

**SMITH-EMERY COMPANY**  
**TESTING, METALLURGICAL AND CHEMICAL**  
**ENGINEERS AND CHEMISTS**

CHEMICAL, PHYSICAL AND  
 METALLURGICAL LABORATORIES

DRAFTING ROOMS

BUREAU OF INSPECTION AND TESTS

**245 SOUTH LOS ANGELES STREET**

LOS ANGELES.

PHONE: MAIN 845  
 CABLE ADDRESS "SECO"

Nov. 4, 1922.

IN ACCOUNT WITH

Title Insurance & Trust Co.,  
 c/o Engineering Service Co.,  
 1316 Washington St., City.

TERMS NET

E. & O. E.

TO PROFESSIONAL SERVICES.

Lab. Nos. 44396-405 -	Industrial analysis of 10 samples of water, at \$15.00 - - - -	\$150.00
	Bacteriological examination of 10 samples of water, at \$15.00 - - - -	150.00
		<u>300.00</u>
	Less 10% - - - - -	30.00
		<u>270.00</u>
	Time of sampling and expenses - - - - -	8.50
		<u>278.50</u>

THIS IS A PROFESSIONAL LABOR BILL AND IS DUE UPON PRESENTATION



ABLE ADDRESS "SECO"

**SMITH-EMERY COMPANY**  
**CHEMICAL ENGINEERS**

TELEPHONE MAIN 848

LABORATORIES:  
CHEMICAL  
RESEARCH  
ASSAY  
ORE TESTING  
PHYSICAL TESTING  
BACTERIOLOGICAL

OFFICE AND LABORATORIES  
245 SOUTH LOS ANGELES STREET  
LOS ANGELES

REPRESENTED AT  
SEATTLE, SAN FRANCISCO  
PITTSBURG, CHICAGO  
NEW YORK, BIRMINGHAM  
PUEBLO, GLASGOW  
MONTREAL

November 3, 1922

Title Insurance & Trust Co.,  
c/o Engineering Service Co.,  
1316 Washington Bldg.,  
Los Angeles, Calif.

Gentlemen:

In accordance with your instructions, our Mr. E. O. Slater took water samples from flowing wells in the West Hollywood Tract No. 4769 near Sherman, California, and from a faucet in the yard of the Westgate Service Station, 11926 San Vicente Blvd., Westgate, California, in the presence of Mr. Jordan, Engineer for the Engineering Service Company, on the morning of October 25th, 1922.

We have made industrial analyses of each sample and a composite sample of the eight waters from the wells, and we have also made bacteriological examinations of the same waters. The results of these analyses and examinations are reported herewith under our Laboratory Nos. 44396 to 44405, inclusive.

We also include an affidavit stating that the samples were taken by our Mr. Slater, and analyzed or examined by him or under his supervision.

Following we give comments and opinions regarding these reports:

BACTERIOLOGICAL EXAMINATIONS

The bacteriological examinations of the artesian well waters indicate that these waters are safe for drinking purposes. The Inter State Commerce Commission regulations allow the Count of 100 with Bacillus Coli present in, not to exceed one of five 10 c.c. tubes. Reference to our reports will show that the artesian waters are much better than this specification which we consider rigid.

SAMPLE NO. 1

The industrial analysis indicates that this water contains a slightly greater amount of solids in solution than the average Southern California waters, and about five grains per gallon more than Los Angeles aqueduct water. It is a slightly "harder" water than the Los Angeles aqueduct water. Its physical appearance is good. From the results of the analysis and bacteriological examination it is our opinion that this is a good potable water.

Sample No. 2

Same remarks and opinions as for Sample No. 1 except this water contains only about two grains per gallon more solids than Los Angeles Water.

Sample No. 3

Same opinions and remarks as for sample No. 1 except that this sample contains about seven grains per gallon more mineral matter in solution.

Sample No. 4

This water contains a relatively large amount of solids in solution, approximately twice as much as Los Angeles aqueduct water. It is practically as hard as aqueduct water, but it contains a relatively large amount of sodium carbonate and sodium chloride. We do not recommend this water for domestic use by itself, if a better water is available.

