

Resolution Granting Permit

Whereas the

JOSHUA BASIN COUNTY WATER DISTRICT

on OCTOBER 28, 1965 filed a petition for a permit to furnish water for domestic purposes, and

Whereas the State Board of Public Health has made a thorough investigation of petitioner's proposal, the report of said investigation being attached hereto marked Exhibit "A" and by this reference made a part hereof, and

Whereas this board determines subject to the requirements set forth herein that the furnishing or supplying of water is such that under all the circumstances and conditions described said water will be pure, wholesome, and potable and will not endanger the lives and health of human beings,

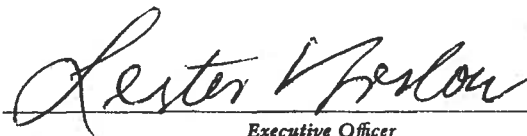
Resolved that a permit be granted to applicant subject to the special requirements set forth below:

Within two years of the date of this permit, Well No. 2 shall be provided with adequate protection from contamination by reconstruction, purchase of additional property or a combination of these methods. The proposed protection shall be approved in advance by the Bureau of Sanitary Engineering. Until this is accomplished, close surveillance shall be maintained over the land near Well No. 2 and one sample shall be collected directly from the well each month for bacteriological analysis. Also, a progress report on reconstruction of the well shall be submitted annually each April to the Bureau of Sanitary Engineering until accomplished.

This permit supersedes all domestic water permits previously granted for this system.

Water Permit No. 67-27

Date APRIL 18, 1967



Executive Officer

DEPARTMENT OF PUBLIC HEALTH

2151 BERKELEY WAY
BERKELEY 94704



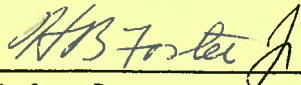
EXHIBIT A In the matter
of the Permit Application
From

JOSHUA BASIN COUNTY WATER DISTRICT
Serving Joshua Tree
San Bernardino County

SANITARY ENGINEERING
INVESTIGATION OF
DOMESTIC WATER SUPPLY

March, 1967

Report Approved by


Chief, Bureau of Sanitary Engineering

DEPARTMENT OF PUBLIC HEALTH

2151 BERKELEY WAY
BERKELEY 94704

EXHIBIT A. In the Matter
of the Permit Application
From
Joshua Basin County Water District
Dated October 28, 1965
Serving Joshua Tree

Sanitary Engineering Investigation
of Domestic Water Supply
March, 1967

I. INTRODUCTIONA. Purpose of Report

The Joshua Basin County Water District submitted application dated October 28, 1965, to the State Board of Public Health pursuant to Section 4011 of the Health and Safety Code for permit to serve domestic water from its existing system in the Joshua Tree area and to make necessary improvements to the system. This report has been prepared for consideration of the permit application.

B. Brief Description of System

The District presently serves three separate systems. The main six-zone system can be served by three deep wells, nine storage tanks (total capacity of 1.158 million gallons), and seven booster stations. The two smaller one-zone systems are each served by a single deep well pumping through a pressure tank to the system.

C. Proposed New Facilities

Extensive improvements to the system are contemplated including new transmission and distribution mains, additional storage and pumping facilities, and development of new ground water sources. The permit application does not include a proposal for specific new facilities.

II. INVESTIGATION AND ANALYSESA. Source of Information

Information for this report was obtained from Mr. O. L. Martin, then General Manager, and Fred Tripp, field superintendent, both of the Joshua Basin County Water District, and letters from the District dated January 20, May 26, August 15, 1966, and March 13, 1967.

B. Recent Improvements

Development in the Joshua Tree area began about 1937. A number of separate water systems were constructed to serve new subdivisions. These systems were expanded gradually and ownership has changed a number of times. Just prior to the acquisition of the systems by the District, the Joshua Tree Service Company, Friendly Hills Water Company and Las Casitas Water Company systems were purchased by the Rancho Ramon Water Company and interconnected. The Joshua Basin County Water District was formed in January, 1963, and in July, 1965, acquired the above system plus two small separate systems, the Joshua Terrace Water Company and Rancho Ramon Water Company's Sun Fun Rancho system.

Since acquiring these systems, the District has installed a 420,000-gallon storage tank, several miles of new 6 and 8-inch diameter mains, new pumps in Wells No. 1, No. 8 and No. 9, four new boosters, and new controls for the wells. Also, maintenance and operation of the system have improve significantly.

The engineers for the District have prepared a long-range master plan of improvements to provide service for the entire District as the area develops. The District has indicated its intention of following the recommended plan for developing the system and particularly for initiating a source development program.

Improvements planned for 1967 include the following::

1. In Improvement District No. 1, a complete distribution system, three booster stations, and three new reservoirs (total 0.95 MG) are under construction.
2. One reconditioned 42,000-gallon tank will replace the 10,000-gallon Bennet Tank and another 42,000-gallon tank will be installed at the Wellman site.
3. Construction of a new well in 1967 is anticipated.
4. Continuing gradual replacement of substandard piping and installation of distribution mains.

The general improvements made and planned by the District are satisfactory.

C. Area Served

The District boundaries presently encompass 77 square miles in and around the community of Joshua Tree in San Bernardino County. The existing facilities serve only a portion of the total District area. As of February 1, 1967, the District had a total of 956 services, of which 382 were active. All services are metered. The separate Sun Fun Ranchos and Joshua Terrace systems each have five metered services. The population served is an estimated 3000 persons. Approximately 70% of the consumers are year-round residents.

Total water production from the District's wells in 1966 was an estimated 106 million gallons. This is approximately 100 gallons per person per day. The District's engineers used a per capita requirement of 131 gallons per day to project system needs. All wells are now metered and daily pumping records are maintained.

