

Mohave

Valley

30,000 Acres

OF RICH, IRRIGATED LAND
ON THE COLORADO RIVER.

¶ When the Colorado is understood and utilized as successfully as is its greater and better known parallel, it will be recognized as the American Nile, the creator of a new country for the irrigator and mother of an occidental Egypt.

Agricultural Experiment Station Bulletin.

A LITTLE BOOK
ABOUT THE
MOHAVE VALLEY

MOHAVE COUNTY, ARIZONA.

30,000 Acres of Irrigated Lands.

**RIO COLORADO LAND
AND IRRIGATION CO.**

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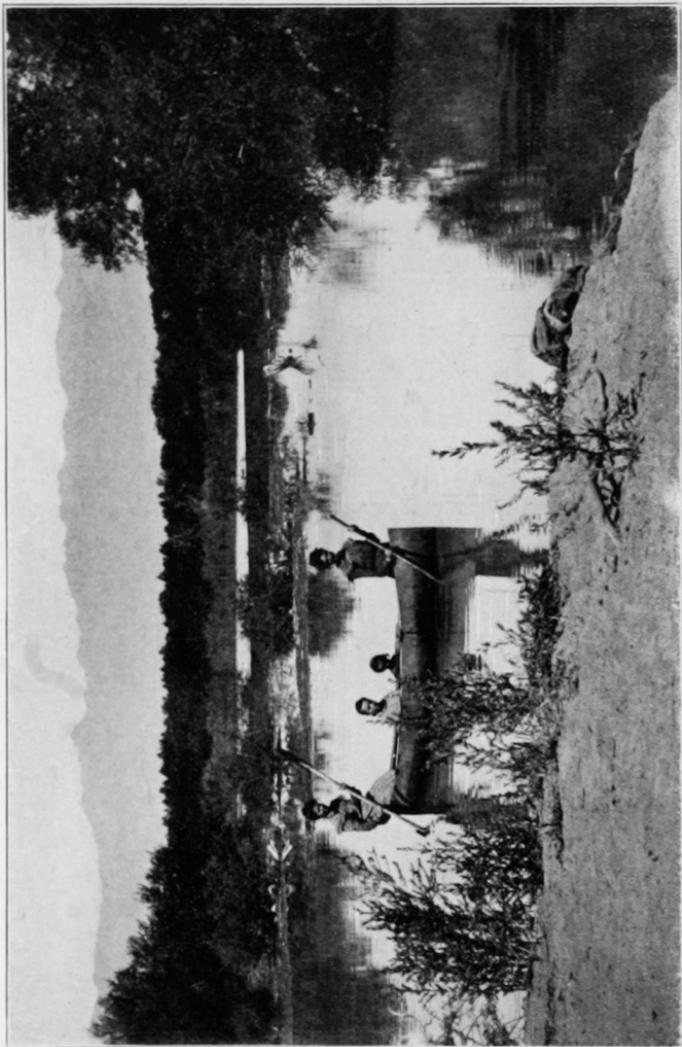
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CHICAGO, ILLINOIS

and NEEDLES, CALIFORNIA.

The Mohave Valley, twenty-five miles long and one to six miles wide, lies on the Western edge of Arizona, and the great Colorado River is its Western boundary. Its Eastern is a high table land rising rapidly into hills and mountains dotted with mines. Opposite the centre of the valley is the City of Needles, California. The Santa Fe Railroad crosses its southern end. There are 30,000 acres of irrigable land, built up of river sediment, rich as the world-famed Valley of the Nile. A perfect system of canals to irrigate this land by gravity flow from this mighty river is being constructed, and land and water are ready for settlers.

Irrigation is as old as primitive man. The earliest civilizations were founded upon it and all the great peoples in the dawn of history drew their sustenance from irrigated lands. The United States was settled from Northern Europe, where irrigation was unknown, and with our thousands of square miles of fertile lands with a large and well distributed rainfall, irriga-



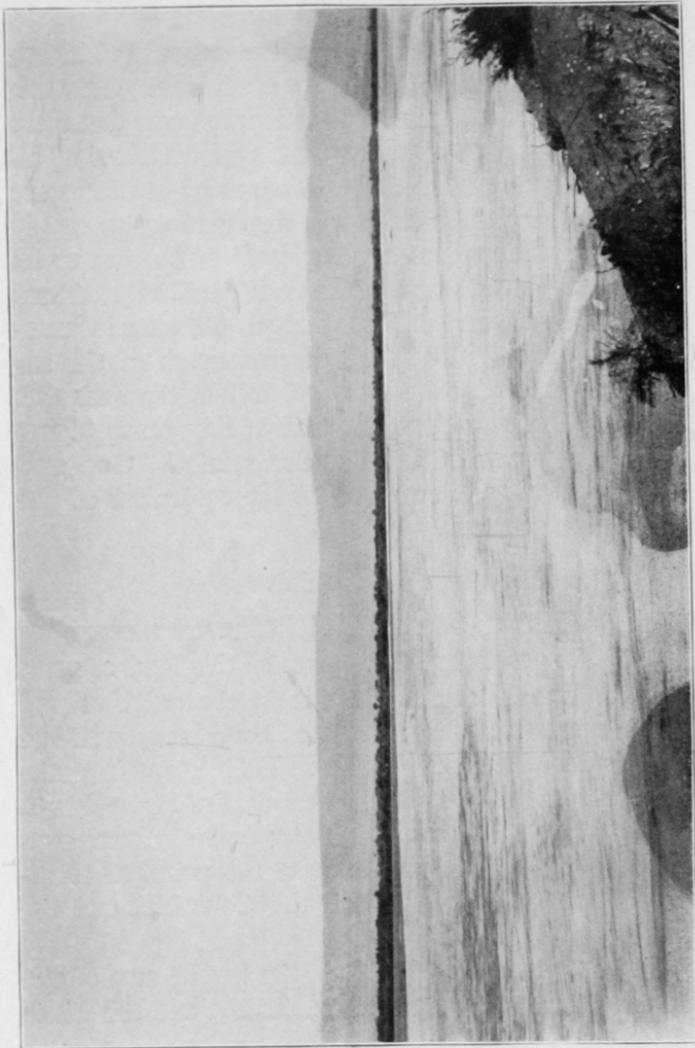
A Mohave Summer Idyl—twelve months of Summer.

