Q-10

A Desert Valley Rich in Agricultural Resources

Canals Run Bank Full With Pure Clean Water

Mohawk Municipal Water Conservation District

THIS new Water Conservation District is fast becoming a rich agricultural section of Yuma county. It is located forty-five miles east of Yuma, in Yuma county, on the North side of the Gila river in the great Mohawk Valley. It is on the Main line of the Southern Pacific Railroad and only three miles from the State Highway at Tacna. A fine road from the State Highway and a bridge across the Gila make it easily accessible by auto or truck.

Water delivered $1.50 per acre foot

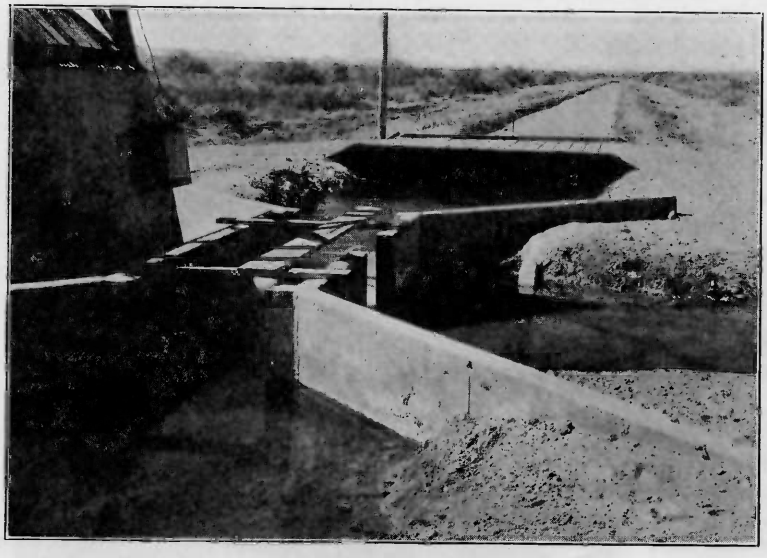
A Well in Operation
This well produces 2800 gallons a minute

ABUNDANT PURE WATER

The Mohawk Municipal Water Conservation District embraces an area of 18,500 acres of the choicest land in the Mohawk Valley. Water is the chief and greatest asset in reclaiming the desert. It must be good water, pure and sweet. This the district has in abundance. All of this great valley is underlaid with a vast reservoir of water, stored up from the flow of the Gila river in the ages past. This water reservoir is tapped by wells and is brought to the surface by large modern pumps and distributed to every farm unit in the district by a splendid system of main and lateral canals until every farm unit is reached. The work of sinking wells at strategic points has been under way for the past two years and the district at the present time has eighteen wells down, fully equipped with electric motors and the best pumps that are constructed.

The water reservoir in the valley is tapped at a depth of about one hundred feet and stands in the wells about twenty feet below the surface of the ground. The draw down in the various wells is less than ten feet and the lift averages less than thirty feet. This water has been carefully analyzed by the University of Arizona laboratory and pronounced of the best quality. The water is perfectly clear and flows in the canals free from any foreign substance. The ranchers in this district will have no weeds to fight or silt or mud to contend with. Canals will need little cleaning. The government report printed in this booklet and all investigations show that there will always be an abundance of water for all purposes and that its quality is all that could be desired.

