

REPORT
OF
THE GOVERNOR OF NEW MEXICO.

TERRITORY OF NEW MEXICO,
EXECUTIVE OFFICE,
Santa Fe, N. Mex., October 12, 1891.

SIR: In response to the request contained in your letter of July 28, I have the honor to transmit the following report on the condition, the progress, and the development of this Territory during the last year.

Very respectfully,

L. BRADFORD PRINCE,
Governor of New Mexico.

Hon. JOHN W. NOBLE,
Secretary of the Interior.

LAND TITLES.

In each annual report which I have had the honor to present the subject of land titles has been placed first, because of its transcendent importance in considering the condition and welfare of New Mexico.

I have heretofore recited the unsatisfactory condition of the titles of the Spanish and Mexican grants, which include so large a part of our available land, the attempts at their settlement under the act of July 22, 1854, the lamentable failure of that plan and the final cessation even of endeavors to act under it, the efforts of the people of New Mexico through many years to obtain relief by the establishment of a tribunal for the adjudication of these questions, and the unfortunate results of the uncertainty regarding these titles in preventing the settlement and improvement of our lands and the investment of the capital necessary to develop our natural resources. Session after session of Congress has passed with no apparent advance toward the establishment of the much-needed tribunal to settle these titles, although bills were regularly introduced for that purpose and urged by our Delegate.

It is fitting, therefore, that this report of the progress of the Territory during the past year should commence with the announcement of the final success of these efforts in the passing of the "land-court bill," which is formally entitled "An act to establish a court of private land claims, and to provide for the settlement of private land claims in certain States and Territories," and was approved by the President March 3, 1891. The people of New Mexico gratefully recognize their obligations to the President and yourself for this long-desired relief. We appreciate that to the emphatic recommendation contained in the President's message of December, 1889, the more extended argument for action in the report of the Secretary of the Interior, and the President's special message of July 1, 1890, urging immediate attention to the subject, are due the success of the measure in Congress after it had failed on so many previous occasions.

The court thus constituted was duly organized at Denver July 1, 1891, and will hold its first session for the transaction of business in November.

No one but those familiar with the subject can appreciate the importance of these events to the future of New Mexico. The portion of the country first settled, and consequently covered by Spanish or Mexican titles, naturally includes the best of the agricultural lands. While the United States had solemnly covenanted to respect all such titles, and it is a fundamental principle of international law that a change in political relations should not interfere with private property rights, yet the course of our Government has had the practical effect of unsettling titles and then leaving them in that uncertain condition for forty years. This has naturally prevented the improvement of property, discouraged immigration, and stopped the investment of capital. The only wonder is that New Mexico has progressed as far as it has under such depressing circumstances.

Now, with titles established, with what is really Government land clearly defined, every fertile acre will quickly be cultivated, the best class of population will be attracted, capital will flow into channels of secure investment, and all of our varied resources will be quickly developed. The incubus on our prosperity is removed and the future is bright indeed.

The land-court act, while thus valuable in its general features and effect, yet is defective in various respects, and will require several amendments in order to make it entirely just to all classes of owners. What is known as the "eleven-league clause," in section 13, is not only inequitable, but in direct violation of private rights and treaty obligations. It is founded on a law of the Mexican Republic as to the size of grants thereafter to be made, and which of course did not affect vested rights under grants made by Spain a century before. This, however, affects but comparatively few parties.

But the provisions with regard to the "small holdings" affect thousands, and they are vitally defective. The errors in this part of the law are those which would naturally occur in an instrument drawn by persons unfamiliar with the peculiarities of New Mexican farms as to size and shape.

In my report of 1890 (pp. 6 and 7) I endeavored to explain the nature of these small tracts and the reasons for their peculiar shape. I will not repeat this here, further than is necessary to make the situation clear. In an irrigated country the cultivated land lies between the acequia or irrigating ditch and the river. Our valleys are usually narrow, giving ordinarily a width of 1,000 to 3,000 feet to this cultivated land. This is cut up into small farms. When first settled the original occupants usually had a plot from 50 to 300 varas wide (a vara is a short yard, 33 inches), running from the river to the foothills back of the acequia. As generations succeeded each other these tracts were divided among heirs until the strips became very narrow. The land is of great fertility, and hence a small farm will support a family. To illustrate by a part of the Rio Grande Valley, with which I am familiar, the series of "small holdings" runs as follows as to width in varas: 20, 40, 18, 22, 51, 13, 5, 40, 10, 10, 30, 40, 35, 26. Here are fourteen small farms, each about 1,500 feet long from the hills to the river, and having an aggregate width of 360 varas, or about 1,000 feet. Altogether they contain about 35 acres, or an average of $2\frac{1}{2}$ acres each. They have been owned and occupied and worked through many generations, and the title to them is as perfect as any that can be conceived, except that they are menaced by the power of the United States, in direct violation of the

treaty. Now, the "land-court bill" provides, in section 17, that any one of the owners of the above fourteen tracts, upon making proof of the fact of his residence, etc., may "enter such legal subdivision, not exceeding 160 acres, as shall include his said possession." The smallest "legal subdivision" known to Land Office law is 40 acres, and yet within a less area than that we have fourteen owners in this case. From this it will be seen how utterly inapplicable this provision is to a country which was settled before either Jamestown or Plymouth was thought of, and where land is held in an entirely different manner from that which was suitable to our public domain on the prairies of the Northwest.

I will not enlarge on the subject here, as I propose, with your permission, to forward a special communication on this particular point at some suitable time during the coming session of Congress, but I have ventured this much to show how necessary it will be to amend this law in certain particulars, in order to make it applicable to the vast number of cases which come under the head of "small holdings."

STATEHOOD.

In my report of 1890 I mentioned the steps which were being taken within the Territory, looking to the admission of New Mexico as a State. A constitutional convention had been held in September, 1889, which had formulated a constitution of unusual excellence. This was to be submitted to a vote of the people at a special election to be held on October 7, 1890. This election was held and the constitution defeated by a large majority, the vote being as follows:

Counties.	For.	Against.
Bernalillo.....	870	2,073
Colfax.....	234	651
Dona Ana.....	669	1,010
Grant.....	699	544
Lincoln.....	379	710
Mora.....	265	1,536
Rio Arriba.....	428	1,272
San Juan.....	87	182
San Miguel.....	790	3,211
Santa Fé.....	1,068	1,549
Sierra.....	227	717
Socorro.....	447	1,068
Taos.....	212	1,227
Valencia.....	1,118	430
Total.....	7,493	16,180
		7,493
Majority against the constitution		8,687

At first sight this might appear to indicate a disinclination on the part of the people to assume the condition of statehood. This, however, is not the case. The circumstances were peculiar. The apportionment of delegates in the constitutional convention, as fixed by the legislative act which provided for the latter, was considered by the Democratic party leaders to be unjust to that party. They therefore refused to take any part in the election of delegates, and directed their party friends to abstain from voting. This order was quite generally followed, so that the convention itself, with a few notable exceptions, was solidly Republican. While this condition of things, by throwing the entire responsibility of the work on one party, no doubt caused the production of a more perfect instrument than would otherwise have been drafted, yet it alienated the bulk of the Democratic party and all of its official leaders from its support, and set the whole machinery of

that party actively at work to bring about its defeat. Public speakers traversed the Territory in opposition, and easily excited prejudices among the large portion of the people who had never lived in a State, knew but little of the results of State government, and whose fears of the unknown were thus aroused against any change from the system with which they were familiar. All interests opposed to statehood, or to any particular provision of the constitution in question, worked behind the election machinery thus provided, and the result was as stated. It should be noted, however, that the political orators and party leaders, most active in their opposition all repudiated the idea that they were opposed to statehood itself, and asserted that their opposition was solely to the proposed constitution and the method of its formation, and that on the main question they were as progressive as those they opposed.

The peculiar conditions then existing are not likely ever to recur, and whenever a vote shall again be taken on the subject it will be probably as nearly unanimous as is the sentiment of the people in favor of self-government.

The reasons which make it proper that New Mexico should no longer be kept in the subordinate position of a Territory have been fully set forth in my previous reports. They were, briefly, that she possesses the number of inhabitants, the resources, the taxable property, and the character of population calculated to make a successful commonwealth. All these reasons have been emphasized by the exact facts developed by the recent census. The population as returned is 153,076, while that of Idaho is 84,229, Wyoming 60,589, and Nevada 44,327. The real population, as shown last year, is over 180,000, but that is not important in this comparison, as the States referred to are similarly situated, and probably lost as large a proportion in the enumeration.

The illiteracy which has been urged as an objection is shown by the census to be greatly reduced in ratio, the number of children in school having increased over 280 per cent from 1880 to 1890, and the recently enacted public-school laws mark a long step forward in that respect. Regarded from any point of view, New Mexico is entitled to admission. We confidently look to Congress for the passage of an enabling act during the coming winter, under which we can elect a constitutional convention in May, hold its session in July (the most beautiful of months at Santa Fé), submit the constitution for adoption in September, and be admitted by proclamation in October. There is no valid reason that the great body of American citizens in New Mexico, thousands of whom fought to preserve the Union in the days of its peril, should longer be deprived of the right of participating in the government of the nation.

POPULATION.

Nothing official can be added to the full tables of population inserted in my last report. There is a gradual and healthy growth all over the Territory. The number of votes cast at the election in November, 1890, corroborated the estimate which I made of the population last year, viz, that it was between 180,000 and 185,000. The vote at successive Congressional elections shows an extraordinarily regular increase in population, the vote increasing almost exactly 1,000 each year. The following is the table:

1874.....	15, 781	1884.....	27, 086
1876.....	17, 009	1886.....	28, 589
1878.....	18, 797	1888.....	30, 510
1880.....	20, 397	1890.....	32, 355
1882.....	24, 728		

ELECTION.

An election was held in November, 1890, for Delegate in Congress and county officers. The result, so far as Delegate is concerned, was as follows:

Counties.	For Antonio Joseph.	For Mariano S. Otero.	Majority for Joseph.	Majority for Otero.	Scattering.
Bernalillo	1,390	2,042	.....	652	2
Chaves	391	39	352	.....	.....
Colfax	906	730	176	.....	.....
Doña Ana	1,031	1,020	11	.....	.....
Eddy	273	162	111	.....	.....
Grant	1,035	987	48	.....	2
Lincoln	601	361	240	.....	1
Mora	1,525	807	718	.....	.....
Rio Arriba	1,155	1,428	.....	273	.....
San Juan	310	195	115	.....	.....
San Miguel	3,386	1,908	1,478	.....	1
Santa Fé	1,571	1,504	67	.....	1
Sierra	647	530	117	.....	.....
Socorro	1,427	885	542	.....	.....
Taos	994	1,034	.....	40	.....
Valencia	564	1,510	.....	946	.....
Totals	17,206	15,142	8,975	1,911	7
Majority	2,064	.....	2,064	.....	.....

Total vote, 32,355.

LEGISLATION.

The twenty-ninth legislative assembly convened on December 29, 1890, and continued in session during its legal period of sixty days, finally adjourning on February 26, 1891.

While the first action of the lower house in unseating three of the regular members, the election of at least two of whom by substantial majorities of the vote cast has never been disputed, without a word of testimony or any examination of the returns, naturally caused much solicitude as to the kind of legislation that might follow, yet the general result of the session was highly satisfactory. The legislation was salutary and progressive and its beneficial effects are already being felt. In fact, it seems to be conceded that the labors of this body are of more value to the Territory and will do more to hasten its development and prosperity than those of any previous legislature.

Preëminent in their importance are the acts relating to public education. The public-school system of the Territory has been very defective. While it can not be expected that a system equal to those of most of the States can be maintained in the absence of a school fund, and the portion of the public domain set apart for that purpose is not available without Congressional action, which thus far has been refused, yet very much is accomplished by the series of acts passed by the late legislature.

Chapter 25, "An act establishing common schools, etc.," is intended to provide a complete system of public schools throughout the Territory. It unifies the whole by creating a Territorial superintendent of public instruction and a Territorial board of education.

It provides for a uniform series of text books, and for their purchase at the lowest rates; for the examination of teachers; for the incorporation of school districts; for the erection of school-houses; and, generally, for the efficient conduct of the schools.

To meet the necessary expenses it authorizes a Territorial tax of 3 mills, a district tax of 5 mills, and the bonding of districts for specified purposes by a vote of the people. In addition to this, all poll taxes,

ines, forfeitures, and all licenses paid by liquor dealers, etc., go to the school fund.

The passage of this act was looked upon as a very important step in the progress of the Territory, and was the cause of general rejoicing. In a message giving notice of his approval of the same and congratulating the legislature upon its passage, the governor drew attention to certain provisions and omissions which seemed to require correction or alteration, and the legislature promptly took action on the subject, and at the same time adopted provisions for an advanced system of instruction in incorporated cities and towns (chap. 77). Supplementary to these laws are chapter 64, "An act in relation to school books," and "An act providing school books for the penitentiary." Taken altogether the acts passed relative to public instruction at this session constitute the most important and progressive legislation that New Mexico has ever known.

Among other acts of great importance are:

- (1) A high-license act (chap. 9) providing for a charge of from \$100 to \$400 for liquor licenses, which has already reduced the number of saloons to less than one-third of the number formerly in operation, and has had a most salutary effect. These licenses all go to the public-school fund.
- (2) An act suppressing trusts and combinations (chap. 10).
- (3) A number of acts (chaps. 14, 32, 43, 70) relative to the incorporation of cities and towns, all looking to the greater efficiency of municipal government.
- (4) An act creating the office of county surveyor (chap. 33).
- (5) An act modernizing somewhat the existing antiquated and cumbersome court practice (chap. 66).
- (6) Several acts for the protection of live stock (chap. 78, etc.).
- (7) An improved highway law (chap. 89).
- (8) An act for the incorporation of community grants (chap. 86).
- (9) An act providing for impartial juries, to be drawn by lot (chap. 95).
- (10) An act establishing arbor day (chap. 35).

FINANCES.