tion came to be looked upon as the struggle of unfortunate people against calamitous conditions. Only this generation has come to know better; to know that these "desert" soils are frequently among the richest of all the earth; to realize that 365 days of sunshine are vastly better than 180; that a regulated water supply contributes always to plant growth and never to its injury or destruction; that the farmer on irrigated land with a rich soil and unlimited supply of water is "master of destiny." The final demonstration of the superiority of irrigation over rainfall is the fact that lands under irrigation universally bring much higher prices than similar lands under rainfall. One acre under irrigation is reckoned as the equivalent of five acres under rainfall.

THE RIVER.

The Colorado River, with its tributaries, comprises one of the greatest river systems of this land of great rivers. The Rocky Mountains in the neighborhood of the marvelous Yellowstone Park may well be called the Mother of Waters. Their gigantic peaks literally wring rivers from the clouds, for within a comparatively few miles, but separated from each other by impassable ranges, rise the principal tributaries forming the Missouri, the Columbia, and the Colorado.

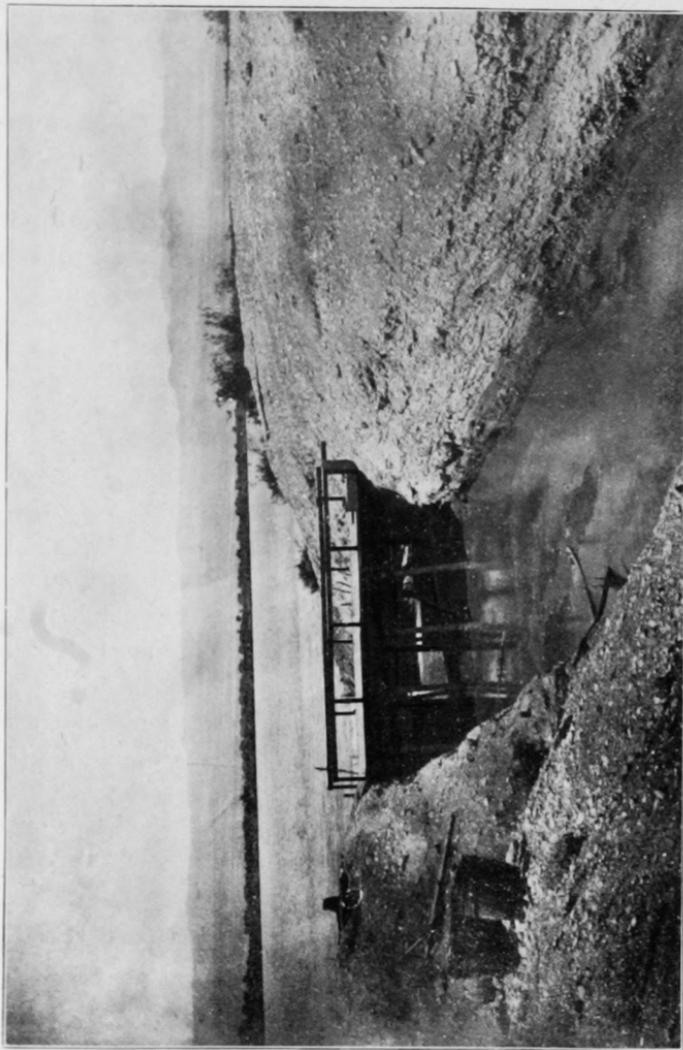
The Green River, which is the largest arm of the Colorado, drains a fourth of Wyoming and the whole



The Colorado River from head gate, July 28, 1904.

of Utah. The Grand River, its other upper arm, drains the half of Colorado, while its lower course drains the whole of Arizona and a large part of New Mexico and Nevada. The whole course of the Colorado from the source of the Green in Fremont's Peak to the Gulf of California, is more than 2,000 miles, and its entire watershed has an area of more than 250,000 square miles. Steamers navigate it for a distance of 600 miles and at its flood it pours a volume of water exceeded at ordinary times only by the Mississippi. For 1,500 miles the course of the great river is among the mighty Rockies and through canyons; the Grand Canyon of the Colorado in Northern Arizona, a mile and a half in depth, being probably the most marvellous natural object in the world.

