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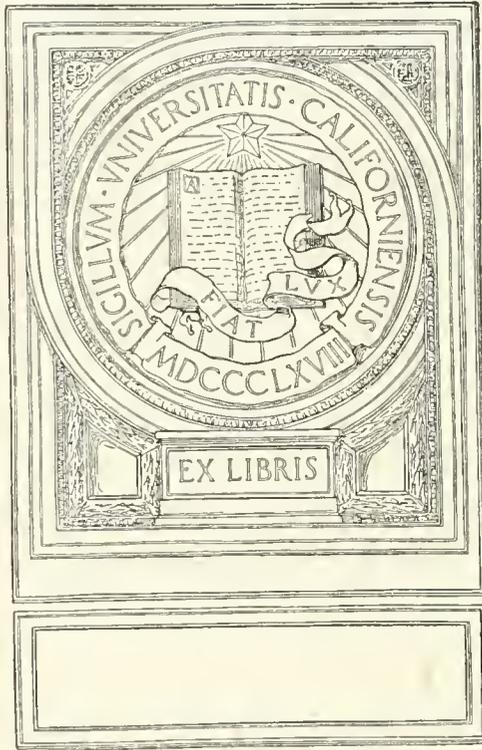


LC SOUTHERN REGIONAL LIBRARY FACILITY

Belle Fourche Irrigation
Project

South Dakota

UNIVERSITY OF CALIFORNIA
AT LOS ANGELES



Stockton, Calif.
FAL JAN 21, 1908



BELLE FOURCHE IRRIGATION PROJECT

*Opportunities
for
Farm Ownership*

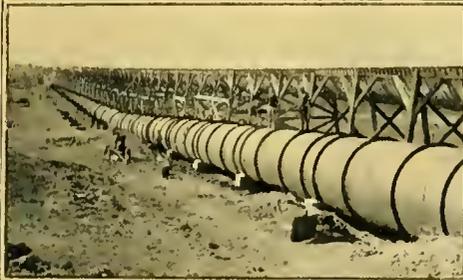


==== SOUTH DAKOTA =====

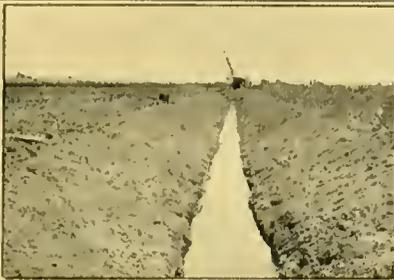
THE UNIVERSITY OF SOUTH DAKOTA
AGRICULTURAL EXPERIMENT STATION
SIOUX FALLS, S. D.

ABSTRACT OF THE
PROCEEDINGS OF THE
GENERAL ASSEMBLY

AUG 11 1936



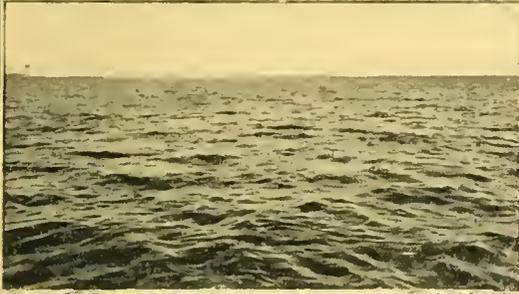
A LARGE SYPHON SUPERCONDUIT FLUME



ARAGLINE MACHINES FOR DRAINAGE DITCHES



THE BELLE FOURCHE CONCRETE DAM



THE STORAGE RESERVOIR



NORTH SIDE CANAL



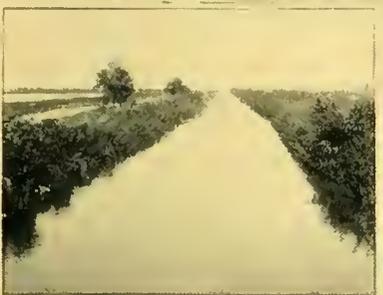
THE SUFFERN CANAL TAKES WATER TO THE RESERVOIR



WATER DROP TO THE RESERVOIR



FLOW OVER STEWART DAM



THE INDIAN CREEK CANAL



DIVERSION DAM IN THE BELLE FOURCHE RIVER



SOUTH CANAL BELOW THE TUNNEL



OUTLET FROM RESERVOIR, NORTH CANAL



STORAGE DAM AND RESERVOIR

Sugar beets	United States Reclamation Bureau	Good towns
Alfalfa	BELLE FOURCHE	Good schools
Sheep	IRRIGATION PROJECT	Good roads
Dairy cows	South Dakota	Good water supply

