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THE POTASH INDUSTRY OF NEW MEXICO

P. E. COLDWELL, *Industrial Economist*
Federal Reserve Bank of Dallas

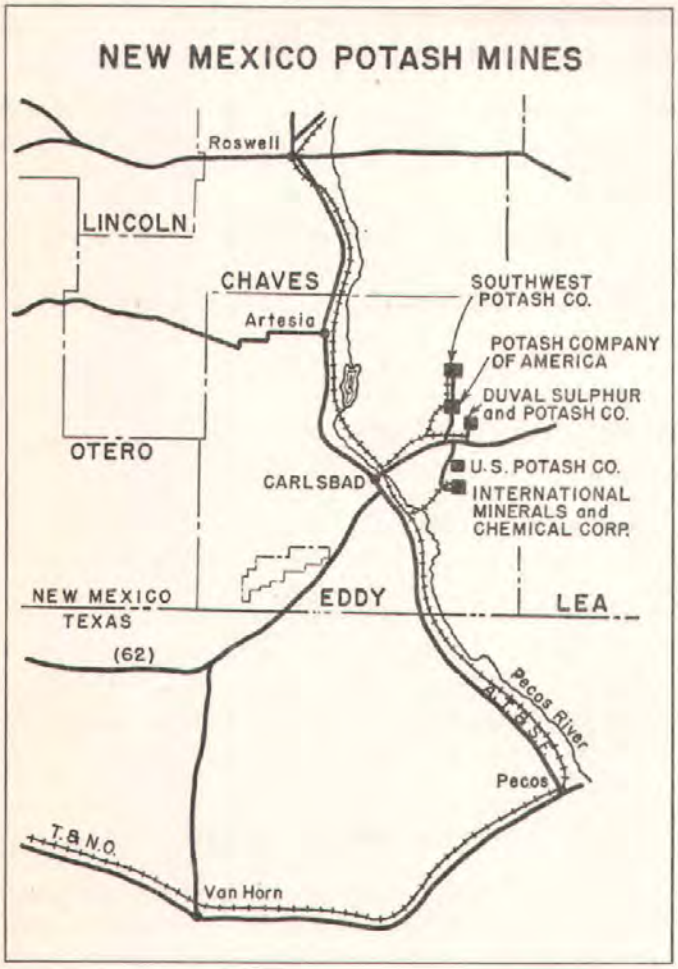
To most people in the United States, the mention of Carlsbad, New Mexico, immediately brings to mind the Carlsbad Caverns. To a few, however, Carlsbad is associated with a little-known potash-bearing ore named sylvinite (sylvite and halite). Probably because it is seldom marketed in large quantities under its own name, a large section of the public is generally uninformed about potash and its products. One major element of our population, the farmers, has been made increasingly aware of these products and their beneficial uses, because about 94 percent of all potash produced in this country enters into commercial fertilizers. When combined, nitrogen, phosphate, and potash — in varying percentages — form the basis of almost all commercial fertilizers in use throughout the United States. The remaining 6 percent of this potash is made into a pure chemical grade to be used in the manufacture of such products as glass, soap, matches, military explosives, drugs, and high-octane gasoline. Between 90 and 95 percent of the United States production of potash (in tons potassium oxide content) comes from an area about 15 miles east of Carlsbad, with most of the remaining 5 to 10 percent coming from California and Utah.

Sylvite, a nonmetallic mineral composed of potassium and chlorine, is mined in New Mexico from salt beds about 800 to 1,500 feet underground. The sylvinite veins are a part of the Permian Basin structure, which was formed by the evaporation of an arm of the ocean millions of years ago. Potash in the form of a brittle crystalline rock is mined from beds of a commercial grade from 4- to 14-foot thickness. Two major types of ore, sylvite (KCl) and langbeinite ($K_2SO_4 \cdot 2MgSO_4$), are mined in the Carlsbad region. Only one company mines the langbeinite ore, while all producers mine the sylvite ore. Known recoverable reserves of these ores now total nearly 100,000,000 tons of potassium oxide. (Potassium oxide or K_2O is an industry measure of the potassium content in their products.) Secondary reserve estimates are indefinite because mining is presently confined to the above ore bodies. At present rates of mining, this supply should be adequate for at least 65 years.

Mining and Refining Potash

Mining operations are conducted by means of shafts sunk to levels of from 800 to 1,500 feet below the surface. These are walled with concrete down to the salt formations to protect against water seepage and to provide a secure means of entry and exit. There are special shafts in some mines for the movement of men and ore. After the shafts are completed, entryways are cut into the ore beds until sufficient working space is available. Then, after all equipment is in place, actual mining is started.

The procedure of mining potash varies but little between the potash companies of New Mexico. In nontechnical terms, the working area or "face" is undercut, drilled, and then blasted with dynamite. Specialized machines are used for the undercutting and drilling operations. A new machine called a "continuous miner" has been developed and eventually may supersede most of the methods now in use. The "continuous miner" replaces most of the work of cutting, blasting, and loading the ore. However, the use of this machine is not as yet too prevalent. Under the present methods, after blasting, the ore is machine-loaded on a large rubber-tired shuttle car for movement to a centrally located transfer point. The shuttle cars then are emptied by a conveyor into the mine railroad cars. These cars are hauled to a point near the ore shaft, and the ore is dumped into storage pits. There has been an attempt to apply a process of solvency to the underground potash field, but this process is generally discounted by industry members of today. However, should this process become feasible in the future, the mine shaft operations of the industry would certainly become obsolete.



Some companies provide underground crushing of the ore to a less than 5-inch size, while others hoist the raw ore. If crushing is done underground, this operation is conducted at the point at which the mine railroad cars are emptied. From the storage pit, the ore bucket or "skip" lifts the ore to the surface and empties it into storage bins. The "skips" are loaded and emptied automatically, making a round trip in approximately one minute. As there are two "skips" in each shaft, one is emptied while the other loads in counterbalanced operation. From the surface storage bins, the ore is moved by belt conveyors through further crushing and refining operations. It is this almost complete mechanization of operations which impresses the visitors to the potash mines.

With this mechanization and partly because of the product mined, the potash mines provide probably the best working conditions of any underground mining in the world. The temperature varies from 73 to 76 degrees, and the air is continually circulated to provide a fresh, clean atmosphere. Furthermore, the level floor of dry rock salt and the luminous reflection of light from the walls and the ceilings furnish a clean place in which to work. The fact that most of the entryways are high enough to allow the miners to walk upright and that electric lighting is provided (in some mines, all the way to the face) would certainly amaze an old coal miner of a few years ago. The safety of the miners appears to have been uppermost in the minds of the companies. The potash is mined so that large pillars, ranging from 32 feet by 41 feet to 40 feet by 60 feet, are left to support the roof. Every machine with moving parts is guarded, and extra precautions are taken where men enter or leave the shafts. In some mines continuous lighting is assured because multiple utility connections guard against power failures. Incidentally, a few companies generate a portion of the electric energy they use. The refineries of the companies, while not so attractive as the mines, are well lighted and well protected.

The refining processes are considerably different between the companies. There are, though, only two major methods: The water solution or fractional crystallization process and the flotation process. In the water solution method, the ore is placed in contact with a solution which dissolves most of the potassium chloride but leaves the sodium chloride out of solution. After many clarifying steps, the potassium chloride is crystallized from the solution. In one type of flotation process, the sodium chloride salts are floated away, leaving the potassium chloride. In another type of flotation process, the potassium chloride is floated away, leaving the sodium chloride salts as residue. The essential difference between the two flotation processes is the type of reagent used in the solution.

The Products and Their Prices

There are 10 major agricultural products of the New Mexico producers. Six of these are muriates of potash, varying from 50 to 63 percent K_2O and marketed under brand names of the individual producers. These are by far the most important products, as they account for 95 percent of all potash entering into fertilizers. There are also two manure salts, averaging a minimum of between 20 and 22 percent K_2O. The sulphate of potash, marketed by International Minerals & Chemical Corporation and the Potash Company of America, averages between 90 and 95 percent potassium sulphate, with a minimum of 90 percent potassium sulphate. The sulphate of potash magnesia, also produced by International Minerals & Chemical Corporation, has a basis of 40 percent potassium sulphate and 18.5 percent magnesium oxide.

The prices on muriates and manure salts are quoted on a unit basis of 20 pounds of potassium oxide. Currently, the muriates are priced between 40 and 43.5 cents per unit, and the manure salts, at 21 cents per unit. The sulphate of potash and the sulphate of potash magnesia are quoted on a short-ton basis. At present, these average $36 per ton for sulphate of potash and $16 per ton for sulphate of potash magnesia. All prices of potash are quoted subject to discounts offered the buyers for purchases made during the off season and also subject to a discount for noncancellation of orders. It is interesting to note that since 1939, potash prices have decreased about 1 percent, while most other prices have increased nearly 200 percent.

The History of Potash in New Mexico

Potash mining in New Mexico really started in 1931 as a result of a serious shortage induced by World War I. Both before and after World War I, the United States imported

most of its potash from Germany and France. A world cartel had been developed by the German producers to overcome a rather large surplus of capacity. Since prices fell drastically during the period of maximum production, the German government, in line with its policy of promoting the cartelization of industries, encouraged the potash producers of Germany to organize a world cartel to control the production and marketing of potash. This cartel was remarkably effective, especially during the period between World War I and World War II.

When World War I started, the supply of German potash was cut off and prices in the United States skyrocketed. In this setting, a government-financed search was instituted in this country. Although many companies were then producing potash (mainly from wood ash and industrial wastes), their total output was not nearly enough. Consequently, when in 1925 potash ore (sylvite) was discovered near Carlsbad in a well drilled for oil, there was an immediate interest and considerable exploration was soon started. Most of the ore is now mined from federal lands. Leases are granted the operating companies for an indeterminate term so long as the area is mined.