Development of the District service area has been steady and the rate of growth has increased recently. The District estimates they will add about 100 new services in each of the next several years. Improvement District #1, which will be completed in 1967, will add about 260 services to the water district system. Presently it is estimated that only 20% of these services are to permanent residents, but the number may increase considerably when an adequate piped water supply is made available. Preliminary planning for Improvement Districts Nos. 2 and 3 has been initiated. No. 2 is tentatively expected to include about 100 new services and may be completed in 1968. No. 3 is projected for 1969-70 and could include 400 to 500 new services. Construction of Improvement District No. 2 facilities will provide for inter-connection of the three separate existing systems. An existing small privately owned system may be purchased by that time and included in the District system.

Additional source capacity will be needed as the District develops. The master plan for improvements includes provision for obtaining additional ground water supply. The District has by letters dated August 15, 1966, and March 13, 1967, indicated their intention of developing new well sources in 1967. The District has several existing wells which can provide increased capacity with improved pumping equipment. In addition, the District is a member of the Mojave Water Agency which is a contractor with the State for imported Feather River water.

D. Water Sources

Water for the main system can be obtained from three existing wells. Well No. 6 is presently inoperative because the water level is too low for installed pumping equipment. Wells Nos. 1, 2 and 6 pump to the lower pressure zone served by Tank Battery No. 1 and Tank No. 6. Boosters No. 5 and 7 pump from the lower zone to small hydropneumatic systems near Tank No. 6. A pump at Tank Battery #1 boosts to Zone 2 which is served by the two Tanks No. 2. A booster at Tank 2 pumps to Zone 3 served by the 0.021-MG Tank No. 3. One booster pumps from Tank No. 3 to Zone 4 served by Tank No. 4 and another pumps from Tank No. 3 to Zone 5 served by Tank No. 5. The separate Joshua Terrace system is served by Well No. 8 which pumps through a 5000-gallon pressure tank to the system. In the separate Sun Fun Ranchos system, Well No. 9 pumps through an 1800-gallon pressure tank to the system. The wells and boosters presently can be operated on manual or automatic control. Manipulation of the systems is shown on the attached schematic diagram.

All of the wells are adequately separated from sewerage facilities. The wells are of satisfactory sanitary construction except that Well No. 2 is a gravel-packed well with no conductor casing installed. There presently is no sewage disposal system within more than 300 feet of this well. The purveyor has by letter dated March 13, 1967, indicated it will for the next two

years maintain close surveillance over the development near this well and monitor the bacteriological quality of the well water. Within the next two years the District intends to provide suitable physical protection for the well. Minor defects were found at several of the system's wells including lack of surface seals and drainage problems. Reinspection of the system showed that these have been corrected.

Bacteriological results from Well No. 8 were chronically bad for several months. The District rehabilitated the well and removed very long tree roots which had entered the casing. The well has subsequently produced only water of satisfactory bacteriological quality.

Bacteriological and chemical analyses of samples collected from the District's wells have shown that the water sampled met the drinking water standards of the State Board of Public Health.

The wells are of satisfactory sanitary construction except for Well No. 2 which is gravel packed and has no conductor casing. The District has indicated it will provide adequate sanitary protection for Well No. 2 within two years. The District's proposed interim protective measures are satisfactory. There are no other existing sanitary hazards to the wells. The chemical and bacteriological quality of the wells is satisfactory.

E. Treatment

No treatment is provided.

F. Storage and Distribution

Storage for the main system is provided by nine reservoirs with a total capacity of 1,158,000 gallons. The two small systems have no gravity storage, but each system has one small pressure tank. The long-range master plan provides for adding numerous other storage facilities and for interconnecting the smaller systems.

All of the reservoirs and pressure tanks are free from hazardous connections, are protected against entry of surface drainage and are adequately covered. Minor defects in protection of the reservoirs found during field review have been satisfactorily corrected.

The main system presently has seven booster stations which deliver water to higher pressure zones. There are no defects or hazards at the booster stations.

Pressures in the system range from about 25 to 130 psi. No complaints of low pressure have been received. The District ultimately plans to have 15 pressure zones with a pressure range of 25 to 160 psi.

The distribution system consists primarily of 2" to 10-3/4" diameter steel pipe, most of which is dipped and wrapped. Some of the steel pipe is mortar lined. Some of the older pipe may be unprotected. Eighty percent of

the steel pipe is 10 or 12-gage steel, but about 20% is 14-gage steel pipe, dipped and wrapped outside with mortar lining inside. Much of the 14-gage pipe is in the former Hidden Rivers system. The District's engineers, Albert A. Webb Associates, proposed the use of 12-gage, mortar-lined, steel pipe in 6 through 12-inch diameter for transmission and distribution mains in Improvement District No. 1. A letter report dated August 4, 1966, from the engineers regarding use of this non-standard pipe was submitted on behalf of the District. The report shows that the proposed pipe is satisfactory for the specific intended use.

The condition of most of the pipe is not known, but some is over 20 years old. The District has indicated it intends to gradually replace small sub-standard pipe in the system with standard pipe of larger diameters. Standard specifications for the District covering all new installations are to be prepared. There is no problem with regard to proximity of water and sewer lines as the area is unsewered and mains are installed in the streets. There are about 25 dead ends in the system equipped with flushing valves or fire hydrants.

The system's storage and pumping facilities are of satisfactory construction and free from hazards. The distribution system, although portions are of sub-standard size, is free from sanitary hazards. These facilities can continuously deliver an adequate supply of water at satisfactory pressures to the consumers.

G. Maintenance and Operation

The system is maintained and operated by a district manager with the help of three full-time field personnel and part-time employees as needed. Daily checks are made of pumping units in operation. Main installations are normally done by contractors.

There are presently no backflow devices installed on services from the District system. There are no known cross-connections existing. The District serves no premises with private well supplies, nor are there any industrial premises served. New construction must conform to the requirements of the Uniform Plumbing Code which is enforced by the San Bernardino County Department of Building and Safety. The District has indicated its intention to adopt and enforce a cross-connection control program which will conform to State requirements.