Near the Picturesque Black Hills

LOCATION: The Belle Fourche Irrigation Project lies in western South Dakota, a short distance north of the Black Hills. It covers an area of prairie country approximately 12 miles wide by 25 miles long, beginning just below the city of Belle Fourche and extending easterly along the valley of the Belle Fourche River and across the valleys of tributary streams. Nearly all the land lies in Butte County and the remainder, a few square miles, in the southeast portion of the project, in Meade County. About 75,000 acres of irrigable land are included in this agricultural development.

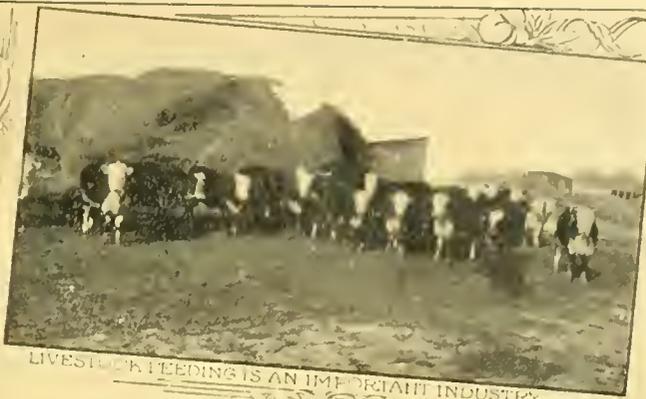
CROPS: The principal crops raised under irrigation in this section are sugar beets, alfalfa, corn, small grains and cucumbers for pickles. Specialized production commands attention because of the distance from central markets and the need of shipping crops in the more concentrated form of sugar, dairy products, livestock, wool and pickles.

Project farming, to a large extent, centers around the Black Hills Sugar Factory at Belle Fourche. This industry, with its ramifications, exerts beneficial influence on feeding operations, crop rotations and on better agricultural practices. From 200,000 to 300,000 bags of sugar, of 100 pounds each, are turned out annually from beets grown on irrigated farms of this region. The acreage given to beets varies from 6,000 to 8,000 acres annually on the Federal project, which grows about two-thirds of the total acreage contributed to the factory. Yields run generally from 10 to 20 tons per acre with occasional fields outstripping these figures. The sugar content and market price of sugar are factors in cash returns to growers but even in recent years of low prices the beet crop has kept many farm ledgers out of the red. The hand labor required in the beet fields is paid by the farms and may be supplied by either the growers or by the Sugar Company. Ten beet dumps on the project, served by railroad sidings, and the modern trucking facilities, make it possible to grow beets on practically all farms of the project.

Alfalfa is another of the basic irrigated crops that supplies pasture and roughage for livestock and builds up the soil for succeeding rotations. Fifteen thousand acres on the project are given to production of hay which is available in quantities not only for local herds but for livestock on the adjacent dry land ranches and for shipment to dairy farmers within the Black Hills. The price in recent years has ranged from \$4.00 to \$12.00 in the stack, although feeding of this crop on the farms, means higher returns and increased fertility. The yield of alfalfa averages in the neighborhood of 2 tons per acre from three cuttings but fields well taken care of and irrigated for maximum returns will produce 3 to 4 tons per acre per year and in exceptional cases 6 tons per acre have been reported. Alfalfa hay, sugar beets, sheep farming and dairying are the natural harmonizing farm activities under irrigation.