The first company to operate in the New Mexico region was the United States Potash Company, which started operations in 1931. The Potash Company of America followed in 1934, and the International Minerals & Chemical Corporation began in 1940. From 1940 until 1951, these three companies were the sole producers in the New Mexico area. In 1947, Continental Potash Company and Duval Sulphur and Potash Company began survey operations. Continental has not entered into production nor, as far as is presently ascertainable, is it planning to do so in the immediate future. However, in December 1951, Duval Sulphur and Potash Company began its production, and in October 1952, Southwest Potash Corporation started its operations. Southwest, though, will not be in full operation until 1953. As previously indicated, in the period 1941-51, there were only three companies in the New Mexico area. In this period, the greatest developments of techniques and processes were accomplished. In this period, also, came the greatest advances in levels of production and the eventual freedom of the United States consumers from foreign sources of supply.

The Consumption of Potash

The consumption of potash naturally has gone hand-in-hand with the use of fertilizers. A number of events have contributed to an increased use of commercial fertilizers. One of the most important has been the financial aid given farmers by the Government under the various farm programs. Also, educational programs of the Agricultural Extension Service, Soil Conservation Service, and many others constantly remind farmers of the benefits to be derived by increasing their use of fertilizers. Since the past 20 years have been years of rising farm income, the consumption of fertilizer and, therefore, of potash has risen phenomenally. Fertilizer consumption rose 281 percent from 1933 to 1951 and is expected to rise to about 288 percent in 1952. During the same 18-year period, farm income rose from $5,439,000,000 to $32,908,000,000, or an increase of 505 percent. The consumption of potash in the United States also rose drastically during that period, showing an increase of 464 percent from 1933 to 1951. To keep pace with such a rapid rise in use, the potash industry has had to expand its production many times. United States production increased by 171 percent from 1941 to 1951, and New Mexico potash production increased 176 percent in the same period. (See table and chart on page 170.)

FERTILIZER CONSUMPTION ON FARMS

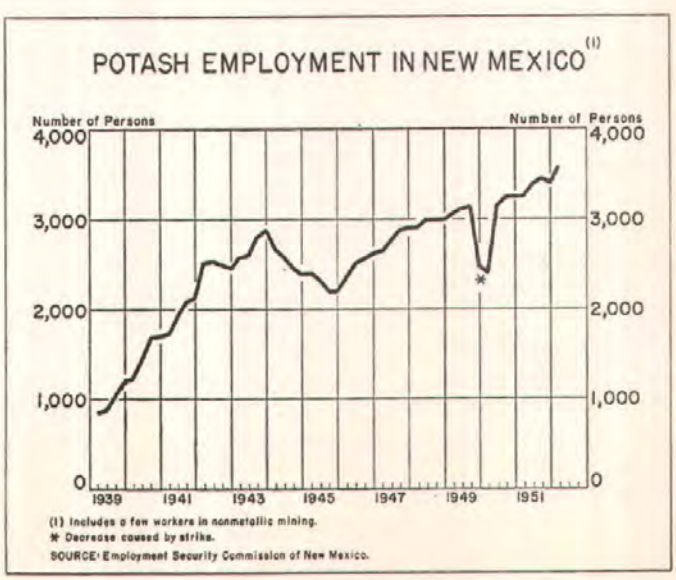
(In thousands of tons)

Year	United States	Year	United States
1933	4,900	1943	11,500
1934	5,600	1944	12,100
1935	6,300	1945	13,200
1936	6,900	1946	14,900
1937	8,200	1947	15,000
1938	7,500	1948	16,000
1939	7,600	1949	16,400
1940	7,800	1950	18,000
1941	8,300	1951	18,700
1942	8,700	1952	19,000e

e—Estimate.
SOURCE: United States Department of Agriculture, *Agricultural Statistics, 1937-1951.* *Business Week*, September 13, 1952, p. 54.

Current Operations of New Mexico Producers

After starting in 1931 with a capacity of 200 tons of ore hoisted from the mine each day, the New Mexico producers (including the newest members) now have a capacity of 23,600 tons per day. Since the producers operate on three shifts per day 7 days a week, the theoretical maximum tonnage of mine ore hoisted in New Mexico is 708,000 tons in 1 month. Recent figures show that production is averaging about 646,900 tons per month, but the new companies are not yet in full production. As the mine ore will average about 21 percent K_2O, the maximum tonnage for all New Mexico should approach 148,680 tons K_2O per month. The 1953 capacity, calculated on the basis of 340 days of operation, thus allowing for repairs and breakdowns, will be approximately 8,000,000 tons of mine ore, or nearly 1,806,000 tons K_2O. It is not likely that such a level of production will be met in 1953, because the newer companies will have produc-



tion difficulties common to all new plants and, also, because losses must be considered in converting the raw ore into a marketable product. Allowing for these mitigating factors, the 1953 New Mexico production will approximate 1,660,000 tons K_2O. Since the refineries are constructed to handle the mine ore, the refinery capacity also approaches 150,000 tons K_2O per month. However, because most companies desire a working backlog in case of mine trouble, the refinery capacity is not quite so large as the mine capacity.

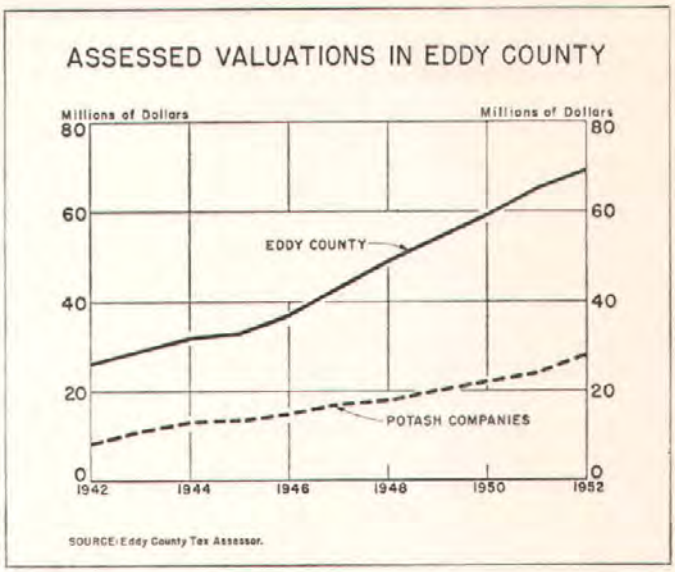
As of June 1952, there were 3,314 employees in the potash industry of New Mexico, of which 2,759 were production workers. In October, the total had advanced to 3,605 employees, with an expected 3,740 by July 1953. In June, the production workers were divided so that 1,658 worked in the mines and 1,101 were employed in the refineries. The mine workers averaged 38.9 hours per week, with an average rate of pay of $2.37 per hour. The refinery production workers averaged 36.9 hours per week and received an average of $2.18 per hour.

The number of workers employed by the New Mexico potash companies increased by about 230 percent from July 1939 to June 1952. The October 1952 total of 3,605 workers was 12 percent above the October 1950 employment of 3,220 workers. Average weekly wages increased 178 percent from the first quarter of 1939 to the first quarter of 1952. The weekly average of $95 in the first quarter of 1952 was 8 percent above the average of $88.34 per worker in the first quarter of 1951. The total payroll of all companies in the first quarter of 1952 was $4,103,728, averaging $1,367,900 per month. By September, this payroll had reached approximately $1,700,000 per month. The addition of the new companies and expanded production in the older ones account for this rise. There are no seasonal factors which affect employment in the potash industry, and labor turnover is less than 2 percent per month.

The potash companies currently are paying the highest wages in the mining industry. This high level of wages, coupled with the nature of the industry, makes labor costs the largest single item in the costs of production. Wages are presently about 40 percent of total costs and nearly 58 percent of the variable costs of production.

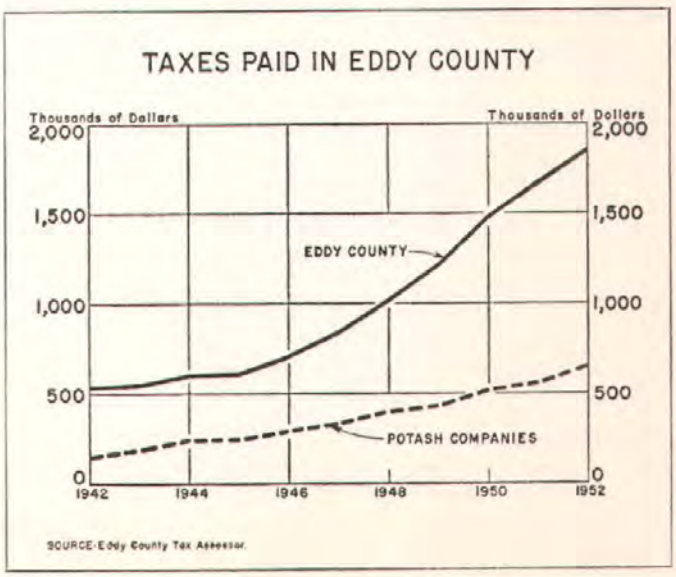
The Environmental Importance of the Potash Companies

The total value of the product of the New Mexico potash companies in 1951 was about $38,000,000, and the current replacement cost of the mines and refineries is nearly $75,000,000. These values may not seem large in comparison to other companies in the mining business. Nevertheless, size is relative to its immediate surroundings; so to Carlsbad and Eddy County, New Mexico, the potash companies are indeed tremendously important. Of the total of approximately 10,000 workers in the Carlsbad area, the potash companies employ about 33 percent. Of an approximate monthly payroll of $2,000,000 in the immediate Carlsbad area, the potash companies provide over 75 percent.



While it is possible to show the relative importance of the potash companies in the Carlsbad area on the basis of workers and payrolls, no statistics are available to show the type of growth which the companies have brought to the city. In two decades Carlsbad has tripled its population to over 20,000 people, but it is the permanency of growth which impresses the visitor. Carlsbad is not a boom oil town, nor is it plagued with flimsy, temporary construction. Instead, Carlsbad shows a steady growth, with workers purchasing permanent homes and entering into the life of the city. Though most of the workers live in Carlsbad, a few reside in Artesia and Loving, New Mexico.