The total assessed valuation of the property in the Territory in 1887 was \$45,462,459; in 1888 it was \$45,690,723; and in 1889, \$46,041,010. In 1890 the total was \$45,199,847.91; of this, \$1,972,162.25 was exempt from taxation under various Territorial laws. The valuation by counties was as follows:

Counties.	Total.	Exempt from taxation.	Subject to tax.
Bernalillo	\$5,826,872.72	\$261,600.00	\$5,565,272.00
Colfax	4,124,900.42	155,500.00	3,969,400.42
Doña Ana	3,534,951.52	139,200.00	3,415,751.52
Grant	4,902,666.50	125,100.00	4,777,566.50
Lincoln	4,366,474.00	176,400.00	4,190,074.00
Mora	1,915,311.65	123,850.00	1,791,461.65
Rio Arriba	965,328.58	65,400.00	899,928.58
San Juan	630,604.91	119,389.75	511,215.16
San Miguel	7,680,232.75	223,200.00	7,457,032.75
Santa Fé	3,149,871.60	162,900.00	2,986,971.60
Sierra	1,967,749.78	70,147.50	1,897,602.28
Socorro	4,062,322.48	148,075.00	3,914,247.48
Taos	826,519.00	87,300.00	739,219.00
Valencia	1,226,042.00	114,100.00	1,111,942.00
Total	45,199,847.91	1,972,162.25	43,227,685.66

The cause of the slight decrease in valuation was the reduction that was made generally throughout the Territory in the value of cattle. In other respects the returns show a healthy increase.

The Territorial indebtedness at the close of the forty-first fiscal year (March 3, 1891) was as follows:

Capitol building bonds, 7 per cent, due in 1904.....	\$100,000.00
Capitol building bonds, 7 per cent, due in 1905.....	100,000.00
Penitentiary building bonds, 7 per cent, due in 1894.....	120,000.00
Current expense bonds, 6 per cent, 5-20.....	150,000.00
Capital contingent bonds, 6 per cent, due in 1903.....	50,000.00
Provisional indebtedness bonds, 6 per cent, 20-30.....	200,000.00
Amount of outstanding warrants.....	146,433.03
Total.....	866,433.03

The expenses during the forty-first fiscal year were as follows:

Penitentiary expenses and salaries.....	\$29,663.31
Capitol current expenses.....	6,760.44
Salaries of officers.....	19,685.00
Compensation of assessors.....	13,782.43
Transportation of convicts.....	3,571.10
Territorial institutions.....	23,100.00
Court expenses.....	49,940.69
Interest on outstanding warrants.....	9,948.44
Miscellaneous, as per auditor's report.....	19,050.21
Treasurer's incidental expenses.....	174.30
Librarian's incidental expenses.....	26.85
Bureau of immigration.....	500.00
Rewards by governor.....	100.00
Printing, twenty-ninth legislative assembly.....	1,312.00
Bringing registration books.....	181.60
Printing dockets for supreme court.....	41.00
Militia.....	342.06
Hospital of Las Vegas.....	499.80
Total.....	178,679.23

The financial condition of New Mexico is remarkably good. The bonded debt will be reduced very soon by the purchase of about \$7,000 of penitentiary bonds, the money for which is in the treasury.

The good effects of the finance act passed in 1889 are very manifest. Some temporary inconvenience will be occasioned by the action of the late legislature in making appropriations for the present year considerably in excess of the amount of tax levied. This, however, will not affect the succeeding year, when the estimated receipts will fully equal the expense.

The assessed valuation of 1891 will considerably exceed that of 1890.

The following table, showing the value of lands and houses and of certain kinds of personal property in the different counties according to the assessment returns for 1890, is both interesting and valuable. No figures could be obtained respecting Bernalillo County at the auditor's office, but all the other counties are included in the table.

Counties.	Lands.	Houses and improvements.	Horses.		Mules.	
			No.	Value.	No.	Value.
Bernalillo.....						
Colfax.....	\$1,356,450.00	\$352,523.00	4,576	\$97,376	191	\$10,010
Dona Ana.....	880,414.00	564,440.00	3,630	81,686	118	5,080
Grant.....	219,884.00	1,147,952.00	6,458	127,652	257	11,067
Lincoln.....	742,441.00	809,214.00	13,810	269,956	564	22,622
Mora.....	700,998.13	73,019.50	2,270	51,190	142	4,348
Rio Arriba.....	114,858.00		1,202	40,249	114	4,190
San Juan.....	104,504.22	96,164.97	2,892	95,758	93	3,650
San Miguel.....	2,056,781.00	785,923.00	5,827	135,674	484	16,337
Santa Fe.....	793,741.60	803,222.00	723	26,783	158	7,245
Sierra.....	222,945.00	241,631.00	3,680	73,182	187	7,412
Socorro.....	613,883.00	450,074.00	5,035	128,425	.....	8,652
Taos.....	211,395.00	52,309.00	1,061	21,565	144	5,474
Valencia.....	161,103.95	85,963.00	2,301	46,609	261	6,647
Total.....	7,179,398.90	4,962,435.47	52,465	1,201,105	2,713	112,734

Counties.	Cattle.		Sheep.		Goats.		Swine.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Bernalillo.....								
Colfax.....	138,202	\$1,140,994.00	95,865	\$112,458	824	\$877	474	\$1,578
Doña Ana.....	52,458	374,768.00	27,228	31,460	2,244	2,556	289	867
Grant.....	147,480	1,202,827.00	18,327	15,947	10,573	11,578	374	1,045
Lincoln.....	290,499	2,297,600.00	108,188	150,766	13,264	14,918	1,161	2,659
Mora.....	29,270	251,189.50	115,151	119,274	4,037	4,048	447	1,136
Rio Arriba.....	6,678	100,470.00	59,000	59,000	1,126	1,126	150	470
San Juan.....	17,769	231,077.00	25,633	25,841	87	107	426	1,694
San Miguel.....	149,655	1,257,761.00	263,314	290,423	6,843	7,467	482	1,471
Santa Fé.....	5,262	63,000.00	82,240	83,000	1,120	1,120	120	600
Sierra.....	77,129	579,395.00	6,637	7,225	4,177	5,208	290	1,058
Socorro.....	130,806	1,365,020.00	65,247	65,970	5,008	5,646	231	583
Taos.....	2,252	24,619.00	96,965	96,965	4,560	4,560	499	1,189
Valencia.....	72,637	447,318.00	213,454	214,254	1,912	1,916	376	1,049
Total.....	1,129,088	9,336,038.50	1,172,249	1,262,603	55,775	61,127	5,319	15,399

Counties.	Burros.		Carriages.		Wagons.		Railroads.
	No.	Value.	No.	Value.	No.	Value.	
Bernalillo.....							
Colfax.....	125	\$520.00	153	\$4,795	366	\$9,642	\$694,543.42
Doña Ana.....	94	564.00	146	7,850	274	6,977	1,250,448.52
Grant.....	52	499.00	173	11,715	482	16,540	1,179,625.51
Lincoln.....	206	1,314.00	881	30,914			
Mora.....	289	998.00	101	3,188			
Rio Arriba.....	162	787.00			407	9,821	241,721.87
San Juan.....	80	841.00	23	990	250	11,429	441,335.00
San Miguel.....	965	4,150.00	233	11,676	267	8,344	
Santa Fé.....	226	1,300.00	230	6,880	821	21,609	697,553.00
Sierra.....	130	993.00	68	3,920	240	8,400	378,500.00
Socorro.....	184	947.00	173	7,382	315	10,846	327,140.00
Taos.....	220	1,025.00	60	2,000	458	12,696	903,438.23
Valencia.....	358	1,759.50	141	4,940	253	6,333	200,930.00
Total.....	3,091	16,197.50	2,387	96,250	4,509	132,740	6,315,236.60

EDUCATION.

PUBLIC SCHOOLS.

In no respect is New Mexico making such progress as in public education. Even under the crude system which has existed heretofore the number of children under instruction had increased in a ratio far in advance of the population. The late census developed the fact that while the population of the Territory increased 28 per cent during the decade from 1880 to 1890, the number of children enrolled in the schools increased 283 per cent, or ten times as rapidly.

As mentioned under the head of "Legislation," the crowning work of the late legislature was that relative to public education. For the first time a regular system has been instituted, with an official head. While the laws are not yet perfect, yet they are far in advance of those which they superseded in every respect. Teachers' examinations are required and a careful supervision provided for. Districts are authorized to levy special taxes and to bond for school buildings. The money derived from licenses is devoted to education. Uniformity of school books is required, the selection being made by the Territorial board. This board consists of the governor, superintendent of public instruction, and the presidents of the University, the Agricultural College, and St. Michael's College.

The law has gone into operation so recently that its effects can not be seen in statistics. But they are already very apparent in the general character of our educational work.

Immediately after the passage of the new law, in February last, Hon. Amado Chaves was appointed Territorial superintendent, and has entered upon the work with great zeal and enthusiasm.

Many school-houses are being erected. The grade and character of teachers are greatly improved. The adoption of uniform books has not only insured a better class of works, but has greatly reduced the price.

The new act requires regular reports to be made by the county superintendents to the Territorial superintendent, so that hereafter accurate statistics can be furnished. At present, however, they are far from perfect or satisfactory. The following table is the best that can be prepared from data received from the various counties, but in several cases the figures of last year have had to be used, and such are designated by an asterisk (*); others that are estimated are marked by a dagger (†). It is far from accurate, and the column of "pupils enrolled" and of "tax" are specially unsatisfactory. In the latter some of the counties have included license fees and some have not, so that it is not a correct guide; and in the former it is evident that in some counties the total number of children of school age has been returned as the number enrolled.

Public schools.

Counties.	Schools.	Taught in English.	Taught in Spanish.	Taught in both languages.	Public school-houses.	Male teachers.	Female teachers.	Pupils enrolled.	Average daily attendance.	Amount regular taxation.	Amount raised by poll tax.
Bernalillo	47	*4	*28	*14	-----	32	15	†2,400	1,620	\$16,000	\$2,000
Chaves	2	1	-----	1	2	2	2	245	153	3,442	73
Colfax	34	15	-----	19	-----	17	17	2,739	1,800	10,000	500
Doña Ana	24	18	5	1	1	12	15	818	585	8,000	*350
Eddy	9	†7	(†)	†2	†4	†3	†4	457	†300	2,915	†150
Grant	27	22	1	4	19	14	25	†1,000	†600	13,000	†2,000
Lincoln	37	31	6	-----	22	16	18	790	660	5,400	700
Mora	51	3	1	47	8	40	11	†2,000	*1,500	†4,700	*191
Rio Arriba	35	-----	25	10	-----	35	-----	*1,000	*650	*2,940	†400
San Juan	17	14	-----	3	6	8	9	430	302	1,075	261
San Miguel	90	18	18	54	28	70	20	4,600	3,900	14,245	1,943
Sante Fe*	26	7	4	15	5	20	9	1,071	794	7,682	733
Sierra	10	6	-----	4	6	7	5	584	261	7,231	412
Socorro	48	15	17	16	16	32	18	1,835	1,143	10,654	2,400
Taos	36	4	-----	32	3	31	5	1,764	*1,125	1,531	2,310
Valencia	40	4	30	6	12	34	6	3,034	1,825	*6,500	825
Total	533	169	135	228	132	373	179	24,767	17,218	115,315	15,248

The most immediate results of the new legislation are seen in the larger towns. Naturally, they are the first to feel the impulse; but there is the additional reason that under the present law license money is to be used in the precincts in which it is collected, and this supplies the towns with liberal funds, while the remoter districts receive nothing from this source.

In East Las Vegas a beautiful stone school-house has just been erected, and five other districts in San Miguel County have voted bonds for a similar purpose. In Albuquerque the schools have just opened, with twelve teachers, under a city superintendent. From Raton to Deming and from Roswell to the San Juan commodious buildings are being erected, and in the rural districts, as well as in the towns, the spirit of progress is aroused, and improvements are everywhere being made. Perhaps the most active work under the new law has been done in San Miguel County, which is itself as large as some Eastern States,

and contains eighty-three precincts. In order to have the new provisions understood the county superintendent, Mr. C. F. Rudolph, called a meeting of the district school directors for April 20, and this was attended by 171 directors out of a total of 249, all the precincts but five being represented. This was followed by a normal school, which continued from June 22 to July 17, and to which all those expecting to teach were invited. No less than 57 attended, and the result was very encouraging. Writing of this normal school, or teachers' institute, Mayor Henry, of East Las Vegas, says: "The first teachers' institute ever held in New Mexico convened at Las Vegas in June and continued in session for four weeks. There were about 50 native teachers in attendance, 27 of whom met at the Academy, 15 at the La Salle Institute, and 8 at the Sisters' Convent. It was remarked by several of the most prominent educators of San Miguel County that the zeal and earnestness manifested by these native teachers in school and educational matters is one of the most hopeful signs for the future of New Mexico. It was a grand success in every respect. Prof. Ramsay, of the Academy, Brother David, of the La Salle Institute, and the lady teachers of the Sister's Convent assisted daily in conducting the exercises and recitations during the entire term of four weeks, none of them making any charge for their services or for the use of the buildings."

These matters are mentioned as they show the spirit with which the new system is received, and are the foundations of much that is to come.

TERRITORIAL INSTITUTIONS.

Under the head of "Public buildings" the three Territorial educational institutions have been referred to. They are the University at Albuquerque, the Agricultural College at Las Cruces, and the School of Mines at Socorro. The Agricultural College is in full operation in its commodious and beautiful building at Mesilla Park. The very liberal donations from the National Government, both to the college and the experiment station connected with it, give to this institution great advantages. The University building is just completed, and it is intended that it shall be opened during the coming winter, probably as a normal school, as the lack of such an institution is painfully felt. The laboratory building for the School of Mines, which will amply be sufficient for all present requirements of the school, is in course of erection and will be a very creditable structure. It will not be ready for use until the fall of 1892.

The school for the deaf and dumb at Santa Fé has been successfully conducted during the year. It is about to remove to a larger and better building, and 15 inmates are expected for the next year.