A FLOCK ON THE PROJECT TURKEY FARM



LIVESTOCK FEEDING IS AN IMPORTANT INDUSTRY



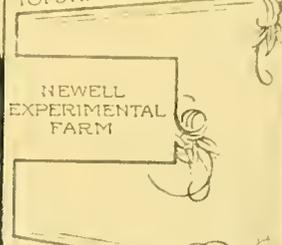
BEEF CATTLE ON BEET PULP AT BELLE FOURCHE



SHEEP FEED ON BEET TOPS AFTER THE HARVEST



HAMPSHIRE SHEEP ON THE



NEWELL EXPERIMENTAL FARM



HOGS ON ALFALFA PASTURE



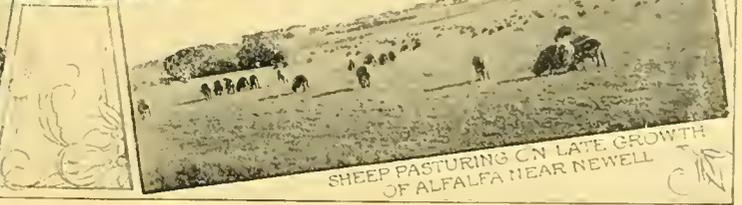
DAIRY HERD - IN INDIAN CREEK CANAL



CANAL SCENE NEAR ARPAN



A DAIRY HERD ON THE ARPAN DISTRICT



SHEEP PASTURING ON LATE GROWTH OF ALFALFA NEAR NEWELL

Small grains yield well under favorable conditions and are grown extensively in rotations and to supply feed for livestock but are not recommended for marketing purposes. Corn leads the cereal list in acreage and this crop, together with oats and barley, supplies the rations for some 100,000 head of stock as well as 50,000 fowls. Cucumbers for pickles provide profitable returns with \$200 cash income from one acre not uncommon in a favorable season. Salting stations are maintained at project towns where the green cucumbers are marketed daily during the pickling season. 150 to 130 acres are generally given to pickles, scattered over the project in patches of 1 to 3 acres.

LIVESTOCK: Sheep farming is a favored industry because of the cheap feeds grown under irrigation and also because of the available range outside the project where summer pasture can be had at 5¢ to 15¢ per acre. The lamb crop in this district sometimes reaches 150% and nearly always is well over the 100% mark. Dairying is a major activity on many farms and herds of 10 to 30 milk cows are common. This industry, along with other branches of farming, has had its vicissitude during the years of low prices, but with the poor producers weeded out and continued improvement in the grade of herds by means of high class sires, the dairy business has held its own and supplied a steady income for the man who markets cream.

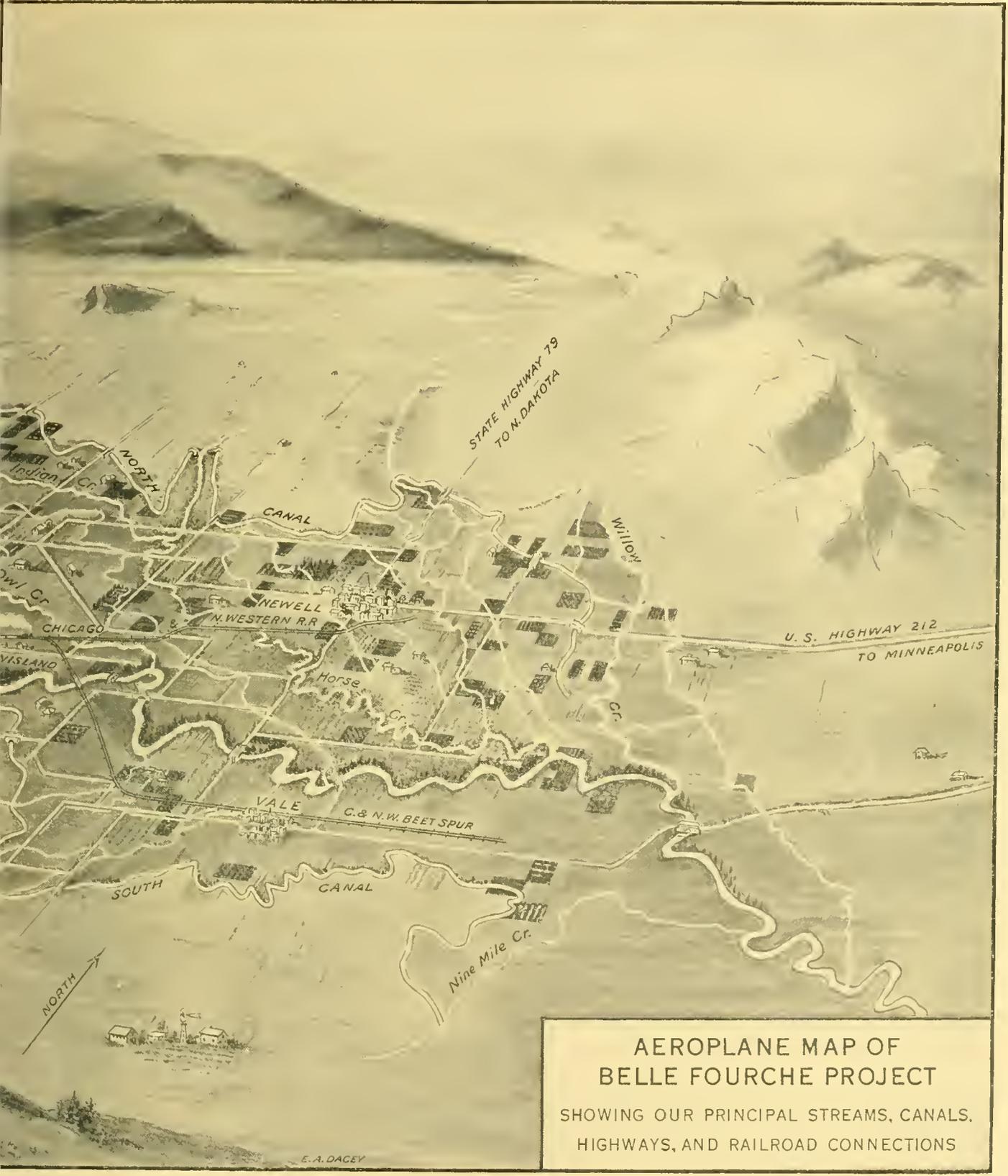
TREES AND FRUITS: Natural growth of cottonwood, ash and other trees is found along the valleys of project streams and many farms have developed full growth of wind breaks and orchards of hardy fruit, such as plums, cherries and apples. Local wild fruit includes the buffalo berry, choke-cherry and plum, while a drive to the Black Hills 40 miles away affords access to the wild raspberries, strawberries and sarvis berries found in the canyons and on the slopes of the mountains.

