SO_4	294.4	17.22	Good
Sulfides	S	0.0	0.00	Good
Calcium	Ca	176.0	10.29	Good
Magnesium	Mg	4.9	0.28	Good
Sodium	Na	61.4	3.59	Good
Boron	B	0.05		Good
Nitrates	NO_3	34.0		
Iron	Fe	0.1		
Hardness as $CaCO_3$		450.0	26.32	Good
pH — 7.6				Good
Sodium Percentage — 22.4				Good

Color: Water White
Odor: None
Turbidity: Clear
Conductivity: $K \times 10^5$ @ 25°C. — 177.4

Total Solids @ 105°C.	725.2	42.41
Total Solids @ Red Heat	656.8	38.41

Theoretical Analysis

Calcium Bicarbonate	244.8	14.32
Calcium Sulfate	393.4	23.01
Magnesium Sulfate	24.1	1.41
Sodium Sulfate	7.1	0.42
Sodium Chloride	159.0	9.29

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

HORNKOHL LABORATORIES

TELEPHONE 8-8567 ANALYSES OF OIL, WATERS, SOILS, OIL CORES P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

Laboratory No. 44716 March 15, 1949

Sample Water Marked Well #11 3/5/49

Received March 8, 1949

Submitted by Di Giorgio Farms
Arvin, California

* * * * * * *

IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Irrigation Water Classification
Carbonates	CO_3	3.6	0.21	Fair
Bicarbonates	HCO_3	175.7	10.27	Good
Chlorides	Cl	95.0	5.56	Good
Sulphates	SO_4	317.2	18.55	Good
Sulphides	S	0.0	0.00	Good
Calcium	Ca	182.8	10.69	Good
Magnesium	Mg	23.9	1.40	Good
Sodium	Na	27.4	1.60	Good
Hardness as $CaCO_3$		555.0	32.46	Good
Boron	B	0.28		Good

pH — 8.2 Fair
Sodium Percentage 9.7 Good
Color: Water White
Odor: None
Turbidity: Clear after filtering.
Conductivity $K \times 10^5$ @ 25° C. = 162

Total Solids @ 105° C	1039.0	60.76
Total Solids @ Red Heat	865.0	50.59
Silica & Undissolved Parts	27.6	1.61
Iron & Aluminum Oxides	10.8	0.64

Theoretical Analysis

Calcium Carbonate	6.0	0.35
Calcium Bicarbonate	233.4	13.65
Calcium Sulphate	418.0	24.44
Magnesium Sulphate	28.3	1.65
Magnesium Chloride	71.0	4.15
Sodium Chloride	69.6	4.07

REMARKS:
The above sample may be classified as satisfactory for irrigation use.

HORNKOHL LABORATORIES

Telephone 8-8567

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

May 9, 1952

Laboratory No. 64818

Sample Water *Marked* Well #11

Received April 28, 1952

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * *

COMPLETE IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	184.2	10.77	Good
Chlorides	Cl	96.5	5.64	Good
Sulfates	SO_4	294.4	17.22	Good
Sulfides	S	0.0	0.00	Good
Calcium	Ca	176.0	10.29	Good
Magnesium	Mg	4.9	0.28	Good
Sodium	Na	61.4	3.59	Good
Boron	B	0.05		Good
Nitrates	NO_3	34.0		
Iron	Fe	0.1		
Hardness as $CaCO_3$		450.0	26.32	Good
pH — 7.6				Good
Sodium Percentage — 22.4				Good

Color: Water White
Odor: None
Turbidity: Clear

Conductivity: $K \times 10^5$ @ 25°C. — 177.4

Total Solids @ 105°C.	725.2	42.41
Total Solids @ Red Heat	656.8	38.41

Theoretical Analysis

Calcium Bicarbonate	244.8	14.32
Calcium Sulfate	393.4	23.01
Magnesium Sulfate	24.1	1.41
Sodium Sulfate	7.1	0.42
Sodium Chloride	159.0	9.29

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

HORNKOHL LABORATORIES

Telephone 8-8567

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

May 12, 1953

Laboratory No. 71032-33

Sample Water

Marked BORREGO as shown below

Received May 8, 1953

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * *

PARTIAL IRRIGATION WATER ANALYSES

WELL #11

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	183.0	10.70	Good
Chlorides	Cl	101.4	5.93	Good
Sulfates	SO_4	474.1	27.73	Good
Sulfides	S	0.0	0.00	Good
Boron	B	0.10		Good
Hardness as $CaCO_3$		508.0	29.71	Good
pH — 7.6				Good
Sodium Percentage — 35.4%				Good