There is also an orphans' home and industrial school at Santa Fé, sustained by an annual appropriation of \$5,000.

PRIVATE SCHOOLS.

The private schools are mostly sustained by religious denominations or societies.

The Christian Brothers (Roman Catholic) carry on St. Michael's College, which has 73 boarders and 108 day scholars. This is located at Santa Fé, but they also conduct schools at Las Vegas and Bernalillo, the former having 120 scholars.

The Sisters of Loretto have institutions at the following places:

Place.	Teach-ers.	Girls.	Boys.
Santa Fé	10	250	.....
Taos	4	65	30
Mora	4	85	.....
Las Vegas	6	160	.....
Bernalillo	5	140	.....
Socorro	5	60	50
Las Cruces	6	75	45
	40	835	125

The Sisters of Charity conduct the following schools: Albuquerque (old town)—4 teachers, 120 girls, 85 boys. Albuquerque (new town)—7 teachers, 210 girls, 65 boys. San Miguel—5 teachers, 100 girls, 150 boys. Santa Fé Orphan Industrial School—2 teachers, 50 girls, 2 boys. The Sisters of Mercy carry on a school at Los Alamos with 4 teachers and 50 scholars.

St. Michael's College, at Santa Fé, above referred to, draws scholars from a number of States outside of New Mexico, and possesses a mineral cabinet containing specimens from nearly every mine of importance in the Territory, a complete chemical laboratory, and an assay department.

The following is the report of the schools carried on by the Presbyterian Board of Home Missions:

CLASS 1.—*Day schools for Mexican children.*

No.	Name of school.	Teach-ers.	Pupils.	Estab-lished.	Value of property.
1	Las Cruces	1	25	1878	\$1,000
2	Pajarito	1	50	1884	1,800
3	Albuquerque	1	20	1888	250
4	Corrales	1	25	1878	1,500
5	Capulin	1	25	1887	2,000
6	James Hot Springs	1	24	1881	2,000
7	Santa Fé	1	70	1867	1,000
8	Glorieta	1	20	1881	200
9	Chaperito	1	50	1889	1,000
10	Raton	2	50	1887	1,000
11	Los Alamos	1	20	188—	200
12	Buena Vista	1	30	1888	225
13	Rociada	1	15	1887	275
14	Ocate	2	30	1881	1,000
15	Agua Negra	1	15	1881	1,000
16	El Rito	1	30	1883	1,000
17	Agua de Lobo	1	20	1889	250
18	Prado de Taos	2	60	1883	250
19	Fernandez de Taos	2	66	1873	1,000
20	Ranchos de Taos	2	60	1881	1,000
21	Arroyo Seco	1	15	1889	250
22	El Llano	1	15	1884	250
23	Penasco	1	20	1884	275
24	Embudo	1	30	1887	250
25	Juan Tafoya	1	25	1891	.....
26	Pena Blanca	1	40	1891	.....
27	Las Valles	1	30	1891	.....
	Total	32	880	.....	19,225

CLASS 2.—*Boarding schools for Mexican children.*

Name of school.	Teach-ers.	Pupils.	Estab-lished.	Value of property.
Santa Fé	6	75	1883	\$20,000
Las Vegas	5	70	188—	10,000
	11	145	.....	30,000

CLASS 3.—*Day schools for Indian children.*

Name of school.	Teachers.	Pupils.	Established.	Value of property.
Isleta.....	2	25	1882	\$275
Zuni.....	2	20	1877	1,500
Laguna.....	1	40	1876	300
Jemes.....	2	30	1877	2,000
	7	115	.....	4,075

CLASS 4.—*Boarding school for Indian children.*

Albuquerque, 10 teachers ; 70 pupils ; established, 1880 ; value of property, \$15,000

CLASS 5.—*Pay school for American children.*

Santa Fé Academy, 3 teachers ; 70 pupils ; established, 1867 ; value of property, \$300.

General summary—Classes 1 to 5.

Classes.	Schools.	Teachers.	Pupils.	Value of property.
Day schools for Mexicans.....	27	32	880	\$19,225
Boarding schools for Mexicans.....	3	15	205	30,000
Day schools for Indians.....	4	7	115	4,075
Pay school for Americans.....	1	3	70	300
Total	35	57	1,270	53,600

These were all carried on during the past year, but the Indian school and Santa Fé Academy are now suspended.

The following are the Methodist mission schools:

Place.	Scholars.	Place.	Scholars.
Tiptonville.....	40	Taos.....	30
Peralta.....	32	Tramperas.....	26
Dona Ana.....	30	Ranchito.....	50
Española.....	25	Costillo.....	25
La Joya.....	25		
Socorro.....	70		353

The Albuquerque College (Methodist) is temporarily closed, the improved public schools having met the requirements there to a good extent. It is intended to reopen it hereafter for higher education.

The New West Educational Commission reports as follows regarding the institutions of which it has charge:

	Teachers.	Pupils.
Academies:		
Albuquerque.....	10	491
Las Vegas.....	11	477
Tuition schools:		
Deming.....	2	62
White Oaks.....	1	32
Free schools:		
Santa Fé.....	5	230
San Rafael.....	1	66

Albuquerque has two distinctive Mexican departments, one in the Academy building and the other at Barelás, in which are 160 Mexican children. Las Vegas Academy has a branch Mexican school at Upper Vegas, besides an enrollment of Mexican pupils in all the rooms of the academy proper. The total number thus receiving instruction is 155.

There are a number of other academies and schools, sustained by various religious bodies, the seminary at Las Vegas, in charge of the Southern Methodists being prominent among them, of which I have not been able to obtain the statistics in time for this report. But all are doing good work towards the general education of the youth of the Territory. Probably the most successful private school which is not denominational is the Goss Military Institute, a boarding school for boys, which has just commenced its career, at Roswell. It has 45 students already in attendance, with a prospect of a rapid increase.

THE PUBLIC LANDS.

THE LAND OFFICES.

During the year ending June 30, 1891, the entries at the several land offices were as follows:

	Santa Fé.		Las Cruces.		Folsom.		Roswell.	
	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.
Homestead entries.....	154	22,319.43	147	21,188.69	84	13,248.91	142	21,536.74
Preemption filings.....	71	11,360.00	78	10,504.79	65	10,400.00	50	8,000.00
Timber-culture entries.....	22	3,090.72	12	1,793.10	36	5,757.31	27	4,320.00
Desert-land entries.....	65	4,052.76	8	1,575.63	1	320.00	76	16,027.66
Coal entries.....	61	9,820.00	1	160.00	1	160.00		
Mineral entries.....	3	184.26	18	398.95				
Town-site entry.....	1	160.00						
½ railroad selections.....	1,152	184,255.12						
Total.....	1,529	235,242.29	264	35,621.16	187	29,886.22	295	49,884.40

Making the aggregate for the entire Territory as follows:

	No.	Acres.
Homestead entries.....	527	78,293.77
Preemption filings.....	264	40,264.79
Timber-culture entries.....	97	14,961.12
Desert-land entries.....	150	21,976.03
Coal-land entries.....	63	10,140.00
Mineral entries.....	21	583.21
Town-site entry.....	1	160.00
½ railroad selections.....	1,152	184,255.12
Total.....	2,275	350,634.07

Final action was taken in the following cases:

	Santa Fé.		Las Cruces.		Folsom.		Roswell.	
	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.
Homestead cases.....	82	12,712.04	87	12,473.58	26	4,159.67	46	7,195.43
Preemption cases.....	48	6,527.00	62	6,537.28	63	9,698.02	76	10,057.04
Timber-culture cases.....							2	320.00
Desert-land cases.....	1	480.00	8	2,160.64			28	14,817.74
Coal-land cases.....	4	570.90						
Mineral cases.....	4	59.36	15	284.56				
M. B. warrant location.....					1	160.00		
Total.....	139	20,349.39	172	21,456.06	90	14,017.69	152	32,390.21

The aggregate being as follows:

	No.	Acres.
Homestead cases.....	241	36, 540. 72
Preemption filings.....	249	32, 819. 34
Timber-culture cases.....	2	320. 00
Desert-land cases.....	87	17, 458. 38
Coal-land cases.....	4	570. 90
Mineral-land cases.....	19	343. 82
M. B. warrant location.....	1	160. 00
Total.....	653	88, 213. 26

PUBLIC SURVEYS.

The total number of miles surveyed during the year was 880. The number of plats of various kinds made in the surveyor-general's office during the year was 360. Applications for the survey of mineral claims, in order to obtain patents, have been made in 65 cases, which largely exceeds the number in previous years, and indicates increased prosperity in mining matters in the Territory.

One matter of considerable importance I wish to bring to your attention with a view to early action. I refer to the unsettled eastern boundary line of New Mexico which separates it from Texas and the public land strip (No Man's Land). This line is fixed at the one hundred and third meridian, but the exact location of that meridian has never been definitely settled. The consequence is that there is a strip of considerable width that is claimed by both Texas and New Mexico. This creates difficulties of various kinds. Property in some cases is taxed in both jurisdictions, and much more frequently escapes any taxation whatever. A more serious matter is the administration of justice in the disputed district, and the difficulty of making arrests when the authority is uncertain. It naturally becomes a place of refuge for criminals and fugitives. Five of our counties, Colfax, Mora, San Miguel, Chaves, and Eddy, are seriously affected by the unsettled condition of this boundary, and I respectfully urge that steps be taken as early as practicable to establish it definitely and have it marked by conspicuous monuments.

PECOS NATIONAL PARK.

A year ago I referred to the proposition to set apart a portion of the mountainous district on the upper Pecos as a national park, and heartily indorsed the project. Our people are very anxious that action should be taken on this subject, and have expressed their desires in numerous signed petitions. The only opposition arose from a few settlers in one of the townships, who erroneously imagined that the establishment would interfere with their vested rights. To meet the objection, the boundaries proposed have been changed so as not to affect the parties at all. The townships now included in the recommendation of the surveyor-general on this subject are the following: Townships 17, 18, 19, and 20 north, range 11 east; townships 19, 20, 21, and the north half of township 18 north, range 12 east; and townships 17, 18, 19, 20, and 21 north, range 13 east. No more beautiful tract could be imagined. The scenery is magnificent, the climate admirable, the hunting and fishing exceptionably good, and, if looked at from a more practical point of view, the preservation of the timber is essential to the successful irrigation of the fertile lands of the Pecos Valley. I

heartily concur in the hope that these townships may be speedily withdrawn from entry, that no damage may be done or new private rights intervene before Congressional action can be had. Dr. Duncan, president of the American Health Resort Association, who has recently visited New Mexico to examine its qualifications as a resort for invalids, says: "We believe that it will be wise, especially from a health point, if the upper waters of many of the rivers, especially the Pecos, were set apart as a national park. The forests that line the mountain sides should not be destroyed, but rather increased."

CLIMATE AND RAINFALL.

So far as its delightful character is concerned there is no climate equal to New Mexico in America, and perhaps in the world. So much has been written of its sanitary characteristics that it seems unnecessary to recapitulate the facts. The percentage of deaths from pulmonary disease is lower than at any other point from which we have statistics. There can be no doubt that in time New Mexico will be recognized as the sanitarium of the western continent.

For those in good health, nothing can be more delightful than the summer climate of Santa Fé, Las Vegas, Hot Springs, and similar resorts of high altitude, and in the winter the whole Territory is an agreeable place of residence.

There is but one station of the Weather Bureau in New Mexico, that being at Santa Fé, where observations have been taken since 1872. The following is the report of temperature and precipitation of moisture at that point for the past year:

Month.	Temperature.			Precipitation.	Month.	Temperature			Precipitation.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
1890.				<i>Inches.</i>	1891.				<i>Inches.</i>
July	90	48	69.8	2.46	January	42	- 1	22.7	1.32
August	88	47	67.2	1.49	February	50	- 6	29.5	1.91
September	82	42	61.0	.89	March	63	9	36.4	.59
October	72	29	50.0	.93	April	74	18	46.4	.17
November	65	18	39.6	1.31	May	74	30	52.9	3.21
December	52	15	34.6	1.60	June	84	38	62.6	1.26

For these figures I am indebted to H. B. Hersey, esq., observer in charge. The rainfall in May was the greatest recorded for that month during the twenty years of observations.

The precipitation during each month from 1872 to 1888 will be found in my report for 1889. As this subject is much discussed at present in connection with irrigation enterprises, it seems desirable to repeat the aggregate of precipitation at Santa Fé each year. The figures are as follows:

1872.....	9.87	1881.....	21.75
1873.....	9.53	1882.....	11.37
1874.....	19.83	1885.....	14.89
1875.....	18.97	1886.....	15.90
1876.....	15.02	1887.....	13.38
1877.....	13.85	1888.....	12.03
1878.....	19.52	1889.....	17.89
1879.....	11.44	1890.....	12.88
1880.....	9.89		

A Territorial weather service is now being established, with voluntary observers, covering all parts of the Territory, and with a central

office in Santa Fé, under the supervision of the U. S. Weather Bureau. It is believed that this will be of great benefit in furnishing data regarding the local climatic conditions existing in different sections, for use in determining the varieties of fruits and cereals adapted to different localities, and the amount of rainfall available for use in making estimates for irrigation enterprises, etc.

IRRIGATION.

No subject is of greater importance to New Mexico than this. The future of the Territory depends very largely on the increase of its area of cultivated land through comprehensive systems of irrigation. But the subject has been so fully considered in preceding reports that I will only refer briefly to what is actually being accomplished. In the southwest the magnificent system on the Pecos River, in the vicinity of Eddy, is in full operation. The system somewhat higher up in the same valley, in the vicinity of Roswell, is partly completed and partly in course of construction. Too much can not be said of the wonderful water supply of this valley.

In the northeast are two systems on the Maxwell grant, which have been previously described. A carefully prepared report relative to the irrigation of this section, by Mr. L. S. Preston, the engineer of the Maxwell Land Grant Company, is inserted below, and will be found to contain much matter of general interest on the subject.