Sample No. 5

Same opinions and remarks as for sample No. 1 except this water contains about nine grains per gallon more mineral matter than Los Angeles aqueduct water.

Sample No. 6

This water is similar to sample No. 4 except that it does not contain quite as much sodium carbonate and sodium chloride in solution. We do not recommend it to be used by itself as a source of domestic water supply. It is, however, a softer water than aqueduct water.

Sample No. 7

This sample is practically the same as sample No. 6 except that it contains about five grains per gallon less solids in solution. Same opinion and remarks would apply to this sample as to sample No. 6.

Sample No. 8

The same opinions and remarks as given for sample No. 1 apply to this sample.

Sample No. 10

This is a composite of the eight artesian well waters. It contains more solids in solution than the average Southern California water and about thirteen grains per gallon more than Los Angeles aqueduct water as indicated by our report No. 44404. It is our opinion from the analysis and bacteriological examinations that this water could be used with a fair degree of satisfaction for domestic purposes.

By eliminating samples 4, 6 and 7, a good water for domestic purposes can be produced which from the standpoint of solids in solution is practically equivalent to Los Angeles aqueduct water, and from the bacteriological standpoint it is equal to or better than average aqueduct water, and much better than sample represented by our laboratory No. 44404.

Since this water contains a small amount of hydrogen sulphide gas it should be areated before it is run into the distributing mains for the consumer.

Sample No. 9

This water was stated to be Los Angeles aqueduct water by the Service Station attendant where the sample was taken. The analysis of the solids in solution is similar to the analysis of other Los Angeles aqueduct waters that we have analyzed. From the standpoint of solids in solution this sample indicates the water to be about average for Southern California, and to be satisfactory for domestic purposes. Its physical appearance was not satisfactory as it had a relatively high color and turbidity.

The relatively high Count taken in conjunction with the presence of Bacillus Coli in one out of five of 10 c.c. tubes, indicates that the water may be polluted. From the results of one sample alone, without being able to secure additional information, we would not recommend the use of the water as a safe drinking water. We would, however, before making such a recommendation recommend that a further investigation of such a water be made, either by the means of additional bacteriological samples or by a sanitary inspection of the source of the water.

#### GENERAL REMARKS REGARDING ANALYSES

We will endeavor to state in terms in more common use, what is meant by the chemical terms for the various minerals found in solution in these waters. We will discuss only the solids as reported in the right-hand column of our industrial analysis, since these have been calculated from the analysis of solids reported in the left-hand column.

SUSPENDED MATTER is that solid matter held in suspension in the water, and which is not in solution in the water.

SILICA is the principal constituent of most sands.

IRON OXIDE is the rust formed by the corrosion of iron.

ALUMINA is the white material formed by the rusting or corrosion of metallic aluminum such as used in kitchen utensils.

CALCIUM CARBONATE is found in its natural state as limestone.

MAGNESIUM CARBONATE is found in its natural state as a rock similar to limestone called magnesite.

MAGNESIUM CHLORIDE is a relatively water soluble salt. It occurs in ocean water and when extracted is used with magnesia for making drain boards, bathroom flooring, etc.

-5- Title Insurance & Trust Co.

MAGNESIUM SULPHIDE is known in the drug trade as epsom salts.

SODIUM SULPHATE is known in the drug trade as glauber salts.

SODIUM CHLORIDE is common table salt.

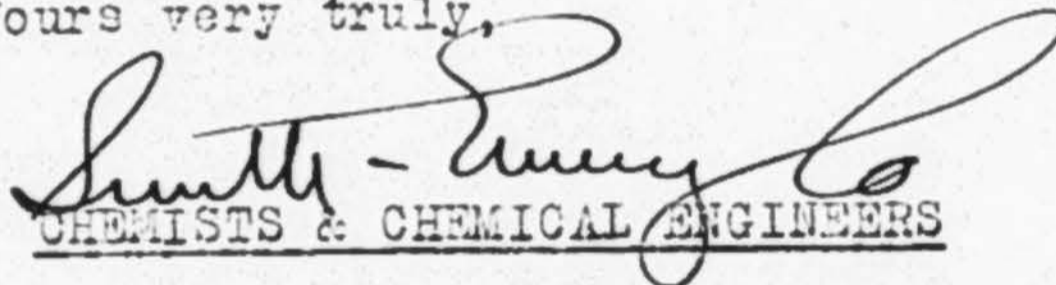
SODIUM CARBONATE, or as it probably occurs in the water as sodium bicarbonate, is baking soda.