Mohawk Municipal Water Conservation District

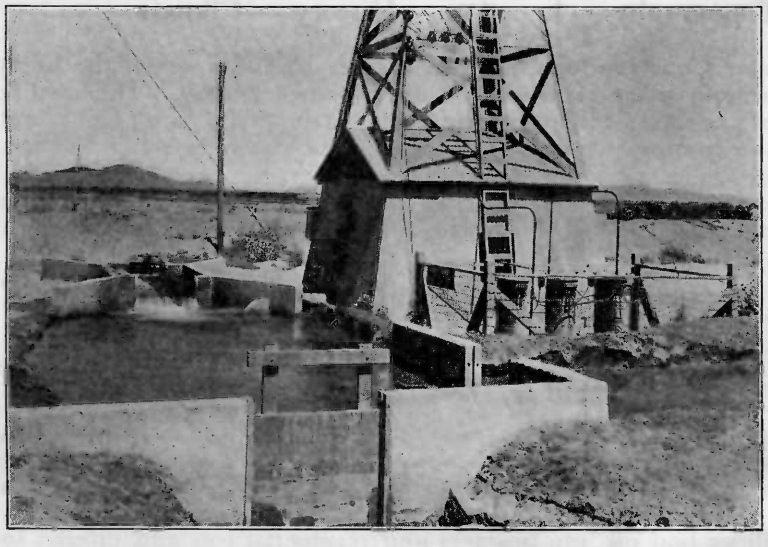


Twenty Two Hundred Gallons a Minute

EIGHTEEN WELLS COMPLETED

The Mohawk Municipal Water Conservation District has already drilled or put down eighteen wells. The plans call for the putting down of additional wells as the land in the district is put in cultivation until sufficient water has been developed to furnish an abundant supply of water to every acre of land in the district. The capacity of the wells now down and in operation will supply plenty of water to irrigate half of the acreage in the boundary of the district. This program is being worked out in a systematic manner and finances to carry the program to completion are in hand. Water in this district is always ready for service. All the rancher has to do to get his water is turn a switch. He can have water any day in the week and any hour of the day.. Water, sunshine and soil combine in the Mohawk Valley to make this district one of the most favorably situated in all of the Gila valley country.

If the desert is to be made fruitful and to blossom as the rose these three things must be combined and when all are available, with intelligent management it makes the success of the project an assured fact. All of the problems in the Mohawk Municipal Water Conservation District have been intelligently worked out with the best of engineering and good financing. The future of the district is assured.

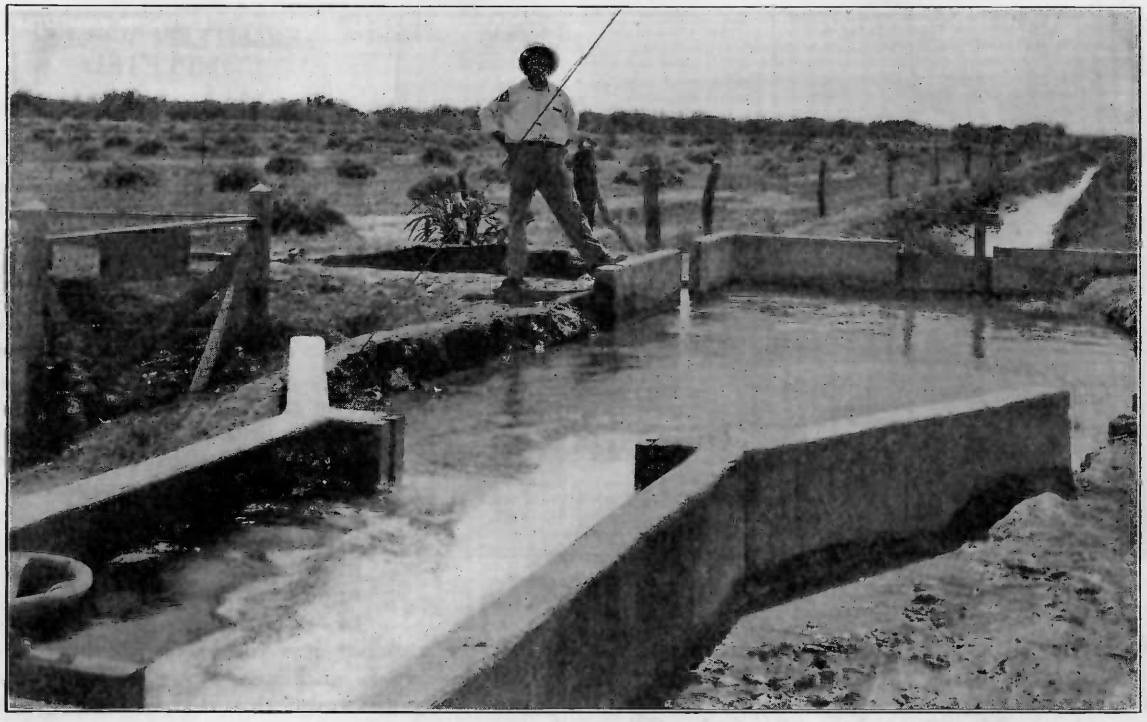


Nineteen Hundred Gallons a Minute

FLOOD PROTECTION

The District has expended $150.000.00 in constructing a levee which will protect the land in the District from the flood waters of the Gila river. A system of tripods have been planted in the river bed at strategic points. Engineers are of the opinion that the system of flood control is ample.