In the northwest, in San Juan County, the water supply when utilized is more than ample, the flow in the San Juan and Animas rivers especially being very large and constant. Mr. J. G. Kello, who is a very competent authority, writes as follows:

In San Juan County there are approximately 200 miles of main ditches, covering about 24,000 acres of land. About 175 miles of these are owned and operated by the farmers themselves, and are partnership ditches and not incorporated, nor is the water sold. About 25 miles of ditch is incorporated. This length of ditches is all under operation, and there are from 30 to 50 miles of uncompleted ditches, partly finished, but not in operation. We estimate here that it takes at least 1 cubic foot of water, running day and night, to irrigate 160 acres; but this depends largely on the kind of crop, the amount of rainfall, and the kind of soil, so that it is difficult to make a general standard. I think that the average cost here per acre for water throughout the county is about 75 cents.

In the southwest the progress of the work in the Mimbres Valley is very encouraging. The Mimbres and Deming Canal and the water-works at Deming are now far advanced; the canal is completed from the Mimbres 8 miles toward Deming, and the deep cut under the Mimbres River, from which this canal will be supplied with a permanent flow of water, is also nearly half finished. The large shaft for the water-works at Deming is completed, and the heavy machinery is now on the ground. The work on the 30,000,000-gallon reservoir has been commenced, and that enterprise will, no doubt, be successfully accomplished within the next sixty or ninety days.

These may be said to be in the four corners of the Territory. But the great central regions are not to be left without the needed water supply. More than fifty companies have been organized for irrigation purposes, and several are already in operation. The valley of the Rio Grande presents the most extensive field for operations of this kind, as the present narrow strip of cultivated land can be widened very materially by a proper disposition of the water which flows so abundantly from the north and is now allowed to be wasted. The Rio Grande Irrigation and Colonization Company have been engaged for some time

in making careful surveys preparatory to the construction of a comprehensive system of irrigation extending from Peña Blanca southward through the center of the Territory. Work was to have been commenced some time ago, but the preliminary surveys developed certain matters which required more careful investigation as to the route to be followed, and this has caused delay. It is expected, however, that before the end of the year the work of constructing the great ditches proposed for this purpose will be in active progress. In short, a very few years will find all the water, now suffered uselessly to run away, utilized in the highest degree, and enlarging the area of agricultural and horticultural land to an extent almost fabulous.

Meanwhile individual enterprise is increasing the local supplies by the erection of multitudes of windmills, and this present year marks an era in our industrial history as that in which the first successful artesian wells were produced in widely separated portions of the Territory, near Springer in the northeast and at Roswell in the southeast. These prove the existence of great bodies of water ready to cause an artesian flow underlying a great portion of New Mexico, and will encourage the boring of the necessary wells to bring it to the surface.

The Santa Fé Irrigation Company intends to store the water which flows from the mountains east of the capital, and to afford irrigation to the large valley lying south and west of the city. This is a tract of considerable extent and great fertility, especially adapted to fruit culture, and presents a magnificent field for such an enterprise.

The following is the statement of Mr. Preston relative to irrigation on the Maxwell land grant in Colfax County:

Our source of water supply for irrigation purposes is very similar to that of the whole of New Mexico, excepting the Rio Grande Valley only. Our rivers run a small stream during the fall and winter months, till the snows in the mountains begin to melt in February or March, as the season be late or early, and by April 1 our streams are running bank full, continuing so for about sixty days. From the middle of June to the middle of July our rivers are nearly dry water courses, at which time the summer thunder-heads or water spouts begin, which change the dry channel into a raging torrent from one-half to one-quarter of a mile wide and 10 to 15 feet deep, often discharging as much water in twelve hours' time as has passed down the channel during two weeks, when at its highest spring rise or during three months of low fall and winter flow.

The nature of our drainage areas or hydrographical basin differ here, on the Maxwell Grant as elsewhere in the Territory, from the high mountain region where the precipitation is approximately 30 inches per annum, and where the irrigation value for a given area is about 50 per cent of said area, that is, if all the precipitation for a mountain area of, say, 2,000 acres was collected in a storage reservoir, the drainage for that area for one year so collected would be sufficient to irrigate 1,000 acres of prairie lands during the growing season; it is needless to say that the areas of the drainage basin having such an irrigation value are of very limited extent in New Mexico. The average for foothill and park region drainage basins will probably average 20 per cent of the said areas in irrigation value where the rainfall is from 12 to 15 inches annually; at least this is the result of our observations gained by gauging the different streams on the grant, where the exact drainage areas are known.

But for drainage areas located entirely on the prairie where the average precipitation does not exceed 10 or 12 inches annually, it would scarcely be safe to estimate at an irrigation value of over 5 per cent of said area, on account of the greater loss by seepage and evaporation being much greater than in the foothill or mesa region.

With the view to utilize the steady flow, and to catch and store such of the spring rise and summer floods as might be carried in a ditch of moderate capacity from both the Cimarron and Vermejo rivers, preliminary surveys were begun in 1887, locating ditch lines across the prairie lands at eastern base of the mesas of foothills, and connecting these streams with prairie lakes, which later on were improved by drainage cuts and embankments, forming storage reservoirs of considerable extent. Construction work began in 1888, and the greater portion of both the Vermejo and Springer systems were completed in the spring of 1889.

The average elevation of both the Springer and Vermejo systems is about 6,100

feet. Soil, sandy loam to red clay. Slope to the southeast, with a fall of about 15 feet to the mile. Geological formation, Colorado group of the Cretaceous, about 600 feet below the Coal Measures, and 400 to 600 feet above the Dakota sandstone, which carries our supply of artesian water in this locality.

The Springer system has 10 miles of main canal, 20 feet wide on bottom and 4 feet deep, and 40 miles of smaller canals and laterals, from 8 to 16 feet wide and 2 to 3 feet deep. All these canals have a uniform grade, 5.28 feet per mile, with easy and uniform curves. Several drops were necessary to pass from higher to lower levels, or prairie benches; these are arranged with wood-work, in some cases having a vertical drop of 16 feet, onto a water apron; others are arranged with a long chute or flume several hundred feet in length, and having a heavy grade. This system has one large reservoir covering 475 acres, with the greatest depth of 24 feet, and having a total capacity of 5,000 acre feet. There are four other smaller reservoirs, with an additional capacity of about 2,000 acre feet, and several lake beds not yet improved. This system covers 22,000 acres of light, sandy prairie land between the Cimarron and Red rivers, and surrounding the small but growing town of Springer, the county seat of Colfax.

The Vermejo system has 12 miles of 20-foot canal, and about 45 miles of 8 to 16-foot canals and laterals. There are twenty lake basins under this system, ten of which have been improved as reservoirs, having a storage capacity of from 200 to 3,000 acre feet, and a total capacity for all the reservoirs of 10,300 acre feet. On this system, we have 150 feet of Allen's wooden siphon pipe, 6 feet inside diameter, the same length of Laybourn's patent iron flume 8 feet wide and 4 feet deep, masonry dams and culverts, cast iron outlet gates to reservoirs, drops of facines or wicker-work aprons with cobblestone riprapping, and other substantial and permanent structures. This system covers 30,000 acres of rolling prairie land, north of the Vermejo and west of the Red River. Maxwell City, a new town on the Santa Fé Railroad, is located on the eastern edge of this system.

These two systems, covering some 52,000 acres of land, have been brought to the present state of development at a total expense of about \$150,000, or less than \$3 per acre.

The effective value of all these canals and prairie reservoirs has been to collect the spring rise and low perennial flow of these two streams, while a very small per cent only of the summer flood water is as yet utilized, leaving still three sources of water supply practically untouched: First, these summer torrents, described above; second, the underflow through the quicksand and coarse gravel beds below the present river channel; and third, the artesian flow in the porous sandstone of the Dakota group, which crop at the surface all along the eastern base of the Costilla and Taos ranges, dip deep under the foothills and first prairie region to crop out again along the walls of Red River Cañon 10 or 20 miles southeast of Springer.

To catch and store the summer flood water more than half a dozen large mountain reservoirs, with proposed dams from 75 to 200 feet in height, and with areas of from 500 to 5,000 acres, have already been located and considerable detail work done, from which careful estimates have been made, going to prove the economic value of such storage reservoirs, even at the present low price of irrigable lands in New Mexico.

To collect some of the sheet water or bed rock underflow (the existence of which in considerable quantities is proven not only by wells along the river bottom, but by observation of the streams themselves, where the flow at our gauging stations located at the mouth of the cañons is less than that several miles above, while in places a stream of 10 or 15 cubic feet per second will disappear in the sands entirely to rise again in the form of springs a mile or so below) we have in contemplation a sheet-pile dam to extend across the entire river bottom and carried down to bed rock. This dam will be completed this fall on the Vermejo River and, if successful, others will follow shortly.

As to the artesian flow, one well only has been sunk, and that by private enterprise. This well is located 5 miles southeast of Springer, at the forks of the Cimarron and Red rivers, and struck a flowing stream at 250 feet deep, which has continued to flow without any diminution for the past twelve months, supplying a stream of about one-half cubic foot per second from an 8-inch pipe. Other drills are now at work at three or four different points, and before many months we expect to know something more of the area of this artesian basin, and also of the amount of its water supply.

In selling the lands under these irrigating systems, the Maxwell Company has in view the ultimate ownership of the ditch and reservoir system by the owners and cultivators of the land. A perpetual water right is sold with each tract of land, with no future entailment other than a small annual assessment for repairs and maintenance of the system; in fact, each land buyer becomes a joint owner of the ditch system. When the lands are all sold under either system the Maxwell Company has the right to turn over all the canals and reservoirs to the land and water owners under that system, the reservoirs and main canals being considered as common property until that time.

With our system of prairie reservoirs we have the water service well in hand, serving the water direct from the main canals during time of high water, and in the dry season serving from the reservoirs, at such times as is needed only. So far water has been served for twelve or fourteen hours each day when distributed from reservoirs, and shut off at night, thus preventing a vast amount of waste. A system of measuring weirs has been introduced and a daily record kept by the ditch-rider, and from this data some knowledge of the actual amount of water required to irrigate an acre of land can be obtained, and when the time comes to introduce the time system of distribution, as is done in parts of Utah and California, we hope to reduce the distribution of water to something of a system. One thing, however, which our farmers of both New Mexico and Colorado will have to learn will be to discard the present wasteful method of irrigating by simply throwing the water in running streams over the face of the land and to substitute the system of beds or checks, as used for garden purposes in New Mexico, and on a large scale for all crops in southern California, Old Mexico, Spain, and elsewhere. The extra expense of throwing up small back furrows or ridges around tracts of from 1 to 5 acres in extent will soon be much more than compensated for by the smaller quantity of water required and the greater efficiency of the amount used.

Another item our company is taking up is that of encouraging the several settlers to construct private reservoirs on their own lands for the purpose of collecting flood waters from the rains which fall on the prairies, and also to be filled in time of high water in the streams and thus increase to no small extent the total storage capacity of the system.

The following is the list of the irrigation companies which have filed articles of incorporation between September 1, 1890, and August 1, 1891:

- The Pope Land and Irrigation Company. Locality: East side of Pecos River, in Eddy County and Texas.
- Apache Valley Irrigation Company. Locality: Apache Valley, Colfax County.
- The San Mateo Irrigation Company. Locality: San Mateo River.
- The Rio Grande Land and Irrigation Company. Locality: East side of Rio Grande, in Sierra and Dona Ana counties.
- The Sacramento Irrigation Company. Locality: Sacramento River.
- Mimbres and Deming Ditch and Pipe Line Company. Locality: Mimbres River, Grant County.
- The Puerto de Luna Ditch and Colonization Company. Locality: Pecos River, San Miguel County.
- Bosque Redondo Irrigation Company. Locality: Pecos River, San Miguel and Chaves counties.
- Rio Grande Interstate Land and Improvement Company. Locality: East side Rio Grande, from 200 yards below Earlham Bridge to south boundary of Refugio Grant, about 18 miles.
- The Felix Land and Water Company. Locality: Rio Felix, Lincoln and Chaves counties.
- The Mimbres and Deming Canal Company. Locality: Mimbres River, Grant County.
- The Tijeras Water Company. Locality: Tijeras Cañon, Bernalillo County.
- The La Plata Ditch Company. Locality: La Plata River, San Juan County.
- The Santa Fé Irrigation Company. Locality: South side Rio Santa Fé, Santa Fé County.

AGRICULTURE AND HORTICULTURE.

The advance of the Territory in both these important branches of industry is very marked. Last year I reported that we were importing over 10,000 tons of wheat and flour, over 8,000 tons of corn and meal, about 3,500 tons of oats, and over 8,000 tons of hay. A spirit seems to be manifest to supply this great deficiency ourselves, and place New Mexico in the position, to which she is entitled by her soil and climate, of an exporting instead of an importing State. The acreage of every staple product is very greatly increased. This is not confined to any one locality, but is general in all sections. A correspondent in the extreme northwest says:

Our acreage has increased fully 20 per cent, and new ditches now being constructed will cause a still larger gain next year. A new flouring mill is just erected; self-binders are seen where heretofore the hand cradle was used; steam thrashers have taken the place of sheep and goats, as well as of horse-power machines. The people have dropped old styles of farming and are using all modern facilities.

In hay production the increase is specially marked. Alfalfa is a success in all parts of the Territory, three crops being harvested in the north and four in the south. New fields appear at intervals all along the Rio Grande Valley. At Roswell and other points on the Pecos there is an immense crop, frequently reaching 7 tons to the acre. In San Juan County, in the extreme northwest, the product of the year is not less than 16,000 tons, many of the farmers having from 100 to 200 tons, and one estimating his great stacks to contain at least 550 tons. Timothy and other grasses are being introduced extensively in various sections, and especially in Mora and San Miguel counties. In the latter it is calculated that there are now fully 5,000 acres of timothy where three years ago there was scarcely any cultivated.