The VOLATILE and ORGANIC MATTER is composed of water of crystallization, moisture, possibly some carbon dioxide, and organic matter.

COLOR is reported with relation to the amount of color the water contains in the standard samples previously prepared. The larger the number or parts per million, the greater the amount of color.

TURBIDITY is determined in a similar manner.

Yours very truly,

  
CHEMISTS & CHEMICAL ENGINEERS

EOS:C

I, E. O. Slater, first being duly sworn, state that the Smith-Emery Company Laboratory Certificate Nos. 44396 to 44405 inclusive, are true and correct reports of analyses and bacteriological examinations of samples of water taken by me in the presence of Mr. Jordan, Engineer for the Engineering Service Company of Los Angeles, California, from artesian wells located in West Hollywood Tract No. 4769, as follows:

<u>Sample No.</u>	<u>Well Located in Lot</u>
1 -----	E, Northern part of <sup>Lot</sup> - 310/113
2 -----	J, Western part of
3 -----	I, Western part of
4 -----	G, Eastern part of
5 -----	K, Western part of
6 -----	L, Southwestern part of
7 -----	M, South Central part of
8 -----	F, North Central part of

Sample No. 10 was composited from the above eight samples in accordance with data furnished me by Mr. Jordan representing yields of wells by pumping as follows:

<u>Well No.</u>	<u>Miners Inches</u>
1 -----	45
2 -----	25
3 -----	25
4 -----	75
5 -----	75
6 -----	15
7 -----	10
8 -----	40

Also, a sample of water was taken from a hydrant in the yard of the Westgate Service Station, 11926 San Vicente Blvd., Westgate, California.

E. O. Slater

Subscribed and sworn to before me this 4th day of November, 1922.

E. O. Slater

Notary Public in and for the County of Los Angeles, State of California.

LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**

CHEMICAL ENGINEERS AND CHEMISTS

METALLURGICAL AND TESTING ENGINEERS

245 N. LOS ANGELES STREET

LOS ANGELES

LABORATORY

Date, Nov. 3, 1922

No. 44396

Sample WATER Marked #1

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
c/o Engineering Service Co.,  
1316 Washington Bldg., Los Angeles, Cal.

Jordan.

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.93	Silica.....	.93
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.05	Iron Oxide & Alumina.....	.05
Lime (CaO).....	4.72	Calcium Carbonate.....	8.42
Magnesia (MgO).....	2.10	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	5.97	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	2.11	Magnesium Carbonate.....	4.01
Chlorine (Cl).....	3.62	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	6.82	Total - - -	13.41
Volatile & Organic Matter.....	3.55		
Total - - - -	29.87	NON-INCRUSTING SOLIDS	
Excess Oxygen.....	.82	Sodium Carbonate.....	2.48
Total Solids.....	29.05	Magnesium Sulphate†.....	.54
		Sodium Sulphate.....	3.10
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	5.97
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	7.08	Volatile & Organic Matter.....	3.55
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.58	Total - - -	15.64

\*CORROSIVE.

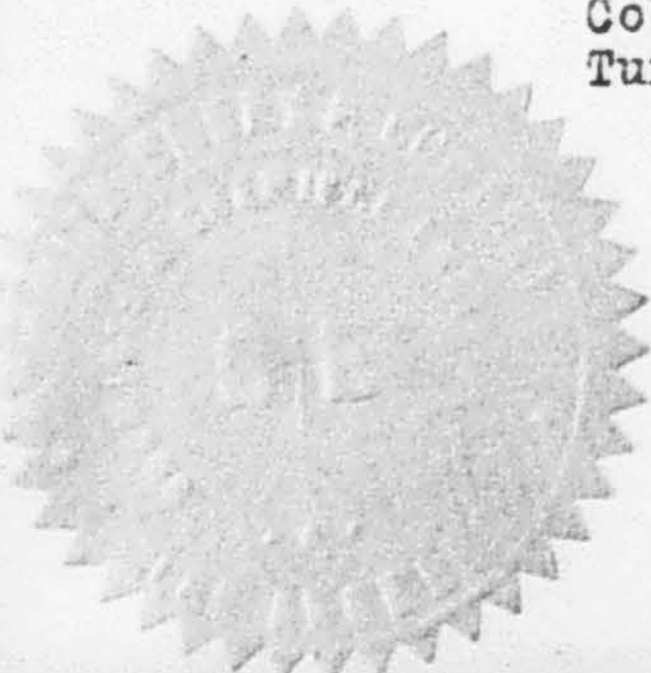
†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per Million