There is an ample rainfall in the mountains throughout the year, which in the winter is precipitated as snow. As a consequence, the Colorado, like the Nile, has a season of summer flood from the melting of this snow and its addition to the spring and summer rains. The water begins to rise about the middle of March and the maximum is reached at the end of June. After leaving Black Canyon about 15 miles above Fort Mohave, the river begins to form small valleys, of which the Mohave Valley, exactly opposite Needles, is the first of any consequence. These Valleys are composed of river silt,—true bottoms—and no land in the world exceeds them in fertility.



Mesa cut, head gate and river. This cut is over twenty feet deep and thirty feet wide through conglomerate and sandstone.

THE SOIL.

The soil of the Mohave Valley varies from a light sandy loam to heavy loam and adobe. It has all been formed by the sedimentary deposit of the Colorado, is marvelously rich in plant food and practically inexhaustible.

Its quality and productiveness are not matters of conjecture, but have been demonstrated for many years upon the Government farm at the head of the valley near Fort Mohave. The former superintendent of the Indian school there and of the farm writes: "Seven crops of alfalfa are raised per annum upon the school farm, averaging $1\frac{1}{2}$ to 2 tons per acre each cutting. All kinds of vegetables do well here. Lettuce, radishes, onions and cabbages can be raised throughout the entire year. We have the finest apricots and muscat grapes, and they ripen over two weeks earlier than in California."

It is now well understood that good lands with an ample supply of water for irrigation are more valuable than the best lands dependent on natural rainfall. There has been a general increase in the value of farm lands throughout the country in recent years, and corn lands in Central Illinois have recently sold for \$175.00 per acre, and the experts of the State Agricultural Experiment Station are advising the farmers to hold the best corn lands at \$200.00 per acre. These seem wonderful prices, yet \$150 to \$200

per acre for land with water right have been ordinary prices in California for many years, even where the land-owner has to pay in addition a high service charge for pumped water. In the best fruit districts \$400 per acre has been a not unusual price for land with no improvement but the ditches or pipes, and "Forestry and Irrigation" is authority for the statement that unimproved land under ditch in the Yakima Valley, Washington, has sold for \$800 per acre. In fertility and the character and variety of products to which it is adapted, the Mohave Valley is excelled by none of these and equalled by few. There can be no doubt that these lands will shortly command \$200 or more per acre. Under present conditions they will yield large returns on much higher prices.

THE WATER.

About all that needs to be said on this point is that our source of supply is the Colorado River.

The Colorado rivals the Nile in the amount and richness of the matter held in suspension. Quoting from the Government report:

"The waters of the Colorado contain no injurious chemicals. On the other hand, an analysis shows that it carries in suspension one-fourth of one per centum of solid matter composed of clay, lime, phosphoric acid, available potash and nitrogen, and having a fertilizing value of 25 $\frac{1}{5}$ cents per acre-inch of water. As about 36 acre-inches of water are used

yearly to irrigate land, the fertilizing value of the water is more than \$9 per acre per year."

By careful measurement the flow of the Colorado during February, 1903, was 7,500 second feet. During the summer months when water is most used for irrigation the flow is from 25,000 to 75,000 cubic feet per second. If all the valley were under cultivation it would not require more than 250 cubic feet per second or less than one per cent of the water in the river.

THE CLIMATE.

There is no healthier locality in the world than the valleys of the lower Colorado. The winter months are simply perfect, the days always sunny and warm, the nights cool and invigorating, the air pure, dry and soft. For those afflicted with rheumatism, asthma or pulmonary trouble, residence here is a priceless boon. The day temperatures in the summer are high, but neither unpleasant nor unhealthful, while the nights are always agreeably cool. Real temperature for the human body is made up of heat and humidity, and the humidity is so low that the real or "sensible" temperature is never so high as is reached at St. Louis or even Chicago and New York. Sun-stroke is unknown and so are fogs, "muggy" days, and sudden changes. Our men, mostly newly arrived from the East, have worked steadily through the hottest weather, and say that the heat does not affect them so much as in Michigan and Indiana.



The lake one mile from head gate. This forms a natural reservoir and settling basin, with a present area of about one hundred acres. If raised to present level of river this area could be increased to double that amount.

There are occasional light freezes in December, January and February, but no lower temperatures are recorded than in Riverside and Redlands, the famous orange districts of California.

PRODUCTS.

Most of the products of the temperate and semi-tropical latitudes can be grown here to greater perfection than in localities less favored in soil and climate. Wheat, barley, alfalfa, Indian corn, sorghum, Kaffir corn, milo maize, all kinds of vegetables, including melons and sugar beets, are staples. Small fruits, grapes, figs, dates and apricots, reach here their greatest perfection. It is believed that the hardier varieties of oranges and other citrus fruits will thrive.

ALFALFA.