SOILS: The Belle Fourche Project has two distinct classes of soils--the sandy loam and the clay or gumbo. These occur in different combinations and composition but are practically of equal productivity. The sandy soils are found along the Belle Fourche river and in the southern portion of the project and comprise about one-fourth of the entire irrigable area. By far the most extensive soil of the project is the Pierre Clay known locally as "Gumbo". This is generally a heavy, tenacious soil that requires more labor and longer time in preparation but when once in thorough cultivation, shows good tilth, becomes friable, and will grow excellent crops of alfalfa. Sugar beets are grown extensively on the sandy loam areas but year after year this crop is reaching further into the heavy soil districts.

IRRIGATION: Irrigation of crops, as a rule, begins early in May and continues until the latter part of September. Rainfall varies greatly from year to year and a wet spring sometimes makes irrigation unnecessary until June. Crops on the average require about 18 inches of water in addition to the rainfall, the artificial moisture being applied as needed. Alfalfa and sugar beets receive from 4 to 6 irrigations, gardens are watered about every ten days and grain crops one to two times during the season. The clay soils provide no domestic water supply and recourse is had to cisterns and stock ponds. These ponds are filled late in November to take care of winter needs.

CLIMATE: The climate of western South Dakota is marked by an abundance of sunshine and the clear air attracts attention by its exhilarating effect. This invigorating atmosphere is one of the most attractive and healthy features of the irrigated country and a real inducement to homeseekers. Occasionally there occur periods of extreme heat, cold, or winds which are common in the plains country but when settled conditions prevail the project often has long periods of very pleasant days and fine growing weather. In the summer the temperature might occasionally reach 100 degrees and in winter 25 degrees below, but under the prevailing western dry atmosphere there is no serious discomfort under these extremes. Snow seldom





**AEROPLANE MAP OF
BELLE FOURCHE PROJECT**
SHOWING OUR PRINCIPAL STREAMS, CANALS,
HIGHWAYS, AND RAILROAD CONNECTIONS

E. A. DACEY



remains on the ground long enough for good sleighing and warm chinook winds are a feature of the winters. The precipitation averages about 15 inches and occurs mostly in the spring months, with an occasional down-pour that soaks the ground in good shape. The period free from frost is generally from the middle of May to the last of September and late garden truck nearly always matures well ahead of the first nip. The climate will appeal to those who come from the northern half of the United States, and while the man from the middle west will notice a lack of rainfall, this is more than compensated by the irrigation water from the ditches, that is available for crops, lawns and gardens, whenever the occasion requires. The altitude averages about 2,800 feet.