Turning to horticulture, the advance is even more noticeable. Those familiar with the Territory long ago agreed that New Mexico was ultimately to be the great fruit-raising State. Nowhere do all the fruits of the temperate zone arrive at such perfection as here. They have the size and beauty of those of California, with the high flavor unknown on the Pacific slope. This industry is a comparatively new one here, most of the orchards being young and only partially in bearing. The product is consequently increasing largely each year. San Juan County, which ten years ago was only occupied by cattle, now contains 500 acres of orchard, about half of which was planted this year, and is sending to market this fall over 500,000 pounds of peaches, 250,000 of apples, and 100,000 of other fruits. Santa Fé County is producing 600,000 pounds of apples and 300,000 of other fruits. A count just made in Socorro County shows that it contains 100,000 fruit trees and 480,000 grape vines; one single orchard, raised entirely without irrigation, contains over 7,000 trees, many of which were planted this year. This fall, for the first time, grapes have been shipped from Las Cruces in carload lots, and the melon crop of the Mesilla Valley is a new element of much importance. In Taos County fully 8,000 trees have been added to the orchards during the year. In Doña Ana, Judge Woods has planted 4,200; H. Casad, 2,400; Dr. Bailey, 1,500, and other fruit growers will bring the aggregate up to 12,000. A number of new orchards have been started and older ones enlarged in Colfax, Santa Fé, and Grant counties, along the Pecos Valley, and in fact all over the Territory. A careful estimate made by the most competent authority shows that the number of fruit trees planted this year does not fall below 200,000, about 50,000 being supplied by one single New Mexican nursery. The finest varieties of foreign grapes are now raised not only in the Mesilla Valley, but along the Rio Grande in Bernalillo and Valencia counties, and in the vicinity of Farmington. The greatly increased product of fruit makes a canning factory a necessity, and one can be profitably established at almost any central point.

STOCK RAISING.

CATTLE.

The number of cattle returned for taxation in 1890 was 1,129,088. Owing to considerable losses in some localities during the winter, it is probable that the number has not increased in the meantime.

Mr. Geo. L. Brooks, secretary of the Territorial Cattle Sanitary Board, reports that 2,200 cattle were brought into New Mexico from January 1 to August 1, 1891. Between March 15 and August 1 the number shipped out by railroad was 59,000; driven out, 10,285; passed through, 3,256; slaughtered by butchers, 5,891.

Messrs. Brown & Manzanares, who are excellent authority, quote the prices as follows:

Yearlings	\$6 to \$9
Two years old	8 to 14
Three years and over	12 to 20
Stock cattle	8 to 16

Mr. H. T. Vailé, secretary of the Las Vegas Commercial Club, reports them as follows:

Yearlings	\$8 to \$10
Two years old	12 to 14
Three years old	14 to 18

SHEEP.

The sheep industry is exceedingly prosperous. Although a very large number of wethers have been sold out of the Territory for mutton, yet the increase of lambs has been large and has fully made up the loss by shipments. Prices have been good. Secretary Vailé gives the following:

Yearling wethers	\$1.25
Older wethers	2.50

Messrs. Browne & Manzanares state the prices to be \$1.50 to \$3, averaging \$2 to \$2.50.

The wool business was never better so far as the producers are concerned. The crop was large and prices good.

Mr. T. D. Burns gives average price in the northwest at 16 cents; Secretary Vailé says average at Las Vegas was $16\frac{1}{2}$ to $17\frac{1}{2}$; Charles Ilfeld, a large purchaser, gives $17\frac{3}{4}$ as average price paid the sheep owner; Browne & Manzanares say 12 cents for common and 15 to 19 for improved; the average in the northeast, as shown by the statement of Mr. Baca, was fully $18\frac{1}{2}$ cents. It is difficult to ascertain with precision the total amount of the wool crop on account of the extravagant claims of localities; but unless they are very erroneous it can not be less than 16,000,000 pounds. The shipments from Colfax, Mora, Rio, Arriba, and Taos counties could not be less than 4,000,000 pounds; and those from Las Vegas, Albuquerque, and other points south of the above counties, must have aggregated at least 12,000,000 pounds.

I annex a statement prepared by Mr. Luis A. C. de Baca, of Mora, relative to the sheep, etc., in the easterly section of that county, because it gives accurate figures. It should be added, however, that the increase of lambs reported there is much less than throughout the Territory at large. Mr. Baca's statement shows an increase of a little over 50 per cent., while it was generally from 75 to 80 per cent. He adds: "We all sold our yearling wethers at \$2 a head. The condition of our sheep is fine; we have good grass and plenty of water."

Name.	Sheep.	Wool.	Price.	Lambs.
		<i>Pounds.</i>	<i>Cents.</i>	
Juan Rodriguez	5,000	18,000	18	2,000
Rumualdo Gonzales	3,000			1,500
Rumualdo Baca	2,000			900
Baca Brothers	12,000	43,000	19½	5,000
Lujan & Pinard	23,000	75,000	18½	12,000
Sisto Apolaca	1,800	5,000	18	1,000
Valentin Martinez	800	2,000	19	600
John Tixin	2,500	8,000	18½	1,500
Pablo Padilla	700	1,800	17	
Luis F. Garcia	11,000	50,000		5,000
Abelino Garcia	2,700	10,000		1,500
Telesforo Casados	2,500	9,000		
José M. Garcia	2,000	7,500		1,200
Francisco Garcia	2,000	8,000		
Manuel Garcia	1,300	5,000	19	
Francisco Miera	1,200	3,500	18	700
Guadalupe Lovato	3,000	9,000	18	1,500
Juan Vigil	5,000	17,000	20	
Francisco Vigil	1,400	3,000	18	
Fabian Chaves	700	2,100	18	400
Luisano Solano	1,000	4,000	19	
Bidal Salazar	1,200	4,000	18½	
Albino Roival	1,900	7,000	19	1,000
Santillanez & Son	1,500	3,000	17	700
Celso Lopez	700	2,100	19	500
José M. Gonzalez	3,000	8,855	19½	1,350
Nicanor Romero	500	1,500	18½	300
Romero & Garcia	2,500	9,000	19	2,000
"H." Ranch	6,000			
	101,900	316,355		40,650

MINES AND MINING.

The mining industry throughout the whole Territory has increased in amount and profit during the past year. In every section there is an enlarged development. The beneficial effects of the tariff on lead are seen in all of the camps where an argentiferous galena is the staple ore. Relieved of a degrading competition with the ill-paid labor of Mexico, and protected in the receipt of a fair compensation for their arduous and perilous work, our miners are flourishing, and at the same time every such mine is running to its full capacity. The greatness of the present output is illustrated by the fact that the existing smelters are not able to receive all the ore that is produced. This will probably result in the establishment of a large smelting plant at Cerrillos, which has more natural advantages for that purpose than any other point in the Southwest, and probably than any in the country.

From the borders of Colorado to the Mexican line general prosperity prevails in mining matters. The total mineral product for 1890 was almost exactly \$3,000,000.

In answer to inquiries, several of the best-known mining men in the Territory have sent statements which include many matters of much interest, and which I insert here, that the information may be received from first hands. As most of these letters are from the south of New Mexico, I will simply supplement them by saying that mining operations in the north are equally satisfactory. In Taos there is increased activity, and new discoveries are reported near Picuris. In Mora the Bowmer copper mines at Coyote are being energetically worked. A 75-ton concentrator has been erected and is running to its full capacity, the concentrates being shipped east. In Santa Fé County the owners of the "Cash Entry" property have erected very extensive works, which are in full operation; the "Big Copper mine," at San Pedro, is being worked constantly; the "Lincoln Lucky" has resumed business;

a new smelter for gold and copper is about to be erected near the Tuerto Mountain, and renewed activity is reported at Dolores. New discoveries have been made in the Sandia Mountains. The great activity in Socorro County is alluded to in the statements which are to follow. Lake Valley has produced about \$130,000 during the year. Chloride has a new mill, but still needs a railroad. Mr. Walter C. Hadley, who furnishes the official reports to the Director of the Mint, estimates the output of 1891 at fully \$3,000,000.

Prof. Charles Longuemare, long an authority on mining matters in New Mexico, and now the editor of the "Bullion" at El Paso, writes as follows:

El Paso, August 16, 1891.—At this time in 1890 the situation in New Mexico and elsewhere in the Southwest certainly promised well for the future. The silver agitation throughout the country resulted in an advanced silver market; this had the effect of stimulating the production of silver mineral, and also caused increased attention to be devoted to the mining of lead ore, the latter being employed by smelting plants in the treatment of silver mineral. This favorable condition of the silver market, however, as well as that of lead, did not continue; and as was foreseen by conservative students of such subjects, the price of both metals declined to an extent which can be judged by the following table of New York quotations:

Date.	Silver.	Lead.
Saturday, August 23, 1890.....	1.19	4.60
Saturday, August 8, 1891.....	.99½	4.55

The quotations of lead during the greater portion of 1891 were less than those of August 8.

Another and formidable obstacle in the way of the development of the mineral resources of the Territory, and an evil of long standing, is the alien act, a law that prohibits the investment of foreign capital in the Territories, while it permits it in the States. The influence of this enactment has been in the past and continues to be an invitation for the investment of capital in the State of Colorado, and failing there, the foreign mining engineers and investors pass through New Mexico with indifference to reach the Republic of Mexico, where every inducement is offered to the foreigner to embark in profitable mining and metallurgical enterprises. Notwithstanding the foregoing unfavorable conditions, unfortunate for the mineral development of New Mexico, I can report a good and healthy progress in the mining industry in the Territory during the past twelve months. Renewed interest has manifested itself in the northern portion of the Territory, where mining has languished for more than a decade; old camps in other sections that had been deserted for years have been revisited by prospectors.

Mining in New Mexico is in its elementary stages. This is so much the case that I am responsible for the statement that there is not a single mining district in the Territory which does not still offer inducements to the prospector and claim locator. Another important feature characterized the period embraced in this review. It is the interest which has been displayed in the so-called secondary mineral products. This evolution in the mining history of New Mexico has led to the discovery and systematic exploitation of the following minerals in various portions of the Territory: Iron, coal, fire clay, alumina, serpentine, marble, kaolin, salt, sulphate of lime, and silicate of magnesia.

Increased facilities have also been added to our metallurgical institutions. This is notably the case at Silver City, Socorro, and at El Paso, Tex. I include the latter point, as only a geographical and imaginary line divides it from New Mexico, and in every other respect its interests are identical and in common with those of the Territory.

A distinguishing feature of the mining camps of the Territory is the orderly and respectable element that constitutes their population, the general good health that prevails, the security of life and property, the rapid increase of educational facilities and advantages, and the general progress and development of those moral and physical influences that conduce to the happiness and permanent prosperity of communities.

In closing I will state that the annulment of that portion of the alien act that forbids the investment of foreign capital in mining property in the Territories and favorable silver legislation will at once culminate in an extraordinary development

of the mining industry throughout New Mexico, which would be increased by the adoption of a system of commercial reciprocity with the Republic of Mexico, inasmuch as that would lead to the establishment in the Territory of numerous manufactories, that would employ the metals abounding in New Mexico in the manufacture of many articles having the metals as a base that would find a ready sale in the markets of our sister Republic. In conclusion, I will remark that increased attention is now being given to the development of both zinc and copper ores, and that it is more than probable that ere the close of the present year a zinc plant will be in course of erection in the Territory, and also an important addition to its copper-smelting facilities.

Mr. Charles Metcalfe, of Doña Ana County, contributes the following information:

Las Cruces, August 14, 1891.—In common with the other portions of southern New Mexico, the Organ Mountain district has enjoyed a season of prosperity. At least one good paying mine has been added to its list of producers during the year. Notably has there been a cheapening of the methods of handling, and a greater demand for the lead fluxing ores in which the camp abounds, thus affording better treatment charges and permitting the handling of lower grades of ore. There is now a lively competition for the products of the camp, and the ores which formerly went to Colorado are mostly treated by smelting works in the Territory. This is directly due to a protection tariff.

In the eastern portion of Doña Ana County is a group of mountains called the Jarillas. For many years it has been known that they contained fine surface showings of copper ore carrying silver and gold, but as the nearest water was at the eastern base of the Organ Mountains, 30 miles distant, it has been next to impossible to develop the mines. Recently, however, an enterprising cattleman has succeeded in finding water quite close to the Jarillas, by boring, and this will probably lend an impetus to the early development of another mining district.

Some prospecting was done in the last year near Three Rivers, in the White Mountains in the northeastern portion of this county, and some very high grade silver ore was mined and milled. I saw an assay certificate for \$10,060 per ton. But it has since developed that the mineral district is in the edge of the Mescalero Indian Reservation and the authorities have prevented further exploitation. The section of the reservation upon which the mines are situated is valueless for anything excepting mineral, and the Indians would not be losers if this portion was cut from their reservation and restored to the public domain.

The year 1890-'91 has witnessed the opening up of a new field in mining for southern New Mexico, that of handling the refractory or zincy ores which heretofore were considered valueless and detrimental to mines. They are now shipped to points in Iowa and Missouri for treatment, and bring profitable returns. Especially does this benefit Grant and Sierra counties.

The developments at White Oaks, which I have watched with interest, having had an acquaintance with that camp since its first discovery, are entirely satisfactory, as it has been found that the ores do not deteriorate in value with depth. The shaft of the North Homestake mine, the original discovery location of the district, is now 1,000 feet deep, and the grade of its ore has not materially changed. Another point in favor of this camp is that its mines are entirely dry, no pumping being necessary, and therefore affording cheap mining.

The recent finding of the vein of the American mine in Dry Gulch, Lincoln County, is highly important to that district. This mine has been worked in a desultory way since its discovery in 1868, and a few years ago a mill was erected which operated upon the surface ores. As these were worked out the mill has been idle for some time, but a short time ago, while extending a prospect tunnel, the main vein, rich in gold, was discovered, and the mine is now being extensively developed.

Prof. J. C. Carrera, who is now making the collection of New Mexican ores for exhibition at the Columbian Exposition, writes as follows:

In the past year a decided progress has been evident in all mining regions. The coal fields of Cerrillos and Gallup have yielded a tonnage vastly superior to that of any previous year. San Pedro has kept its great record for both copper and gold, and as usual Grant County is in the lead in the production of gold, silver, copper, zinc, and iron.

