

WILLIAM E. LASS

MINNESOTA'S QUEST FOR SALT

Minnesota Territory, like other frontier areas, promoted its advantages to settlers. In their advertising Minnesotans stressed their fertile lands, seemingly inexhaustible pine forests, salubrious climate, and abundance of lakes and rivers. These advantages could not disguise, however, Minnesota's adverse balance of trade. The territory was the last stop of a Mississippi River commerce that supplied the region with numerous commodities including clothing, cloth, liquor, tobacco products, spices, coffee, tea, molasses, saleratus, cod, mackerel, oysters, sugar, and salt.¹

None of these products was more essential than salt. Although people and animals could survive for a time without it, it was vital in great quantities for the treatment and preservation of meat. In the era before refrigeration, dry salting or packing in brine or a combination thereof were the commonest methods of treating



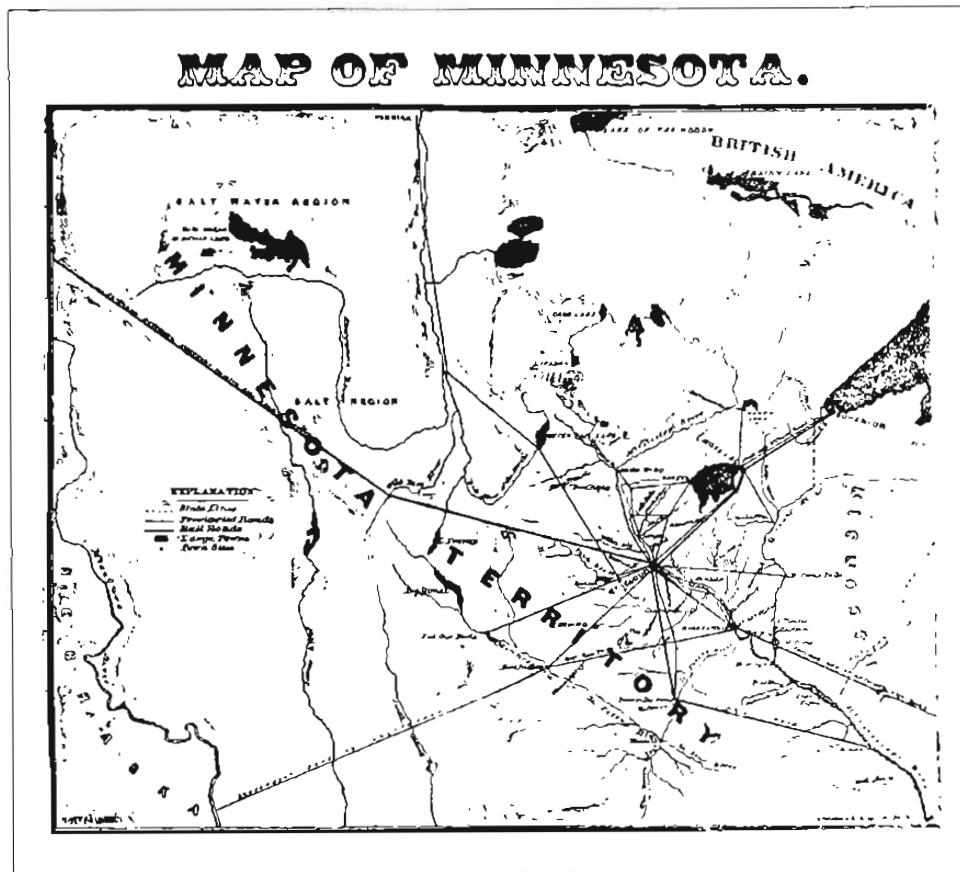
meat. The first step in curing entailed rubbing salt into freshly butchered beef or pork, which required about six pounds for every 100 pounds of meat. Subsequent soaking or storing in brine raised the total use to approximately ten pounds.²

Primarily because of meat preservation in its predominantly rural society, the United States led the world in consumption of this commodity in the 1850s. Its annual per capita use of about 50 pounds (approximately a bushel) was more than double that of European countries. The United States was heavily dependent on foreign salt. The two principal domestic areas of production—Syracuse, Onondaga County, New York, and the Kanawha River valley of Virginia (West Virginia as of 1863)—could not supply the nation's demand. By mid-century, imports, primarily from the

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¹ For advertisements of Minnesota's imports see, for example, *Minnesota Pioneer* (St. Paul), April 28, May 26, 1849.

² Ella Lonn, *Salt as a Factor in the Confederacy* (New York: W. Neale, 1933), 14–17; Marjorie Kreidberg, *Food on the Frontier: Minnesota Cooking from 1850 to 1900 With Selected Recipes* (St. Paul: Minnesota Historical Society [MHS] Press, 1975), 117; R. Carlyle Buley, *The Old Northwest: Pioneer Period, 1815–1840* (Indianapolis: Indiana Historical Society, 1950), 1:215.