Color: Water White
Odor: None
Turbidity: Clear
Conductivity: (Mhos/cm^3 x 10^5 @25°C.) — 149.3

TEL. 8-8567

P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS

714 TRUXTUN AVENUE

BAKERSFIELD, CALIFORNIA

January 20, 1954

Laboratory No. 74762

Sample Water *Marked* Well No. 11

Received Jan. 15, 1954

Submitted by Mr. A. F. Peterson FOR
DIGiorgio Fruit Corporation
Borrego Farms

* * * * * * * * * * *

IRRIGATION WATER ANALYSIS

CONSTITUENTS			PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES	(ALKALI)	(CO_3)	0.0	0.00	Good
BICARBONATES		(HCO_3)	200.1	11.70	Good
CHLORIDES	(SALT)	(Cl)	103.6	6.06	Good
SULPHATES		(SO_4)	476.0	27.84	Godd
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO_3)			
CALCIUM	(LIME)	(CA)			
MAGNESIUM		(MG)		—	
SODIUM		(NA)			
BORON		(B)	0.05	—	Godd
IRON		(FE)			
HARDNESS AS $CaCO_3$			562.0	32.87	Good
TOTAL SOLIDS @ 105°C					
TOTAL SOLIDS @ RED HEAT					
pH (HYDROGEN ION CONCENTRATION)			7.5		Good
SODIUM PERCENTAGE			30.3%		Good

COLOR Water White

ODOR None

TURBIDITY Clear

CONDUCTIVITY, MHOS/CM³X10⁵@25°C. 145.3

REMARKS:

As indicated above, this sample would be classified as excellent for irrigation use.

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KERN PTG. CO.

AGRICULTURAL EXTENSION SERVICE
University of California
San Diego, California

4005 Rosecrans, San Diego, Calif.
Woodcrest 6321, Ext. 271

REPORT OF WATER ANALYSIS

8/6

County San Diego Date Received August 19, 1954

Laboratory No. 9287 Sampler's No. 49

Submitted by E. C. Moore, Farm Advisor, San Diego

[redacted]

Color - Turbidity - Odor -

E. C. Millimhos/cm 1.47 pH 7.2 Boron (p.p.m.) 0.21

CONSTITUENT	P.P.M.	M.E./L.	CONSTITUENT	P.P.M.	M.E./L
Calcium (Ca)	150	7.5	Carbonate (CO_3)	0	0
Magnesium (Mg)	20	1.5	Bicarbonate (HCO_3)	190	3.1
Sodium (Na)	130	5.7	Chloride (Cl)	90	2.6
			Sulfate (SO4)	400	8.4
Total Cations		14.7	Total Anions		14.1

Per cent Na 39 Possible per cent Na 49 Analyst RH

Recommendation

Date Reported 8/31/54 Reported by ECM

TEL. 8-8567

P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

October 8, 1954

Laboratory No. 79496

Sample Water

Marked 9/25, Well # 11

Received Sept. 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)			
BICARBONATES		(HCO_3)	10.8	0.63	Fair-Good
CHLORIDES	(SALT)	(Cl)	154.9 254	9.06	Good
SULPHATES		(SO_4)	170.3	9.96	Good
SULPHIDES		(S)	653.3	38.21	Good
NITRATES		(NO_3)	0.0	0.00	Good
CALCIUM	(LIME)	(CA)	2.8		Good
MAGNESIUM		(MG)	324.8	19.00	Good
SODIUM		(NA)	40.0	2.34	Good
BORON		(B)	41.2	2.41	Good
IRON		(FE)	.05		Good
HARDNESS AS $CaCO_3$			.1		Good
TOTAL SOLIDS @ 105°C			974.0	56.96	
TOTAL SOLIDS @ RED HEAT			1320.7	77.23	
pH (HYDROGEN ION CONCENTRATION)			1255.6	73.43	
SODIUM PERCENTAGE			8.3		Fair
COLOR			8.4%		Good
ODOR			Water White		
TURBIDITY			None		
CONDUCTIVITY, MHOS/CM³X10⁵@25°C.			Clear		
			231.9		

THEORETICAL ANALYSIS

Calcium Carbonate	18.0	1.05
Calcium Bicarbonate	205.9	12.04
Calcium Sulfate	908.1	53.11
Magnesium Sulfate	16.3	0.95
Magnesium Chloride	143.3	8.38
Sodium Chloride	104.6	6.12

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

ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS. AUTHORIZATION FOR PUBLICATION OF OUR REPORTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING THEM IS RESERVED PENDING OUR WRITTEN APPROVAL AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES.