Eddy County also counts the potash companies as its major source of revenue. Of a total assessed county valuation of $69,210,600 in 1952, the potash companies were assessed $27,977,503, or about 40 percent of the total. There are approximately 15,000 workers in the county, with the potash companies accounting for at least 20 percent of that number. Of the 13,000 workers of Eddy County who are covered by



the New Mexico unemployment compensation law, the potash companies supply approximately 25 percent. The New Mexico unemployment compensation law provides that any company employing more than two workers, or having a total quarterly payroll of more than $450, must account for its workers under this law. Consequently, nearly all except the self-employed are registered. In the last quarter of 1951, the potash companies accounted for 41 percent of the total payroll of these registered workers. In terms of state and local taxes paid in Eddy County, the foregoing chart clearly shows the importance of the potash companies in the county's financial structure. Currently, these companies are paying nearly 35 percent of all such taxes.

Even to the entire state of New Mexico, the potash companies are very important. Thirty-seven and one-half percent of the federal royalty payments are returned to New Mexico for use in their state school and highway funds, and the state itself receives considerable sums in direct royalty and lease payments. Furthermore, potash company payments of state severance and sales taxes also make large contributions to the New Mexico tax receipts. While exact figures of potash company payments are not available, it is interesting to note that of the 1951 New Mexico tax receipts, severance taxes accounted for 4.7 percent; general sales taxes, 33.6 percent; and licenses and property taxes, 9.5 percent. The five potash companies are now making state and federal tax and royalty payments of about $8,000,000 per year.

Problems of the Potash Industry

One of the problems which faces the potash industry of today is that of overcapacity. This problem is inseparably interlinked with, and may even be solved by, the future demand for fertilizer, the amounts of potash imported, and the level of farm income. Even presupposing a given level of farm income, forecasting fertilizer usage is very difficult. Considering the strides made in education for fertilizer usage and possibilities for further education, such forecasts are rather indefinite. Notwithstanding such difficulties, the Department of Agriculture has forecast for 1955 not only fertilizer consumption but also production goals for each of the major ingredients, including potash. Their forecasts show a 70-percent increase in fertilizer usage in 1955 over the level of 1950 consumption. For potash, the estimated requirements for 1954-55 are 2,132,000 tons of potassium oxide (K_2O), as compared to the 1950-51 use of 1,377,000 tons for the continental United States. Since the United States producers generally supply the outlying territories, such as Puerto Rico and Hawaii, their demand and forecast also should be included. The 1951 use of potash in the territories was 43,000 tons, while the estimated demand for 1955 is 63,000 tons. When combined, this total estimated usage amounts to 2,185,000 tons K_2O for 1954-55. This would be a 58-percent increase over the 1950-51 demand.

Assuming the validity of the above requirements, it must next be determined whether the United States production and imports of potash will fall short of, meet, or exceed this demand. United States imports of potash in 1951 increased 82 percent over 1933 and 56 percent over 1950. The stocks

IMPORTS AND STOCKS OF POTASH

United States

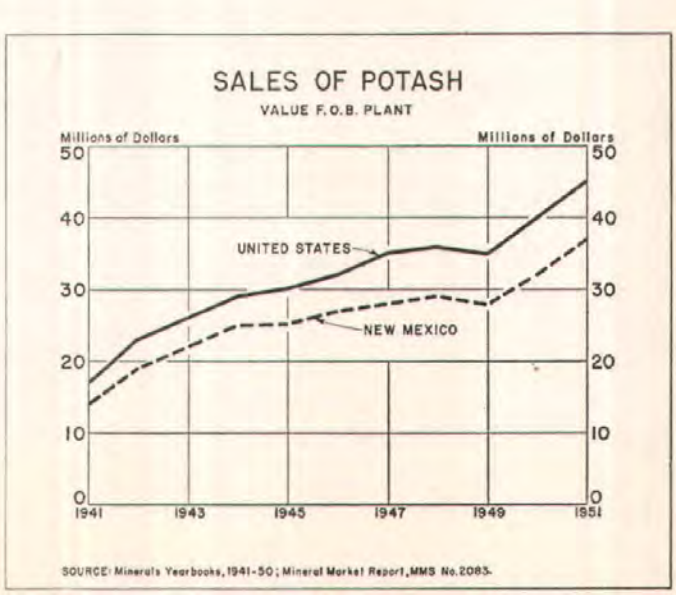
(In short tons K_2O)

Year	Imports	Producers' stocks	Year	Imports	Producers' stocks
1933.....	171,854	20,891	1943.....	17,109	13,984
1934.....	171,955	50,066	1944.....	4,868	29,763
1935.....	241,510	18,060	1945.....	6,022	34,253
1936.....	211,752	34,000	1946.....	4,365	37,999
1937.....	351,445	55,620	1947.....	25,978	14,697
1938.....	193,609	87,440	1948.....	27,181	11,211
1939.....	99,569	29,440	1949.....	19,216	9,066
1940.....	118,690	16,370	1950.....	200,529	20,328
1941.....	15,818	9,712	1951.....	313,454	62,597
1942.....	4,359	6,041			

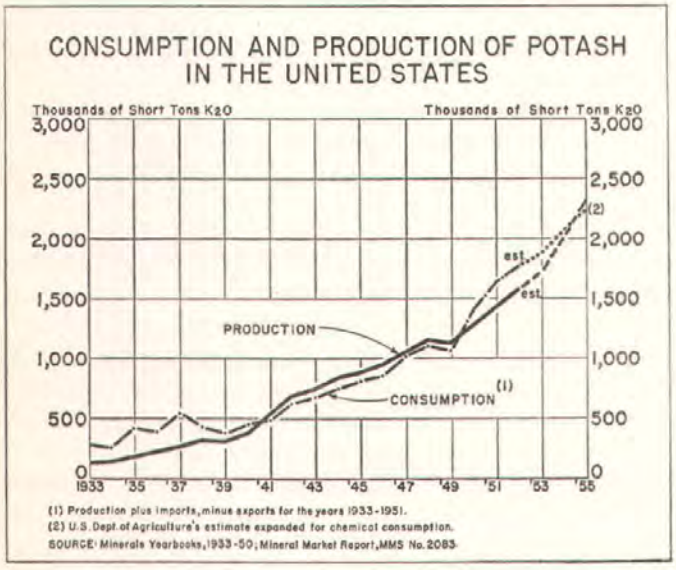
SOURCE: *Minerals Yearbooks, 1933-1950.*
Mineral Market Report, MMS No. 2083.

of United States producers showed a marked gain from 20,328 tons K_2O in 1950 to 62,597 tons K_2O in 1951 and are now higher than at any time since 1938. Meanwhile, potash consumption in the United States increased 17 percent last year, and sales of potash from 1950 to 1951 increased 13 percent for the United States and 17 percent for the New Mexico producers. The production of potash within the United States rose 10 percent in 1951, and New Mexico production increased 12 percent. Thus, while some elasticity has developed, the current production of potash in the United States is exceeded by the demand. Imports are satisfying the excess requirements. For the future demand, we must consider the ability of the United States producers to expand and the possibility of increased imports.

It has already been noted that the projected capacity of New Mexico producers for 1953 is 1,660,000 tons K_2O. Under present plans of new and old producers and the possibilities inherent in the mines and refineries of the present New Mexico producers, this production could be expanded in approximately 2 years to a maximum of 2,220,000 tons K_2O per year. It must be stressed that this is a maximum production estimate. It is very possible that the total will more than likely approach 2,100,000 tons K_2O.



Reference to the accompanying table and chart shows the trend of production and consumption in the United States from 1933 to 1951 and the projected trend to 1955. The projected production figure for the United States is derived from the New Mexico estimate. It is assumed that the New Mexico producers will increase their production from 95 to 97 percent of the total United States production in the period 1951-55. It must be stressed that these percentages are based on tons K_2O production and not on tons of salt production or sales of potash. If the Agriculture Department's estimate for the use of potash in 1955 is reasonably accurate, and assuming a 90,000-short-ton K_2O use for chemical consumption, the total projected demand will be approximately 2,275,000 tons K_2O. It is easy to see that the maximum New Mexico production in 1955 would be nearly sufficient to meet this demand. Therefore, almost all other production and certainly any imports could be classified as surplus.



CONSUMPTION AND PRODUCTION OF POTASH

(In short tons K_2O)

Year	United States		New Mexico
	Production	Consumption[1]	Production
1933	130,070	293,000	—
1934	130,944	268,000	—
1935	174,898	420,000	—
1936	224,382	396,000	—
1937	258,090	556,000	—
1938	316,951	428,000	—
1939	307,051	387,000	—
1940	379,679	449,000	—
1941	524,875	490,000	488,504
1942	679,206	636,000	653,250
1943	739,141	679,000	727,504
1944	834,568	754,000	799,715
1945	874,243	809,000	842,930
1946	931,812	867,000	893,126
1947	1,029,875	1,011,000	965,583
1948	1,139,881	1,101,000	1,069,675
1949	1,118,395	1,070,000	1,018,886
1950	1,286,762	1,409,000	1,198,021
1951	1,420,323	1,653,000	1,349,572
1952	1,580,000e	1,780,000e	1,513,000e
1953	1,726,000e	1,892,000e	1,660,000e
1955	2,290,000e	[2]2,275,000e	2,220,000e

[1] Production plus imports, minus exports.

[2] United States Department of Agriculture's estimate expanded for chemical consumption.

e—Estimate.

SOURCE: *Minerals Yearbook*, 1933-1950.
Mineral Market Report, MMS No. 20853.

It is this possibility of overcapacity which troubles the producers in the New Mexico area. Since two new producers entered the New Mexico field in the past year and since there is a possibility of a third and perhaps even a fourth company entering this field, excessive capacity may seem to be just around the corner. Because it is uneconomical to operate the mines and refineries on less than a three-shift basis, technological progress must keep pace to lower the unit costs of production. In particular, any improvements which will lower the burden of wage costs would be very helpful. Perhaps, also, markets will have to be created by lowering the operating margins. However, in any such intra-industry competition, the record of these potash companies amply proves that they have been willing to reduce and are capable of reducing cost margins by improving efficiency.