Mohawk Municipal Water Conservation District



Water Distributing System Makes Irrigation Easy

Mohawk Valley — Topography — Location — History — Climate

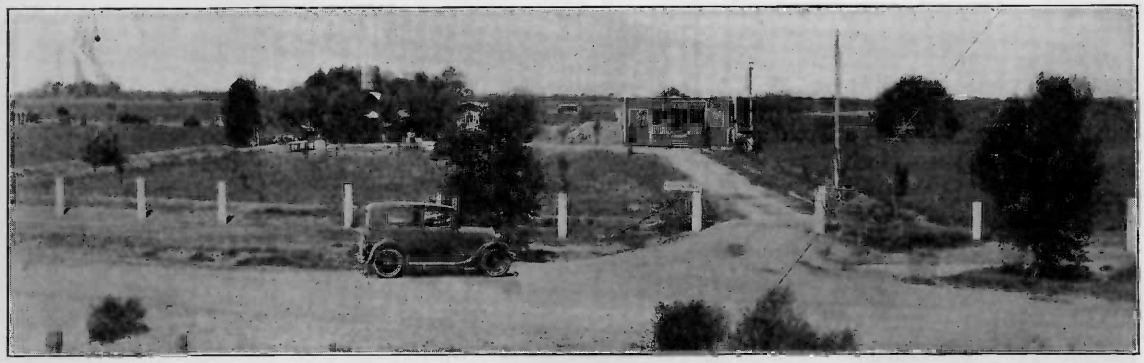
The Mohawk Municipal Water Conservation District embraces 18,500 acres of the finest land in the lower Gila river basin in what is known as the Mohawk Valley. The district extends from three miles West of the State Highway Bridge at Antelope Hill to a point about four miles West of Texas Hill, two prominent landmarks in the Gila Valley in Yuma County. The State Highway, surveyed and dedicated but not improved, except as a good dirt road, runs through the heart of the district. There is also a fine improved road from the Antelope Hill bridge to Tacna and Wellton points on the Bankhead State Highway and the Southern Pacific old main line.

The summers in the district are long and the winters are short and mild with occasional frost during the months of December and January. The mildness of the climate, however, makes possible a succession of crops for the entire year.

NEW TOWNSITE AT ROLL PURCHASED BY DISTRICT

The District has recently purchased forty acres of land across the public highway on which it is laying out its new townsite. The survey and platting of this desirable tract for townsite purposes is now underway. The streets are to be wide, a plot will be laid out for a park, ground for a large grammar school set aside and a site for a church building provided. The remainder of the townsite will be laid off into business and residential lots and offered to the public as the development of the district demands.