The Santa Fé Railroad freight facilities being inadequate to the very active production of the ores, another branch railroad is being built from Whitewater to Hanover. Upon the completion of this branch the output of Grant County will unquestionably be more than twice as large as at present. Much attention is now being paid to the alum beds or deposits along the Gila River, and as soon as the proposed road is built New Mexico can supply the American market with these minerals, to the detriment of English importations. The production of lead carbonates has never

been so great as at present, the smelter at Socorro being compelled to limit its purchases, and many of the mines can not find adequate facilities for the transportation of these ores. The "Bennett-Stephenson" and the "Modoc" being in this condition, the large bodies of ore in sight are compelled to remain there. The "Graphic," at Kelly, is excelling the record for production of carbonate ore in the mining history of the Territory.

White Oaks comes to the front again with a large production of gold, one of the mines alone, the "Old Abe," having produced about 2,200 tons in 8 months, giving a gross value of \$112,124.93, with a net profit of \$82,366.91. Large and continuous ore bodies are in sight in the different mines, especially the "Homestakes" and "Lady Godiva," thus assuring to the camp a future of prosperity. White Oaks also possesses abundant deposits of lignite suitable both for steam and coke, thus making the great deposits of iron in the immediate vicinity of unquestionable value, but the want of railroad facilities keeps these riches dormant. This part of the country will surely be the Pittsburg of the west, the supply of coal and iron being inexhaustible.

Dona Ana county possesses the largest deposit of its kind in the known world. A bed of gypsum, following the eastern slope of the San Andres Mountains, extends north and south for nearly 50 miles and at several points measures 20 miles in width. These deposits show more gypsum than all others known to exist, combined. Considering the large application of this material in the arts for glazing, for plaster of Paris, and as an ingredient in the manufacture of artificial marbles, together with the vast amounts consumed yearly in agriculture, entitles this to the most eminent place among the undeveloped mineral resources of the Territory. This gypsum is already mined and ground by kind nature and only needs adequate transportation to make it a source of much activity and prosperity. To add to this extraordinary deposit, a lake of carbonate of soda runs for miles along its western border and here and there makes room for epsomite and chloride of sodium, and it is altogether likely that other similar minerals will be found, but this, like many of the mineral wonders of the Territory, remains idle and unprofitable for lack of the "civilizing locomotive."

Much attention is being paid to the precious stones found in the different localities of the Territory. Turquoise exists in the Burro Mountains south of Silver City, thus increasing the supply of this beautiful stone, that before was obtained only at Cerillos and Hachita.

Eastern lapidaries begin to appreciate very highly the topazes and staurolites of Santa Fé County, and the most beautiful garnets, rubies, carbuncles, amethysts, and allied stones found both in the San Juan Valley and in the mountains back of Gallup. There are said to exist up in the craggy peaks of the eastern slopes of the Organ Mountains large bands of lapis lazuli, a very valuable stone, made so both by its extreme rarity and matchless beauty.

Another new industry is springing up in the Territory which promises to be a source of large revenue. It is connected with the building stone and marbles found in a great many of the mountains reticulating the Territory. The Ricolote (serpentine) on the Gila River is becoming a very fashionable marble for indoor decorations in the large cities of the East. In the immediate vicinity of White Oaks are large beds of dolomitic limestone, very much like the white marble of Vermont. In connection with this exists also large beds of a similar nature but of a beautiful black color very similar to the Panno di morte of the Italian quarries; and between these two varieties is found a third, variegated with several colors not unlike some of the Tennessee and Michigan marbles. Several other localities also afford these stones. At Socorro the old Graphic smelter is being converted into fireclay works. Six miles away in an easterly direction exists a deposit of fireclay as white and refractory as the clays of St. Louis and Swansea.

It is only a question of a short time and means of transportation when these new found mineral resources will be developed, and there are already certain evidences sufficient to rank New Mexico among the foremost mineral belts of this country.

As to the mining condition in Grant County, Mr. A. J. Hughes sends the following comprehensive report:

The mining districts of Grant County are doing exceptionally well, and many of them which have lain idle for several years are again in the field as producers. Thanks to the beneficial effects of the "McKinley bill," which placed a tax on Mexican lead ores, the lead-silver properties of Grant County, of which there are many, are now being worked to their full capacity. Pinos Altos, Cook's Peak, Central, Carpenter, Victoria, Tres Hermanos, Lone Mountain, Shakespeare, Hachita, and other districts in the county are sending forward their quotas to swell the bullion product of the Territory. All of these camps mentioned produce lead-silver ores in quantity, and their working is now made possible by placing an import duty on Mexican ores. As a result of this activity the smelters have been receiving more ore than they could handle. Silicate ores, which have heretofore been refused, are now in demand;

and as the quantity of such ore is simply unlimited, the outlook for this section of the Territory may be said to be unusually favorable.

The iron interests are in a flourishing condition, and the completion of the Silver City and Northern Railroad to the Hanover mines has more than doubled the output for the past month. Five or six carloads daily, the present output, will be quadrupled within the next sixty days, when all the properties will be working under full headway. The shipments of iron ore from Silver City amount to several carloads per day, and since January 1, 1891, 13,846,951 pounds have been shipped from this city. This, in conjunction with shipments from Hanover, places the iron output of Grant County at nine carloads daily.

Development work on the Ricolite quarries has been going on steadily; a carload, the first shipment this year, was made on August 20; about 3,000 cubic feet are now at the mine ready for shipment.

A new camp has been opened up 3 miles from Carlisle which has a brilliant future. The camp is but little more than a year old, yet in that brief period it has been satisfactorily demonstrated that ore in sufficient quantities and rich enough to bear transportation charges, netting the owner ample pay for all development work, is abundant. In several instances exceedingly rich pockets of gold have been encountered.

Aside from these, immense deposits of zinc-lead ores are being opened up in Carpenter district, on the extreme eastern boundary of the county, and some claims are now being worked under bond by eastern syndicates. The zinc mines of Hanover Gulch are being operated quite extensively by eastern parties. The completion of the Silver City and Northern Railroad from Whitewater Station, on the Silver City branch of the Atchison, Topeka and Santa Fé Railroad, will give a new impetus to iron and zinc production, and also afford convenient shipping for the product of the "Anson S." copper mine and smelter, located near the head of the gulch.

Cooks Peak, now the leading lead-silver camp of the county, is coming to the front with rapid strides, and the Summit or "Teal & Poe" mine ships a carload of ore daily.

The Graphic (zinc-lead) mine, at the extreme southern end of the Cooks Peak range, is producing regularly and shipping several carloads of ore weekly.

The stamp mills of Pinos Altos are running regularly on full time, and the output is decidedly satisfactory. The mines at Victoria are being worked on a small scale and the results are satisfactory. Tres Hermanos, southwest of Deming, is working in a small way. In Shakespeare little is being done at present in consequence of litigation. Pyramid has been working uninterruptedly for the past ten months. When taken hold of by the present company the mine was filled with water, caved in, and in a bad shape generally. The water has been pumped out, the mine cleaned out, retimbered, etc. The result has been that the property is now upon a paying basis. A 20-stamp mill, completely remodeled, is now doing good work. Georgetown, the boss producer of the county, is moving along quietly but regularly. Alhambra continues to move along slowly, but when a shipment is made it counts. Several companies are operating and a goodly number of leasers are at work. Lone Mountain is being worked somewhat, and the Bremen mill in this city is being repaired preparatory to starting up on Lone Mountain ores, contracts for 1,200 tons being already made.

Appended are Wells, Fargo & Co.'s official figures for bullion shipments from January 1, 1891, to date:

	Gold.	Silver.
January	\$18, 925	\$3, 100
February	10, 385	150
March	20, 075	100
April	17, 825	1, 510
May	17, 105	2, 975
June	13, 770	1, 675
July	14, 465	360
August	18, 505	.....
Total	181, 055	9, 876
Aggregate .....	.....	140, 931

Add to this 33 per cent for undervaluation, and you have the approximate production as shipped by express, \$197,908. Besides this, bullion and gold dust have been disposed of to the banks and private individuals, which will swell the amount to fully \$3,000 more, say to \$200,908. The Dimmick Brothers made a shipment of ore to the smelter two months ago which would not be received, as it was so rich that the smelter men could not approximate its value. It was reshipped to Kansas City

and sold as bullion. The shipment was not large, only a few tons, and the exact figures are not obtainable, but they reached the neighborhood of \$15,000. This amount properly belongs to the silver-bullion returns, although it has not been included. One piece of the ore weighing 57 pounds sold for \$514.98, a trifle more than \$9 per pound.

Returns from other shipments from different parts of the country, notably from Alhambra, the new camp near Carlisle, the Alpha and Omega at Pinos Altos, the Cooks Peak and Hadley mines, Victoria as well as Shakespeare, Pyramid, Lone Mountain, Central, Hanover, Volcano, Steins Pass, Georgetown, Copper Flat, and one or two other localities, would greatly swell the above figures.

The Aztec and Pacific mills, north of Silver City, are kept running on ores from the mines owned by the companies respectively. Both mills are complete in all details, and fulfill admirably the purposes for which they were erected.

The Flagler Reduction Works, along the line of the railroad, one mile south of Silver City, have been put in complete repair and are now operating successfully.

The Serpentine rock, with the newly coined name of Ricolite, is found on the Gila River near Carlisle, and is a beautiful ornamental stone for architectural purposes. It is banded with alternate strata of gray and green colors from one-half to one inch in thickness. It has rapidly gained the front rank in the east, and the demand is greater than the supply, for the reason that transportation facilities are meager. It is susceptible of a fine finish, and is quite durable. This is probably the only deposit of it in the world, as no mention is made of such rock in any work on geology or lithology. The marble of Bear Creek, 10 miles from Silver City, will without a doubt attract a great deal of attention in the near future. It is jet black, and the variegated marbles of the same series are as fine as can be found anywhere, very even in texture, and susceptible of a very high polish. Within the next year these quarries will be shipping large quantities east and west, as there is great demand for this kind of marble. As to the white sculpture marble of the Hanover district, said to be equal to Italian marble for sculptural use, the quarry has not been opened sufficiently to show its full merit, but from surface indications the deposit is extensive.

Col. A. W. Harris, the successful manager of the Illinois Silver Mining Company and two other mining corporations, at Kingston, writes as follows regarding the mining interests of Sierra County:

The geology of this district, which is included in the Sierra Mimbres or Black Range, from which it derives its name, is as follows: It is composed of foothills or numerous spurs, which flank the eastern slope of the Sierra Mimbres. These are separated from each other by gulches, which carry the drainage of the mountain range eastward toward the Rio Grande. The main range is composed of granitic eruptive rock, such as porphyry, syenite, and the like. The formation of this eastern slope is composed of quartzite, magnesian limestone, shale, fossiliferous limestone, and sandstones. We have primary and secondary limestones, which scientists inform us were formed at different periods, and shales composed of indurated mud indicating the nearness of a shore line or river mouth at the time of the deposition. The shales lie upon the primary line or between the two, and form what are known as "contact fissures," along the line of and between which "mineral" is found deposited. Oftentimes, where the shale has been eroded, the foot-line will show irregular deposits of ore of varying extent and richness, owing their natural mineral supply to the original contact vein. Numerous porphyry dikes are observable through the belt, and with a few exceptions run parallel with the strike of the veins. The mineral belt, of which this district forms the southern portion, can be traced from the point where the foothills join the Rio Grande Valley, where are located the famous mines formerly known as the "Sierra Grande" and "Sierra Plata." These mines have produced millions, and are still affording regular dividends to their fortunate stockholders. From this point the trend of the belt is in a northeasterly direction, and can be traced for over 60 miles. At intervals the outcroppings of the ledges are located and being worked with success. First on leaving Lake Valley occur the Tierra Blanca mines; next the Trojilla outcroppings, where they have found silver and lead in paying quantities; next the Monaska group, from which many thousands have been taken. Then the South Perche mines, owned and operated by a St. Louis Company. These mines contain copper and lead, with silver in the form of sulphides and remarkably rich pipes of boanite. They show large masses of low-grade ore, and only need good concentrating machinery to make their output profitable. Then comes the famous Kingston district, with its numerous paying properties, comprising the Superior, Lady Franklin, Black Colt, Comstock, Bullion, Savage, Brush Heap, Andy Johnson, Illinois, Iron King, Enterprise, and others. Then a few miles northerly are the Mineral Creek properties, with the rich Cumber-

land as one of the most promising producers of very high-grade ore. Next, the North Perche mines, among the most important of which are the Keystone, Virginian, and Templar, and so on through Cave Creek, Hermosa, and Chloride. This mineral belt is from 2 to 9 miles in width, and on its extreme eastern side at Hillsboro shows gold placer deposits and ledges of quartz carrying gold, silver, and copper, from which undoubtedly the placer deposits were eroded. As you proceed along the width the character of the mineral deposit changes to silver sulphides and chlorides of high grade; then as you proceed westward the deposits carry manganese, iron, and lead, and there is a falling off in the grade of silver. Near the western edge the mineral deposits are mostly zinc and lead, carrying, but a small percentage of silver. The attention of the mining investor is now being attracted to the latter large deposits, and very lately the valuable lead and zinc property belonging to Calbrick & Co. has been purchased and will be worked for the latter metals.

A new concentrating plant has been erected at Kingston by Messrs. Chandler or Daily, and it has been satisfactorily demonstrated that the low-grade ores of this camp can be worked at an immense profit.

A new company has purchased the Iron King mine and smelter, with a view of working dry ores by the matte process. Thus our camp is undergoing a revival of mining interest, which it richly deserves, and which will produce results that will go far to work out the destiny of New Mexico.