A bacteriological sampling program was initiated by the District in November, 1965. Adequate samples have been collected from the system in each of the past 12 months. The San Bernardino County Department of Public Health collects periodic check samples from the system. Fifty-two samples from the system in the past year have been negative. The District is initiating a program of routinely sampling well sources.

The District intends to prepare specifications for disinfection of new and repaired mains which will comply with the AWWA disinfection standard. The District obtains 50 ppm chlorine dosage by use of hypochlorite tablets. The minimum detention time is 24 hours and mains are thoroughly flushed before being put in service. The District has indicated they will obtain a chlorine residual test kit and insure that a minimum of 10 ppm chlorine residual is maintained after 24 hours.

A program for flushing all dead ends on a monthly basis has been initiated. Specific mains are also flushed upon receipt of infrequent sand or dirty water complaints. Only a few complaints have been received by the District

III. APPRAISAL OF SANITARY HAZARDS AND SAFEGUARDS

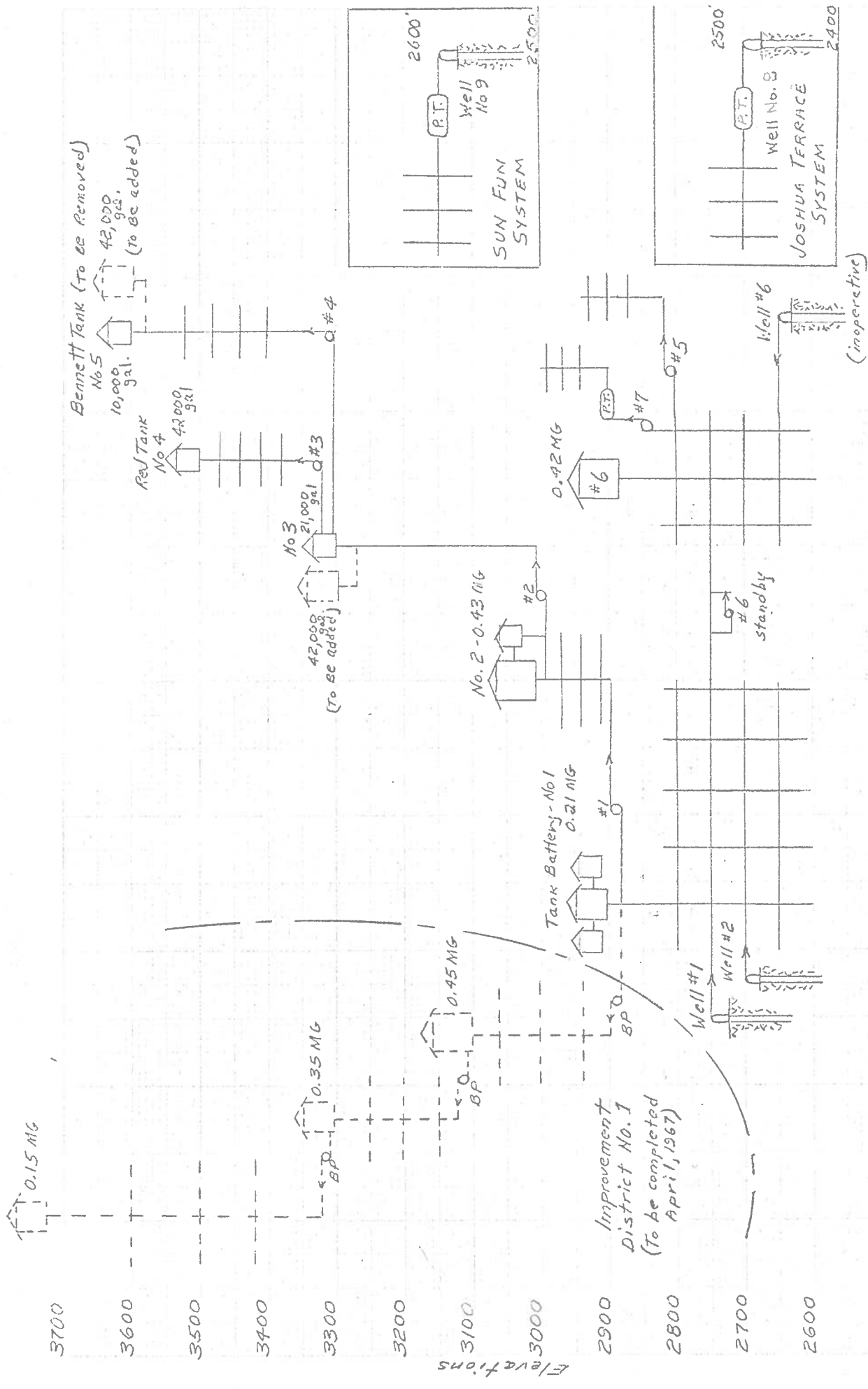
The overall operation and maintenance of the system is good. The bacteriological quality problem with Well No. 8 appears to have been eliminated with the rehabilitation of the well. There are no existing sewage hazards to the wells or other facilities. However, Well No. 2 is gravel packed with no conductor casing. The District has indicated it plans to provide adequate physical protection for Well No. 2 within two years by reconstruction of the well and/or purchase of sufficient property surround the well. Until this is accomplished, the District has stated it will monitor the bacteriological quality of the well water and maintain surveillance over the well site area. These interim protective measures are satisfactory until adequate physical protection is provided as proposed. The purveyor's existing sources of supply are adequate in quantity for only limited additional future growth. However, the District's program for developing new sources is adequate. Some of the distribution system is substandard and the condition of some mains is not known. The District has indicated it will make system improvements and gradually eliminate substandard mains. Approval of the use of 12-gage mortar-lined steel pipe in 10 and 12-inch diameters by this Department was given only for the specific installation proposed in Improvement District No. 1. Review of the bacteriological and chemical records of the system indicate the water served has been pure, wholesome and potable. The system works can deliver a sufficient supply of water of satisfactory quality.