Color ----- 12  
Turbidity ----- 2

Respectfully submitted,

*Smith-Emery Co.*  
Chemists and Chemical Engineers.





LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**

CHEMICAL ENGINEERS AND CHEMISTS

METALLURGICAL AND TESTING ENGINEERS

245 N. LOS ANGELES STREET

LOS ANGELES

LABORATORY

Date, Nov. 3, 1922

No. 44397

Sample WATER Marked #2

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.98	Silica.....	.98
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.24	Iron Oxide & Alumina.....	.24
Lime (CaO).....	4.72	Calcium Carbonate.....	8.42
Magnesia (MgO).....	2.19	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	4.52	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	1.90	Magnesium Carbonate.....	3.91
Chlorine (Cl).....	2.10	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	6.77	Total - - -	13.55
Volatile & Organic Matter.....	3.18	<b>NON-INCRUSTING SOLIDS</b>	
Total - - - -	26.60	Sodium Carbonate.....	2.73
Excess Oxygen.....	.48	Magnesium Sulphate†.....	.95
Total Solids.....	26.12	Sodium Sulphate.....	2.25
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	3.46
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	7.13	Volatile & Organic Matter.....	3.18
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.47	Total - - -	12.57

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per Million

Color ----- 9  
 Turbidity ----- 2

Respectfully submitted,

*Smith-Emery Co.*  
 Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

SMITH-EMERY COMPANY

CHEMICAL ENGINEERS AND CHEMISTS

METALLURGICAL AND TESTING ENGINEERS

245 N. LOS ANGELES STREET

LOS ANGELES

LABORATORY

Date, Nov. 3, 1922

No. 44398

Sample WATER Marked #3

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
c/o Engineering Service Co.,  
1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.77	Silica.....	.77
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.18	Iron Oxide & Alumina.....	.18
Lime (CaO).....	4.13	Calcium Carbonate.....	7.37
Magnesia (MgO).....	1.68	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	8.55	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	2.00	Magnesium Carbonate.....	3.32
Chlorine (Cl).....	4.44	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	7.29	Total - - -	11.64
Volatile & Organic Matter.....	3.42		
Total - - - -	32.46	NON-INCRUSTING SOLIDS	
Excess Oxygen.....	1.00	Sodium Carbonate.....	5.58
Total Solids.....	31.46	Magnesium Sulphate†.....	.27
		Sodium Sulphate.....	3.23
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	7.32
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	5.71	Sodium Chloride.....	3.42
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.52	Volatile & Organic Matter.....	
		Total - - -	19.82

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per Million

Color ----- 6  
Turbidity ----- 3

Respectfully submitted,

Smith-Emery  
Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

SMITH-EMERY COMPANY

CHEMICAL ENGINEERS AND CHEMISTS

METALLURGICAL AND TESTING ENGINEERS

245 N. LOS ANGELES STREET

LOS ANGELES

LABORATORY

Date, Nov. 3, 1922

No. 44399

Sample WATER Marked #4

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
c/o Engineering Service Co.,  
1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.77	Silica.....	.77
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.07	Iron Oxide & Alumina.....	.07
Lime (CaO).....	1.83	Calcium Carbonate.....	3.26
Magnesia (MgO).....	2.11	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	23.41	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	None	Magnesium Carbonate.....	4.22
Chlorine (Cl).....	14.92	Magnesium Chloride*.....	.21
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	10.63	Total - - -	8.53
Volatile & Organic Matter.....	5.15		
Total - - - -	58.89	NON-INCRUSTING SOLIDS	
Excess Oxygen.....	3.99	Sodium Carbonate.....	16.86
Total Solids.....	54.90	Magnesium Sulphate†.....	None
		Sodium Sulphate.....	None
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	24.36
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	11.27	Volatile & Organic Matter.....	5.15
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.58	Total - - -	46.37