Mohawk Municipal Water Conservation District

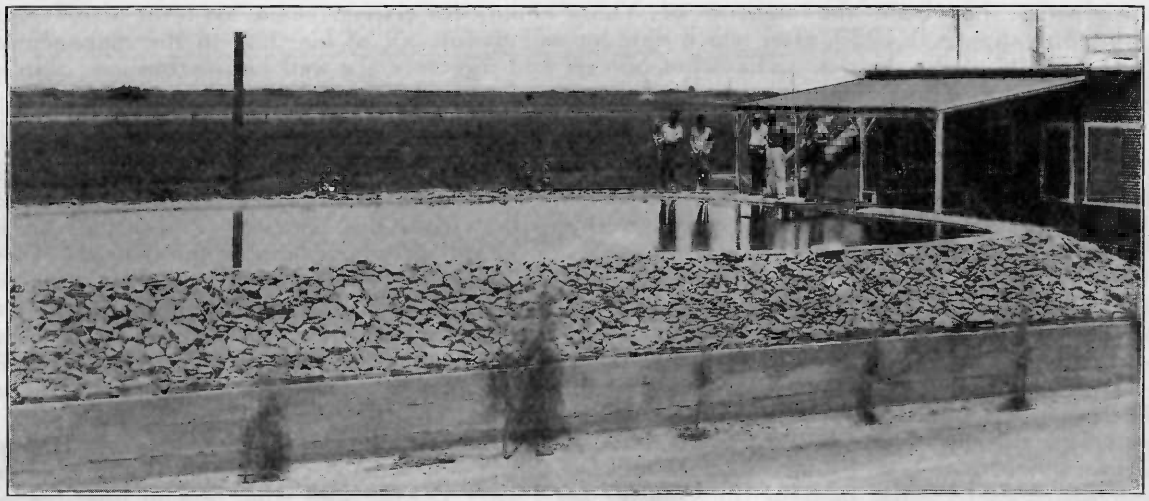


The Wright Ranch Showing Home and Wide Fields of Alfalfa

Ranch Development in the Mohawk Valley

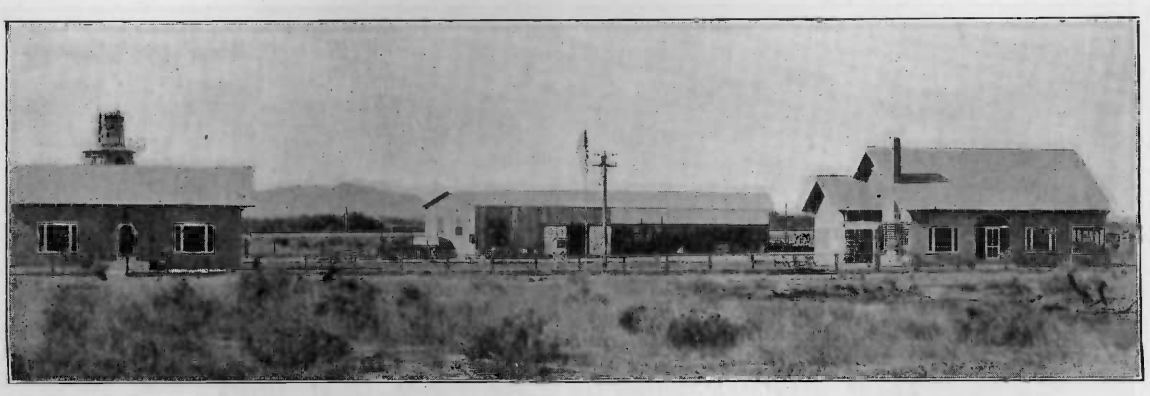
The Wright ranch, just half a mile North of the Antelope Hill bridge, across the Gila river, is a demonstration of what can be accomplished in a short time in the Mohawk Municipal Water Conservation District, where intelligent management combined with the natural advantages at hand. Far reaching fields of alfalfa with its sheen of green greets the eye. Big fields of cotton in bloom or with bolls ready for picking are just out of the picture. Fields of milo maze and grazing dairy stock makes a picture good for the eyes. A neat desert home with all of the conveniences of modern civilization. All of this has been done in the few short years since the district was organized.

There are many other developments in the district comparable to the Wright place and many new people are coming in with money aand energy and intelligence who will aid in bringing this great district into its own as one of the most fruitful and desirable sections in the Gila river valley.



Swimming Pool at the Wright Ranch Where Summer's Heat is Forgotten

Mohawk Municipal Water Conservation District



District Headquarters—Office on the left—Residence of Manager at Right

OFFICERS

J. L. TERRY, President
Roll, Arizona
MRS. A. B. MING, Secretary
Yuma, Arizona
J. B. LIPPINCOTT, Consulting Engineer
Los Angeles, California
L. A. HICKS, Superintendent of Construction
Roll, Arizona

DIRECTORS

J. L. TERRY,
Roll, Arizona

A. F. POST,
Yuma, Arizona

BERT CAUDRY,
Yuma, Arizona

A. B. MING, Resident Manager
Roll, Arizona

Organization and Management of District

The district is organized under the laws of the State of Arizona. It elects its own directors who in turn elect the officers. The district is managed entirely by local men, large land owners in the district, who have its interest at heart. A. B. Ming, the resident manager of the district, has been the assessor of Yuma county for sixteen years, his term of office expiring on January 1, 1929, after which date he will devote all of his time to the management of the affairs of the district. The other officers and directors are well known business men of the district and Yuma county.

CHEAP POWER FOR PUMPING AND DOMESTIC USE

Electric current used by this district for pumping water and other purposes and for all kinds of domestic use is supplied by the Gila Valley Power District. The power or transmission line of this District runs through the Valley from the Antelope Hill bridge to its Eastern extremity and there are lateral lines into every section of land in the district. Electric current is carried to every farm unit. Each rancher has electric current at his home for light and power for all domestic purposes. Electric refrigerators, electric cooking stoves and all of the electric devices with the use of which the work of the housewife is made clean and easy are found in the new homes of the settlers in this favored district. The cost of electric energy for pumping, paid by the district, is 2c a kilowatt hour. No surcharge. The cost for domestic service is 3c a Kilowatt hour.

The current used comes over the lines of the Southern Sierras Power line from Bishop, California to Yuma, a distance of 700 miles. From Yuma it is carried to the Mohawk valley and distributed by the lines of the Gila Valley Power District and some lateral lines owned and constructed by the district.

Mohawk Municipal Water Conservation District

A Dairy Herd With a Cotton Patch in the Background

The land owner or rancher in the Mohawk Municipal Water Conservation District can turn his activities into many different lines of endeavor, all of which give promise of safe and sure returns for the energy, time and money expended.

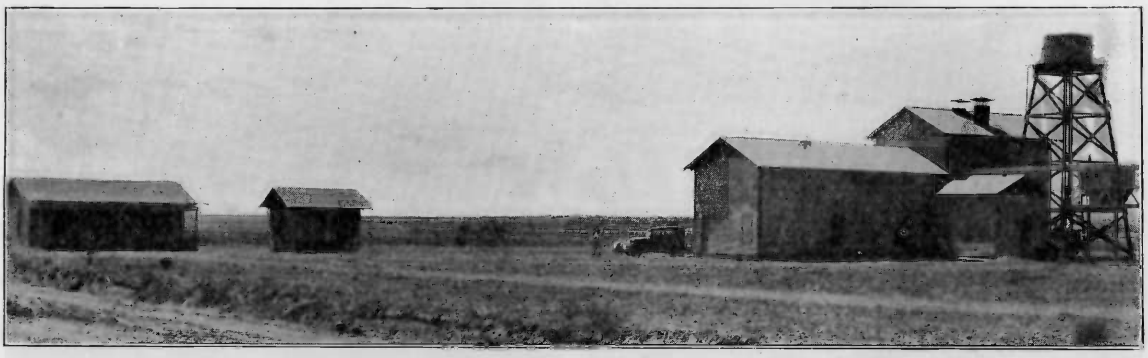
DAIRYING—There are already several choice herds in the valley. With an abundance of alfalfa and other feed, a mild climate and excellent shipping facilities no better location can be found for this attractive ranch industry.