IV. RECOMMENDATION

In view of the above investigation, it is recommended that a permit be granted to the Joshua Basin County Water District to serve domestic water through its existing system as described in application dated October 28, 1965, in supporting documents and in this report.

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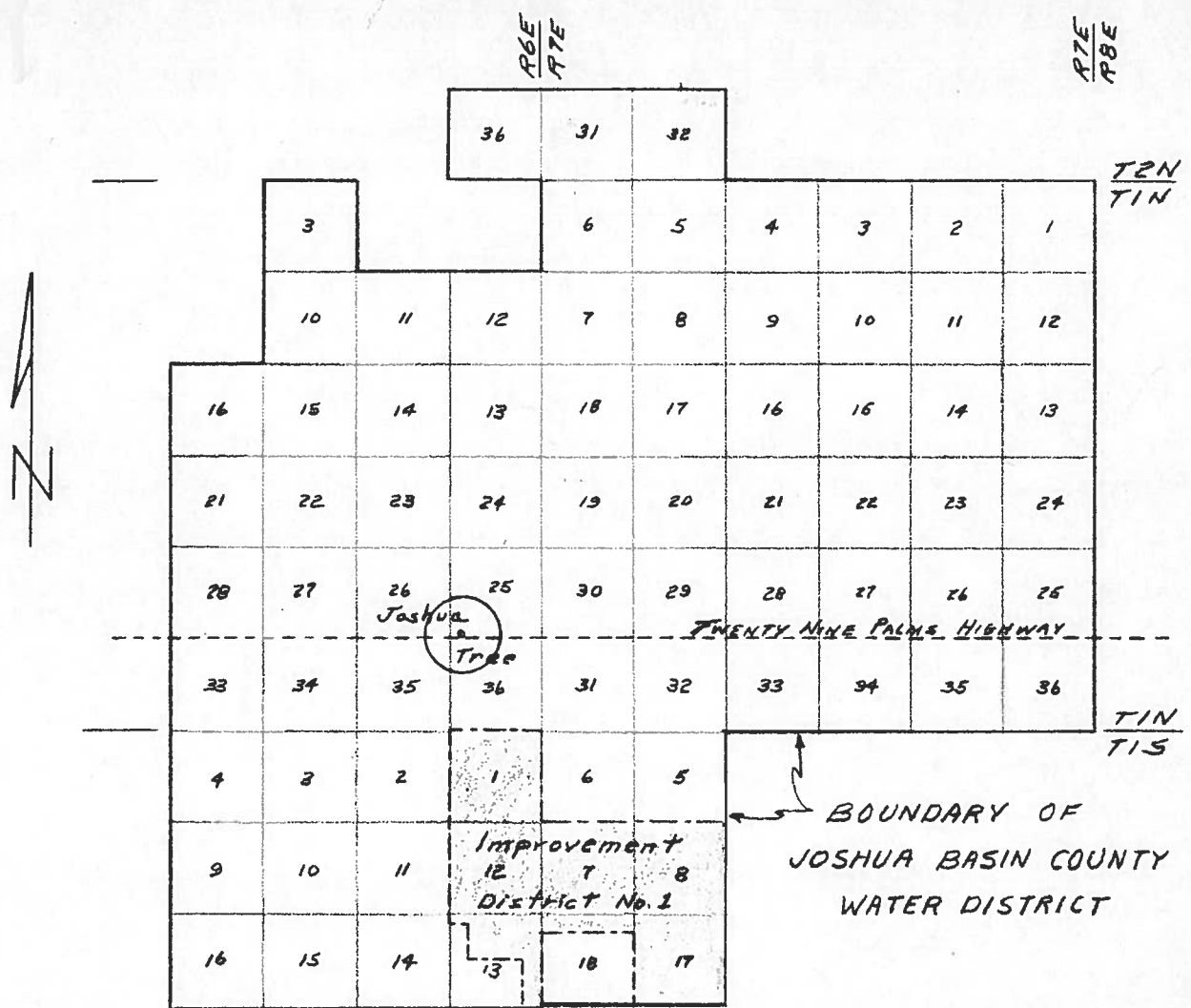
cc: Joshua Basin County Water District
San Bernardino County Department of Public Health
Albert A. Webb Associates
Regional Engineer
District Engineer
San Sur File



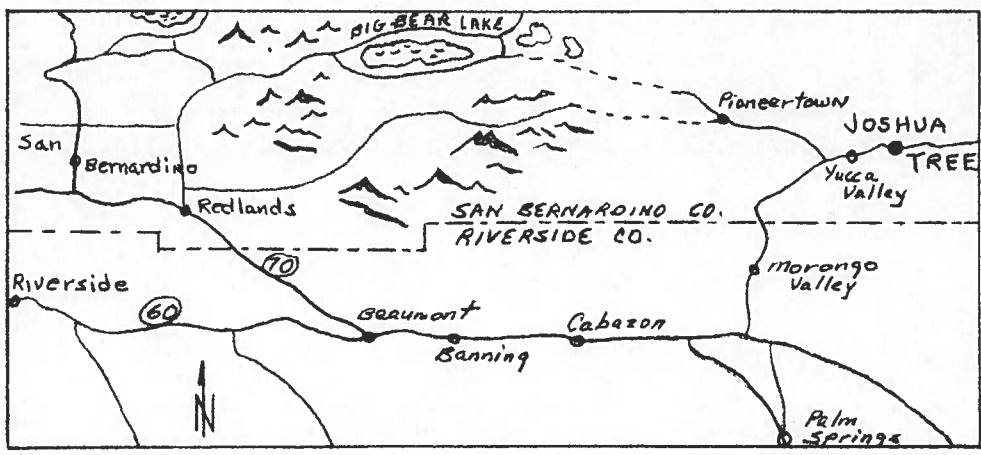
SCHEMATIC DIAGRAM

JOSHUA BASIN COUNTY WATER DISTRICT
MARCH, 1967

CEA BSE



JULY, 1966
CEA BSE



LOCATION MAP

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

WELL DATA (1) Place and Owner..... Joshua Basin County Water District

(2) Source of Information..... Fred Tripp, Field Supt; Oram Martin, Mgr; Riley Wellman, Opr.