KERN PTG. CO.

TEL. 8-8567 P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS

714 TRUXTUN AVENUE

BAKERSFIELD, CALIFORNIA December 10, 1954

Laboratory No. 81660

Sample Water *Marked* Well #E #11

Received December 3, 1954

Submitted by Borrego Farms, Attn: Mr. Hasel
Borrego Springs,
California

* * * * * * * * * * *

IRRIGATION WATER ANALYSIS

CONSTITUENTS			PARTS PER MILLION	GRAINS PER GALLON	IRRIGATION WATER CLASSIFICATION
CARBONATES	(ALKALI)	(CO_3)	0.0	0.00	Good
BICARBONATES		(HCO_3)	174.5	10.20	Good
CHLORIDES	(SALT)	(Cl)	166.0	9.71	Good
SULPHATES		(SO_4)	614.4	35.93	Good
SULPHIDES		(S)	0.0	0.00	Good
NITRATES		(NO_3)	6.6	---	Good
CALCIUM	(LIME)	(CA)	301.6	17.64	Good
MAGNESIUM		(MG)	35.1	2.05	Good
SODIUM		(NA)	54.7	3.20	Good
BORON		(B)	0.05	---	Good
IRON		(FE)	.1	---	Good
HARDNESS AS $CaCO_3$			898.0	52.51	Good
TOTAL SOLIDS @ 105°C			1259.1	73.62	
TOTAL SOLIDS @ RED HEAT			1201.3	70.25	
pH (HYDROGEN ION CONCENTRATION)		7.3			Good
SODIUM PERCENTAGE			11.7 %		
COLOR	Water White				
ODOR	None				
TURBIDITY	Clear				
CONDUCTIVITY, MHOS/CM³X10⁵@25°C.		227.0			

THEORETICAL ANALYSIS

Calcium Bicarbonate	231.8	13.56
Calcium Sulfate	831.8	48.64
Magnesium Sulfate	34.9	2.04
Magnesium Chloride	109.5	6.40
Sodium Chloride	139.1	8.13

REMARKS: The above sample would be classified as good for irrigation use.

ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS. AUTHORIZATION FOR PUBLICATION OF OUR REPORTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING THEM IS RESERVED PENDING OUR WRITTEN APPROVAL AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES.

KERN PTG. CO.

EDWARD S. BABCOCK
ARTHUR L. BABCOCK
WILLARD G. BABCOCK
SHERMAN G. BABCOCK

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT
CHEMICAL
LABORATORIES
2445 FIRST STREET

EDWARD S. BABCOCK & SONS
P. O. BOX 432
RIVERSIDE, CALIFORNIA

TO DiGiorgio Fruit Corp.
P. O. Box A
Borrego Springs, Calif.

December 13, 1954

LABORATORY NO. 541202-E

SAMPLE MARKED Water, Well #E 11

Electrical Conductance ($EC \times 10^6$) determined at 25° Centigrade.

Electrical Conductance - - - - - 2555

Sodium Percent (Na%) - - - - - - 31.0%

	Parts per Million:	Milligrams Equivalent:
Calcium (Ca)	298	14.90
Magnesium (Mg)	30	2.50
Sodium (Na)	180	7.82
Carbonate (CO_3)	None	----
Bicarbonate (HCO_3)	134	2.20
Sulfate (SO_4)	873	18.18
Chloride (Cl)	146	4.10
Nitrate (NO_3)	46	.74
Boron (B)	.05	

EDWARD S. BABCOCK & SONS
Sherman G. Babcock

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

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT
LABORATORIES
3445 FIRST STREET

TO DiGiorgio Fruit Corporation
Box A
Borrego Springs, Calif.

SAMPLE MARKED Water #11

September 1, 1955

LABORATORY NO. 550810-J

Electrical Conductance ($EC \times 10^6$) determined at 25° Centigrade.

Electrical Conductance - - - - - 2311

Sodium Percent (Na%) - - - - - - - 35.2%

	Parts per Million:	Milligrams Equivalent:
Calcium (Ca)	264	13.20
Magnesium (Mg)	24	2.00
Sodium (Na)	190	8.26
Carbonate (CO_3)	6	.20
Bicarbonate (HCO_3)	92	1.50
Sulfate (SO_4)	763	15.89
Chloride (Cl)	117	3.30
Nitrate (NO_3)	150	2.42
Boron (B)	.1	

EDWARD S. BABCOCK & SONS

Sherman G. Babcock

/ILLARD G. BABCOCK
RTHUR L. BABCOCK
HERMAN G. BABCOCK

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
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MANAGEMENT