HOGS AND SHEEP—Both hogs and sheep do well in this district. An abundance of good clean water and plenty of feed, continual sunshine make this district the ideal hog and sheep country. Good markets not far away and a railroad shipping point right at hand. Feeding cattle and sheep for the market on the rich alfalfa hay, milo maize and cotton seed will bring many good dollars to the farmers bank account.

Alfalfa grows to perfection in this district of the Mohawk Valley. Hay can be cut every month in the year. The yield is very heavy and the hay is rich in feeding value.

Making Hay Where the Sun Shines in the Mohawk Valley

Mohawk Municipal Water Conservation District

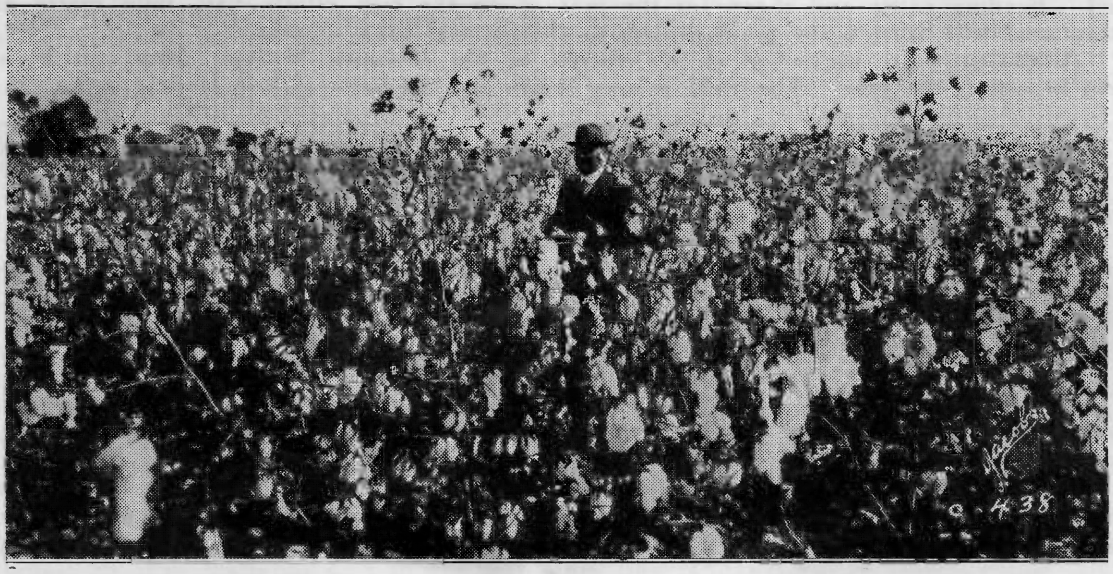


New Cotton Gin Now in Operation in District

Cotton Produces Two Bales to the Acre in Mohawk Valley

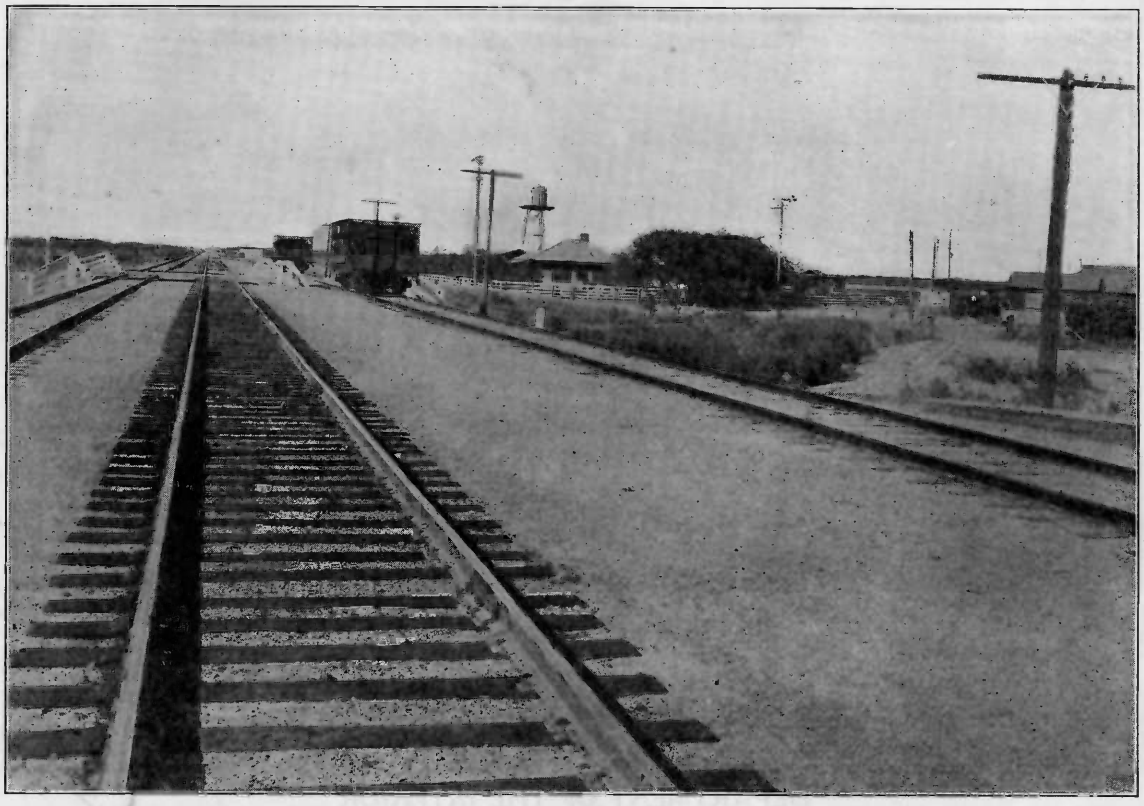
This season of 1928 for the first time the Mohawk Municipal Water Conservation District has a cotton gin of its own. As this is written, cotton is being picked and the gin is in operation. Approximately 1000 acres of land in the district was planted to cotton this season, all on new or second year land. This acreage will produce, it is now believed, two bales to the acre of premium cotton. With cotton selling at 20 cents and better a pound this means, with the cotton seed, a gross return of $250.00 per acre, which return will not be equaled on land in any other section of the Southwest.

The soil and the climate with perfect irrigation makes the Mohawk valley the ideal cotton country. The gin is located near Roll, in the center of the district and the shipping point at Roll on the new Southern Pacific main line is only a mile away.



Two Bales to the Acre—Just An Ordinary Cotton Patch

Mohawk Valley Municipal Water Conservation District



New Main Line of the Southern Pacific Bisects the District

The Mohawk Municipal Water Conservation District is particularly fortunate in the matter of transportation. Immediately following the organization of the district the Southern Pacific Company built its new main line from Yuma to Phoenix. This line crosses the Gila river at Antelope hill bridge and runs diagonally through the district, placing every acre of land in the district within a short distance of the shipping point at Roll. This is one of the finest pieces of railroad construction in the West and its construction gives the land in the valley a much greater value.

