

**REPORT UPON THE SANITARY QUALITY
OF THE OWENS RIVER WATER SUPPLY
DELIVERED TO CONSUMERS IN LOS
ANGELES THROUGH THE LOS ANGELES
AQUEDUCT SYSTEM**

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Report Upon the Sanitary Quality of the Owens River Water Supply delivered to consumers in Los Angeles through the Los Angeles Aqueduct System by Charles Gilman Hyde

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CHARLES GILMAN HYDE

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HEAD OF COTTONWOOD CREEK, JUNE 7, 1915
(DRAINAGE IS TRIBUTARY TO THE LOS ANGELES AQUEDUCT)

REPORT

UPON

The Sanitary Quality of the Owens River
Water Supply Delivered to Consumers
in Los Angeles Through the Los
Angeles Aqueduct System

BY

CHARLES GILMAN HYDE

Sanitary and Hydraulic Engineer



LOS ANGELES, CALIFORNIA

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George W. Weeks

A REVIEW OF
THE CASES OF HART AND FROST vs. THE CITY OF LOS ANGELES
BEING A CONSIDERATION OF
THE SANITARY QUALITY OF THE OWENS RIVER WATER SUPPLY
DELIVERED TO CONSUMERS IN LOS ANGELES
THROUGH THE LOS ANGELES AQUEDUCT SYSTEM

by

CHARLES GILMAN HYDE,
Sanitary and Hydraulic Engineer.
July 1, 1915.

LEGAL FEATURES OF CASES.

ANTAGONISM TO AQUEDUCT PROJECT.

The conception of a great system of water supply from Owens River for the people of Los Angeles was nothing less than an inspiration. Its construction has required faith, loyalty, brains and engineering ability of the highest order. Its consummation spells for the citizens of Los Angeles a degree of success and a brilliancy of future which could in no other way have been so perfectly vouchsafed.

Yet from the beginning all sorts of selfish interests have antagonized the development of this magnificent project. These interests have for the most part waged a battle from the ambush. They have used the knife in the dark. They have not permitted their identity to be disclosed. Mere dummies posing as citizens jealous of the welfare of the people or as public-spirited engineers have served as screens for the "malefactors of great wealth" who would have been able to profit if this scheme of water supply could have been throttled or if spurious claims to water in the Owens River drainage basin could have been foisted upon the city at great cost. Fortunately, the construction of the works was not thereby halted. The engineers and attorneys for the city and the real citizenship which had the best interests of the city at heart did not falter. They carried the enterprise through according to the original program of capital outlay, capacity of works and time schedule.

It remained for one final, but again futile, effort to be made to destroy the project at or about the time when, the aqueduct and reservoirs having been sufficiently completed, the water was finally brought to the threshold of the City and turned into the distribution system. This attempt to undermine or destroy the efficacy of the Aqueduct system took the form of injunction proceedings to restrain the further use of water from Owens River.

MOTIONS FOR INJUNCTION AGAINST
USE OF OWENS RIVER WATER.

The first suit, including a motion for a preliminary injunction, was filed in the Superior Court of Los Angeles County on or about August 15, 1914, by Henry A. Hart. Mr. Hart was the leader of the mal-odorous majority of the Peoples Aqueduct Investigation Board, so-called, whose work and report are too well remembered to require extended mention here. It is sufficient to state that, after having been in existence for six months and having spent \$16,585.48 in "investigating," they were unable to find

any evidence of graft or incompetence in the prosecution of the aqueduct project. They were willing to go on record, however, as being certain, on the basis of their intimate knowledge of human nature, that were they to be continued in office for a sufficiently longer period with sufficiently larger sums to expend, tangible evidences of graft and incompetence would be forthcoming.

It was shortly discovered that no sufficient cause of action existed in Hart's case because he was not a resident within the territory supplied with aqueduct water, which was a principal ground of complaint. A second suit was therefore filed in behalf of Edgar M. Frost, who seemed to be willing to serve as a dummy plaintiff and who conveniently lived in the district which was being supplied with water from Owens River. Furthermore, among other activities, Frost was employed as a detective in the office of attorney for plaintiff during the period covered by the suit.