LABORATORIES
3445 FIRST ST.

o Borrego Farms
P. O. Box A
Borrego Springs
California

SAMPLE MARKED Water, Well #11

March 5, 1956

Laboratory No. 560223-I

Cations	Parts per million	Milligram equivalents per liter	Anions	Parts per million	Milligram equivalents per liter
alcium (Ca)	173	8.65	Carbonate (CO_3)	Trace	----
agnesium (Mg)	23	1.92	Bicarbonate (HCO_3)	180	2.95
odium (Na)	150	6.52	Sulfate (SO_4)	514	16.71
otassium (K)			Chloride (Cl)	85	2.40
			Nitrate (NO_3)	62	1.00

			Parts per million
onductivity, $ECx10^6$ @ 25° C.	1691	Total Hardness calculated as $CaCO_3$	529
ercent Sodium	38.2	Fluoride (F)	
ydrogen-ion activity (pH)		Boron (B)	.3

EDWARD S. BABCOCK & SONS

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

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

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 Springs, Calif.

SAMPLE MARKED Water, Well 11

October 3, 1956

Laboratory No. 560921-H

Cations	Parts per million	Milligram equivalents per liter	Anions	Parts per million	Milligram equivalent per liter
Calcium (Ca)	156	7.80	Carbonate (CO_3)	5	.15
Magnesium (Mg)	21	1.75	Bicarbonate (HCO_3)	143	2.35
Sodium (Na)	136	5.91	Sulfate (SO_4)	450	9.38
Potassium (K)			Chloride (Cl)	99	2.80
			Nitrate (NO_3)	48	.77

			Parts per million
Conductivity, $EC \times 10^6$ @ 25° C.	1543	Total Hardness calculated as $CaCO_3$	478
Percent Sodium	38.2	Fluoride (F)	
Hydrogen-ion activity (pH)		Boron (B)	.2

EDWARD S. BABCOCK & SONS

Sherman G Babcock

Well No. 11

Location PORREGO FARMS

DATE	May 31 1960	June 1961	April 1962	Sept 1963	June 1964	March 1965
Total Soluble Salts ($EC \times 10^3$)	1.66	1.60	1.80	1.75	1.52	1.9
pH (1-7 Acid; 7-14 Basic)	7.70	7.2	7.8	7.7	7.5	7.5
Boron (parts per million)	-	0.10	0.69	-	-	-
Nitrogen (pounds per acre ft.)	78.2	68	85	78.6	77.4	64.4
Sodium percentage (%)	39%	38%	37%	40%	41.9	41.5
CATIONS -						
Calcium (meq./liter)	8.12	4.72	6.72	10.2	9.15	10.70
Magnesium "		6.20	5.10			
Sodium "	5.55	6.80	7.10	6.90	6.84	7.86
Potassium "	0.24	0.25	0.29	0.27	0.306	0.34
TOTAL	13.9	17.90	19.2	17.4	16.30	18.9
ANIONS -						
Carbonate (meq./liter)	0	-	TR	0	0	0
Bicarbonate "	2.77	2.84	3.24	2.79	2.52	2.41
Chloride "	1.64	2.70	3.18	3.03	2.78	3.31
Nitrate "	1.84	1.85	2.28	2.04	2.08	1.73
Sulfate *	7.65	4.35	10.5	9.54	8.42	11.2
TOTAL	13.9	17.90	19.2	17.4	16.30	18.9
NO_3 =	114.0	114.7	141.4	126.5	128.98	107.3

* Sulfate determined by difference.

Well No. 11

Location BORREGO

DATE	MAR 1965	7/5/65	5/2/66	7/67			
Total Soluble Salts ($EC \times 10^3$)	1.9	2.1	1.60	1.60			
pH (1-7 Acid; 7-14 Basic)	7.5	7.4	7.1	7.3			
Boron (parts per million)	—	—	—	—			
Nitrogen (pounds per acre ft.)	64.4	132	63.2	102.8			
Sodium percentage (%)	41.5		40.2	38.3			
CATIONS -							
Calcium (meq./liter)	10.70						
Magnesium "		14.2	9.72	8.31			
Sodium "	7.86	7.7	6.7	5.34			
Potassium "	0.34	0.32	0.24	0.29			
TOTAL	18.9	22.22	16.66	13.94			
ANIONS -							
Carbonate (meq./liter)	0	0	0	0			
Bicarbonate "	2.61	2.89	2.64	2.84			
Chloride "	3.31	3.89	4.80	3.15			
Nitrate "	1.73	3.44	1.66	2.70			
Sulfate *	11.2	12.00	7.56	5.25			
TOTAL	18.9	22.22	16.66	13.94			
	NO_3	213.3	102.9	167.4			

* Sulfate determined by difference.