MANY AND VARIED ARE THE POSSIBILITIES OF THE DISTRICT

In a small booklet like this it is not possible to give in detail all of the possibilities along development and agricultural lines which the district affords. There is no better Pecan land in the Southwest and some holdings are being planted to this wonderful nut. Dates also may be grown with success in this valley. As to vineyards there is no more fruitful soil with just the right amount of sunshine and heat to assure early maturity and high sugar content. Vegetables of all kinds can be and are grown, mature early and are of fine quality. Cantaloupes, watermelons, lettuce, oranges and grape fruit can find no better soil or more desirable climatic conditions.

Date Palms With Feet in Water and Head in the Sun

New Planting of Date Palms on Land Recently Cleared. The land in this valley is admirably adapted to growing of dates and quite a few date shoots have been set out in the District

Government Report Very Favorable in Every Respect

UNITED STATES
DEPARTMENT OF THE INTERIOR
General Land Office
WASHINGTON

In reply please refer to
1263047 "F" PIB

Instructions.

MOHAWK MUNICIPAL WATER
CONSERVATION DISTRICT
Register,
Phoenix, Arizona.

Sir:

In accordance with the regulations contained in paragraph 18 of the desert-land circular revised May 30, 1924, an inspector on May 31, 1927, submitted a report on the Mohawk Municipal Water Conservation District of Arizona.

This report shows in substance the following:

ORGANIZATION

The Mohawk Municipal Water Conservation District is a quasi-public corporation which was organized under the laws of Arizona on July 13, 1923, under the name of the Mohawk Valley Irrigation District. Under proceedings instituted in the Superior Court of Yuma County the district was held to have been legally organized and a proposed bond issue of $500,000 was approved by the court.