I can not forbear adding a few reflections and criticisms that bear upon the general subject of the existing conditions in southern New Mexico. From my own experience, covering a period of over eight years last past, and from my personal observation in a professional capacity, I am convinced of the following fact: That New Mexico furnishes to-day greater encouragement for the outlay of mining capital than any of her sister States or Territories. This is shown by the constantly recurring indications of mineral wealth covering almost the entire area of her mountain elevations and along the contiguous streams. Nowhere can be found such rich float and outcropping ledges. Volcanic upheavals with their accompanying formations of porphyry and other eruptive rock greet us on every side. Argentiferous shale and lime contacts are abundant, along the open fissures of which are sure to be deposited precious metals from the mineral solutions that can only find a passageway from below through these contact fissures and cracks in the original crust.

When to these inducements are added the climatic advantages which facilitate the working of our properties, with no excess of water, no snow, the ease of access, and the ample supply of fuel and fluxing material for our furnaces, we feel fully justified in claiming better encouragement for an outlay of capital than our more northerly neighbors offer.

FORESTS AND LUMBER.

This subject is becoming more and more important as years pass. Forests of great extent and value are scattered in widely separated portions of the Territory, so that no locality is very distant from some point of lumber supply. Those that are being used to the greatest extent are the same as previously reported.

The extension of the Union Pacific Railroad into the Red River country on the Maxwell grant in Colfax County brought into market about 200,000,000 feet of pine and spruce timber. There are now seven mills in operation, cutting about 3,000,000 feet per month. An extension of the railroad is expected in the near future, which will bring into market other equally large and valuable tracts. Aside from the saw timber, there are about 20,000,000 of ties and a vast amount of timber suitable for mining purposes tributary to the railroad already built.

On the Petaca grant about 5,000,000 feet of lumber were sawn during 1890. In 1891 probably 7,000,000 feet will be sawn. There are two mills, one in Tres Piedras and one 7 miles west. The latter is a new institution, and has been sawing since May 15 last. On the Tierra Amarilla grant, in the vicinity of Chama and Amargo, the work of timber cutting continues uninterruptedly. A number of sawmills are constantly employed. The pine timber in this section of the Territory covered by the Petaca, Vallecito, and Tierra Amarilla grants is

unusually fine. The amount cut from the latter during eleven months of the last year is as follows:

Month.	Lumber.	Month.	Lumber.
	<i>Feet.</i>		<i>Feet.</i>
1890.		1891.	
July	2,548,843	January	1,899,943
August	2,425,879	February	804,402
September	2,288,752	March	1,096,511
October	1,226,011	April	1,109,858
November	1,394,023	May	
December	1,539,329	June	1,950,219

This gives a total for the entire year of almost exactly 20,000,000 feet cut from the Tierra Amarilla grant. The whole product of that section of the Territory exclusive of the Petaca grant has been 33,000,000 feet during the year.

A large body of very valuable timber land in Valencia and Bernalillo counties, which constituted part of the Atlantic and Pacific Railroad land grant, has been purchased by Messrs. ———, who intend to build railroads and other appliances for bringing it into market. The region northwest of Las Vegas, in San Miguel and Mora counties, continues to supply a large amount of lumber, several sawmills being constantly employed.

RAILROADS.

While the total mileage of new roads constructed during the past year is not great, still it shows a revival of railroad building, and each construction has been made to meet an existing business necessity and is of immediate benefit to the Territory by opening a new section and affording a market for its products.

The railroad on the Maxwell grant, designed to afford an outlet for the enormous amounts of lumber in Colfax County, is finished, and its usefulness is seen in the large product of lumber in that section elsewhere reported. This road extends from Trinidad to Catskill, a distance of 27 miles, and thence up and down Red River 12 miles, to accommodate the mills in their timber shipments. Of its total length of 39 miles, 27 miles are in New Mexico and 12 miles are in Colorado.

The Pecos Valley Railroad is finished from Pecos City, in Texas, to Eddy, and will soon be continued through Eddy and Chaves counties to Roswell. Its present length is 95 miles, of which about 35 are in New Mexico.

The road which for some time has been in process of construction south-erly from Deming has made no active progress within the year. The original plan has been greatly enlarged, and this has required an in-crease of capital which has not yet been obtained. This railroad is named the Mexican Northern Pacific Railway, and one of its officers makes the following statement:

Having its initial point at Deming, Grant County, the Mexican Northern Pacific Railway, now in course of construction under a subsidy concession from the Mexican Government, will open up to the commerce of our Territory one of the richest sections of country known. The projected route extends from Deming almost directly south for 600 miles, past the famous mines of Sabinal, Corralitos, Casas Grandes, Galeana, El Valle, Cruces, Namiquipa, Santa Tomas, and Guerrero to Bacoyna. From Bacoyna the main line takes a southwesterly direction for 400 miles to the Pacific coast at Topolobampo, where it will have a harbor second to none from San Francisco to Panama. After crossing the Sierra Madre Mountains at Bacoyna Pass the road enters in close proximity to the iron mountains of Durango, and the won-

derful silver producing districts of North Sinaloa, a recently discovered field of anthracite coal, of fine quality and large extent, making tributary to our Territory, so to speak, a region which for the richness and wealth-giving variety of its mineral resources is scarcely equaled on earth. A great part of our timber supply may be furnished by this road from the extensive forests of pine, oak, sycamore, ash, and walnut lining its course for a distance of 130 miles from Galeana to Guerrero. From Guerrero, 300 miles south of Deming, the Mexican Northern Pacific will build a spur of railway 150 miles in length to Chihuahua, the capital of the State of that name, giving it connection with the great Mexican Central system at that point. Another spur, or rather an extension of the main line, will parallel the coast from Topolobampo to Guaymas, 350 miles, making in all a line of railway 1,500 miles in length. The new road will be of standard gauge, 60-pound steel rails, and equipped, under the terms of the concession, in a strictly first-class manner throughout. Construction is being pushed with vigor at the city of Chihuahua, and south of Deming. Seventy miles of grade is now ready for the ties, and assurances are given that trains will be running to Corralitos, 125 miles south of Deming, by the close of the present year.

A railroad, which, though not of great length is yet of considerable business importance, has been built to connect the Atchison, Topeka and Santa Fé Railroad with the extensive mines at Hanover and its vicinity. It is called the Silver City and Northern Railroad, and Mr. T. G. Condon, its vice-president and general manager, gives the following information regarding it:

The railroad starts from Whitewater, a station on the Atchison, Topeka and Santa Fé Railroad, 16 miles south of Silver City, and runs almost directly north, passing 1½ miles east of Central, on up into what is known as Hanover Gulch, a distance of 19 miles. The road is now nearing completion, and it is our expectation to open for service about the 1st of September. We reach the large iron deposits that for some years past have helped to supply the smelters at Socorro and El Paso, the zinc properties owned by the Mineral Point Zinc Company, the Anson S. copper properties, and other properties situated in Hanover Gulch. Although our charter gives us the right to build to Georgetown we will not at present go so far, and our terminus will be about 3½ miles to the west of that place. The road, a standard gauge, has been built by Eastern parties, and has a capital of \$100,000. The parent company is the Southwestern Coal and Iron Company, with a capital of \$1,000,000 and a bonded indebtedness of \$200,000.

Probably the next road to be constructed will be the Silver City, Pinos Altos and Mogollon Railroad, designed to connect some of the richest mineral sections of Grant and Socorro counties with the existing railway system at Silver City. The line has been established and work is expected to begin at an early day.

Other lines that are projected, and each of which is much needed, are:

- (1) A continuation of the narrow-gauge system from Colorado by the construction of a line from Santa Fé to the town and coal fields of Cerrillos and thence to Albuquerque.

- (2) A line from Trinidad or its vicinity to El Paso, passing through the rich valleys of Mora and San Miguel counties, accommodating the town of Taos and proceeding through Las Vegas to White Oaks, where the coal fields are very important, and thence to El Paso.

- (3) A line up the Animas River from Durango in Colorado to Aztec and Farmington, in San Juan County, to serve as an outlet for the large products of that section, and in time from the San Juan, via Jemez Hot Springs, to the Atchison, Topeka and Santa Fé Railroad at some point in the Rio Grande near Albuquerque, Bernalillo, or Algodones.

A revival of railroad building in the country will be followed by the construction of several lines in New Mexico which will do very much to develop the Territory.

The total railroad mileage in New Mexico at present is as follows:

Atchison, Topeka, and Santa Fé:	
Main line, north and south (1879-'81).....	503.1
Lamy to Santa Fé (1880).....	18.
Rincon to Deming (1881).....	53.
Dillon to Blossburg (1881).....	5.9
Nutt to Lake Valley (1884).....	13.3
Socorro to Magdalena (1884).....	27.1
Magdalena to Kelley (1885).....	3.9
San Antonio to Carthage (1882).....	9.6
Las Vegas to Hot Springs (1882).....	6.4
Hot Springs westward (1887).....	1.9
Silver City Branch.....	48.
	690.20
Atlantic and Pacific:	
Main line (1881).....	166.60
Sidings (188-).....	22.25
San José Quarry spur (1888).....	3.41
	192.26
Southern Pacific:	
Rio Grande to Deming (1881).....	73.46
Deming to Arizona line (1880).....	93.76
	167.22
Denver and Rio Grande:	
Colorado line to Española (1880).....	85.86
Between Antonito and Durango (1880).....	69.03
Tres Piedras lumber branch (1888).....	2.15
Chama lumber branch (1888).....	3.16
	160.47
Denver, Texas and Fort Worth, in New Mexico.....	83.30
Santa Fé Southern, Española to Santa Fé.....	39.00
Arizona and New Mexico, Lordsburg to Arizona line, about.....	32.00
Pecos Valley Railroad, in New Mexico.....	35.00
Trinidad to Catskill, in New Mexico.....	27.00
Silver City and Northern, in New Mexico.....	19.00
Total.....	1,445.45

INDIANS.

My report of last year was so full on this subject that I confine this statement to matters that were not then touched upon or have arisen since that date.

PUEBLOS.

These people have passed such uniform lives, at least during three centuries of which we have records, that little new is to be said of them. I may repeat that they pursue their peaceful avocations, industriously labor in the fields with the rewards of abundant harvests, and celebrate their festivals with the ceremonial dances and open-handed hospitality as in the years that have gone before. Their lives are passed in peace and prosperity, and so supervised by their paternal local governments as to be models of regularity and morality. Mr. Segura, their late agent, reports as follows:

Their present condition is every way satisfactory. They will raise good crops. Over 300 acres of new ground were broken this year and planted in wheat. The Indians are turning their attention to raising alfalfa for forage. At Cochiti they have built a wire fence nearly 6 miles in length. I believe that there has been an increased attendance in the schools. Three Government day schools have been opened at McCarty, Cochiti, and Santa Clara. The latter two have been attended mostly by girls, the regular attendance at Cochiti being about 20 and at Santa Clara about 23. This is the first time, as far as I know, that the Pueblo Indians have sent their girls to school with regularity. A new day school will soon be opened at Zia.

I am under the impression that the Pueblos are decreasing in numbers; diphtheria and smallpox carried away about 60 children at Ácoma last winter. The Taos Indians lost about the same number from the same causes.

NAVAJOES.

Nothing has occurred in this important tribe calling for special mention. The census officials have occupied much time in the endeavor to obtain a perfect enumeration, and the result of their labors will appear in their own report. The total population is understood to be 16,102. Renewed complaints are made that a large fraction of this tribe habitually live outside of their reservation, and there seems to be no doubt that the facts justify the complaint.

APACHES.

The Jicarilla Apaches have been connected with the Southern Ute Agency for some years, and as this arrangement had unsatisfactory results those specially interested in their welfare were anxious that that connection should cease and that they should be united with the Pueblo Agency. This change was made on July 1, but it is now apparent that the only satisfactory arrangement possible is to give them a separate agency. The Pueblo Agency can not be removed from Santa Fé, but the pecuniary responsibility of the agent is almost entirely in connection with the Apache Agency at Dulce. The Jicarillas number 721 and are therefore better entitled by their numbers to an agent of their own than the Mescaleros, who number but 462. Concurring in what seems now to be a universal opinion among all conversant with the subject, I recommend that the Jicarilla Apache Agency be made independent, with an agent of its own.

Regarding the Mescalero Apaches, Col. Hinman Rhodes, the agent, says:

There are upon this reservation—

Males above 18 years of age.....	120
Females above 14.....	201
Children of school age.....	110
Children under 6 years of age.....	100
Total.....	531

Of these 10 are Comanches, 40 are Lapans, and the remainder are Apaches.

The Indians have about 400 acres in corn, oats, and wheat, and many of them have vegetable gardens. They are building log cabins and have eighteen in course of construction. They furnish grain for the agency stock, for which the Government pays them the market price and their surplus is sold to citizens in the surrounding towns. The Government furnishes about 75 per cent of their subsistence.

The Indians own stock as follows: Horses, 560; mules, 10; burros, 90; cattle, 287.

The school was adjourned for vacation on the 30th of June; the attendance was 46.

The crops for this year are above the average. There is no discontent among these Indians, nor is there any cause for discontent. There have been no arrests made since I have been in charge. Quite a number of the Indians wish their lands allotted in severalty.

The Indians have heard of the World's Fair at Chicago and say they wish to have a party attend, and also to make an exhibit of articles manufactured by themselves.

INDIAN SCHOOLS.

The two Government schools are "Fisk Institute," at Albuquerque, and "Dawes Institute" at Santa Fé.

Superintendent Creager, of the former, says:

The general average of pupils attending this school for the fiscal year ending June 30, 1891, was 187. Four tribes are represented in the school, viz: Pueblo Papago, Pima, and Navajo. Of these the Pimas and Papagoes seem to be the most eager to obtain an education. The children of these tribes seem to apply themselves to the school work, both literary and industrial, more closely and successfully than do

children from the other tribes. However, all of the children have made rapid advancement, and many of them have shown marked ability. The Navajoes have very keen perception, and show themselves to be very susceptible of education, but their clannish customs are so dear to them that they can not entertain the idea of sending their children away from home to attend school. I believe that a compulsory law with regard to education, with the power to enforce it, is the only thing that will solve the Indian problem in New Mexico.