ENVIRONMENTAL ENGINEERING LABORATORY
3467 KURTZ STREET, P.O. BOX 10033, SAN DIEGO, CALIF. 92110 • PHONE: 224-2885

Sample Source: D-11

Di Giorgio Corp.
Box A
Borrego Springs, California 92004
ATTN: George Kuhats

Date June 22, 1972
Date Collected
Date Received June 6, 1972

Conductivity 3430 micromhos/cm @ 25°C
pH 8.1

Principal Constituents									
Ions:		mg/l	me/l			mg/l			mg/l
Calcium	Ca	200		Aluminum	Al		Barium	Ba	
Magnesium	Mg	122		Zinc	Zn		Cadmium	Cd	
Sodium	Na	317		Hexavalent Chromium	Cr		Silver	Ag	
Potassium	K	19		Total Chromium	Cr		Mercury	Hg	
Ammonia	NH_4			Arsenic	As		Gold	Au	
				Lead	Pb				
				Copper	Cu				
Ions:				Selenium	Se				
Hydroxide	OH	0		Nickel	Ni				
Carbonate	CO_3	0							
Bicarbonate	HCO_3	171		Cyanide	CN				
Sulfate	SO_4	955		Phenols					
Chloride	Cl	200		A B S					
Nitrate	NO_3	375		Grease & Oil					
Fluoride	F	0.86		Sulfides					
Boron	B			Suspended Solids					
Silica	SiO_2	28		Volatile Suspended Solids					
Iron	Fe	0		Dissolved Solids					
Manganese	Mn	0		Volatile Dissolved Solids					
Total Phosphate	PO_4			Settleable Solids					
Ortho Phosphate	PO_4	0		BOD, 5 day 20°C					
Nitrite	N			Oxygen Consumed					
Nitrate	N	85		Coliform, MPN/100 ml					
Ammonia	N			Plate Count/ml					
Total Organic Nitrogen	N			Plankton Count/ml					
Total Kjeldahl Nitrogen	N								
Total Alkalinity	$CaCO_3$	140							
Total Hardness	$CaCO_3$	1000							
Dissolved Solids		1900							
Turbidity, Units									
Remarks									

Approved Water Laboratory, California State Department of Public Health

Reported By Robert L Chambers

ENVIRONMENTAL ENGINEERING LABORATORY
3467 KURTZ STREET, SAN DIEGO, CALIF. 92110 • PHONE: 224-2885
P.O. BOX 81789, SAN DIEGO, CALIF. 92138

Sample Source: Digorgio Well # 11

Borrego Springs Water Co.
Box B
Borrego Springs, California

Date July 17, 1973
Date Collected
Date Received July 12, 1973

Conductivity 2350 micromhos/cm @ 25°C
pH 7.2

Principal Constituents								
Cations:		mg/l	me/l			mg/l		mg/l
Calcium	Ca	344		Aluminum	Al		Barium Ba	
Magnesium	Mg	24		Zinc	Zn		Cadmium Cd	
Sodium	Na	100		Hexavalent Chromium	Cr		Silver Ag	
Potassium	K	15		Total Chromium	Cr		Mercury Hg	
Ammonia	NH_4			Arsenic	As		Gold Au	
				Lead	Pb			
				Copper	Cu			
Anions:				Selenium	Se			
Hydroxide	OH	0		Nickel	Ni			
Carbonate	CO_3	0						
Bicarbonate	HCO_3	195		Cyanide	CN			
Sulfate	SO_4	735		Phenols				
Chloride	Cl	139		A B S				
Nitrate	NO_3	10		Grease & Oil				
Fluoride	F	0.68		Sulfides				
Boron	B			Suspended Solids				
Silica	SiO_2	29		Volatile Suspended Solids				
Iron	Fe	0		Dissolved Solids				
Manganese	Mn	0		Volatile Dissolved Solids				
Total Phosphate	PO_4			Settleable Solids				
Ortho Phosphate	PO_4	0		BOD, 5 day 20°C				
Nitrite	N			Oxygen Consumed				
Nitrate	N	2.3		Coliform, MPN/100 ml				
Ammonia	N			Plate Count/ml				
Total Organic Nitrogen	N			Plankton Count/ml				
Total Kjeldahl Nitrogen	N							
Total Alkalinity	$CaCO_3$	160						
Total Hardness	$CaCO_3$	960						
Dissolved Solids		1506						
Turbidity, Units								