Making Hay on New Land

The First Cutting of Alfalfa Hay
Much of the land in the district is being planted to alfalfa which finds a ready market at good prices always

By resolution of the board of directors dated January 17, 1927, the name of the district was changed to the Mohawk Municipal Water Conservation District. A certified copy of the order of the court above referred to has been furnished by the inspector.

LOCATION

This district embraces 18,305.81 acres of fertile bottom land in the Gila River Valley about 45 miles east of Yuma, Arizona. Of this area about 95% is practically level, deep, sandy loam which when irrigated produces excellent crops of cotton, alfalfa, grain and fruits. About 1,000 acres are under a high state of cultivation and the cultivated area is being rapidly increased.

WATER RIGHTS

The irrigation of this land was first undertaken about 40 years ago by the Mohawk Valley Canal Company, water being obtained by direct diversion from the Gila River and about 10,000 acres at that time were irrigated. However, river floods destroyed long stretches of the canal which was finally abandoned.

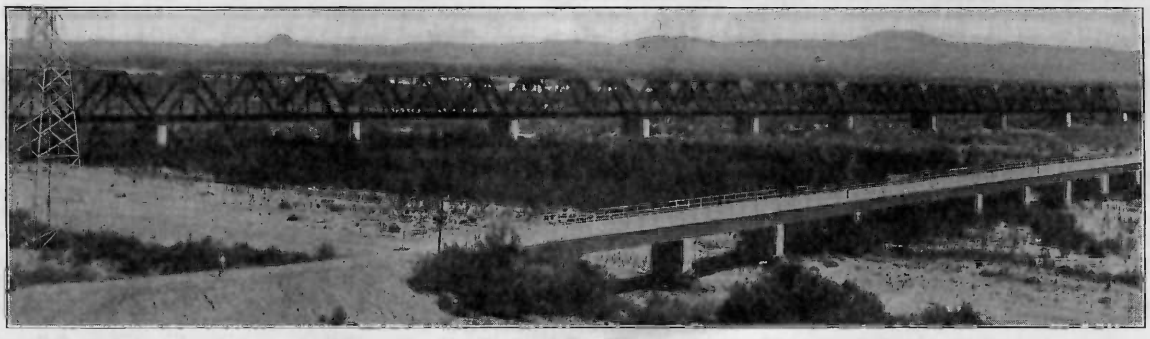
On June 24, 1924, the district filed with the State Water Commissioner of Arizona an application for 231.83 second feet of the underground flow of the Gila River to be used for the irrigation of its lands. This application was approved and permit No. A 468 was issued to the district on February 9, 1927. This appropriation is at the rate of 1 second-foot for 80 acres of land which is considered ample for the character of crops grown in this locality.

IRRIGATION SYSTEM

The irrigation system consists of wells equipped with pumps and motors to develop underground water and short ditches to distribute the water to the irrigated lands. A series of levees have also been constructed to protect the lands from the floods of the Gila River. So far 13 wells have been drilled and equipped with pumps and motors. These wells are 18 inches in diameter ond approximately 100 feet deep and each has a capacity of over 2,000 gallons per minute. The cost of each well fully equipped is $4,500.

In addition to the protecting works to restrain the waters of the Gila River the district has also constructed its own power line from the trunk line of the Gila Valley Power Company.

At the present time the irrigation system is capable of supplying 5,000 acres with water and the area is being rapidly developed and brought under a high state of cultivation. The district also has a population of several hundred people and is on the main line of the Southern Pacific Railway between Phoenix and Yuma and is well served by public highways and a telephone system. The district plans to continue sinking wells as rapidly as the needs of the settlers may require until a total of 43 wells is provided. These wells are to be so located that very short canals will be required to convey water to the area to be irrigated.



New Southern Pacific Bridge and State Highway Bridge at Antelope Hill Spanning the Gila river

Improved Machinery Does the Work

Drag Line Scraper Excavating for Flood Spillway
Levees, ditches and flood spillways have all been constructed with improved machinery and at moderate cost

WATER SUPPLY

The source of water supply of this project is the underground flow of the Gila River, an intermittent stream that heads in the mountains of western New Mexico and eastern Arizona and drains an area of 71,050 square miles.

A large part of this area is mountains, but for a total of 150 miles above its confluence with the Colorado River the Gila River crosses a comparatively level country and for months at a time there is no surface flow on its lower stretch, but occasionally the other extreme is reached and the flood makes a stream from 1 to 5 miles wide.

The record of the stream at Yuma covering a period of more than 20 years shows a fluctuation in the run-off of from 61,196 acre-feet in 1903 to 4,494,000 acre-feet in 1916, and during monthly periods the flow varies from nothing to over 2,000,000 acre-feet.