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per Million

Color ----- 15  
Turbidity ----- 5

Respectfully submitted,

*Smith-Emery Co.*  
Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

LABORATORY  
 No. 44400

Date, Nov. 3, 1922

Sample **WATER** Marked #5

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.61	Silica.....	.61
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.09	Iron Oxide & Alumina.....	.09
Lime (CaO).....	1.77	Calcium Carbonate.....	3.16
Magnesia (MgO).....	2.06	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	12.37	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	.90	Magnesium Carbonate.....	4.22
Chlorine (Cl).....	5.79	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	8.32	Total - - -	8.08
Volatile & Organic Matter.....	3.15	NON-INCRUSTING SOLIDS	
Total - - - -	35.06	Sodium Carbonate.....	11.40
Excess Oxygen.....	1.31	Magnesium Sulphate†.....	.12
Total Solids.....	33.75	Sodium Sulphate.....	1.45
Hydrogen Sulphide (H <sub>2</sub> S).....	Trace	Sodium Chloride.....	9.55
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	8.93	Volatile & Organic Matter.....	3.15
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.41	Total - - -	25.67

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per Million

Color ----- 7  
 Turbidity ----- 4

Respectfully submitted,

*Smith-Emery*  
 Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

LABORATORY  
 No. 44401

Date, Nov. 3, 1922

Sample WATER Marked #6

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.77	Silica.....	.77
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.14	Iron Oxide & Alumina.....	.14
Lime (CaO).....	1.11	Calcium Carbonate.....	1.98
Magnesia (MgO).....	1.07	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	19.81	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	1.14	Magnesium Carbonate.....	2.24
Chlorine (Cl).....	10.53	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	8.16	Total - - -	5.13
Volatile & Organic Matter.....	4.00	NON-INCRUSTING SOLIDS	
Total - - - - -	46.73	Sodium Carbonate.....	14.75
Excess Oxygen.....	3.47	Magnesium Sulphate†.....	None
Total Solids.....	43.26	Sodium Sulphate.....	2.02
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	17.36
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	8.84	Volatile & Organic Matter.....	4.00
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.35	Total - - -	38.13

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per million

Color ----- 12  
 Turbidity ----- 2

Respectfully submitted,

*Smith-Emery*  
 Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

Date, Nov. 3, 1922

LABORATORY  
 No. 44402

Sample WATER Marked #7

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.  
 Jordan.

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS.	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	1.00	Silica.....	1.00
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	Trace	Iron Oxide & Alumina.....	Trace
lime (CaO).....	1.31	Calcium Carbonate.....	2.34
Magnesia (MgO).....	1.26	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	15.11	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	2.20	Magnesium Carbonate.....	2.63
Chlorine (Cl).....	5.96	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	8.21	Total - - -	5.97
Volatile & Organic Matter.....	4.89	NON-INCRUSTING SOLIDS	
Total - - - -	39.94	Sodium Carbonate.....	14.00
Excess Oxygen.....	1.35	Magnesium Sulphate†.....	None
Total Solids.....	38.59	Sodium Sulphate.....	3.90
Hydrogen Sulphide (H <sub>2</sub> S).....	Trace	Sodium Chloride.....	9.83
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	7.99	Volatile & Organic Matter.....	4.89
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.52	Total - - -	32.62

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per million

Color ----- 9  
 Turbidity ----- 2

Respectfully submitted,

*Smith-Emery*  
 Chemists and Chemical Engineers.

LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

LABORATORY  
 No. 44403

Date, Nov. 3, 1922.