The suits were brought by Mr. Ingle Carpenter, as attorney. The names of the clients in whose interests he served Mr. Carpenter has not yet seen fit to divulge, nor did they appear during the hearing of the case.

As a self-styled servant of the people Mr. Carpenter made a trip into the Owens Valley region in June, 1914. In July he employed Dr. Ethel Leonard as a sanitary expert and accompanied her on a six days' inspection trip over the watershed. A few samples for bacteriological and chemical examination, and a few photographs, were taken at this time. Upon her return to Los Angeles, Dr. Leonard prepared a report of her sanitary investigations. This was shortly printed and, consistently enough, was clothed in yellow covers. It was spread broadcast throughout the city and country "wherever it could do the most harm."

The original motion for a preliminary injunction was supported by seven affidavits filed by H. A. Hart as plaintiff, Ingle Carpenter as attorney, Dr. Ethel Leonard as sanitary expert, Ralph Leonard as assistant, Dr. A. F. Wagner as chemist, H. R. Fosbinder as veterinarian, and G. L. Hazlett as searcher of records. These affidavits were variously dated between August 7th and 13th. The order to show cause why the injunction should not be granted was signed by Judge Lewis B. Works as Presiding Judge of the Superior Court, under date of August 15th, and required the defendants in the action, the City of Los Angeles and the individual members of the Board of Public Service Commissioners, to appear in Court on August 26th. The representatives of the parties appeared but the hearing on the motion for a preliminary injunction was postponed on account of the absence of Dr. Ethel Leonard, who departed for Chicago immediately after making her report, above noted. Judge Works then decided that no preliminary injunction should be issued and that the case should be set down for an early trial.

A second suit was filed on behalf of Edgar M. Frost on October 5, 1914. The summons was dated October 5th and required that the defendants appear and answer within ten days thereafter.

AFFIDAVIT OF DR. ETHEL LEONARD.

The principal affidavit in support of the motion of H. A. Hart looking to a preliminary injunction, restraining the further use of Owens River water through the Aqueduct system, was that of Dr. Leonard. This paper

was almost identical with the printed report above mentioned. Something of the profound technical ability of this expert for the plaintiff, and something of the animus actuating her work, may be inferred from the following statements in the affidavit in question:

"Although cultures"—of Horton's creek water—"made by the State Hygienic laboratory showed the presence of typhoid bacilli, the source of infection and virulence of the organisms could not be accounted for." No samples from this source were ever examined by the State Hygienic Laboratory. Moreover, neither this laboratory nor any other reputable laboratory attempts to differentiate *B. typhosus* in routine work and but few authentic isolations of this germ have ever been made from potable waters.

"Physical conditions"—at the north end of Haiwee Reservoir—"demonstrate beyond question that even bacteria cannot develop in such polluted water."

"The course of these creeks"—mountain streams emptying into Long Valley—"lies through the marshes of Long Valley which contain enumerable"—(innumerable)—"dead cattle." The testimony in the case showed that only two or three carcasses of varying ages were discovered in an area fully 20 square miles in extent.

"Owing to the large number of germs and contamination by organic matter found in practically all of the samples, it was deemed inadvisable and impractical to attempt to segregate the specific pathogenic bacteria." The real reason should lie in the limitations of bacteriological procedure, not in the causes named.

"The inoculation of the Owens River water from its source to the intake with pathogenic and saprophytic bacteria must so alter its chemical condition that the continued use by the residents of Los Angeles for human consumption and domestic use, even with boiling precautions, must necessarily result in severe gastro-intestinal diseases. Other diseases resulting from disturbed metabolism will undoubtedly attack anyone who continuously drinks this water."

"My investigation shows that any use of Owens River water is absolutely impossible from a sanitary standpoint."