TRANSPORTATION: Railroad transportation is afforded by the Chicago & Northwestern Railway, with two principal lines from Chicago to the Black Hills, joining at Rapid City and continuing with a branch line through the project to Newell. The Chicago, Milwaukee & St. Paul Railway and the Burlington Line have terminals respectively at Rapid City and Deadwood. Together these give a ready outlet to Omaha, Sioux City, Lincoln, Minneapolis, Denver, Billings and the northwest. Federal highway 79 traverses the project north and south connecting Nebraska and North Dakota, and No. 212 runs east and west through the project extending from Minneapolis to Belle Fourche. Connecting with these highways are good county roads, some graveled, leading to all parts of the project. Highway 85, just off the project, also serves as an outlet to the north and southwest and to Black Hills points.

CIVIC DEVELOPMENT: The city of Belle Fourche, the County seat of Butte County, located at the upper end of the project has a population of 2,100 with all lines of business represented. Industries consist of a brick plant, creamery, flour mill and sugar factory. The business section is paved and residence streets well improved. The annual rodeo held for 3 days each year early in July, makes this the round-up city of the west.

Newell in the east central part of the project is a place of 500 population and the terminus of the Chicago & Northwestern Railroad. Two graveled Federal highways pass through the business street. The U. S. Experiment Farm, two miles out, is a Federal enterprise, established for demonstrating the results of irrigation and rotation as well as sheep feeding. Newell is also the irrigation project headquarters and contains one of the largest general stores in the state.

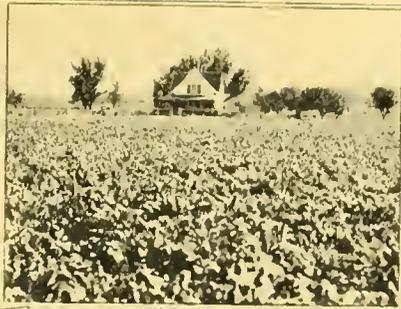
Vale, Nisland and Fruitdale are other communities on the project all connected by rail, where general merchandise business is conducted and where farm produce may be marketed.

Churches and schools are a feature of the project towns. The various religious denominations are well represented and most of these have adequate church edifices. Belle Fourche, Newell, Vale and Nisland provide standard high school courses while college work is available in the nearby cities of Spearfish and Rapid City.

IRRIGATION DISTRICT - WATER CHARGES: The project is organized as an Irrigation District under the state law, controlled by a Board of Directors. The district in turn has contracted with the United States to repay the cost of constructing the irrigation works. Payments for this purpose are distributed over a period of 80 years beginning at the time water first became available which means that most project farms will continue payments on this account for about 60 years without interest. These annual payments vary from $82\frac{1}{2}\%$ per irrigable acre to $\$1.37\frac{1}{2}$, depending on the class of soil, and average 93¢ for the entire project. In addition to the assessments for construction of the system there is an annual charge



IRRIGATING THE "NO. 1" BEET - ALPS



THE SUGAR FACTORY AT BELLE FOURCHE



IRRIGATING SUGAR BEETS



ALPINE AREA - INSTANT OF IRRIGATION FARMING



IRRIGATED CROPS IN EXPERIMENTAL ROTATION



THE SUGAR FACTORY AT BELLE FOURCHE



MILLING PLANT IN BELLE FOURCHE



CUCUMBER PATCHES TAKE PART OFS ON ALTERNATE DAYS



SUGAR BEET FIELDS NEAR FRENTOUR



CUCUMBER PICKLES MAKE A READY CASH CROP



ONE OF THE MANY APIARIES ON THE PROJECT



PICKLE SALTING AND STORAGE TANKS, NISLAND

for operation and maintenance of about \$1.15 per irrigable acre which is uniform for all the lands of the project, but may vary in amount from year to year. This brings the average annual charge for water to about \$2.25 per acre which is considered the same as taxes and if not paid becomes delinquent on May 1st and draws 10% interest under the state law. In recent years only operation and maintenance has been paid because the Federal Congress declared a moratorium on the construction collections due to the low prices and general depression.