Sample WATER Marked #8

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.86	Silica.....	.86
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	Trace	Iron Oxide & Alumina.....	Trace
Lime (CaO).....	4.13	Calcium Carbonate.....	7.37
Magnesia (MgO).....	1.49	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	6.30	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	1.76	Magnesium Carbonate.....	3.11
Chlorine (Cl).....	2.75	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	6.66	Total - - -	11.34
Volatile & Organic Matter.....	3.30		
Total - - - -	27.25	NON-INCRUSTING SOLIDS	
Excess Oxygen.....	.62	Sodium Carbonate.....	4.34
Total Solids.....	26.62	Magnesium Sulphate†.....	None
		Sodium Sulphate.....	3.12
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	4.53
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	6.44	Sodium Chloride.....	3.30
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.41	Volatile & Organic Matter.....	
		Total - - -	15.29

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per million

Color ----- 6  
 Turbidity ----- 3

Respectfully submitted,

*Smith-Emery Co.*  
 Chemists and Chemical Engineers.



LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

LABORATORY  
 No. 44404

Date, Nov. 3, 1922.

Sample **WATER** Marked #9

Received 10-23-1922

Submitted by **Title Insurance & Trust Co.,** Source  
**c/o Engineering Service Co.,**  
**1316 Washington Bldg., Los Angeles, Cal.**

Jordan

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	.79	Suspended Matter.....	.79
Silica (SiO <sub>2</sub> ).....	.75	Silica.....	.75
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	Trace	Iron Oxide & Alumina.....	Trace
Calcium (CaO).....	2.88	Calcium Carbonate.....	5.14
Magnesia (MgO).....	.79	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	4.56	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	3.30	Magnesium Carbonate.....	1.65
Chlorine (Cl).....	1.17	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	3.82	Total - - -	8.33
Volatile & Organic Matter.....	6.25	NON-INCRUSTING SOLIDS	
Total - - - -	24.31	Sodium Carbonate.....	1.68
Excess Oxygen.....	.26	Magnesium Sulphate†.....	None
Total Solids.....	24.05	Sodium Sulphate.....	5.86
Hydrogen Sulphide (H <sub>2</sub> S).....	None	Sodium Chloride.....	1.93
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	3.90	Volatile & Organic Matter.....	6.25
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	None	Total - - -	15.72

\*CORROSIVE.

†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per million

Color ----- 25  
 Turbidity ----- 15

Respectfully submitted,

*Smith-Emery Co.*  
 Chemists and Chemical Engineers.





LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**  
 CHEMICAL ENGINEERS AND CHEMISTS  
 METALLURGICAL AND TESTING ENGINEERS  
 245 N. LOS ANGELES STREET  
 LOS ANGELES

LABORATORY  
 No. 44405

Date, Nov. 3, 1922.

Sample WATER Marked #10

Received 10-23-1922

Submitted by Title Insurance & Trust Co., Source  
 c/o Engineering Service Co.,  
 1316 Washington Bldg., Los Angeles, Cal.

Jordan.

INDUSTRIAL ANALYSIS

ANALYSIS OF SOLIDS	GRAINS PER U. S. GALLON	INCRUSTING SOLIDS	GRAINS PER U. S. GALLON
Suspended Matter.....	None	Suspended Matter.....	None
Silica (SiO <sub>2</sub> ).....	.75	Silica.....	.75
Iron Oxide & Alumina (R <sub>2</sub> O <sub>3</sub> ).....	.05	Iron Oxide & Alumina.....	.05
Lime (CaO).....	2.88	Calcium Carbonate.....	5.14
Magnesia (MgO).....	1.86	Calcium Sulphate.....	None
Soda (Na <sub>2</sub> O).....	12.68	Calcium Chloride*.....	None
Sulphuric Anhydride (SO <sub>3</sub> ).....	1.44	Magnesium Carbonate.....	3.80
Chlorine (Cl).....	7.25	Magnesium Chloride*.....	None
Carbon Dioxide, Combined (CO <sub>2</sub> ).....	8.00	Total - - -	9.74
Volatile & Organic Matter.....	3.98	NON-INCRUSTING SOLIDS	
Total - - - -	38.89	Sodium Carbonate.....	9.05
Excess Oxygen.....	1.64	Magnesium Sulphate†.....	.12
Total Solids.....	37.25	Sodium Sulphate.....	2.41
Hydrogen Sulphide (H <sub>2</sub> S).....	Trace	Sodium Chloride.....	11.95
Carbon Dioxide, Half Bound (CO <sub>2</sub> ).....	8.70	Volatile & Organic Matter.....	3.98
Carbon Dioxide, Uncombined (CO <sub>2</sub> ).....	.47	Total - - -	27.51

\*CORROSIVE.