There is no sounder basis for prosperous agriculture than alfalfa. All domestic animals thrive upon it. The milch cow with her milk, butter and cheese, without which civilized and comfortable living is hardly possible, finds in alfalfa the best of all rations. It fattens the steer ready for market without grain. It is the best food for the brood sow and the growing pig. Wherever it can be grown it is the poultry-raiser's chief reliance and, with a fair grain ration added, maintains work-horses in the best of condition. On the Colorado, alfalfa grows throughout practically the entire year, and seven or eight cuttings are made per annum, averaging $1\frac{1}{2}$ to 2 tons per acre at each

cutting. There is a heavy demand at Needles and in the mining camps about us and the price is very high, having been \$22.50 per ton at Needles during the spring and summer of 1904. It has not been cheaper than \$16 per ton at Needles in many years.

SORGHUM AND KAFFIR CORN.

Produce immense crops of forage of great value, and the Kaffir corn yields grain substantially equal in feeding value to Indian corn, and 40 bushels to the acre is an ordinary crop.

Wheat and barley yield generously, similar lands about Yuma producing 40 to 50 bushels per acre.

STOCK RAISING.

On account of the immense yields of alfalfa, sorghum and Kaffir corn, stock-raising should become one of the principal industries of the valley. The vast ranges of Arizona furnish an inexhaustible supply of range cattle and sheep to be fattened in the valley, and if there be more than the local market will absorb (and the prices must always be relatively high), Los Angeles is a ready market for the surplus. Hog-raising will be an extremely profitable industry and they are free here from all disease.

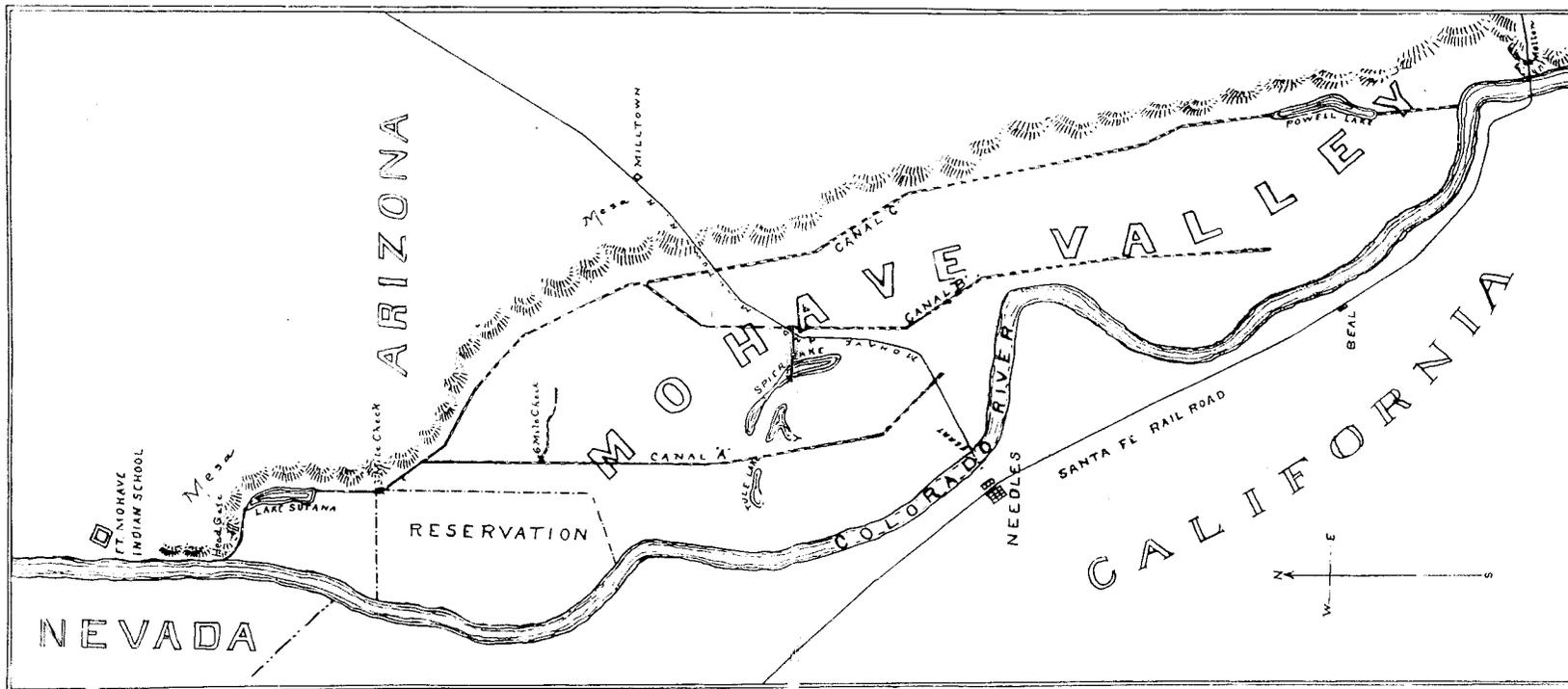
GRAPES.