Remarks c.c. Lin Burzell

Robert L. Chambers

California State Department of Public Health Reported By

ENVIRONMENTAL ENGINEERING LABORATORY
3467 KURTZ STREET, SAN DIEGO, CALIF. 92110 • PHONE: 224-2885
P.O. BOX 81789, SAN DIEGO, CALIF. 92138

Sample Source: Well # 11

DiGiorgio Corporation
Box 121
Borrego Springs, California
Attn: George Kukits

Date October 2, 1972
Date Collected
Date Received September 26, 1972

Conductivity 2400 micromhos/cm @ 25°C
pH

Principal Constituents

Cations:		mg/l	me/l			mg/l			mg/l
Calcium	Ca			Aluminum	Al		Barium	Ba	
Magnesium	Mg			Zinc	Zn		Cadmium	Cd	
Sodium	Na			Hexavalent Chromium	Cr		Silver	Ag	
Potassium	K			Total Chromium	Cr		Mercury	Hg	
Ammonia	NH_4			Arsenic	As		Gold	Au	
				Lead	Pb				
				Copper	Cu				
Anions:				Selenium	Se				
Hydroxide	OH			Nickel	Ni				
Carbonate	CO_3								
Bicarbonate	HCO_3			Cyanide	CN				
Sulfate	SO_4			Phenols					
Chloride	Cl			A B S					
Nitrate	NO_3			Grease & Oil					
Fluoride	F			Sulfides					
Boron	B	1.0		Suspended Solids					
Silica	SiO_2			Volatile Suspended Solids					
Iron	Fe			Dissolved Solids					
Manganese	Mn			Volatile Dissolved Solids					
Total Phosphate	PO_4			Settleable Solids					
Ortho Phosphate	PO_4			BOD, 5 day 20°C					
Nitrite	N			Oxygen Consumed					
Nitrate	N			Coliform, MPN/100 ml					
Ammonia	N			Plate Count/ml					
Total Organic Nitrogen	N			Plankton Count/ml					
Total Kjeldahl Nitrogen	N								
Total Alkalinity	$CaCO_3$								
Total Hardness	$CaCO_3$								
Dissolved Solids									
Turbidity, Units									

Remarks c.c. Lin Burzell

ENVIRONMENTAL ENGINEERING LABORATORY
3467 KURTZ STREET, P.O. BOX 10033, SAN DIEGO, CALIF. 92110 • PHONE: 224-2885

Sample Source: Well D-11

DiGiorgio Corp.
Box A
Borrego Springs, California

Date July 21, 1972
Date Collected
Date Received July 14, 1972

Conductivity 2750 micromhos/cm @ 25°C
pH 7.6

Principal Constituents

Cations:		mg/l	me/l
Calcium	Ca	320	
Magnesium	Mg	34	
Sodium	Na	184	
Potassium	K	19	
Ammonia	NH_4		
Anions:			
Hydroxide	OH	0	
Carbonate	CO_3	0	
Bicarbonate	HCO_3	183	
Sulfate	SO_4	856	
Chloride	Cl	190	
Nitrate	NO_3	66	
Fluoride	F	0.74	
Boron	B		
Silica	SiO_2	30	
Iron	Fe	0	
Manganese	Mn	0	
Total Phosphate	PO_4		
Ortho Phosphate	PO_4	0	
Nitrite	N		
Nitrate	N	15	
Ammonia	N		
Total Organic Nitrogen	N		
Total Kjeldahl Nitrogen	N		
Total Alkalinity	$CaCO_3$	150	
Total Hardness	$CaCO_3$	940	
Dissolved Solids		1488	
Turbidity, Units			

		mg/l			mg/l
Aluminum	Al		Barium	Ba	
Zinc	Zn		Cadmium	Cd	
Hexavalent Chromium	Cr		Silver	Ag	
Total Chromium	Cr		Mercury	Hg	
Arsenic	As		Gold	Au	
Lead	Pb				
Copper	Cu				
Selenium	Se				
Nickel	Ni				
Cyanide	CN				
Phenols					
A B S					
Grease & Oil					
Sulfides					
Suspended Solids					
Volatile Suspended Solids					
Dissolved Solids					
Volatile Dissolved Solids					
Settleable Solids					
BOD, 5 day 20°C					
Oxygen Consumed					
Coliform, MPN/100 ml					
Plate Count/ml					
Plankton Count/ml					

Remarks c.c. Lyn Burzell

Resample of September 26, 1972 Boron 1.0
Nitrates 208
Conductivity 2400

Robert L. Chambers

Approved Water Laboratory, California State Department of Public Health

Reported By

HORNKOHL LABORATORIES

Telephone 8-8567

ANALYSES OF OIL, WATERS, SOILS, OIL CORES

P. O. Box 1673

714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

June 14, 1950

Laboratory No. 53729

Sample Water *Marked* Well #B-12

Received June 12, 1950

Submitted by DiGiorgio Farms
P.O. Box 308, DiGiorgio, Calif.