If one assumes the lower forecast of 2,100,000 tons K_2O to be produced in New Mexico in 1955, then the total United States production would be approximately 2,165,000 tons K_2O for that year. Under these assumptions, and if the consumption estimate is correct, then some imports could still be used. It is recognized that assumptions on the level of farm income, employment, population growth, and increased demand for farm products have to be made to carry out these forecasts. So far, exports have not been a major source of revenue for United States producers. Total exports average about 67,000 tons K_2O per year. Consequently, it is not the exports but the imports of potash which may be the deciding factor with regard to overcapacity.

To help decide whether or not imports could be marketed in this country, we must be concerned with the United States versus German and French cost relationships. When World War II was over and Germany was divided into a series of foreign zones, the potash industry of Germany was split by this division so that 61 percent of the mines remained in the Russian zone and 39 percent in the United States, French, and British zones. Since then, the United States has granted, in Economic Cooperation Administration Funds, money for the reopening and expansion of the German and French potash mines. Furthermore, an incalculable amount of German and French capital has been released for potash development by the use of Economic Cooperation Administration funds in other places. So well has this development progressed that the 39 percent of German potash mines which remained in the Western Powers' zones produced 216 percent more in 1950 than in 1946. Similarly, French production expanded 77 percent in the same period.

Because Germany is badly in need of United States dollars to purchase needed manufactured items, potash naturally becomes a major product for export purposes. This is also true for the French potash. There has even been some potash from the Russian zone of Germany offered to consumers along the Atlantic Coast in the United States. Unfortunately for the United States producers, these three countries need have little respect for the cost of producing potash, whether it be higher or lower than United States costs, because the policy of ob-

taining foreign currency transcends the desire for an economic pricing system. Under such circumstances, the problem becomes internationally political and beyond the scope of control by the United States companies. Nevertheless, it is true that the heavy item of wages in the United States mining operations is not nearly so burdensome in the foreign operations.

Because the United States producers have willingly granted foreign producers their knowledge and their advances in technology, the only significant differences in costs seem to lie in the wages paid and in the expense of transporting the product to the market. The New Mexico producers generally serve the area of the country north and east of Carlsbad. In particular, the market areas of the Midwest and Southeast are important to these producers. Some export business is conducted to Canada, Cuba, and Puerto Rico. In the potash industry, statistics are usually quoted so as to include the United States possessions as part of the central market. Though the New Mexico producers feel that they could meet competitive prices in the Northwest section of the country, the other markets have been sufficiently strong to require their full attention, and so no real attempt has yet been made to try to serve the Northwest market. Of course, the California market is supplied by the American Potash and Chemical Corporation, which produces in California. Since the extreme eastern market is a competitive battleground for the producers in New Mexico and California and the importers of foreign potash, more concentration has been given to the interior markets by the New Mexico producers.

Some of the New Mexico producers are sure that foreign potash could be marketed on the eastern seaboard of the United States at a figure competitive with that of New Mexico potash, even if the foreign potash were economically priced as to costs of production. The same officials feel that interior markets of the United States are safe from foreign sales, unless the prices of the foreign product are sufficiently reduced in the interest of making dollars available to their countries.

In any real battle with imported potash, the American producers would first rely upon the carefully cultivated good will of their customers. However, if this fight for markets reached the stage of an all-out price war, it is doubtful if such customers would remain with the American producers when price differentials became really large. There are certain means by which United States companies might be able to reduce costs and, thus, further their ability to engage in such a price war. Because freight rates are so high on the finished product, there would probably be a considerable incentive to reduce these costs to the buyers by shipping the potash by boat wherever possible. Also, further requests for railroad rate reductions undoubtedly would be made. Expanded mechanization of operations might improve efficiency, though most such improvements already may have been accomplished. Furthermore, even though potash has been traditionally a tariff-free commodity, if large quantities of imports at an extremely low price were to enter this country, the companies might feel it necessary to petition for a restrictive tariff. Conversely, American producers may find export markets to drain away any surpluses.

There is little doubt that United States producers could successfully compete with importers if the foreign products were priced economically. Only if foreign subsidies are granted and potash is "dumped" on the United States market would American producers need to take such drastic measures. It, of course, is almost unnecessary to say that a price war, engendered by such foreign subsidies, would have very detrimental effects upon the future outlook of the American potash industry.

While it is too early to forecast the results of any part of this intricate problem of overcapacity, it is sufficient to say that the industry is disturbed not only by the prospects of future imports but also by the presence of new producers and the possibility of an even greater number of new producers. Of course, this problem would become greatly intensified should price levels decline, farm income decrease, and the demand for fertilizer drop off. Under such circumstances, the maintenance of the New Mexico producers' position in the market might be imperiled.

Another major problem, still entangled with the ones discussed above, concerns the future of the policies regarding the conservation of natural resources, the competitive conditions within the United States industry, and the leasing policies of the Federal Government. It has been suggested from time to time that, during periods of relative peace, the United States should conserve its natural resources by closing down the operations of industries using those resources which are available for purchase in foreign lands. Such a practice, of course, would eliminate the New Mexico producers and make the country once again dependent upon imports of potash. Conversely, sound economic practices indicate the desirability of maintaining an efficient operating industry which could assume full responsibility for United States markets. While no one in the industry seriously considers shutting down their operations in order to conserve potash, they are afraid that short-sighted regulatory agencies might superimpose such a policy upon them.

The second part of this problem, the total of which might be called government regulation, concerns the Department of Interior's policy of forcing more competition into the production of potash by granting a larger and larger number of leases on the United States potash reserve. While the Department has been very conservative in the face of repeated demands for leasing permits, still it is possible that further grants may be made.

The drilling of oil wells in the vicinity of proved potash reserves presents another major problem to the potash in-

dustry in New Mexico. The potash industry members are afraid that the wells will not be sufficiently protected through the potash strata, thus allowing water from the sands above to enter the potash field and destroy future mining possibilities. There have already been a few instances in which water has seeped into the potash mines from old test holes or abandoned oil wells. This problem could be obviated by strict compliance with the requirement that the oil concerns cement their holes to the level of the rock salt formation and by industry actions to cement older wells where the drillers did not take such precautions.

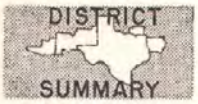
Another possible problem for the potash industry, as for nearly all of the Nation, is the problem of water supply. Recently, some of the companies have built long, expensive pipelines to bring in water from wells to the northeast of Carlsbad. While some companies draw water from the Pecos River and another is served by wells in the vicinity of Carlsbad, there are indications that the severe drought of the past few years may seriously affect these sources of supply in the future. In fact, there are no really secure sources available, since even the underground supplies have been dwindling. The large amounts of water needed for refining the potash make it imperative that dependable supplies be assured for future production.

Finally, looking into the future, the potash companies already are considering methods by which the potash left in supporting pillars could be mined. Of course, these pillars will be left in place until the main potash beds are exhausted. One suggestion that has been made is to repack the waste salts into the entryways and work backwards, removing the pillars as work progresses. Especially in the older mines, the amount of potash left in the pillars is considerable, and attempts to recover it undoubtedly will be made.

Summary

Regardless of the difficult problems ahead, the potash industry of New Mexico is certain to expand and probably will improve its position in the market, as it has done in the past. It has met problems as difficult, if not more difficult, than the ones presently in view and has consistently answered them in a way which is characteristic of a most progressive industry in a free enterprise system. Notwithstanding a continually rising central cost — wages — and the persistent pressure of inflation on all costs, the industry has succeeded in keeping its own market price at a level almost equal to that in force in 1938, by constantly expanding production through increased mechanization and improvement of processes. Certainly, the potash industry has been aided by the future buying policies of its most important customers, but major credit must be given to this industry for expanding its production and, yet, maintaining a constant price level through the inflationary times of the past 12 years. Especially is this true, since the potash cost is such a small percentage of the total fertilizer price that the demand for potash is less dependent upon its price than most other products. Also, the fact that there are no substitutes for potash and that potash has been in extremely short supply for at least 12 years would lead one to think that prices could have been raised almost at will. The restrictive force of potential imports and the desire to build up customers' good will for future competitive markets were probably major factors in the decision to keep prices at prewar levels. Whatever may have been the reasons, it is certain that Carlsbad and New Mexico are indeed fortunate to have an industry whose management reflects such a high degree of economic stability. This attitude bodes well for the continued prosperity and growth of the industry and the area in which it is located.

REVIEW OF BUSINESS, INDUSTRIAL, AGRICULTURAL, AND FINANCIAL CONDITIONS



Sales at department stores in the Eleventh Federal Reserve District in October totaled 9 percent above the previous month and 12 percent above October of last year. However, sales late in October and in early November fell below a year ago. Departments showing sharp gains in sales included homefurnishings and clothing. Charge accounts receivable at the end of October were up 12 percent from September, while instalment accounts receivable showed a gain of 6 percent. At the same time, department store inventories were up 5 percent for the month and 3 percent from a year ago. District furniture store sales rose 10 percent over September and 9 percent over the same month last year.

Rains over the District during November brought some relief from the extended drought to many sections, although most parts of the District still need general rains to replenish surface and subsoil moisture supplies. The District's wheat crop for harvest in 1953 is in very poor condition due to drought. November estimates of 1952 crop production in the District indicate a slight increase in total volume over earlier estimates; however, production of most crops, except small grains and rice, is below that of 1951. Range and pasture feed is short throughout most central and western parts of the District, and culling of livestock continues.

The total number of wage and salary workers employed in the five states of the District reached a record high in September for the second consecutive month and was 3 percent above September 1951; manufacturing employment was 6 percent above a year ago.