Nowhere in the world can the muscat, flaming tokay and other varieties of grapes in demand at high prices in the Eastern markets be produced in greater

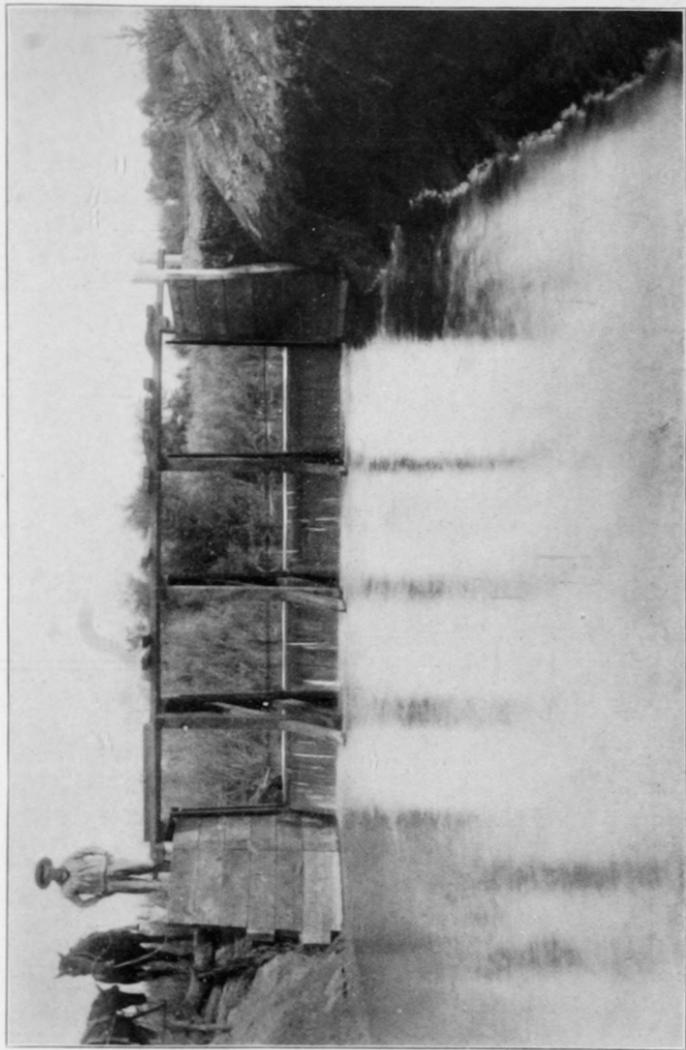
perfection than here. They can be brought into bearing in two years, and are ripe at the end of June—two to three weeks earlier than in any part of California. In 1903 a gentleman at Needles sold his crop, from 100 vines 3 years old, at his home market in Needles, for \$261—\$2.61 per vine. The farmers of the Mohave Valley can get fancy prices for a fruit product that beats the rest of the crop into market by two weeks.

THE DATE PALM.

The Queen of the Desert—desert no longer when water touches it—is the date palm. To ripen its fruit it requires a practically rainless climate with continuous sunshine and a long season of warmth. The tree will grow almost anywhere if it has water and the temperature rarely goes below freezing, but the localities in the limited states where it will ripen its fruit are confined practically to a limited area in Southwestern Arizona and Southeastern California. Prof. Forbes, of the U. S. Experiment Station in Arizona, has visited our lands, and states that the Mohave Valley is one of the few localities adapted to the choicest varieties requiring the longest season for ripening. It is probable that no other agricultural product will pay adequate returns on so large a capital as dates. The U. S. Agricultural Year Book for 1900 states that land adapted to the growth of the date palm will justify an expenditure of \$1,200 per acre. This seems a very conservative statement in the light of other facts stated



MAP OF MOHAVE VALLEY, ARIZONA.



Three Mile Check from below, showing water falling about three feet. Taken July 28, 1904.

in the same report. The government imported a number of plants from Africa in 1890. In 1900 one of these trees at Phoenix, Arizona, produced 300 pounds of dates, which were packed in half-pound boxes which wholesaled at 20 cents per box. About 100 trees can be planted per acre and they bear in four years.

SUGAR BEETS.

It has been fully demonstrated that the irrigated lands of Arizona are well adapted to the raising of sugar beets, the quantity being very large and the quality first class. Overtures have already been made to this Company by parties proposing to establish a beet sugar factory in the valley.

FRUITS AND VEGETABLES.

Southern Arizona can and does put early fruits and vegetables in the market from two to four weeks ahead of any other locality in the United States. The earliest cantaloupes in the Chicago market come from Arizona. So far as our valley is concerned, the local demand will absorb the supply for years to come. In 1903 a rancher in our valley sold in Needles \$400 worth of melons from half an acre. The same season there was on exhibition in Yuma a sweet potato that weighed 41½ pounds—a product of a Colorado river bottom. This valley, with the great Santa Fe System at its foot, should become the paradise of the truck and market gardener, whether producing for the home supply or for the distant market.

MARKET.

In the surrounding mountains are some of the richest mines in the United States. In all directions from our valley is a large area highly mineralized and filled with miners and prospectors. These people import every pound of food for themselves and their animals, there being no local supply of any kind. This valley will be drawn upon for their supply of vegetables, fruits, dairy products, fresh meats and forage. The town of Needles has a population of 3,000 and contains the Santa Fe Machine Shops, employing several hundred men. Practically its entire supply of food is now brought from outside. Our nearest competing points reached by transportation are Albuquerque and the valley of the Rio Grande, 500 miles, the Salt River Valley on the southeast 350 miles, and Bakersfield and San Bernardino on the west 250 to 300 miles. Thus we have a vast section of country for which we are the most convenient source of supply and which must always pay high prices for fresh food.