Collected by..... C. E. Anderson Date..... 12/21/65; 7/26/66; 3/1/67

(3) Number or Name.....	Well #1	Well #2	
Date drilled.....	1937	1961	
(4) Location: Neighborhood.....	residential	residential	
Size of lot.....	1.7 acres	0.17 ac (150'x50')	
Distance to: Sewer.....	none	none	
Sewage disposal.....	Believe CP >150'	SP at least 300'	
Abandoned well.....	none known	none known	
Nearest property line.....	50'	25'	
(5) Housing: Type.....	none	metal	
Condition.....	N/A	good	
Pit depth (if any).....	none	none	
Floor (material).....	conc pad	conc/wi block	
Drainage.....	fair	fair	
(6) Well Depth.....	512'	500'	
(7) Casing: Depth.....	about 512'	500'	
Diameter.....	12"	12"	
Kind.....	stovepipe	steel	
Height above floor.....	Believe to be flush	1" above top o/block	
Distance to highest perforations.....	Believe to be abt 400'/	belvd 200'	
Surface sealed (yes or no).....	yes	yes	
Gravel pack (yes or no).....	no	yes	
Second casing depth.....	none	none	
Second casing diameter.....	-	N/A	
Annular seal (depth).....	none known	none	
(8) Impervious Strata: { Thickness.....	12'	see well log	
Penetrated { Depth to.....	292'		
(9) Water Levels: { Surface.....	2-7-67	2-7-67	
Depth to { Static.....	403.2'	421.1'	
{ When pumping.....	416.0'	423.5'	
(10) Pump: Make.....	Byron Jackson	Layne & Bowler	
Type.....	submersible	DWT	
Capacity, g.p.m.....	147 @ 105 psi	310 @ 106 psi	
Lubrication.....	water	oil	
Power.....	40 HP elec	75 HP elec	
Auxiliary power.....	none	none	
Control.....	manual	automatic	
Discharge location.....	4" above pad	3' above floor	
Discharge to.....	system	system	
(11) Frequency of Use.....	standby - summer primarily	continual - as needed	
(12) Flood Hazard.....	negligible	slight-drainage course 25' away	
(13) Remarks and Defects..... (Use other side if necessary)	Meter - yes Sample tap - yes Cor Park & Verbena Elev 2714	Sample tap Meter Cor Park & Verbena / Sunset Blv; 2 blks N/29 Palms Hwy	
(14) Show well log on other side.			

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

WELL DATA (1) Place and Owner Joshua Basin County Water District

(2) Source of Information Oram Martin, Mgr; Riley Wellman, Operations

Collected by C. E. Anderson Date 12/21/65 & 7/26/66

(3) Number or Name	#8 (Joshua Terr)	#9 (Sun Fun)	#6 (Hidden Rivers)
Date drilled	1947	1956	unk (well presently inop)
(4) Location: Neighborhood	residential	resid-isolated	residential
Size of lot	150' x 150'	70' x 100' Lot 40	50' x 50'
Distance to: Sewer	none	none	none
Sewage disposal	SP 195'	200' Blvd SP	150' (type unk)
Abandoned well	none known	none known	none
Nearest property line	40'	20'	50'
(5) Housing: Type	none	none	wood
Condition	N/A	N/A	fair
Pit depth (if any)	none	none	none
Floor (material)	conc	conc block	conc
Drainage	good	good	satisfactory
(6) Well Depth	412'	494'	475'
(7) Casing: Depth	412'	494'	475' (believed to be)
Diameter	8"	12"	12"
Kind	steel	steel	steel
Height above floor	3"	1/2" above blk	12"
Distance to highest perforations	unknown	366' to 494'	unknown
Surface sealed (yes or no)	yes	yes	no - opening under base
Gravel pack (yes or no)	no	no	no
Second casing depth	none	none	none
Second casing diameter	-	-	-
Annular seal (depth)	-	-	-
(8) Impervious Strata: Penetrated	{ Thickness... Depth to... no well log	see well log	no well log avail.
(9) Water Levels: Depth to	{ Surface... 2-7-67 Static... 180.2' When pumping... 181.2'	{ 2-7-67 377.1 378.2	unk - water level is below pump suction
(10) Pump: Make	Tait	B-J	L & B
Type	submersible	submersible	DWT
Capacity, g.p.m.	58 @ 56 psi	40 @ 46 psi	40
Lubrication	water	water	oil
Power	7-1/2 HP elec	7-1/2 HP elec	50 HP elec
Auxiliary power	none	none	none
Control	auto-pressure	auto-pressure	manual
Discharge location	12" above floor	6" above pad	2'
Discharge to	pressure tank	pressure tank	system
(11) Frequency of Use	continual - as needed	continual - as needed	not used
(12) Flood Hazard	negligible	negligible	negligible
(13) Remarks and Defects (Use other side if necessary)	Meter; sample tap Elev 2480 N/29 Palms Hwy at Sunfair Rd	Meter; sample tap Elev 2550 1/2 mi E/Rice Rd at LaVerne Rd	Meter; sample tap Elev 2640 N/Golden 1/4 mi E/Borden; may be abandoned
(14) Show well log on other side.			