Daily average production of crude oil in the District in November set a new high for the third consecutive month, although some reduction in December seems probable. Refinery activity in the District in October was at a new all-time high for the fourth consecutive month, which contrasts with a decline in the Nation as a whole. Aggregate stocks of the four major refined products in the Nation on November 8 were 5 percent higher than a year earlier. Drilling activity is rising gradually.

Loans of the weekly reporting member banks rose 2 percent between October 22 and November 19, continuing the growing seasonal demand for credit that had prevailed in previous weeks. Commercial, industrial, and agricultural loans gained 4 percent, while loans for financing security transactions also rose. Investments of the weekly reporting member banks declined 3 percent. Deposits during the 4-week period rose approximately 2 percent, with demand deposits accounting for practically all of the increase. Gross demand deposits for all member banks in the District in October averaged 2 percent over September.

Retail sales at department stores in the Eleventh Federal Reserve District during October rose 9 percent above September and 12 percent above October 1951. Even greater gains occurred during the first 25 days of the month, but these were offset partly as sales during the last week of the month were 12 percent under a year earlier.

The decline in the last week of October continued through the first week in November and drew widespread attention because the downturn in sales was nationwide. In the week ended October 25 — prior to the decline — all Federal Reserve districts reported net increases in department store sales above the comparable week in 1951, ranging from 2 percent to 18 percent; this District reported a 14-percent gain. However, for the following 2 weeks, most Federal Reserve districts reported declines.

A simultaneous change in direction of sales over most or all of the Nation is not an especially uncommon phenomenon and often, when not attributable to some other obvious reason, may be explained by weather conditions fairly uniform over the Nation. Sales during the week of November 8 undoubtedly were affected by the intense interest and active participation of women (the department stores' chief shoppers) in the recent presidential campaign and national election.

RETAIL TRADE STATISTICS

(Percentage change)

Line of trade by area	NET SALES			STOCKS[1]	
	Oct. 1952 from		10 mo. 1952 comp with 10 mo. 1951	Oct. 1952 from	
	Oct. 1951	Sept. 1952		Oct. 1951	Sept. 1952
DEPARTMENT STORES					
Total Eleventh District	12	9	7	3	5
Corpus Christi	27	26	25	17	8
Dallas	12	8	4	4	7
El Paso	24	14	9	—2	4
Fort Worth	3	6	3	6	7
Houston	23	6	11	3	—#
San Antonio	5	16	7	4	9
Shreveport, La.	13	—#	11	7	3
Waco	13	9	14	—4	4
Other cities	—1	9	#	—2	6
FURNITURE STORES					
Total Eleventh District	9	10	—	—6	2
Austin	31	12	—	17	4
Dallas	—	—	—	—	—
Houston	23	8	—	—	—
Port Arthur	12	18	—	—35	1
San Antonio	10	14	—	—	—
Shreveport, La.	7	12	—	—9	#
Wichita Falls	9	18	—	21	1
HOUSEHOLD APPLIANCE STORES					
Total Eleventh District	6	3	—	—	—
Dallas	10	#	—	—	—

[1] Stocks at end of month.
# Indicates change of less than one-half of 1 percent.

Department store sales were at all-time record levels during the final quarter of last year, and conditions are favorable for equaling or exceeding that record this year. The Nation's seasonally adjusted industrial production index for October was estimated at 226 percent of the 1935-39 average, compared with 218 percent a year earlier. Employment in October totaled 61,862,000 persons, or fractionally higher than at the same time last year, while unemployment fell to a postwar low. Personal income increased at an annual rate of $3.700,000,000 in September, attaining an all-time high of $273,300,000,000. Retail prices of apparel and homefurnishings were lower in September than a year ago, and the cost-

of-living index fell two-tenths of 1 percent from mid-August to mid-September as a result of lower food prices; this is the first decline in the index since February.

At reporting department stores in this District during October, sales of durable goods, mainly homefurnishings, increased 24 percent from September and 16 percent above October 1951. Sales of the homefurnishings departments accounted for over 16 percent of total store sales, compared with 15 percent during September.

In the soft goods departments, sales of men's and boys' wear showed the highest gain from September with a rise of 35 percent and were 19 percent higher than a year ago. Sales of women's and misses' ready-to-wear rose approximately 7 percent from September and 15 percent from last October.

At stores reporting sales according to terms of sale, instalment sales in October increased 16 percent over September and were 27 percent higher than in October 1951. Regular charge account sales increased 13 percent and 11 percent over the month-ago and year-ago figures, while cash sales rose 18 percent from the previous month and 12 percent above October last year. At reporting stores doing both regular charge account and instalment business, cash sales represented 35 percent of total sales. Regular charge account sales and instalment account sales represented 51 percent and 14 percent, respectively — virtually unchanged from the previous month or a year ago.

Charge accounts receivable at the end of October were up 12 percent from September and 11 percent above a year earlier. Instalment accounts receivable rose 6 percent during the month to a level 31 percent above a year ago. The average collection time for charge accounts (approximately 2 months) and instalment accounts (14 months) showed no change from September.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

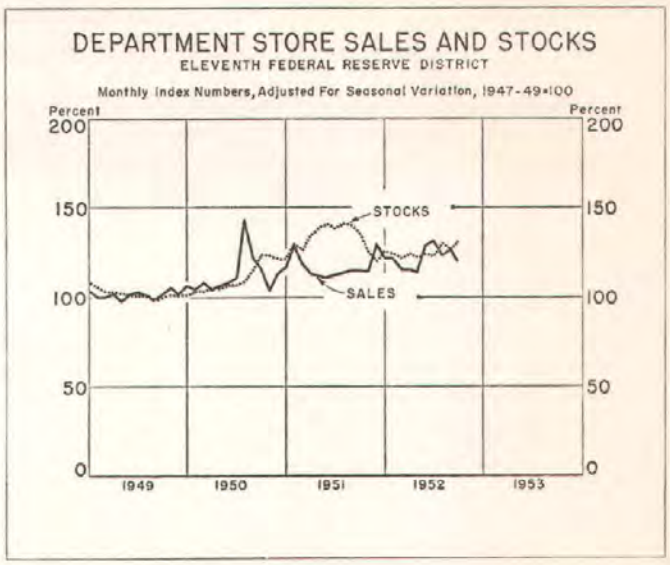
(1947-49 = 100)

Area	UNADJUSTED Oct. 1952	Sept. 1952	Aug. 1952	Oct. 1951	ADJUSTED[1] Oct. 1952	Sept. 1952	Aug. 1952	Oct. 1951
SALES—Daily average								
Eleventh District	134	128	114	119	128	119	127	114
Dallas	133	127	101	118	124	114	113	110
Houston	149	145	127	121	150	133	141	122
STOCKS—End of month								
Eleventh District	140p	134	125	136	129p	131	127	125

[1] Adjusted for seasonal variation.
p—Preliminary.

Inventories on hand at department stores at the end of October were 5 percent above a month earlier and 3 percent above a year ago. On a seasonally adjusted basis, however, there was virtually no change from September. The accompanying chart shows sales and stocks on a seasonally adjusted basis by months from January 1949 through the latest month.

Furniture store sales in the District during October gained 10 percent over September and 9 percent over the same month last year. Accounts receivable at the end of the month



were 3 percent above September and 22 percent higher than at the end of October last year. Collections showed virtually no change from either month. End-of-month inventories at reporting furniture stores at no time this year have equaled those of comparable months of 1951 and at the end of October were 6 percent below those of a year earlier.

WHOLESALE TRADE STATISTICS

Eleventh Federal Reserve District

(Percentage change)

Line of trade	NET SALESp October 1952 from October 1951	October 1952 from September 1952	10 mo. 1952 comp. with 10 mo. 1951	STOCKS[1]p October 1952 from October 1951	October 1952 from September 1952
Automotive supplies	—1	6	—	—8	—6
Drugs and sundries	6	2	—2	7	1
Dry goods	24	—15	—	—5	—4
Grocery (full-line wholesalers not sponsoring groups)	12	—#	10	—1	4
Hardware	5	3	—4	—7	#
Industrial supplies	—4	—8	5	—8	—21
Machinery equipment and supplies except electrical	—33	—13	—	34	—4
Metals	—35	—10	—	3	1
Tobacco products	4	—#	4	—2	—4
Wiring supplies, construction materials distributors	28	—#	3	53	12

[1] Stocks at end of month.
p—Preliminary.
# Indicates change of less than one-half of 1 percent.
SOURCE: United States Bureau of the Census.

General rains during November brought some relief from the extended drought to virtually all sections of the District. In northern Louisiana, parts of east Texas, and the upper coastal counties of Texas, rainfall was sufficient to break the drought and replenish surface moisture. In most other sections, further general rains are needed to replenish both surface and subsoil moisture supplies.

The District's wheat crop for harvest in 1953 continues in very poor condition, with only a small acreage up to a stand. It is estimated that about one-half of the intended acreage has been seeded.

Production of crops in the District in 1952, as estimated in November, appears to be slightly higher than was indicated in October. Estimates of production of cotton, rice, corn, and pecans were increased by the United States Department of Agriculture in its November 1 crop report. Output of small grains and rice was above that of 1951, but production of most other crops was lower. Only the cotton, rice, flaxseed, broomcorn, and pecan crops were above the average production in 1941-50.

CROP PRODUCTION

Texas and Five Southwestern States

(In thousands of bushels)

Crop	Texas			Five southwestern states[1]		
	Average 1941-50	1951	1952 Indicated November 1	Average 1941-50	1951	1952 Indicated November 1
Cotton[2]	3,020	4,074	3,660	4,406	6,372	6,010
Corn	56,861	42,143	41,418	101,839	81,042	66,684
Rice[3]	8,668	12,408	13,812	18,916	23,732	26,132
Sorghum grain	79,096	71,085	38,038	94,930	92,371	45,019
Peanuts[4]	317,006	118,300	90,500	434,851	239,695	140,900
Irish potatoes	4,402	2,204	2,040	9,365	5,005	3,253
Sweet potatoes	4,855	1,365	1,450	14,850	7,990	9,208

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
[2] In thousands of bales.
[3] In thousands of bags, 100 pounds each.
[4] In thousands of pounds.
SOURCE: United States Department of Agriculture.