TRANSPORTATION.

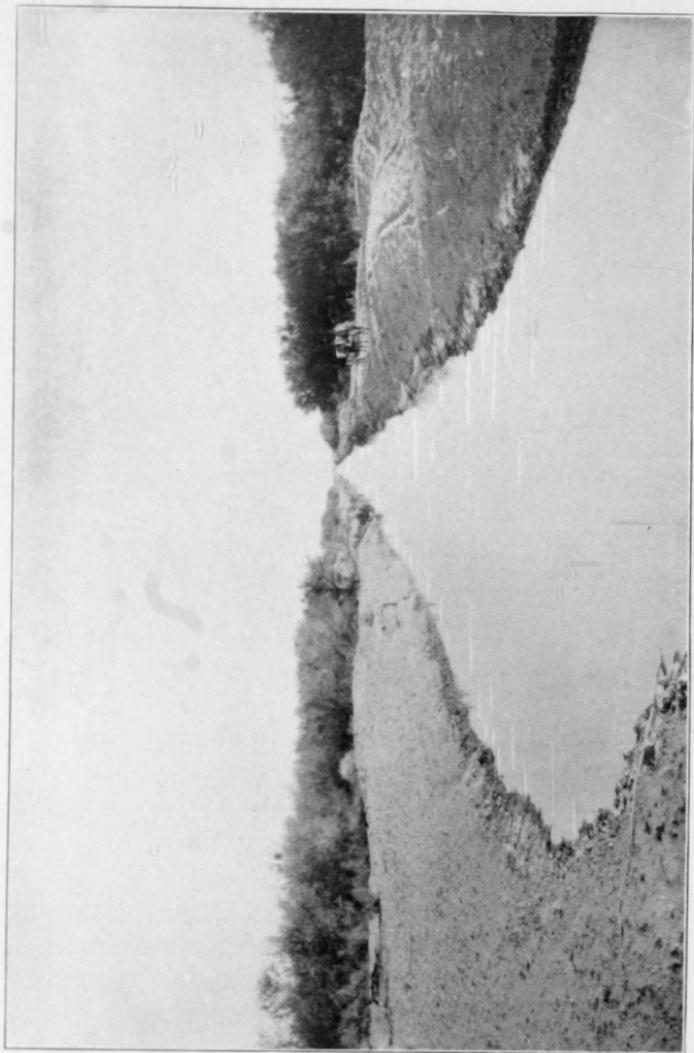
The Santa Fe Railroad, one of the greatest systems in the world, having its own lines from Chicago to Los Angeles and San Francisco, crosses the river at the lower end of the valley and is also reached at Needles, which is exactly opposite the center of the valley. There is also transportation on the river by boat at all seasons of the year.

WHAT THE COMPANY HAS DONE.

In the winter of 1901-2 we began work making preliminary surveys relative to irrigating the valley. The work of surveying and examination of physical conditions was continued into the winter of 1902-3. In the spring of 1903, construction of the irrigating system was begun and it has been prosecuted steadily until the present time. The water is now in 7 miles of main canal and is brought to several thousand acres of the choicest land in the valley. The intake from the river is through a cut in sandstone and conglomerate, which will resist the action of the water. A head gate, checks and other necessary works, have been constructed. The work of continuing the system of canals and laterals will be done as rapidly as needed until the water is furnished to the entire valley.

WATER RIGHT.

A water right entitles the holder to the perpetual use of all the water necessary to irrigate the land for which the water right is issued. The only additional expense will be a small service charge to pay the cost of maintaining and operating the ditch. A fixed charge of 50 cents per acre will be made upon all lands having water rights whether the land is improved or not. This is because all land owners should assist in the maintenance of the ditch, and is also for the purpose of discouraging the holding of large tracts of land for speculative purposes, and bringing about



Looking down canal "A" from where it branches from main canal. The land on either side of canal shows heavy growth of mesquite.