This school is more prosperous than ever before. We have just completed a new dormitory that will accommodate 150 girls, and we are now receiving bids for foundation and brickwork for a two-story school building that will accommodate 350 or 400 pupils. Among our male pupils we have some good carpenters, shoemakers, tailors, and harness makers. Among the girls we have some who are proficient in domestic work, such as laundry, sewing, and general housework.

Regarding "Dawes Institute" Supt. Cart reports:

The school was opened for the admission of pupils November 15, 1890. Ninety were enrolled up to June 30, 1891, half of whom were Pueblo children and half Apaches from the Jicarilla and San Carlos reservations. The attendance can be brought up to 250, possibly many more, with the proper facilities.

The main building is 38 by 157 feet, with two wings, each 24 by 119 feet, and contains dormitories, pupils' sitting rooms, dining room, school rooms, bath rooms, kitchen, sewing rooms and tailor shop. The barn and carpenter shop are temporary frame structures. A laundry and bakery are in process of construction. The erection of a building for employes' quarters, 24 by 78 feet, with one wing, will begin soon. All buildings are of brick, two stories high, except barn and carpenter shop. The farm comprises 106 acres of the best land, all under fence. After a supply of water for irrigation has been procured all this land will be cultivated, and will become a source of profit, both on account of the industrial training thus afforded for the Indian boys and the fruit and other crops. The one well only affords water enough for the buildings. It is quite probable that an artesian well will be sunk this fall, which will give a supply for irrigation. The engine which has been received is sufficient to pump the water, if necessary, besides running the steam laundry. Two hundred young fruit trees are growing, also a small number of forest and ornamental trees, and some shrubbery.

The girls receive regular instruction in sewing, cooking, laundering, etc., while the boys are taught carpentry, shoemaking, tailoring, and laundering. They learn to cook their own food and make their own clothing. Besides the industries named, the children also do all kinds of necessary work incident to the running of the school. Other industries will be added as the school increases in size.

The other Indian schools are those in charge of the Roman Catholics, the Ramona school at Santa Fé, and the Presbyterian Indian school at Albuquerque.

In reference to the Roman Catholic schools, Rev. Antonio Jouvenceau, their superintendent, reports that there are twelve in operation. These include St. Catherine's boarding school for boys, at Santa Fé, a boarding school for girls, at Bernalillo, and ten day schools, all conducted under contract with the Indian Bureau at Washington. The day schools are at the following pueblos: Taos, San Juan, Santa Clara, Cochiti, San Domingo, San Felipe, Jemez, Isleta, Laguna and Ácoma. St. Catherine's has an attendance of 90, and the Bernalillo school of 75. Mr. Jouvenceau adds:

That our Indians in New Mexico are capable of being educated is a fact well established; anybody visiting St. Catherine's, the Bernalillo schools, or even our day schools like San Juan can be easily convinced that Indian boys are naturally bright and intelligent. It will take several generations yet to raise the Indian race to the present standard of our modern civilization, but I am glad to say, and I offer it as a consolation to all those engaged in the Indian work, that our efforts are not vain and useless. The present system of home government, such as it is practiced amongst the Pueblo Indians, is a drawback to their advancement. To destroy it and change it immediately is a matter of impossibility. The education of the present generation will accomplish the work gradually and without bloodshed.

The Ramona School at Santa Fé is in a very flourishing condition. It is conducted by the University of New Mexico (a corporation) under

contract with the Government. Mr. Elmore Chase, the superintendent, says:

This school, which had for five years taught Jicarilla Apache children, turned its attention to the education of the Pueblo Indians about the beginning of February last. The condition of things seemed favorable for this work. First, the class of pupils which fill the United States schools was such that parents hesitated to place their daughters in those schools. Second, the work of the Government schools in the industrial part was directed more to the training of the boys, little comparatively being done for the girls in this direction outside of sewing and mending. These two facts led this school to change its policy and become a school for girls, especially for Pueblo girls, admitting boys only when their parents wished them not to be separated from their sisters at school. It has been only a few months since this change was made, and yet the applications now exceed the limits of the Government contract and the capacity of the school. So far as my observations lead me to speak, I am convinced that the Government needs to provide more carefully for the education of the girls. The heathen Indians have little regard for the education of their girls; the Christian Indians are not willing that their daughters should be companions and schoolmates with the Navajo and Apache young men.

Prof. Chase also makes the following practical suggestion:

I suggest that a lady superintendent of one or two Pueblos, when they are not a day's journey apart, should be appointed, whose duty should be to teach the women how to live, and to preserve the work of the school in the children when at home from the school. More is lost than one realizes till he has seen how hard it is for the children to bring a better way of living from the school to the parents. The parents do not know how to change, and the children obey the parent implicitly. One good, competent lady, living at least two days' a week in a pueblo, if the pueblo is not large, will save half of the work of the school to the children, and impart to the parent new ways of life, so that the education of the children be applied to the home.

The Albuquerque Indian School did good work through the last school year, having an average attendance of 42, mostly from Laguna, but it has now been closed. It was in charge of Rev. Robert Coltman, as superintendent.

PUBLIC BUILDINGS.

To the description of the capitol and penitentiary, given in former reports, there is nothing to be added. The governor's palace was spoken of at large last year. The appropriation of \$3,000, made at the first session of the Fifty-first Congress, was judiciously expended by the secretary, Hon. B. M. Thomas, and has done much to preserve this most interesting of historical structures. A small additional appropriation has recently been made and will soon be expended in further repairs. The central part of the building, for nearly three centuries the official residence and headquarters of the governors of New Mexico, is again occupied in its appropriate manner, one of the front rooms being the business office, and the large room, which from time immemorial has been the official reception room, and has undoubtedly witnessed more varied and interesting events than any other in America, being restored to that use, and fitted up with antique paintings, wood carvings, armor, etc., of Spanish or Mexican origin. The rooms east of the center, long occupied by private parties, have at length been recovered by the Government, and will soon be devoted to the purposes of the Bureau of Immigration, for a permanent exhibition of the products of New Mexico. The Historical Society appropriately occupies the east end, and the post-office is still at the west end.

The four Territorial institutions were described in my last report. Since then the university building at Albuquerque has been almost finished; the Insane Asylum was commenced in the early summer and is progressing satisfactorily, and the same may be said of the School of Mines, at Socorro. The Agricultural College building south of Las

Cruces was completed sometime ago, and is a beautiful and convenient structure. The late legislature authorized the raising of \$25,000, by an issue of bonds, to aid in the erection of the Insane Asylum, which is greatly needed; and also appropriated \$2,000 for the purchase of apparatus for the School of Mines.

During the year an excellent court-house has been built at Roswell for the new county of Chaves, and one will soon be erected in the town of Eddy for the county of the same name. Under the influence of the new school law, the next year will witness the erection of a large number of schoolhouses, several of which will be handsome structures of stone and brick.

SCHOOL LANDS.

There is no change to report regarding these lands. Being reserved from entry, they necessarily remain unoccupied and unused until the admission of New Mexico as a State, or until Congress takes special action in the case. We all feel that it is an injustice that these lands are not ceded to New Mexico without longer delay, for a school fund is greatly needed, and in fact is more necessary now, when the Territory is comparatively poor and is having to incur large expense for public buildings and institutions, than it will be in the future, when wealth shall have accumulated and these public works are finished. I earnestly recommend that an act be passed giving to the Territory immediate possession of the lands, and regulating their sale and the investment of the proceeds.

MILITARY POSTS.

During the year the troops stationed at Fort Union and at Fort Marcy (Santa Fé) have been withdrawn, and those posts have been left unoccupied. This is understood to be in pursuance of the policy of concentrating the troops in the West at a few large posts, for convenience of administration. While Fort Union was a large post with extensive structures, yet its situation at a considerable distance from a railroad has caused its abandonment to be expected for some time. The withdrawal of troops from Santa Fé is a very different matter, and is regarded here as a grave mistake which should be rectified as soon as possible. For very many years Santa Fé was the headquarters of a military district, usually consisting of New Mexico and Arizona, and every consideration both civil and military made that arrangement the proper one. Suitable buildings for the residences of the district commander and other officers, and also for the headquarters offices, were erected at large expense. A small post, called Fort Marcy, was maintained near the headquarters, the whole constituting what was known as the military quarter. When the district was merged into the Department of Arizona, the headquarters were ordered to be established at Santa Fé, but through influences other than military were changed to Los Angeles, one of the most distant and inconvenient points in the department for the transaction of its military business. The headquarters buildings at Santa Fé were made a part of the post of Fort Marcy, and that post was enlarged so as to include three companies. By the orders above referred to, issued within the last year, all troops have now been removed from Santa Fé, and the military quarter is left in charge of a temporary custodian.

Immediately on the receipt of the news of this action, the legisla-

ture, then in session, by a unanimous vote passed the following resolution:

Whereas it is represented that the Secretary of War has ordered the abandonment of this post, Fort Marcy, at Santa Fé; and

Whereas the legislative assembly of the Territory of New Mexico, representing the public sentiment of said Territory, is impressed that there are grave and strong considerations of public policy that require the maintenance of this time-honored and historic garrison as long as troops are assembled in the Southwest; therefore

Be it resolved, That the President of the United States, Secretary of War, and Commanding-General of the Army of the United States be, and they are hereby, earnestly appealed to to suspend the execution of said order until opportunity shall have been given for the presentation of the reasons of the people for the continuance of said post.

This was followed by an earnest representation from the civil authorities and citizens; and the general commanding the department has not ceased to urge the reestablishment of the post as a proper military measure. However cogent may be the military reasons for the reoccupation, the civil ones are even more so. New Mexico is a Territory under the direct control of the national Government. Such control ought to entail an equal responsibility and care. The Government building at Santa Fé contains the archives and documents upon which depend the titles to millions of acres of real estate. The official records of the Territory are all here. The legislature meets here, and its organization is sometimes attended by great excitement. While there is a Territorial militia, yet it is practically valueless in case of emergency because the last legislature failed to make an appropriation by which any transportation can be paid, and the credit of the Territory for this purpose has been destroyed by a similar failure to recognize previous obligations incurred by Governor Sheldon and Governor Ross when the militia was called out to prevent Indian depredations.

As at present stationed, the nearest United States troops are at Fort Stanton and Fort Wingate, both of which are so remote that no aid could be received from them in time to be of service. The consequence is that in case of any disorder or commotion too serious for the sheriff to control, property, both public and private, would be defenseless, and the Territorial authorities powerless to preserve the peace. It is certainly to be hoped that no such occasion will arise, but within the present year one sheriff was on the point of making formal application for aid, and at all events the best way to prevent such contingencies is by being prepared to meet them. The moral effect of the presence of even a small body of troops, at a central point like the capital, will probably remove all danger of any actual need of their services. I earnestly recommend that Fort Marcy be reoccupied by at least two companies, unless the district composed of New Mexico and Arizona is to be reestablished with headquarters at Santa Fé.

FUTURE DEVELOPMENT.

In my report of 1889, under the head of "Undeveloped resources," I made the assertion that, "New Mexico is endowed with a greater variety and extent of natural resources and advantages than any State in the Union." As this seemed such strong language as to savor of exaggeration, I proceeded somewhat in detail to make a comparison in order to show that the picture was not overdrawn. With the increased knowledge that we now have, few will dispute the proposition. God has endowed us with natural resources in the most generous manner. But

resources of themselves are of no value; so long as they lie dormant they are useless. It is necessary that they should be developed by human enterprise. In last year's report, under the same head, I pointed out that with all these natural advantages, we were importing from other States nearly all of the staple articles which we should produce ourselves, and presented statistics which were quite startling on this subject. They were intended to startle our own people into greater activity, and to show to others the vast "home market" which existed here for the ordinary products of the farm and the orchard.

Another year has passed, and I am able to report that in every branch of production we are having a wonderful increase and development. It is evident that the situation is being understood and acted upon. Not only are those from abroad coming to aid in this work, but our own citizens seem to be thoroughly aroused and filled with a determination to supply this home market demand by their own exertions. There is no point of view from which we can regard New Mexican affairs without seeing a marked advance.

To begin with agriculture, the acreage in crops has been largely increased all over the Territory. If we turn to horticulture, the advance is still more marked. In every section orchards are being commenced or enlarged.

Improved systems of irrigation are advancing rapidly.

The animal industries are in a more satisfactory condition than for some years.

The lumber product is increasing rapidly in all sections. In mining, unprecedented activity prevails.

In short, in all branches of practical industry New Mexico is making rapid and substantial progress. In every way her resources are being developed, and general prosperity prevails.

Nor is this all. The most important factors in our future greatness are yet to be stated. It seems as if all at once the barriers which have existed to our advancement have been broken down.

For years we have suffered under the incubus of unsettled land titles. The uncertainty which prevailed prevented sales and paralyzed enterprise. Throughout almost a generation our people had endeavored to obtain Congressional action to remedy this evil, but without effect. But at length it is accomplished. The long-hoped for relief has come. The land court is already established, and a brief time will see every element of uncertainty removed. It is impossible to realize the wonderful effect which this will have. It will give stability to titles and confidence to investors. It will bring both the men and the money which we need for our development. To supplement this, the late legislature passed an act for the incorporation of community grants, which will settle vexed questions with regard to them. The action of the legislature generally was progressive and salutary. It provided for the improvement of roads, for the incorporation of villages, for the protection of the cattle interest, for the suppression of trusts, for the impartial selection of juries, for the reduction of liquor selling, and, most important of all, for the establishment of an efficient system of public schools. The new school laws will soon cause New Mexico to be covered with public schools, and the coming generation to be the equal of that in the most favored States.

Thus in every way the tendency is upward and onward. The future is not only assured, but the full fruition of its prosperity is near at hand. Already we are enjoying the first fruits of the new era of progress. We

are producing far more and buying much less this year than last. With a little increase we will soon bring the balance of trade to our own side. No more propitious time for new citizens to take part in our manifest destiny can be imagined. The night of waiting is far spent, the day is at hand. And New Mexico welcomes all worthy men and women to join us in the pleasures and prosperity of that day.

Very respectfully,

L. BRADFORD PRINCE,
Governor of New Mexico.