Cotton production in the United States is estimated at 14,905,000 bales — 250 000 bales below the 1951 harvest. The Texas cotton crop estimate is now placed at 3,660,000 bales, an increase of 60,000 bales over the October 1 forecast but still nearly half a million bales below production in 1951. Production in Louisiana totaled 740,000 bales, which is nearly equal to the 1951 crop and substantially above the 10-year average. New Mexico and Arizona are harvesting crops substantially above their respective 1951 crops and the 1941-50 averages.

Cotton harvest is virtually complete except in the High Plains of Texas and the later sections of New Mexico and Arizona; even in these sections the crop is about 75 percent harvested. The severe drought during the summer and early fall months reduced cotton yields severely in all parts of Texas except the upper coastal counties and the irrigated sections in the western part of the State. Insufficient irrigation water and heavy insect damage curtailed production in the Lower Rio Grande Valley. In some parts of the State the crop was almost a complete failure.

COTTON PRODUCTION

Texas Crop Reporting Districts

(In thousands of bales—500 lb. gross wt.)

Crop reporting district	1950	1951	1952 Indicated November 1	1952 As percent of 1951
1-N	89	348	410	118
1-S	721	944	935	99
2-N	206	287	175	61
2-S	342	218	50	23
3	16	33	10	30
4	557	610	620	102
5-N	60	112	100	89
5-S	61	85	95	112
6	143	192	230	120
7	48	24	15	63
8-N	139	192	210	109
8-S	90	86	225	262
9	122	256	220	86
10-N	27	79	55	70
10-S	325	608	310	51
State	2,946	4,074	3,660	90

SOURCE: United States Department of Agriculture.

Grain sorghum production in Texas in 1952 is now estimated at 38,038,000 bushels, about one-half of last year's production. The estimate of corn production in the State has been raised to 41,418,000 bushels, or about the same level as in 1951.

Harvest of a record Texas rice crop is now complete, with production estimated at 13,812,000 100-pound bags. Both the acreage (547,000 acres) and the yield per acre (2,525 pounds) are very high, although not the highest of record. Production of peanuts in Texas in 1952, estimated at 90,500,000 pounds, is the lowest since 1936; the yield of 250 pounds per acre is the lowest of record.

CASH RECEIPTS FROM FARM MARKETINGS

(In thousands of dollars)

State	July		August		Cumulative receipts January—August	
	1951	1952	1951	1952	1951	1952
Arizona	$ 14,384	$ 16,029	$ 7,752	$ 7,089	$ 175,724	$ 219,767
Louisiana	11,887	11,725	37,515	30,695	145,956	154,366
New Mexico	8,889	8,595	8,633	8,583	79,504	96,080
Oklahoma	57,822	86,314	59,107	96,726	320,681	453,356
Texas	154,773	151,689	245,206	188,833	1,138,211	1,115,557
Total	$247,755	$274,352	$358,213	$331,926	$1,860,076	$2,039,126

SOURCE: United States Department of Agriculture.

Sweet potato production in Texas is now placed at 1,450,000 bushels, which with the exception of the very short crop last year is the smallest since 1881. Pecan production in the State totaled 36,750,000 pounds — six times the very short crop of 1951 and one of the highest of record.

Continued dry weather during October lowered the estimate of citrus production in the Lower Rio Grande Valley of Texas, as the fruit failed to develop fully. The forecast of grapefruit production is now placed at 400,000 boxes, which is 50,000 less than earlier estimates, and orange production is estimated at 1,000,000 boxes, a reduction of 200,000.

Showers in early November improved prospects for commercial vegetable production in south Texas; total tonnage of fall-crop vegetables is expected to be nearly three times as large as last year. Quality of growing crops has improved, and additional acreages for later harvest have been planted. Marketing of broccoli, lettuce, spinach, and other fall-crop, hardy vegetables has been active in recent weeks.

LIVESTOCK RECEIPTS

(Number)

Class	FORT WORTH MARKET			SAN ANTONIO MARKET		
	October 1952	October 1951	Sept. 1952	October 1952	October 1951	Sept. 1952
Cattle	101,959	87,890	87,184	23,595	33,514	23,975
Calves	39,070	57,036	39,540	18,879	38,231	19,304
Hogs	37,143	57,799	46,979	—	8,755	—
Sheep	70,368	128,253	124,254	[1]30,249	[1]49,963	[1]48,456

[1] Includes goats.

Range and pasture feed in the District continues to be critically short, although feed is now available in eastern parts of the District where rains early in November were sufficient to start the growth of grasses and fall-sown grains and legumes. In most sections of the District, however, rainfall prior to late November was insufficient to stimulate sustained growth of winter feed. The condition of all range feed in Texas on November 1 was reported at 56 percent — only six points above the low of 50 percent reported during the severe drought of 1934.

Cattle and sheep have shown considerable shrinkage during the past month, and culling and liquidation of herds continue. Supplemental feeding has been heavy, and many growers have already exhausted their reserve supplies of feed. Additional feed is being imported into many counties under the drought emergency program.

FARM COMMODITY PRICES

Top Prices Paid in Local Southwest Markets

Commodity and market	Unit	Week ended Nov. 21, 1952	Comparable week last month	Comparable week last year
COTTON, Middling 15/16-inch, Dallas	lb.	$ .3335	$ .3590	$ .4220
WHEAT, No. 1 hard, Fort Worth	bu.	2.73¼	2.69¾	2.80¾
OATS, No. 2 white, Fort Worth	bu.	1.12¾	1.13	1.29¼
CORN, No. 2 yellow, Fort Worth	bu.	1.87¾	1.94	2.22¼
SORGHUMS, No. 2 yellow milo, Fort Worth	cwt.	3.32	3.47	3.06
HOGS, Choice, Fort Worth	cwt.	17.25	19.00	19.00
SLAUGHTER STEERS, Choice, Fort Worth	cwt.	30.00	31.00	35.00
SLAUGHTER CALVES, Choice, Fort Worth	cwt.	25.00	25.00	33.50
STOCKER STEERS, Choice, Fort Worth	cwt.	22.00	22.00	33.00
SLAUGHTER LAMBS, Choice, Fort Worth	cwt.	22.00	23.00	30.00
HENS, 3-4 pounds, Fort Worth	lb.	.22	.28	.27
FRYERS, Commercial, Fort Worth	lb.	.32	.32	.26
BROILERS, South Texas	lb.	.33	.32	.27
TURKEYS, No. 1 hens, Fort Worth	lb.	.35	.37	.40

Prices of most farm commodities have tended to stabilize during the past month. A notable exception has been the price of cotton, which has declined almost steadily during the past 4 to 6 weeks and as of November 20 was approaching the loan rate on many grades and staples. However, interest in the government loan has been relatively light, with only 166,200 bales reported in the loan through November 7. Many growers are holding part of their crop, in an effort to stabilize the market and in anticipation of higher prices. Cattle prices have shown considerable stability at levels $5 to $10 below those of last spring, despite heavy marketings.

Loans of the weekly reporting member banks rose $32,735,000, or 2 percent, between October 22 and November 19, reflecting principally a continuation of the seasonal demand for credit that had prevailed in previous weeks. The expansion in loans during this 4-week period compares with the increase of $39,294,000, or 3 percent, during the comparable period of 1951.

Commercial, industrial, and agricultural loans rose $44,303,000, or 4 percent, a rate of increase which is substantially the same as that reported last year. The rise in commercial, industrial, and agricultural loans reflects almost entirely the increased credit demands of most major types of commercial and industrial borrowers. Commodity dealers, grain and milling concerns, and construction firms were among those borrowers accounting for the principal source of demand for loans.

Other changes in loans during the 4 weeks included an increase in loans for financing security transactions, a substantial reduction in loans to banks, and fractional decreases in real estate loans and in the category which includes consumer-type loans. On November 19, loans of these banks amounted to a total of $1,758,083,000.

Investments of the weekly reporting member banks declined $49,014,000, or 3 percent, between October 22 and November 19 and on the latter date amounted to $1,433,237,000. This reduction reflects decreases in holdings of most types of United States Government securities and in municipal and other non-Government securities. Sales or redemptions of Treasury bills amounted to $34,188,000, while investments in Treasury notes and bonds declined $5,414,000 and $6,798,000, respectively.

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS IN LEADING CITIES

Eleventh Federal Reserve District

(In thousands of dollars)

Item	Nov. 19, 1952	Nov. 21, 1951	October 22, 1952
Total loans (gross) and investments	$3,191,320	$2,867,862	$3,207,599
Total loans—Net[1]	1,741,695	1,504,273	1,708,995
Total loans—Gross	1,758,083	1,520,656	1,725,348
Commercial, industrial, and agricultural loans	1,198,558	1,046,318	1,154,255
Loans to brokers and dealers in securities	10,207	8,955	10,172
Other loans for purchasing or carrying securities	67,856	57,881	65,598
Real estate loans	125,680	123,281	125,771
Loans to banks	9,876	923	23,023
All other loans	345,906	283,298	346,529
Total investments	1,433,237	1,347,206	1,482,251
U. S. Treasury bills	165,739	258,236	199,927
U. S. Treasury certificates of indebtedness	159,433	151,140	159,131
U. S. Treasury notes	206,343	193,358	211,757
U. S. Government bonds (inc. gtd. obligations)	723,953	579,875	730,751
Other securities	177,769	164,597	180,685
Reserves with Federal Reserve Bank	606,906	596,089	606,860
Balances with domestic banks	454,189	432,052	411,074
Demand deposits—adjusted[2]	2,463,748	2,300,777	2,454,262
Time deposits except Government	483,972	431,990	482,873
United States Government deposits	116,120	87,390	133,457
Interbank demand deposits	919,565	874,511	861,755
Borrowings from Federal Reserve Bank	42,750	6,000	66,000

[1] After deductions for reserves and unallocated charge-offs.
[2] Includes all demand deposits other than interbank and United States Government, less cash items reported as on hand or in process of collection.