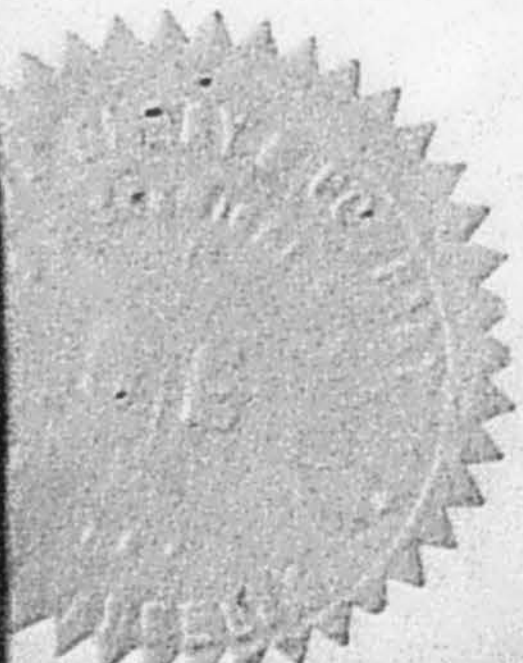
†FORMS SOME SCALE IN PRESENCE OF CALCIUM CARBONATE AND SODIUM CARBONATE.

Parts per million

Color ----- 12  
 Turbidity ----- 2

Respectfully submitted,

*Smith-Emery Co.*  
 Chemists and Chemical Engineers.



LABORATORY CERTIFICATE

**SMITH-EMERY COMPANY**

CHEMICAL ENGINEERS AND CHEMISTS

METALLURGICAL AND TESTING ENGINEERS

345 SOUTH LOS ANGELES STREET

LOS ANGELES

LABORATORY

44369-405

Date

Nov. 4, 1922.

Sample Waters.

Received 10-23-1922

Marked

(See Below)

Submitted by Title Insurance & Trust Co.,  
c/o Engineering Service Co.,  
1315 Washington Bldg., Los Angeles, Cal.

Jordan.

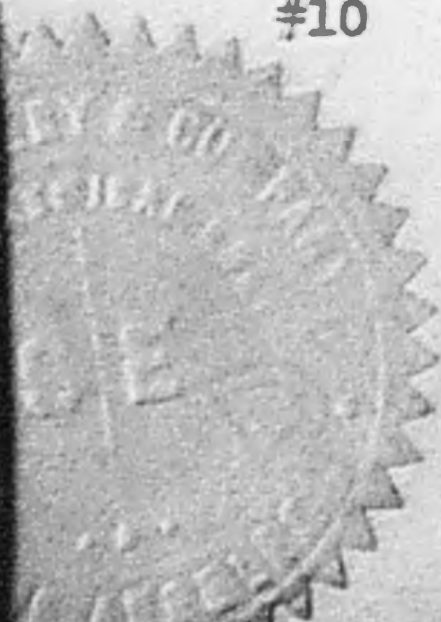
\*\*\*\*\*

BACTERIOLOGICAL EXAMINATION

<u>Mark</u>	<u>Count</u>		<u>Bacillus Coli</u>
	<u>Colonies per c.c., 24 hours on standard agar at 37° C.</u>		
#1	63		Negative
#2	None		Negative
#3	None		Negative
#4	None		Negative
#5	None		Negative
#6	None		Negative
#7	None		Negative
#8	None		Negative
#9	750		Positive in 1 out of ten 5 c.c. tubes
#10	8		Negative

Respectfully submitted,

*Smith Emery*  
CHEMISTS & CHEMICAL ENGINEERS



**Ed Fletcher Papers**

**1870-1955**

**MSS.81**

**Box: 42 Folder: 8**

**Business Records - Reports - Smith-Emery  
Co., "Bacteriological Examinations of Water"**



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