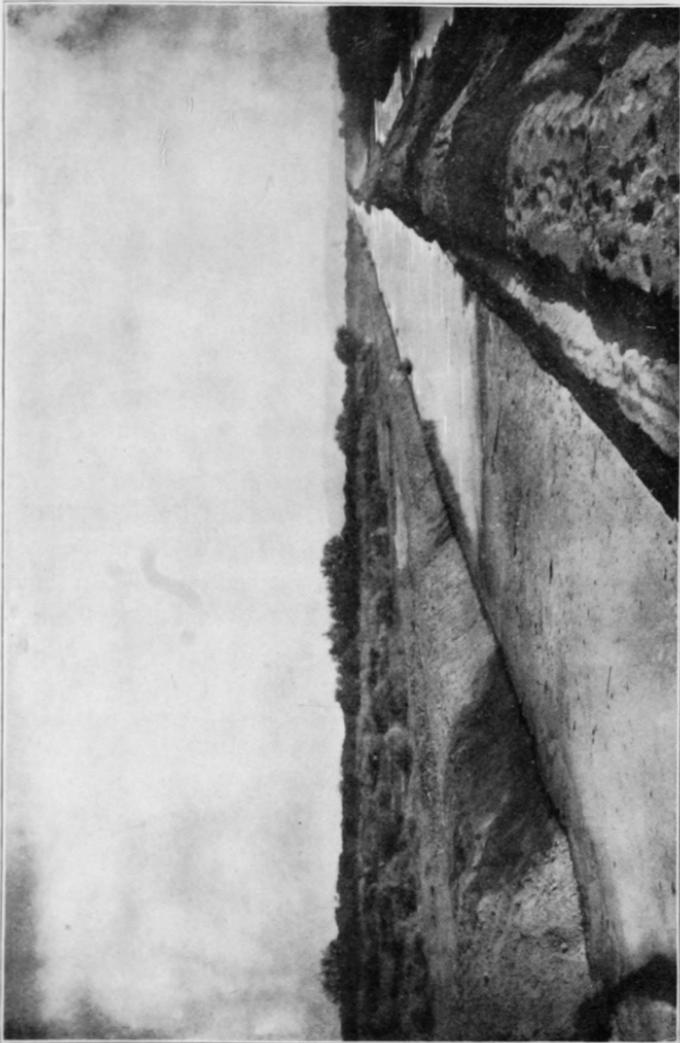
improvement and cultivation as rapidly as possible. This fixed charge will entitle the land owner to one acre-foot of water for each acre, that is to say, sufficient water to cover his entire holding one foot deep, equivalent to 12 inches of rainfall. An additional charge of 50 cents per acre-foot will be made for water actually supplied in excess of this first acre-foot. Alfalfa requires a larger amount of water than any other crop and needs about three acre-feet per annum.

HOW TO GET LAND AND WATER RIGHTS.

The Rio Colorado Land and Irrigation Company owns the odd numbered sections of the entire valley. The even numbered sections are public lands. The public lands are at present unsurveyed and withdrawn from entry, but the usual "squatters rights" can be obtained by actual settlers. The Company will sell perpetual water rights to occupants of the public lands, and will sell the lands owned by it with perpetual water rights. Prices and terms will be stated upon application.

EXPENSE OF FITTING LAND.

This depends upon the locality. Much of the land is level and almost entirely free from brush and timber and is practically ready for the plow. Large areas are covered with a scant growth of arrow-wood and sage. Other areas bear a dense growth of mesquite, which



Canal across slough No. 1, full of water. The surface of this water is about six feet above the surface of the land on either side of canal.

involves more expense in preparing for cultivation which is, however, repaid by the value of the timber for fuel.

BUILDING MATERIAL.

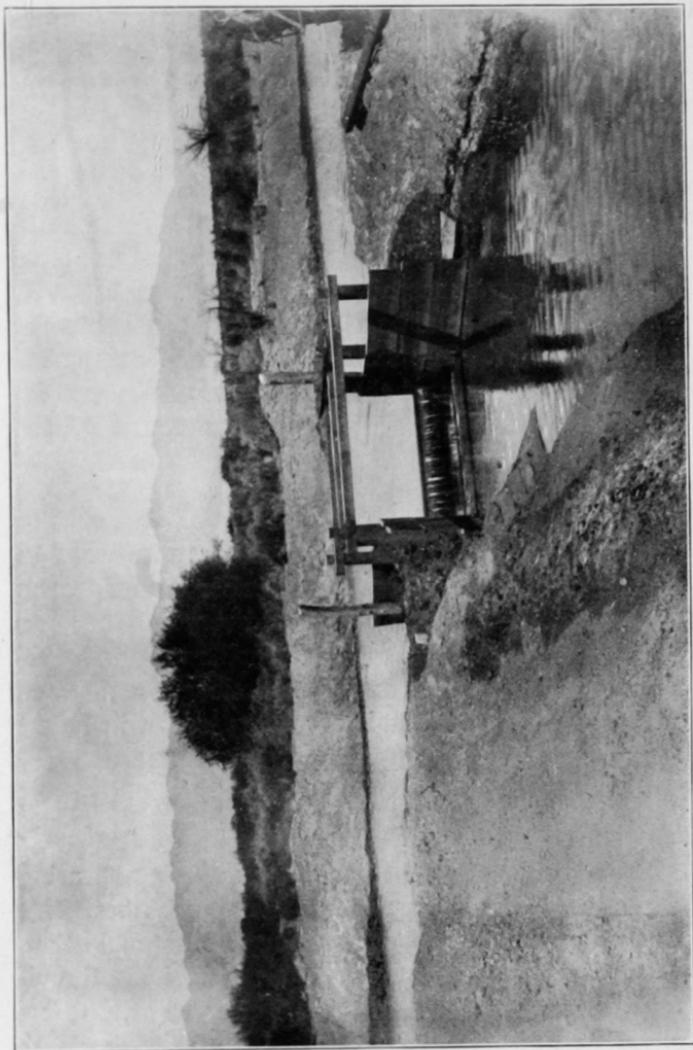
Pine lumber is shipped in from Flagstaff and Williams. The prices of common rough lumber are from \$14 to \$16 per thousand, on board cars at the mill, to which freight must be added, with higher prices for selected grades. The most favorable and economical house for all times of the year is the adobe, and no special skill is required for the construction of the walls.