Deposit trends at these banks during the 4 weeks included increases in most of the principal types of deposit accounts. The expansion in total deposits amounted to $65,256,000, or approximately 2 percent, with demand deposits accounting for practically all of the increase. The larger increases among the individual categories of demand deposits occurred in interbank deposits and deposits of states and political subdivisions. Demand deposits of individuals, partnerships, and corporations were practically unchanged. Time deposits rose fractionally.

Gross demand deposits of all member banks in the District averaged $6,828,512,000 during October, reflecting an increase of $135,724,000, or 2.0 percent, over September. Reserve city banks accounted for 52.5 percent of the expansion. Time deposits rose fractionally during October to a total of

$770,099,000. Country banks more than accounted for the increase, since reserve city banks showed a fractional reduction. Deposit expansion at these banks from June to October of this year amounted to $440,579,000, or 6.2 percent, as compared with an increase of $552,749,000, or 8.5 percent, during the comparable months last year.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Date	COMBINED TOTAL		RESERVE CITY BANKS		COUNTRY BANKS	
	Gross demand	Time	Gross demand	Time	Gross demand	Time
October 1950...	$5,831,230	$657,976	$2,850,628	$411,759	$2,980,602	$246,217
October 1951...	6,361,591	681,258	3,017,115	373,996	3,344,476	307,262
June 1952.....	6,416,878	741 154	3,035,241	405,007	3,381,637	336,147
July 1952.....	6,566,056	744,250	3,147,075	408,616	3,418,981	335,634
August 1952....	6,546,078	758,238	3,123,616	414,837	3,422,462	343,401
September 1952.	6,692,788	767,553	3,190,957	421,871	3,501,831	345,682
October 1952...	6,828,512	770,099	3,262,180	420,233	3,566,332	349,866

Debits to deposit accounts reported by banks in 24 cities of the District for October were 15 percent higher than in September and 16 percent higher than in the comparable month last year. The rise in the volume of spending which these figures reflect was general over the District, inasmuch as banks in most of the reporting cities showed increases in charges to customer deposit accounts during October as compared with both the preceding month and October 1951. The increased flow of spending is reflected also in the annual rates of turnover of deposits. Turnover rose to 16.2 in October, the highest rate in any month since December 1950. This rate compares with 14.4 for September and 15.4 for October 1951.

BANK DEBITS, END-OF-MONTH DEPOSITS AND ANNUAL RATE OF TURNOVER OF DEPOSITS

(Amounts in thousands of dollars)

City	DEBITS[1]			DEPOSITS[2]			
		Percentage change from			Annual rate of turnover		
	October 1952	Oct. 1951	Sept. 1952	Oct. 31, 1952	Oct. 1952	Oct. 1951	Sept. 1952
ARIZONA							
Tucson.....	$ 100,575	13	10	$ 113,309	10.8	11.2	10.1
LOUISIANA							
Monroe.....	55,142	10	3	49,912	13.3	12.7	13.2
Shreveport.....	222,085	26	12	200,710	13.2	11.4	11.8
NEW MEXICO							
Roswell.....	29,092	13	33	30,034	12.0	11.5	9.5
TEXAS							
Abilene.....	53,323	—6	—3	56,775	11.3	12.8	11.6
Amarillo.....	154,938	—3	14	120,277	15.6	17.9	13.8
Austin.....	141,321	6	—3	127,952	13.7	14.2	14.6
Beaumont.....	135,564	6	9	106,101	16.1	17.0	15.6
Corpus Christi.....	147,994	16	—2	115,382	15.5	15.2	16.0
Corsicana.....	17,302	6	—#	22,243	9.4	8.8	9.4
Dallas.....	1,917,511	30	31	1,105,065	21.2	18.0	16.6
El Paso.....	190,699	11	—1	158,489	14.5	15.6	15.0
Fort Worth.....	540,211	5	8	413,612	15.6	16.7	14.6
Galveston.....	85,770	4	6	102,531	10.1	10.1	9.5
Houston.....	1,814,543	18	12	1,207,947	18.0	16.8	16.3
Laredo.....	21,988	2	8	26,307	10.2	12.0	9.7
Lubbock.....	147,121	22	53	107,054	17.3	15.7	11.8
Port Arthur.....	48,382	15	#	43,521	13.2	12.0	13.2
San Angelo.....	40,075	—14	5	52,828	9.1	10.2	8.9
San Antonio.....	372,946	1	2	396,473	11.3	11.8	11.0
Texarkana[3].....	22,135	—6	3	27,626	9.5	11.9	9.1
Tyler.....	56,970	8	9	55,702	12.2	12.1	11.3
Waco.....	86,868	17	9	94,963	11.2	10.3	10.6
Wichita Falls.....	84,455	—6	5	108,802	9.4	10.3	9.0
Total—24 cities.....	$6,487,010	16	15	$4,843,615	16.2	15.4	14.4

[1] Debits to deposit accounts except interbank accounts.

[2] Demand and time deposits, including certified and officers' checks outstanding but excluding deposits to the credit of banks.

[3] These figures include only one bank in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including two banks located in the Eighth District, amounted to $41,830,000 for the month of October 1952.

# Indicates change of less than one-half of 1 percent.

The principal changes in the condition of the Federal Reserve Bank of Dallas between October 15 and November 15 include increases of $109,477,000 in total gold certificate reserves, $75,498,000 in member bank reserve deposits, and $6,871,000 in earning assets. The expansion of earning assets reflects an increase of $14,697,000 in discounts for member banks and a partly offsetting decrease of $7,826,000 in holdings of United States Government securities. Federal Reserve notes of this bank in actual circulation on November 15 amounted to $752,902,000, an increase of $6,763,000 during the month.

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	Nov. 15, 1952	Nov. 15, 1951	Oct. 15, 1952
Total gold certificate reserves.....	$ 753,725	$ 598,793	$ 644,248
Discounts for member banks.....	54,700	0	40,003
Industrial advances.....	0	52	0
Foreign loans on gold.....	1,710	37	1,710
U. S. Government securities.....	1,076,771	1,118,499	1,084,597
Total earning assets.....	1,133,181	1,118,588	1,126,310
Member bank reserve deposits.....	1,084,196	1,003,906	1,008,698
Federal Reserve notes in actual circulation.....	752,902	682,702	746,139

The tightness in the money market which had prevailed during most of October continued during the first half of November. Loans, discounts, and advances of the Federal Reserve banks rose to a total of $1,667,000,000 on November 5, reflecting an increase of $492,000,000 during the preceding week. Member banks reduced their indebtedness to the Reserve banks by a relatively small amount in the following week.

An increase in money in circulation and a decrease in float were the principal factors which absorbed member bank reserves over the 2-week period ended November 12. In addition to the increase in borrowing at the Reserve banks, member banks were able to meet these losses of reserves, in part, with funds arising from Treasury operations and changes in other Federal Reserve accounts. Reflecting the tightness in the money market, rates on Federal funds were generally at the ceiling of 1 11/16 percent between October 31 and November 18, while rates on loans to Government securities dealers ranged from 2 to 2⅛ percent.

The market bid rate on 3-month Treasury bills rose from 1.78 percent on October 31 to 1.90 percent on November 18, while the market bid rate on the Treasury issue nearest a 1-year maturity — the 2-percent certificates of indebtedness which mature August 15, 1953 — rose from 1.85 percent to 1.94 percent. Average issuing rates of 91-day Treasury bills rose in successive weeks from 1.757 percent for the issue dated October 30 to 1.877 percent for the issue dated November 20.

The Treasury received tenders of bids on November 13 for an offering of approximately $2,000,000,000 of 210-day Tax Anticipation Series Treasury bills. The Secretary of the Treasury announced on November 14 that investors were awarded a total of $2,002,000,000 of the new issue. The bills, which are dated November 21 and mature June 19, 1953, were sold at an average rate of discount of 1.846 percent. The Treasury sold a similar issue of 161-day bills on October

8 in the amount of approximately $2,500,000,000 and at an average rate of discount of 1.720 percent.

On November 17 the Secretary of the Treasury announced that holders of the 1⅞-percent certificates of indebtedness which mature December 1 in the amount of $1,062,634,000 would be offered an additional amount of the 2-percent certicates of indebtedness which were issued originally on August 15, 1952, and mature August 15, 1953. Holders of the maturing issue were offered the 2-percent certificate on an exchange basis at par plus accrued interest from August 15 to December 1. Subscription books were open from November 17 to November 20.

The Secretary of the Treasury also announced on November 17 that the option to call the 2-percent Treasury bonds of 1951-53 for redemption on March 15, 1953, was not exercised. These bonds are outstanding in the amount of $7,986,000,000.

NEW PAR BANK

The Bellmead State Bank, Waco, Texas, a newly organized, insured, nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, was added to the Par List on its opening date, November 12, 1952. The officers are: John A. Potts, Executive Vice President, and R. B. Stanford, Jr., Cashier.

For the second consecutive month, the total number of wage and salary workers employed in the five states lying wholly or partly within the District attained a record high. The September estimate of 3,755,000 was fractionally above August and 3 percent above September 1951. Manufacturing employment, rising to 704,000 workers in September, was 1 percent above August and 6 percent above a year ago. Construction employment in September declined seasonally, as anticipated; there were 283,500 workers employed in this field, which is 3 percent below August and slightly lower than in September 1951. Estimated unemployment in Texas, which has been relatively low for some time, declined further during September.

The major factor in the increase in total employment was the seasonal advance caused by gains in trade employment and by increases in government employment, occasioned by the returning teachers and school service employees. Manufacturing employment gains have been spurred by defense plant completions and the increased availability of steel supplies. It is expected that reports on trade and manufacturing employment for the last 3 months of the year will show further gains.