Due to the sandy and gravelly nature of the bed of the stream where it flows through the desert a large part of the run-off seeps into the ground and is lost as surface flow. Gaugings at Sentinel, Arizona, 35 miles above the project and at Yuma 45 miles below for a year's period running from November to November showed a loss of 221,290 acre-feet. This seepage has accumulated in the ground from year to year throughout the entire lower Gila River Valley is valuable for pumping at shallow depths.

The inspector also reports that at the present time there are several dams under construction or planned on the headwaters of the Gila River and its tributaries which will lessen the flow of the stream making it more constant so that the ground will absorb and retain more water than under present conditions when much of the flooded flow passes on to the Gulf of California.

FINANCIAL RESOURCES

The records of Yuma County show that since the district's organization the county treasurer has collected and distributed for the benefit of the district $71,368.52 in what is known as the general fund, the levies for the years 1925 and 1926 being $1.61 per acre and 68c per acre respectively. The district also received from the sale of its bonds $425,750, of which sum there was a balance on March 1, 1927, of $354,617.92. The total indebtedness of the district including the bond issue is approximately $30 per acre whereas unimproved lands in the district are valued at from $40 to $100 per acre and improved lands at $200 per acre and up.

CONCLUSIONS AND RECOMMENDATIONS

The inspector concludes by stating that the district has a feasible irrigation project, that it is in successful operation, that the water supply is ample and is being economically pumped for the area now under reclamation, that the district is in excellent financial condition having ample funds for the sinking of the remaining wells and installing the required pumping plants. He therefore recommends that payments made to the district when alleged in support of annual proofs or desert entries now pending be accepted and that final desert proof on such entries if alleging the district as the source of water supply also be accepted.

As there are no vacant public lands within the district he recommends that no more desert-land applications wherein this district is alleged as the source of water supply be allowed.

GEOLOGICAL SURVEY

In a report submitted August 18, 1927, the Director of the Geological Survey states in part as follows: "This project contemplates the reclamatiin of about 18,000 acres of fertile bottom land along the Gila

River. 45 miles east of Yuma, Arizona. The proposed source of the water supply is the underground flow of Gila River. A permit for 231.83 second-feet of the flow was issued to the district by the State Water Commissioner on February 9. 1927.

The plans call for the construction of 43 wells to be equipped with pumps and motors, of which 13 have been constructed. It is estimated that the yield will average about 5 second-feet per well, and thus the combined yield of all the wells will furnish the water required for irrigation. A duty of 3.33 acre-feet per acre for the project lands is believed to be sufficient in view of the short canals and as conditions appear to be similar to the conditions on other projects in the southwestern part of Arizona.

With the above duty on an estimated set area of 18,500 acres of irrigable land, the annual water requirements would be approximately 52,000 acre-feet.

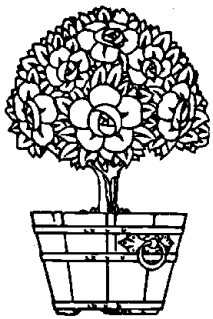
The center of the project lies about 50 miles above the mouth of the Gila River. Records of the river flow near the mouth obtained by the Bureau of Reclamation from 1903 to 1926, inclusive. show the annual run-off to vary from a minimum of 61,000 acre-feet in 1903 to a maximum of 4.490,000 acre-feet in 1916, and has averaged 889,000 acre-feet per annum during that time. The annual run-off has exceeded 200,000 acre-feet each year except in 3 out of the 24.

As stated by the inspector. a large part of the run-off seeps into the ground before it reaches the Colorado River and he shows a loss of 221,000 acre-feet in flow between Sentinel and Yuma during the period from October, 1913, to November, 1914, when the run-off at Yuma measured only 197,000 acre-feet. The loss occurred in a distance of about 85 miles of the river's course. Unpublished records of the Geological Survey of the flow at Gillespie Dam. about 150 miles above the river's mouth. the record of flow at Yuma obtained by the Bureau of Reclamation and the differences are shown in the following table:

Water Year	Flow at (Acre-feet)	(a) (Climatological)	Gillespie Dam
		1921-22	866,000
1922-23	506,000	1923-24	782,000
1924-25	235,000	1925-26	

Flow at (Acre-feet)	(b)	Difference (Acre-feet)	Yuma	
332,000		174,000	686,000	96,000
65,000		170,000	270,000	

(a) Drainage area 48.100 square miles. (b) Drainage area 71,050 square miles.



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Help You Choose Your Land

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WILL SURPRISE YOU

Come and see fields of alfalfa that produce annually 12 tons of hay to the acre or 7 tons of hay and 500 to 1000 lbs. of alfalfa seed. Cotton fields yielding two bales per acre. Livestock grazing on fields of abundant feed.

Write or Visit

Wayne T. Wright

"The Farmer—Realtor"

Antelope Ranch
Roll, Ariz.

Come and be my neighbor