FUEL SUPPLY.

There is an abundant supply of mesquite wood to last for many years, or until new timber can be grown. Mesquite makes the best of fuel and very durable posts for fencing. There are plenty of willows and cottonwoods along the river and around sloughs and lakes. Eucalyptus and other rapid growing trees will be set out to insure an abundant supply for future use.

LABOR.

The Mohave Indians have the reputation of being the best workers of any of the Western Tribes. We have always found them industrious, honest and sober. There are supposed to be about 1,000 adults in the vicinity. There are several hundred children at the Fort



Six mile check connecting "A" 1 with canal "A". It has a six foot opening and here shows the water falling sixteen inches. In the back ground is land covered with arrow-wood and sage-brush.

Mohave Indian School, most of whom can be employed through the summer for light work in gardening, beet raising, etc.

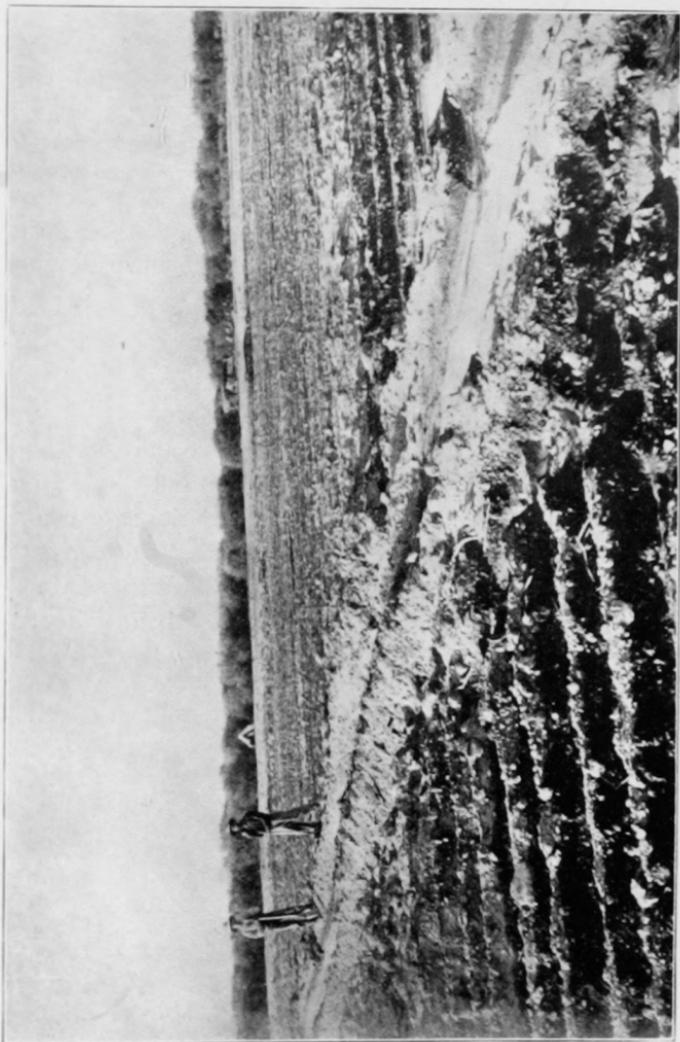
WATER FOR DOMESTIC USE.

Water may be obtained anywhere in the valley from wells 15 to 20 feet in depth. The river water, which is supplied through the irrigating canals, is an excellent drinking water when filtered or allowed to stand until it is clear.

PAYMENT IN WORK.

For a considerable time in the future the Company will be extending its system of canals and conducting other public work and will be a large employer of labor. Purchasers of land and water rights may pay for part of their purchase by work for the Company. Good wages will be paid and board furnished when desired.





Lockwood-Rising ranch. Irrigating in furrows.

Which Will You Choose?

A six months year, or

A twelve months year.

Rain, hail, snow and blizzards, or

Sunshine and warmth, warmth and sunshine the year around.

Where it is disagreeable working out of doors one out of every two days in the year, or

Where the sun shines every day of the year.

Where stock must be housed and fed for six or seven months each year, or

Where they can run out the whole year.

Where one year your crops are dried up and the next year drowned out, or

Where you have complete control of your water supply.

Where you can cut but one crop of hay of one to two tons per acre, or

Where you can cut from five to seven times, one to two tons per cutting each year.

Where you are in constant dread that your crop will be spoiled by rain after it is cut, or

Where every day is bright and fair.

Where all hay and grain must be put in barns or carefully stacked, or

Where it may be just piled out of doors.

Where you feed up in the winter all that you can grow in the summer, or

Where you need to do no winter feeding.

Where your farms will not pay reasonable interest on their cost, or

Where you can get land from \$15 to \$25 per acre that will produce net from \$50 to \$100 per acre per annum.

Where your garden will give you fruit and vegetables for two or three months, or

Where they may be raised every month in the year.

ADDRESS ALL COMMUNICATIONS TO

**Rio Colorado
Land and Irrigation Co.**

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NEEDLES, CALIFORNIA

The
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***Shortest Line to Needles and all
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IN THE WORLD IS IN THAT SECTION.

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Santa Fe

The Atchison, Topeka & Santa Fe Railway System
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