WELL LOGS

JOSHUA BASIN COUNTY WATER DISTRICT

WELL #1 (State # 1N/6E-25-M1)
Drilled 1937 by R.F. & J.H. Taylor;
Casing 512' - 12" diam.

0 - 15'	Surface
15 - 292	Dry Gravel
292 - 304	Clay
304 - 393	Dry Gravel
393 - 404	Gravel and clay
404 - 428	Dry Gravel
428 - 430	Cemented rock
430 - 500	Good water gravel
500 - 512	Rock bottom

WELL #2 (State # 1N/6E-25-M2)
Drilled 1961 by Ray Roberts
Perforations unknown (believed to be below 200')
500' of 12" diam casing; gravel packed
Hole reamed to 24"
Set 12" casing

0 - 92'	Sand
92 - 150	Med coarse sand
150 - 270	Coarse sand
270 - 425	Sand and clay
425 - 458	Water gravel & clay
458 - 495	Water sand and gravel
495 - 500	Clay & hard sand

WELL #3 (State # 1N/6E-26-N1)
Drilled 1949 by C. H. Suffdy
Perforated 530' to 610'
610' of 12" diam casing

0 - 545	Alluvial fill and gravel
545 - 580	Water bearing strata
580 - 610	Gravel

WELL #8 (State # 1N/7E-28-Q1)

No log available

WELL #9 (State # 1N/7E-20-P1)
Drilled by C. H. Suffdy in 1956;
Casing 494' of 12" diam.

0 - 200'	Conglomerate fill
200 - 260	Silt, clay content
260 - 375	Sand and boulders
375 - 494	Water, sand and gravel

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

RESERVOIR (Use for all distribution storage, chlorine contact tanks, sand traps, etc.)

(1) Place and Owner: Joshua Basin County Water District

(2) Source of Information: Oram Martin, Mgr; Riley Wellman, Opr; Fred Tripp, Supt.

Collected by: C. E. Anderson Date 12/21/65; 7/26/66; 3/1/67

(3) Number or Name	Reservoir #2: Large	Small
Date constructed:	1964 (reconstctd on site)	unknown
Purpose (storage, sand trap, etc.):	storage	storage
Capacity:	400,000 gallons	30,000 gallons
(4) Location: (specific)	Alta Loma and Sunny Hills	
Neighborhood:	Residential but isolated	
Size of lot:	Unknown	
Fencing:	None	
(5) Construction:		
Material:		
Sides:	welded steel	interlocking conc blocks-
Floor:	"	concrete reinf.
Cover or roof:	"	wood w/tarpaper covering
Height top of walls above ground:	+ 28'	11.5'
Surface drainage to reservoir possible?	no	no
Ventilation:	yes	none
Screening:	yes	none
(6) Inlet and Outlet Arrangement:		
Inlet:		
Location:	east side	west side
Distance above bottom:	1'	at bottom
Outlet:		
Distance from inlet:	common	common
Distance above bottom:	-	-
Drain to where:	ground	ground
Overflow to where:	"	"
Sewer or other hazardous connection (if so, make sketch on back)	none	none
(7) Relation to System:		
Receives from:	Booster #1 at Tank Battery	
Delivers to:	Balances on Zone No. 2 and delivers by Booster No. 2 to next higher zone,	
(8) Defects and Remarks: (Include statements on cleaning practices, condition of structure—particularly of roof, dimensions and shape of reservoir, leakage, kind and location of access openings, protection against insects, birds and rodents.)	Elev. 3089'	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

RESERVOIR (Use for all distribution storage, chlorine contact tanks, sand traps, etc.)

(1) Place and Owner: Joshua Basin County Water District

(2) Source of Information: Oram Martin, Mgr; Riley Wellman, Opr; Fred Tripp, Supt

Collected by: C. E. Anderson Date: 12/21/65; 7/26/66; 3/1/67

(3) Number or Name	#1 Tank Battery	North Tank	East Tank	West Tank
Date constructed:	1956	1945	1946	1946
Purpose (storage, sand trap, etc.):	storage	storage	storage	storage
Capacity: (gallons)	107,000	54,000	54,000	54,000
(4) Location: (specific)	South end of townsite - west of Park Blvd.			
Neighborhood:	Residential			
Size of lot:	100' x 200'			
Fencing:	None			
(5) Construction:				
Material:				
Sides:	corr steel	corr steel	corr steel	corr steel
Floor:	"	"	"	"
Cover or roof:	steel	steel	steel	steel
Height top of walls above ground:	20'	16'	16'	16'
Surface drainage to reservoir possible?	no	no	no	no
Ventilation:	none	none	none	none
Screening:	-	-	-	-
(6) Inlet and Outlet Arrangement:				
Inlet:				
Location:	north side	north side	north side	north side
Distance above bottom:	near bottom	near bottom	near bottom	near bottom
Outlet:				
Distance from inlet:	common	common	common	common
Distance above bottom:	-	-	-	-
Drain to where:	none	none	none	none
Overflow to where:	ground	ground	ground	ground
Sewer or other hazardous connection (if so, make sketch on back)	none	none	none	none
(7) Relation to System:	Wells #1 & #2 through lower pressure zone - balances on lower pressure zone; by booster to next higher zone			
Receives from:				
Delivers to:				
(8) Defects and Remarks: (Include statements on cleaning practices, condition of structure—particularly of roof, dimensions and shape of reservoir, leakage, kind and location of access openings, protection against insects, birds and rodents.)	10 HP Booster No. 1 takes suction from common header from all 3 tanks and delivers to Tank No. 2. Elevation: 2932			

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

RESERVOIR (Use for all distribution storage, chlorine contact tanks, sand traps, etc.)