* * * * * * * *

COMPLETE IRRIGATION WATER ANALYSES

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	214.1	12.52	Good
Chlorides	Cl	223.4	13.06	Good
Sulphates	SO_4	284.1	16.61	Good
Sulphides	S	0.0	0.00	Good
Nitrates	NO_3	3.5	0.20	Fair
Calcium	Ca	122.4	7.15	Good
Magnesium	Mg	11.9	0.69	Good
Sodium	Na	198.4	11.60	Good
Boron	B	0.39	--	Good
Hardness as $CaCO_3$		355.0	20.75	Good
pH --	7.3			Good
Sodium Percentage -	54.8%			Fair
Color:	Water White			
Odor:	None			
Turbidity:	Clear			
Conductivity: $Kx10^5$@25°C.	--	171.9		
Total Solids @ 105°C.		945.0	55.26	
Total Solids @ Red Heat		875.0	51.17	
Iron		0.05		

Theoretical Analysis

Calcium Bicarbonate	284.4	16.63
Calcium Sulfate	177.6	10.38
Magnesium Sulfate	58.9	3.44
Sodium Sulfate	165.4	9.67
Sodium Chloride	368.2	21.53

REMARKS: It is recommended that 120 lbs. of gypsum be added per 100,000 gallons of irrigation water to correct the slightly high sodium percentage and thus prevent soil packing.

Reported to be well #11 10S/6E-15D1

Respectfully submitted,
HORNKOHL LABORATORIES

Frank Hornkohl

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

CERTIFICATE OF ANALYSIS

ESTABLISHED 1906

EDWARD S. BABCOCK & SONS

P. O. BOX 432
RIVERSIDE, CALIFORNIA

AGRICULTURAL
APPRAISALS
SUPERVISION
MANAGEMENT

LABORATORIES
3445 FIRST STREET

TO DiGiorgio Fruit Corporation
Box A
Borrego Springs, Calif.

105/6E-15D1

SAMPLE MARKED Water #11

September 1, 1955

LABORATORY NO. 550310-7

Electrical Conductance ($EC \times 10^6$) determined at 25° Centigrade.

Electrical Conductance - - - - - 2311

Sodium Percent (Na%) - - - - - - 35.2%

	Parts per Million:	Milligrams Equivalent:
Calcium (Ca)	264	13.20
Magnesium (Mg)	24	2.00
Sodium (Na)	190	8.26
Carbonate (CO_3)	6	.20
Bicarbonate (HCO_3)	92	1.50
Sulfate (SO_4)	763	15.89
Chloride (Cl)	117	3.30
Nitrate (NO_3)	150	2.42
Boron (B)	.1	

EDWARD S. BABCOCK & SONS

Sherman G. Babcock

HORNKOHL LABORATORIES
ANALYSES OF OIL, WATERS, SOILS, OIL CORES
Telephone 8-8567
P. O. Box 1673
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

May 12, 1953

Laboratory No. 71032-33

Sample Water

Marked BORREGO as shown below

Received May 8, 1953

10S/6E-15D1

Submitted by Di Giorgio Farms
Di Giorgio, California

* * * * * * * *

PARTIAL IRRIGATION WATER ANALYSES

WELL #11

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	183.0	10.70	Good
Chlorides	Cl	101.4	5.93	Good
Sulfates	SO_4	474.1	27.73	Good
Sulfides	S	0.0	0.00	Good
Boron	B	0.10		Good
Hardness as $CaCO_3$		508.0	29.71	Good
pH — 7.6				Good
Sodium Percentage — 35.4%				Good
Color:	Water White			
Odor:	None			
Turbidity:	Clear			
Conductivity: (Mhos/cm^3 x 10^5 @25°C.) — 149.3				

WELL #12

Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	204.9	11.98	Good
Chlorides	Cl	86.5	5.06	Good
Sulfates	SO_4	405.7	23.73	Good
Sulfides	S	0.0	0.00	Good
Boron	B	0.60		Good
Hardness as $CaCO_3$		396.0	23.16	Good
pH — 7.5				Good
Sodium Percentage — 44.4%				Good
Color:	Water White			
Odor:	None			
Turbidity:	Clear			
Conductivity: (Mhos/cm^3 X 10^5 @25°C.) — 121.0				

REMARKS: As noted by the classification above, these samples would both be listed as excellent for irrigation use.