RECREATION: The Belle Fourche Project offers excellent opportunities for recreation because of its location within an hour's drive of the Black Hills, "the Switzerland of America." These attractions have been pronounced the equal of any outing grounds in the world, with trout, cool streams, springs and shady camps available for the Sunday picnic or for the longer stay of the summer tourist. Improved roads penetrate the Hills in all directions, affording the finest motoring and easy access to historic places while a climb to the peaks reveals the most beautiful panoramas. The Rushmore National monument, the State park where the late President Coolidge spent a summer, the Homestake gold mine at Lead, and many other interesting places can be visited in a one day's trip from the project. Those interested in crowds and amusement will find diversion at the "Belle Fourche Round-up," the "Days of '76" at Deadwood, "Gold Discovery Days" at Custer, the "Water Carnival" at Hot Springs, "Farm Picnic" at Nowell, "Sugar Day" at Vale, "Butte County Fair" at Nisland and "Lamb Feeders' Day" at Fruitdale, all of which are annual events. The Yellowstone National Park, the Big Horn Mountains of Wyoming and Denver with its Rockies are only one day's drive away.

FARMS AVAILABLE: Good farms with some improvements can be had for \$15 per acre, and the better improved places range from this figure to \$150. About one-half the project lands were homesteaded but most of these have already received patent; the other half are in private ownership. A few homesteads are open for filing at the present time subject to the selective settlement law. Nearly all farms have some land under cultivation with alfalfa stands and irrigation ditches ready for operation. Economic conditions on the project as elsewhere were adversely affected by the depression but better times are only a matter of better market prices and recent inquiries indicate that demand for land is coming back. Prospective settlers should be able to make the initial down-payment on land and have sufficient working capital to start operation, purchase stock and equipment and for taking care of living expenses the first year. Farms for sale are listed on the last sheets of this folder.

AMERICAN LEGION ATTENTION: Legion men who have agricultural inclinations will find bargains here in irrigated farms that afford good opportunities for homes and a settled mode of life. There are no real estate commissions attached to these sales because every purchaser will be contacted directly with present owners who desire to sell. Write the American Legion Post at Nowell, Nisland or Belle Fourche for particulars and your old comrades will be glad to give you first-hand information and to see that you get a square deal on purchases.

For further information write to:

U. S. Bureau of Reclamation, Nowell, South Dakota,
Secretary, Irrigation District, Nowell, South Dakota,
County Agent, Belle Fourche, South Dakota.



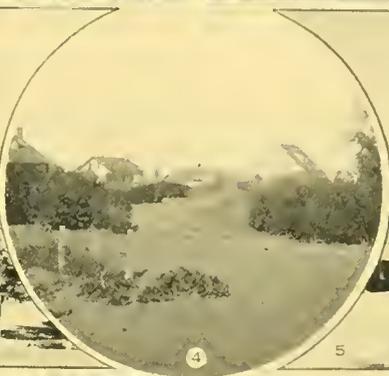
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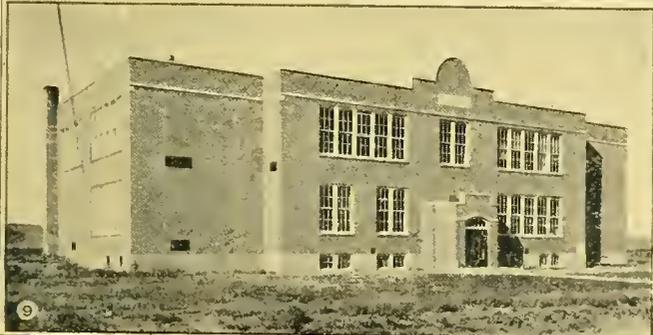
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- 1-VALE PUBLIC SCHOOL
- 2-NEWELL PUBLIC SCHOOL
- 3-A CITY RESIDENCE NEWELL
- 4-U S. EXPERIMENTAL FARM
- 5-BUSINESS ST., BELLE FOURCHE