(1) Place and Owner: Joshua Basin County Water District

(2) Source of Information: Oram Martin, Mgr; Riley Wellman, Opr; Fred Tripp, Supt

Collected by: C. E. Anderson Date: 12/21/65; 7/26/66; 3/1/67

(3) Number or Name.....	Wellman Tank (#3)	Red Tank (#4)
Date constructed:.....	1958	unknown
Purpose (storage, sand trap, etc.):.....	storage	storage
Capacity:.....	21,000 gallons	42,000 gallons
(4) Location: (specific).....		
Neighborhood:.....	Sunny Vista abve Melton	S end of Sunny Vista
Size of lot:.....	residential	mtn. isolated
Fencing:.....	2.5 acres	unknown
	none	none
(5) Construction:		
Material:		
Sides:.....	steel, bolted	steel bolted
Floor:.....	"	"
Cover or roof:.....	"	"
Height top of walls above ground:.....	8'	14'
Surface drainage to reservoir possible?	no	no
Ventilation:.....	yes	yes
Screening:.....	yes	no*
(6) Inlet and Outlet Arrangement:		
Inlet:		
Location:.....	NE side	E side
Distance above bottom:.....	1'	1'
Outlet:		
Distance from inlet:.....	common	common
Distance above bottom:.....	-	-
Drain to where:.....	ground	ground
Overflow to where:.....	"	"
Sewer or other hazardous connection (if so, make sketch on back).....	none	none
(7) Relation to System:		
Receives from:.....	Booster at Tank No. 2	Booster #3 at Wellman Tank
Delivers to:.....	Upper system by Boosters #3 and #4	Balances on small zone
(8) Defects and Remarks: (Include statements on cleaning practices, condition of structure—particularly of roof, dimensions and shape of reservoir, leakage, kind and location of access openings, protection against insects, birds and rodents.)		
	Elevation 3337' Reconditioned steel 42,000 gallon tank to be installed in parallel with this tank in April 1967 (will be Tank No. 3-A)	*Vent pipe unscreened Res MH cover not screened (both have been corrected) Elevation 3540'

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

RESERVOIR (Use for all distribution storage, chlorine contact tanks, sand traps, etc.)

(1) Place and Owner: Joshua Basin County Water District

(2) Source of Information: Oram Martin, Mgr; Riley Wellman, Opr; Fred Tripp, Supt.

Collected by: C. E. Anderson Date 12/21/65; 7/26/66; 3/1/67

(3) Number or Name	Burnett Tank (#5)	Tank #6
Date constructed:	1962	1965 (reconstructed)
Purpose (storage, sand trap, etc.):	storage	storage
Capacity:	10,000 gallons	420,000 gallons
(4) Location: (specific)	So. end Wesley Road	Section 11
Neighborhood:	residential	resid-isolated
Size of lot:	unknown	unknown
Fencing:	none	none
(5) Construction:		
Material:		
Sides:	corrugated steel	welded steel
Floor:	" "	" "
Cover or roof:	steel	" "
Height top of walls above ground:	8'	27'
Surface drainage to reservoir possible?	no	no
Ventilation:	no	yes
Screening:	no	yes
(6) Inlet and Outlet Arrangement:		
Inlet:		
Location:	No. side	So. side
Distance above bottom:	at bottom	" "
Outlet:		
Distance from inlet:	common	common
Distance above bottom:	-	-
Drain to where:	none	gully nearby
Overflow to where:	ground	" "
Sewer or other hazardous connection (if so, make sketch on back)	none	none
(7) Relation to System:		
Receives from:	Booster at Wellman Tank	Receives from Wells #1 & #2
Delivers to:	highest zone - balances	Balances on lower zone Same elev as Tank Battery
(8) Defects and Remarks: (Include statements on cleaning practices, condition of structure—particularly of roof, dimensions and shape of reservoir, leakage, kind and location of access openings, protection against insects, birds and rodents.)	Installed for service to few houses at high elev. Elevation 3635' To be replaced in April 1967 by reconditioned steel 42,000 gal tank (designate as new #5)	Tank is bolted steel tank reconstructed by welding; asphaltic coating inside. Minor leaks all repaired. Newly painted; chlorinated. Tank elev 2932' Boosters #5 (est elev 2847) & #7 (elev 2870) boost to small zones above tank #6. Small pressure tank at Booster #7.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

RESERVOIR (Use for all distribution storage, chlorine contact tanks, sand traps, etc.)

(1) Place and Owner: Joshua Basin County Water District
 (2) Source of Information: Oram Martin, Mgr; & Riley Wellman, Operations
 Collected by: C. E. Anderson Date 12/21/65; 7/26/66

	Joshua Terrace Press Tank	Sun Fun Press Tank
(3) Number or Name	est 1946	est 1956
Date constructed:	pressure	pressure
Purpose (storage, sand trap, etc.):	5000 gallons	1800 gallons
Capacity:		
(4) Location: (specific)	Sunfair Rd & 29 Palms Hwy	LaVerne Rd bet Cobalt & Golden Nugget
Neighborhood:	residential	residential
Size of lot:	150' x 150'	70' x 100'
Fencing:	none	yes
(5) Construction:		
Material:	steel	steel
Sides:	"	"
Floor:	"	"
Cover or roof:		
Height top of walls above ground:	10'	6'
Surface drainage to reservoir possible?	no	no
Ventilation:	none	none
Screening:	none	none
(6) Inlet and Outlet Arrangement:		
Inlet:		
Location:	east side	west side
Distance above bottom:	bottom	bottom
Outlet:		
Distance from inlet:	same	east side - 20'
Distance above bottom:	-	-
Drain to where:	ground	ground
Overflow to where:	none	none
Sewer or other hazardous connection (if so, make sketch on back):	none	none
(7) Relation to System:		
Receives from:	Well #8	Well #9
Delivers to:	system	system
(8) Defects and Remarks: (Include statements on cleaning practices, condition of structure—particularly of roof, dimensions and shape of reservoir, leakage, kind and location of access openings, protection against insects, birds and rodents.)	27' x 6' diam	Booster & 30,000 gal uncovered conc tank not in use; severed from well & p.t. physically.