C O P Y

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

C O P Y

714 Truxtun Ave.
Bakersfield, California

P. O. Box 1673

Laboratory No. 64818

Sample Water

May 9, 1952

Received April 28, 1952 Marked - Well #11

10S/6E-15D1

Submitted by Di Giorgio Farms
Di Giorgio, Calif.

COMPLETE IRRIGATION WATER ANALYSIS

Constituents		Parts per Million	Grains per Gallon	Water Classification
Carbonates	CO_3	0.0	0.00	Good
Bicarbonates	HCO_3	184.2	10.77	Good
Chlorides	Cl	96.5	5.64	Good
Sulfates	SO_4	294.4	17.22	Good
Sulfides	S	0.0	0.00	Good
Calcium	Ca	176.0	10.29	Good
Magnesium	Mg	4.9	0.28	Good
Sodium	Na	61.4	3.59	Good
Boron	B	0.05		Good
Nitrates	NO_3	34.0		
Iron	Fe	0.1		
Hardness as $CaCO_3$		450.0	26.32	Good

pH — 7.6 Good
Sodium Percentage — 22.4 Good

Color: Water White
Odor: None
Turbidity: Clear
Conductivity: $K \times 10^5$ @ 25°C. — 177.4

Total Solids @ 105°C.	725.2	42.41
Total Solids @ Red Heat	656.8	38.41

Theoretical Analysis

Calcium Bicarbonate	244.8	14.32
Calcium Sulfate	393.4	23.01
Magnesium Sulfate	24.1	1.41
Sodium Sulfate	7.1	0.42
Sodium Chloride	159.0	9.29

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

Well No. 11

10S/6E-15D1

Location PORREGO FARMS

DATE	May 31 1960	June 1961	April 1962	Sept 1963	June 1964	March 1965
Total Soluble Salts ($EC \times 10^3$)	1.66	1.60	1.80	1.75	1.52	1.9
pH (1-7 Acid; 7-14 Basic)	7.20	7.2	7.9	7.7	7.5	7.5
Boron (parts per million)	-	0.10	0.69	-	-	-
Nitrogen (pounds per acre ft.)	78.2	68	85	78.6	77.4	64.4
Sodium percentage (%)	39%	39%	37%	40%	41.9	41.5
CATIONS -						
Calcium (meq./liter)	8.12	4.72	6.72	10.2	9.15	10.70
Magnesium "		6.20	5.10			
Sodium "	5.55	6.80	7.10	6.90	6.84	7.86
Potassium "	0.24	0.25	0.29	0.27	0.306	0.34
TOTAL	13.9	17.90	19.2	17.4	16.30	18.9
ANIONS -						
Carbonate (meq./liter)	0	-	TR	0	0	0
Bicarbonate "	2.77	2.84	3.24	2.79	2.52	2.61
Chloride "	1.64	2.50	3.18	3.03	2.78	3.31
Nitrate "	1.84	1.85	2.28	2.04	2.08	1.73
Sulfate *	7.65	4.35	10.5	9.54	8.92	11.2
TOTAL	13.9	17.90	19.2	17.4	16.30	18.9

* Sulfate determined by difference.

10S/6E-15D1

Well No. 11

Location BORREGO

DATE	Mar 1965	7/5/65	5/20/66	7/67			
Total Soluble Salts ($EC \times 10^3$)	1.9	2.1	1.60	1.60			
pH (1-7 Acid; 7-14 Basic)	7.5	7.4	7.1	7.3			
Boron (parts per million)	—	—	—	—			
Nitrogen (pounds per acre ft.)	64.4	132	63.2	102.8			
Sodium percentage (%)	41.5		40.2	38.3			
CATIONS -							
Calcium (meq./liter)	10.70						
Magnesium "		14.2	9.72	8.31			
Sodium "	7.86	7.7	6.7	5.34			
Potassium "	0.34	0.32	0.24	0.29			
TOTAL	18.9	22.22	16.66	13.94			
ANIONS -							
Carbonate (meq./liter)	0	0	0	0			
Bicarbonate "	2.61	2.89	2.64	2.84			
Chloride "	3.31	3.89	4.80	3.15			
Nitrate "	1.73	3.44	1.66	2.70			
Sulfate *	11.2	12.00	7.56	5.25			
TOTAL	18.9	22.22	16.66	13.94			

* Sulfate determined by difference.