The mounting completions of defense plant construction have spurred the level of industrial production to record heights. However, at least one difficulty was accentuated during October. With the reopening of the lead market in Britain and an increased availability of the metal, lead prices declined steadily from about 18 cents per pound in June to 13.5 cents per pound in October. Marginal operators have had to withdraw and, therefore, some mines in the District have been closed. Fortunately, the miners generally have been absorbed by the copper mines of the immediate area. Some improvement in lead prices is now occurring, and the lead mines may reopen in the near future.

A small decrease in the District's daily average crude oil production is anticipated for December, following the announced cutback in Texas allowables of 66,975 barrels per day. Daily average production in November set a new high for the third successive month. Production in the 2 weeks ended November 15 averaged 3,376,000 barrels per day, which is up 94,000 barrels from October and 269,000 barrels from November 1951. October production averaged 114,000 barrels per day above the same month a year ago. The records set in crude oil production for the District during the past 3 months were duplicated by records in the Nation as a whole. National production in the 2 weeks ended November 15 amounted to 6,617,000 barrels per day.

NONAGRICULTURAL EMPLOYMENT
Five Southwestern States[1]

Type of employment	Number of persons			Percent change Sept. 1952 from	
	September 1952p	September 1951	August 1952	Sept. 1951	Aug. 1952
Total nonagricultural wage and salary workers	3,755,100	3,633,900	3,736,400	3.3	.5
Manfacturing	704,200	667,300	696,300	5.5	1.1
Nonmanufacturing	3,048,900	2,966,600	3,040,100	2.8	.3
Mining	223,900	213,300	224,600	5.0	—.3
Construction	283,500	290,600	293,100	—2.5	—3.3
Transportation and public utilities	409,400	401,000	409,400	2.1	0
Trade	946,600	915,000	935,500	3.5	1.2
Finance	146,200	131,600	146,700	11.1	—.3
Service	423,600	411,900	426,400	2.8	—.7
Government	617,700	603,200	604,400	2.4	2.2

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
p—Preliminary.
SOURCE: State employment agencies.

CRUDE OIL PRODUCTION
(Barrels)

Area	October 1952		Increase or decrease in daily average production from	
	Total production	Daily avg. production	Oct. 1951	Sept. 1952
ELEVENTH DISTRICT				
Texas R. R. Com. Districts				
1 South Central	1,152,700	37,184	2,316	1,879
2 Middle Gulf	5,382,700	173,635	—1,344	780
3 Upper Gulf	15,784,100	509,165	—5,104	7,703
4 Lower Gulf	8,590,900	277,126	6,199	4,616
5 East Central	1,601,850	51,672	—3,641	1,482
6 Northeast	11,826,900	381,513	—12,340	—16,327
East Texas	7,757,600	250,245	—20,826	—19,730
Other fields	4,069,300	131,268	8,486	3,403
7b North Central	3,427,500	110,565	23,952	5,595
7c West Central	5,517,400	177,981	60,387	4,618
8 West	31,441,200	1,014,232	8,456	17,207
9 North	5,782,650	186,537	25,179	3,437
10 Panhandle	2,554,400	82,400	—1,802	—125
Total Texas	93,062,300	3,002,010	102,258	30,865
New Mexico	5,218,450	168,337	25,147	6,767
North Louisiana	3,463,750	111,734	—13,595	—799
Total Eleventh District	101,744,500	3,282,081	113,810	36,833
OUTSIDE ELEVENTH DISTRICT	100,683,900	3,247,867	82,830	7,579
UNITED STATES	202,428,400	6,529,948	196,640	44,412

SOURCE: Estimated from American Petroleum Institute weekly reports.

The prospective halt in the rising trend in crude production undoubtedly reflects some uneasiness over the present level of stocks. The sharp decline in district crude stocks during the months immediately following the oil strike was arrested by the record production of the past few months. District stocks at the middle of November totaled 140,500,000 barrels, which is 3,000,000 barrels higher than at the end of August and 1,600,000 barrels above a year earlier. National crude stocks on November 15 amounted to 266,700,000 barrels, or 3,500,000 barrels above the corresponding date last year. Although these stocks are not excessively high, substantial additions do not appear to be desirable.

Refinery activity in the District in October was at a new all-time high for the fourth consecutive month. Daily crude runs to refinery stills averaged 2,141,000 barrels, or 37,000 barrels more than in the previous month and 213,000 barrels higher than in October a year ago. The continued rising trend in refinery activity in the District contrasts with that for the Nation as a whole, which experienced moderate declines during September and October. Daily average crude runs to stills in the Nation in October totaled 6,900,000 barrels, or 186,000 barrels less than the August peak, although 417,000 barrels higher than in October 1951.

Refined stocks have recovered from the depressed levels existing at the end of the oil strike, and this development largely accounts for the tapering off in refinery activity in the Nation. Although national distillate stocks have declined from the October 25 record high, the November 15 stock level was 11 percent higher than a year earlier. Residual fuel oil stocks in the Nation on that date were 5 percent higher, while gasoline stocks showed a 2-percent gain; stocks of kerosene were down 8 percent. Aggregate stocks of the four major refined products on November 8 were 5 percent higher in the Nation than a year earlier, as compared with a 2-percent decline for the District. This difference in the stock position may account for district refinery activity not showing the downturn which has occurred in the Nation.

Drilling activity has continued to rise gradually from the low point reached near the end of August. Approximately 60 percent of the rotary rigs which were stacked following the steel strike were back into operation by early November. Nevertheless, the 2,627 rotary rigs active in the Nation during the week ended November 10 were still 249 less than in the corresponding week last year. Most of this year-to-year decrease is accounted for by the West Texas-New Mexico area. The decrease in the West Texas area is due, in part, to a curtailment of drilling in the Spraberry fields as a result of disappointing payouts on many existing wells, as well as to continued shortages of oil field tubular goods.

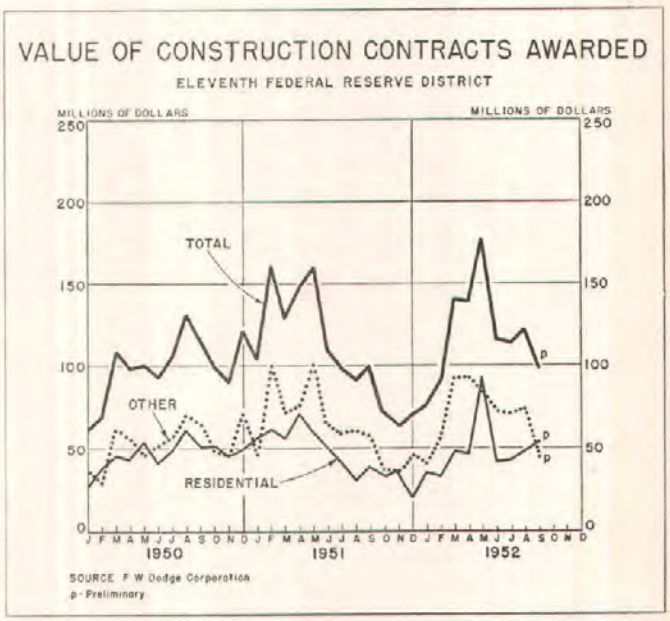
The value of construction contracts awarded in the District in October totaled $107,600,000, which is 10 percent above those reported in September and 49 percent above awards in October 1951. Residential awards declined 11 percent from September, while nonresidential awards rose 34 percent. As compared with a year earlier, residential and nonresidential awards in October were up 43 percent and 55 percent, respectively. For the first 10 months of 1952, the value of construction contracts awarded in the District about equaled the record high level for the corresponding period last year.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(In thousands of dollars)

Area and type	October 1952p	October 1951	September 1952	January — October 1952p	January — October 1951
ELEVENTH DISTRICT..	$ 107,600	$ 72,045	$ 98,143	$ 1,180,673	$ 1,186,752
Residential.....	47,566	33,302	53,325	490,786	501,626
All other.....	60,034	38,743	44,818	689,887	685,126
UNITED STATES[1].....	1,300,958	1,072,031	2,029,203	14,038,749	13,700,566
Residential.....	592,313	496,247	518,471	5,690,495	5,415,400
All other.....	708,645	575,784	1,510,732	8,348,254	8,285,166

[1] 37 states east of the Rocky Mountains.
p—Preliminary.
SOURCE: F. W. Dodge Corporation.



BUILDING PERMITS

City	October 1952 Number	October 1952 Valuation	Percentage change in valuation from Oct. 1951	Percentage change in valuation from Sept. 1952	10 months 1952 Number	10 months 1952 Valuation	Percentage change in valuation from 10 months 1951
LOUISIANA							
Shreveport....	352	$ 1,285,639	4	—7	3,639	$ 17,336,703	20
TEXAS							
Abilene.....	61	543,569	46	47	1,181	7,034,207	18
Amarillo.....	405	1,928,770	29	5	4,109	21,627,929	17
Austin.....	334	2,960,910	103	65	2,700	24,138,337	—7
Beaumont.....	286	566,347	—4	73	2,427	6,967,892	6
Corpus Christi..	413	1,420,904	69	18	3,816	18,204,039	8
Dallas.....	1,960	11,864,703	76	22	18,399	95,864,276	10
El Paso.....	327	1,012,672	31	—17	3,130	13,043,306	—3
Fort Worth....	1,106	4,384,121	79	46	9,602	39,698,638	1
Galveston.....	105	2,395,549	943	†	1,192	6,018,462	—16
Houston.....	1,128	10,597,128	100	—14	9,841	95,314,345	—17
Lubbock.....	322	1,567,090	—53	—54	2,841	17,739,164	9
Port Arthur....	186	492,392	—22	76	1,908	3,608,038	—30
San Antonio...	1,886	3,906,000	—1	30	14,732	37,774,251	—6
Waco.....	231	901,312	—39	—32	2,838	12,175,118	—9
Wichita Falls...	49	341,975	—63	—12	1,043	17,738,717	127
Total.....	9,151	$46,169,081	45	11	83,398	$434,283,422	#

† Over 1,000 percent.
# Indicates change of less than one-half of 1 percent.