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DEPARTMENT OF PUBLIC HEALTH

DISTRIBUTION DATA

- (1) Place and Owner: Joshua Basin County Water District
- (2) Source of Information: Oram Martin, Manager
Collected by: C. E. Anderson Date: 12/21/65; 8/4/66
-
- (3) Materials: 2"-10-3/4" D, 80% 10 & 12 ga steel; 20% 14 ga steel;
Mains: most d&w some mortar lined
Condition: Age varies from new to 25 yrs; generally in good cond appx 6,500' of
Lead, copper, brass (extent): Services only PVC plastic
Joints: Primarily welded
- (4) Distance of Mains from Sewers: Area unsewered
(*Past practice, future policy*)
- (5) Disinfection (*method*):
New Mains: AWWA stds; HTH tablets 50 ppm, 24 hrs; 10 ppm resid; not checked yet;
After Repairs: Under press or dose heavily & flush. are getting test kit
- (6) Infiltration Hazard: None
(*Relationship to ground water table, underwater lines, etc.*)
- (7) Pressure Range: Now 25-130; system will be designed to provide 25-60 psi
- (8) Cross-Connection and Backflow Prevention:
Private supplies (*kind and extent*): None
Cross-Connections:
With Other Potable and Supervision: None
With Non-Potable, if so, What Protection: None known
Plumbing Code or Regulations: UPC - by San Bdno Co Bldg Dept
- (9) Dead Ends (*extent*): Appx 25-Joshua Tree & Friendly Hills systems; abt 15 in Hidden River
Growths and Sludge in Mains: Sand may be accum in some lines. 2-Joshua Terrace
Flushing: Monthly program

(10) Defects and Remarks:

Some excessive lengths of deadended 4" diameter pipe.
Some pipe may not be protected inside and out against corrosion.
District plans to replace inadequate or substandard mains as needed and as financing permits.
Some new non-standard gage steel pipe installed by District in Improvement District #1; engineering report justifying its use in I.D. #1 was submitted.

SUMMARY OF BACTERIOLOGICAL ANALYSES OF WATER SAMPLES

Name of system Joshua Basin County Water District

Analysis performed by Babcock and Sons Laboratories

MONTH and YEAR	Number of samples tested	Number of portions confirmed	Percent portions confirmed	Number of samples with three or more portions confirmed	Percent of samples with three or more portions confirmed
January 1967	4	0	0	0	0
February "	4	0	0	0	0
March 1966	1* 3	0	0	0	0
April "	2	0	0	0	0
May "	1* 5	0	0	0	0
June "	4	0	0	0	0
July "	1* 4	0	0	0	0
August "	1* 4	0	0	0	0
September "	4	0	0	0	0
October "	1* 4	0	0	0	0
November "	1* 4	0	0	0	0
December "	4	0	0	0	0
TOTAL	52	0	0	0	0

Comments: * Samples collected by San Bernardino Co Dept Public Health and analyzed in San Bernardino Co Dept Pub Health Lab.

STATE DEPARTMENT OF PUBLIC HEALTH
BUREAU OF SANITARY ENGINEERING
REPORT OF CHEMICAL ANALYSIS

Analysis of: Joshua Basin County Water District				Date
Description	Well #1	Well #2	Well #3	Well #8
Analyzed by	Babcock	Babcock	Babcock	Babcock
Collected by	District	District	District	District
Date sampled	11-17-65	11-17-65	11-17-65	11/17/65 1/22/6
Constituents	RESULTS—Expressed as milligrams per liter (or gram)			
Total solids	170	170	176	171
Hardness	60	54	60	58
Bicarbonate	93	90	93	100
Carbonate	0	0	0	0
Hydroxide	0	0	0	0
Alkalinity	93	90	93	100
Calcium	17	18	19	19
Magnesium	4	2	3	2
Iron (total)	0.02	0.05	0.12	0.07
Manganese	0.0	0.0	0.0	0.0
Sodium	30	30	28	44
Potassium	1	1	1	2
Chlorides	14	14	14	18
Sulfates	7	7	8	12
Fluorides	0.7	0.7	0.6	1.0 1.2
Nitrates	8	8	8	8
Biochemical Oxygen demand (BOD)				
Acidity (pH)	7.5	7.5	7.5	7.7
Radioactivity ($\mu\mu\text{c}$)				
Other specific analyses				
Color	0	0	0	0
Odor	None	None	None	None
Turbidity	0	0	0	0

STATE DEPARTMENT OF PUBLIC HEALTH
BUREAU OF SANITARY ENGINEERING
REPORT OF CHEMICAL ANALYSIS

Analysis of: Joshua Basin County Water District			Date	
Description	Well #9	Well #9	Well #8	
Analyzed by:	Babcock	SDPH	SDPH	
Collected by	District	District	Anderson	
Date sampled	11/17/65 1/24/66	2/21/66	2/3/66	
Constituents	RESULTS—Expressed as milligrams per liter (or gram)			
Total solids	260			
Hardness	80			
Bicarbonate	65			
Carbonate	0			
Hydroxide	0			
Alkalinity	65			
Calcium	26			
Magnesium	4			
Iron (total)	0.92	0.10		
Manganese	0.0			
Sodium	60			
Potassium	2			
Chlorides	23			
Sulfates	110			
Fluorides	0.9	0.9	0.8	0.9
Nitrates	1			
Biochemical Oxygen demand (BOD)				
Acidity (pH)	7.8			
Radioactivity ($\mu\mu\text{c}$)				
Other specific analyses				
Odor	None			ABS 0.00
Color	10			
Turbidity	20			