"Plate cultures all developed 72 hours before colonies were counted." "Cultures were kept as near as possible at a uniform temperature, 37°C." The period of incubation employed by Dr. Leonard was three times as great as American standard methods dictate.

COMPLAINT OF EDGAR M. FROST.

The complaint of Edgar M. Frost, upon which the second suit was based, made the following principal allegations:

- (1) that the City of Los Angeles, a municipal corporation, through the Board of Public Service Commissioners, who have immediate charge of the water works system, furnishes as a portion of its supply, the water from Owens River through the Los Angeles Aqueduct.
- (2) that the plaintiff is furnished with water from this source which is alleged to be polluted in various designated ways above the point of intake and is therefore unhealthful to consumers in the City of Los Angeles.
- (3) that certain streams such as Cottonwood Creek are unpolluted and sufficient for present purposes and that the supply can be extended by the use of other protected creeks.
- (4) that no permit had been obtained from the State Board of Health.
- (5) that the supply derived from Los Angeles River has hitherto been unpolluted and healthful, but now has become polluted by the turning of Owens River water into the distribution system.
- (6) that various chemical and bacteriological analyses made in behalf of the plaintiff on samples collected from the system as far down

as San Fernando Valley show the water to be polluted and therefore dangerous and unhealthful to consumers in the City of Los Angeles and to the plaintiff.

During the trial, the falsity of every statement named above, except (1), (4), and the first part of (5), was demonstrated beyond peradventure. With respect to item (4) Judge Works declared that the statute which appears to require that a permit to operate the works must be secured from the State Board of Health is either unconstitutional or else was covered by charter provisions since the Los Angeles City charter confers on the City the right and power both to acquire and to operate and control a water works system.

HEARING BEFORE JUDGE WORKS.

The Hart and Frost cases were assigned, by Judge Works to himself. After several postponements, all at the instance of Ingle Carpenter, attorney for the plaintiffs, the trial of both cases was begun on January 5th, it being agreed that the cases be tried together. The trial continued with few interruptions until the decision was rendered on March 19th. The hearing consumed 40 court days. The transcript embraced some 6,312 pages and possibly 1,250,000 words.

In its relation to the best interests and the general welfare of the people, the capital outlay involved and the number of trained experts employed, this litigation represents one of the most important cases yet heard in the United States dealing wholly with a water supply problem. From the standpoint of the significance and complexity of the sanitary principles involved, as well as from the standpoint of its general importance, this litigation is outranked by the famous Chicago Drainage Canal Case (State of Missouri vs. the State of Illinois and the Sanitary District of Chicago, 1900-1906) which comprehended problems of sewage disposal as well as of water supply. In volume of testimony and the number of trained experts employed this litigation is to be compared with the Jersey City Water Supply Case (City of Jersey City vs. Jersey City Water Supply Company, 1904-1908).

Throughout the trial Judge Works proved himself to be most fair. He was extremely generous in the admission of testimony from both sides. He was tireless in his attention to every detail and angle of the case. Because of his extremely judicial temperament and his clear grasp of the problems as presented to him, his decision must be considered to be practically faultless and impregnable.

The case was most ably conducted for the city by Mr. W. B. Mathews, Special Counsel to the Board of Public Service Commissioners, assisted by Mr. Wm. B. Himrod, Deputy City Attorney. The experts testifying in behalf of the City were Wm. Mulholland, Chief Engineer of the Board of Public Service Commissioners, and Dr. Stanley Black, Dr. Walter V. Brem, Charles Gilman Hyde, Dr. Edwin O. Jordan, Charles H. Lee, E. O. Slater, and Carl Wilson. Testimony on certain engineering and operative features of the Aqueduct system was given by Messrs. Van Norman, Shuey and Jones of the Aqueduct staff.

The case for the plaintiffs was conducted by Mr. Ingle Carpenter, attorney. The experts testifying in behalf of the plaintiffs were Dr. Ethel