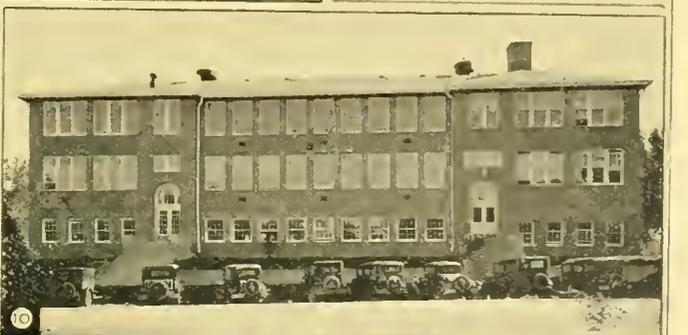


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- 6-A FARM HOME, VALE DISTRICT
- 7-PROJECT HEADQUARTERS, NEWELL
- 8-MAIN STREET, NEWELL
- 9-NISLAND PUBLIC SCHOOL
- 10-HIGH SCHOOL, BELLE FOURCHE



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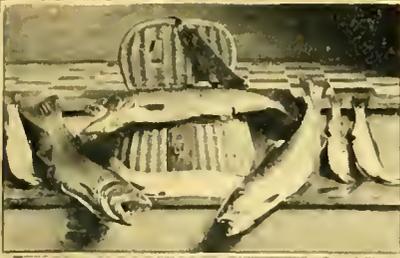


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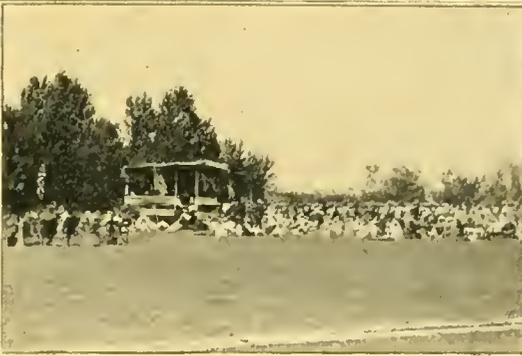
BELLE FOURCHE PROJECT

FARMS FOR SALE

- No. 1. 80 acres - 63 irrigable, 2 miles east of Nisland. Adjacent to U. S. graveled highway; near beet dump; 15 acres in alfalfa. Traversed by Owl Creek. Mostly sandy loam soil - some clay loam on north end. Five-room house, stable, honhouse, granary and sheds. Buildings need painting. \$2,500 - \$375 down, balance to be arranged by contract. Project serial No. 463.
- No. 2 120 acres - 104 irrigable. One mile north of Newell. Clay soil. Improved, with 5-room house, barn, sheds, fences, ditch and small area in alfalfa. Well fenced. Total price \$3,000 - \$1,000 down, balance ten years at 5% interest. Project serials Nos. 1092 and 1093.
- No. 3 160 acres - 141 irrigable. Six miles east of Vale; sandy loam soil; level to slightly sloping. Producing sugar beets; 30 acres in alfalfa. Five-room house (two-story); barn, granary; honhouse. One and one-fourth miles to school. To be sold on bids-15% down - 25% payable next five years at 4½% interest. Deed issues when 40% is paid. Balance in 20 annual installments at 3%. Project serial No. 1271.
- No. 4 160 acres - 102 irrigable, all under cultivation. One mile north of Newell. Clay soil. Five-room house with basement, good barn, granary, honhouse. Ring fenced and cross fenced. \$5,500 - \$750 down, balance on terms to be arranged at 6% interest. Project serial Nos. 1067 and 1081.
- No. 5 480 acres - 110 acres irrigable, 200 under cultivation; medium clay loam soil. Four miles west of Newell, 2 miles to school; 4-room house, horse barn, sheed shed, granary, henhouse; well fenced with woven wire. Price \$6,000 - \$3,000 cash, balance on terms to be arranged at 6% interest. Project serials Nos. 695 and 699.
- No. 6 160 acres - 103 irrigable. Three and one-half miles west of Nisland on the Belle Fourche River; one and one-half miles to school; under the Johnson lateral direct flow water supply. Cut by railroad and by the river. Sandy loam soil and favorable topography on major portion. Fair house; other buildings would serve for temporary use. \$3,500 - \$525 down, balance to be arranged by contract. Project serials Nos. 186 and 187.
- No. 7 160 acres - 94 acres irrigable. Adjoins town of Nisland; on U. S. Graveled highway; 16 acres in alfalfa; 50 acres sugar beets in 1933. Fair set of buildings but need painting. House, barn, granary, hoghouse, honhouse, sheep shed and beet workers house. To be sold on bids - 15% down - 25% payable next 5 years at 4½% interest. Deed issues when 40% is paid, balance in 20 annual installments at 3%. Project serial No. 477.
- No. 8 80 acres - 53 acres irrigable. Three and one-half miles north of Newell. Traversed by Dry Creek, some bottom land; clay soil. Three-room house, barn, henhouse, root cellar. On school bus route, ½ miles from graveled highway. \$3,500 - \$500 down, balance on terms at 6%. Project serial No. 990.



RAINBOW TROUT FROM BLACK HILLS



THE FAIR AT SIOUX FALLS, S. D.



THE RODEO AT SIOUX FALLS, S. D.



THE RUSTY FAIR AT SIOUX FALLS, S. D.



THE PRAIRIE AT SIOUX FALLS, S. D.



THE FAIR AT SIOUX FALLS, S. D.



A SHADY CANYON IN THE BLACK HILLS



A SCENIC VIEW OF THE BLACK HILLS



FALLS IN SPOONER CANYON, BLACK HILLS



THE NEEDLES OF THE BLACK HILLS



TOURIST RESORT IN THE BLACK HILLS

- No. 11 160 acres - 68 irrigable. Four miles west of Newell. Medium clay soil. Meadow pasture on Horse creek. Seven-room house; large stable, henhouse, granary, ice house, beet workers' cabin. Twenty acres of alfalfa. \$9,500 - \$950 down, annual payment \$785 amortized at 6% interest.
- No. 14 160 acres - 99 irrigable. Three and one-half miles west of Nisland on the Belle Fourche river; one and one-half miles to school; under the Johnson lateral direct flow water supply. Cut by railroad and by the river. Sandy loam soil and favorable topography on major portion. Fair house; other buildings would serve for temporary use. \$3,500 - \$525 down, balance to be arranged by contract.
- No. 15 76 acres - 74 irrigable. One and one-half miles north of Arpan post office; twelve miles north of Fruitdale. Clay soil, level topography. School on the farm. Forty acres in alfalfa. House needs reconditioning; other buildings lacking. \$1,600 - \$240 down, balance to be arranged by contract.
- No. 16 280 acres - 119 irrigable. Three miles northeast of Arpan post office. Fourteen miles northeast of Fruitdale. Clay soil; level to rolling topography. One mile to school. Good house and barn and other improvements. Ten acres in alfalfa. \$3,000 - \$450 down, balance to be arranged by contract.
- No. 17 160 acres - 96 irrigable. One-half mile northwest of Newell; clay soil; sloping topography. Well improved with 6-room house, good barn, large sheep shed, 50' x 200', ice house, other sheds; largely woven-wire fenced. Small orchard; thirty-five acres in alfalfa. To be sold on bids 15% down - 25% payable next five years at $4\frac{1}{2}$ % interest. Deed issues when 40% is paid. Balance in 20 annual installments at 3%.
- No. 18 160 acres - 141 irrigable. Six miles east of Vale; sandy loam soil; level to slightly sloping. Producing sugar beets; 30 acres in alfalfa. Five-room house (two-story); barn, granary, hen house. One and one-fourth miles to school. To be sold on bids 15% down - 25% payable next five years at $4\frac{1}{2}$ % interest. Deed issues when 40% is paid. Balance in 20 annual installments at 3%.
- No. 19 160 acres - 133 irrigable. Ten miles north of Fruitdale; one-half mile to Arpan store and post office. Clay soil, level topography. On a main county road; produced 14 tons of sugar beets per acre in 1932. Thirty acres in alfalfa. Small 2-story house; stable and sheds. To be sold on bids 15% down - 25% payable next five years at $4\frac{1}{2}$ % interest. Deed issues when 40% is paid. Balance in 20 annual installments at 3%.
- No. 20 240 acres - 77 irrigable. One and one-half miles northwest of Nisland. Sandy loam and medium clay soil. Partly under the project reservoir and partly under direct flow canal. Twenty-five acres in alfalfa; producing sugar beets. Good 6-room house; granary; stable and sheds; orchard of hardy fruit. To be sold on bids 15% down - 25% payable next five years at $4\frac{1}{2}$ % interest. Deed issues when 40% is paid. Balance in 20 annual installments at 3%.

Note: These farms are not under option. Prices and terms may be changed under agreements between buyer and seller.



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