Map of the area's putative salt regions. 1857

West Indies and Great Britain, surpassed the domestic output. Two of the commonest salt brands on the Mississippi River valley market were Grand Alum and Turks Island, the latter named for its point of origin in the Bahamas. These were usually advertised simply as "GA" and "TI."³

Producers measured salt by the bushel or barrel while merchants sold it by the barrel, sack, or pound. Federal and various state standards prescribed that a barrel contained five bushels, but the weight of the bushel and consequently that of the barrel varied somewhat. New York's bushel was 56 pounds, but that of Virginia was six pounds less. Producers' weights were naturally "lick weights," which exceeded market

weights because salt dried and shrank during shipment. Both wholesalers and retailers advertised sacks of salt, but since the sack was a container rather than a legal measurement, its size varied greatly. Those imported from Liverpool, England, had a four-bushel capacity, twice that of the ones from Turks Island. But Syracuse salt was commonly sold by the 28-pound "dairy sack," and on any given local market 10- or 15-pound sacks were sold.⁴

Minnesota's general merchants usually obtained their salt and other provisions from St. Louis, Missouri, or Galena, Illinois. The cost effect of transporting a relatively heavy, bulky, and perishable commodity to a distant frontier is well illustrated by the marketing of salt in Minnesota. During the territorial era when Syracuse salt was selling for as little as \$1.25 a barrel at the brine well sites and foreign salt (after import duties were added) was comparably priced, St. Paul, Stillwater, and Sauk Rapids retailers would usually charge from two to four cents a pound depending on local supply and demand. With barrel prices ranging from five to ten dollars, the Minnesota prices along navigable streams were as much as 800 percent higher than those of Syracuse. Obviously, costs in more remote communities were yet higher. Merchants often sold

³ For specifics on salt production in the United States, New York, and the Mississippi River valley, for example, see *Hunt's Merchants' Magazine and Commercial Review* 28 (April, 1853): 433, 30 (Mar., May, 1854): 374, 644, 38 (April, 1858): 503. See also Lonn, *Salt in Confederacy*, 14; *Minnesota Pioneer*, May 26, 1849.

⁴ Thomas Senior Berry, *Western Prices Before 1861: A Study of the Cincinnati Market* (Cambridge: Harvard University Press, 1943), 147; "Salt, Salt Mines, Salines, Etc. in the United States," *Hunt's Merchants' Magazine* 39 (Oct., 1858): 430.

small quantities by the pound, but some pioneers were truly large-scale purchasers. One settler near St. Peter recalled buying as many as eight barrels of salt in only a single purchase.⁵

IN A MONEY-POOR frontier society where flour normally sold for five to eleven dollars per 196-pound barrel, butter for about \$.20 per pound, and sugar for \$.10 to \$.13, consumers obviously hoped to lessen their dependence on outside suppliers for costly, sometimes scarce commodities. Therefore, they must have experienced a near euphoria when the *St. Anthony Express* published an article about the territory's great salt strike.⁶

Under the heading "Salt in Minnesota," the newspaper boldly claimed that "Probably there is not a richer salt region on the face of the earth than the one in Minnesota." The region was said to lie in the Red River valley just south of the Canadian boundary; it had allegedly been precisely located by the 1823 expedition led by Major Stephen H. Long of the United States Army Corps of Topographical Engineers. The paper's source was not Long's report, however, but an unimpeachable eyewitness—a soldier who had served on the expedition.

This veteran said that the expedition found a lake about a half mile in diameter on "a vast rolling plain." From a distance its shore appeared to be lined by "a vast snow bank," which proved "to be an incrustation of salt, as pure and white as snow." The old soldier recalled that the lake's waters "were like strongest brine. So strong was it, that one bathing in it, upon coming out in a few minutes, would be covered with the white crystalization of salt." According to the article, this significant brine paled compared with a strata of "pure salt" lying only a short distance underground.

Without consulting Long's report and on the basis of a lone reminiscence, the reporter concluded that Minnesota's salt deposits were "more extensive, more durable and more important than all the gold regions beyond the Rocky Mountains. . . . There is a region lying in our immediate neighborhood almost unknown, containing more intrinsic wealth than any State in the Union, and which would yield an annual income, equalling the entire revenues of the country." Not only was this unsubstantiated claim circulated widely in Minnesota, but the *Express's* article was distributed nationally after it was published verbatim in *Hunt's Merchants' Magazine and Commercial Review*.⁷

This story, which may have proved to the satisfaction of many Minnesotans that their territory had rich salt deposits, was seemingly confirmed by yet another discovery. A Mr. W. H. Ingersol, who supposedly had accompanied the Stevens Northern Pacific Railroad Expedition in 1853, informed the *Express* that there was a rich salt lake about 150 miles northwest of St. Cloud.

Ingersol reportedly said that "around the edges of the lake the salt is curtilized [*crystallized*], and can be gathered up in baskets, and is as good a quality of salt as can be found in . . . the United States."⁸

These two stories helped create the impression that Minnesota had its own salt wealth ready for the taking. Both articles would have been strikingly different, however, had they been based on the firsthand observations of Long and Stevens.

In August, 1823, when his expedition was passing through present-day Kittson County in extreme northwest Minnesota, Major Long observed that "Saline appearances are frequent, and no doubt salt water might be found by boring [*sic*] to a moderate depth." Although he did not actually see it, Long reported that on the Two Rivers about ten miles above its junction with the Red River, there "is a salt spring, from which considerable salt is manufactured."⁹

William H. Keating, Long's naturalist and diarist, on the basis of information he received from Pembina colonists, concluded that "There are doubtless in this country a great many salt springs." He was told by Pembinans that the springs existed mainly north of the junction of the Red Lake and Red rivers, along the Two Rivers tributary on the east side of the Red River and the Saline River on the west side. The presence of these "white efflorescences," reported Keating, enabled Pembinans to make their own salt, and one resident was said to have cleared \$500 during a winter season. Despite this local supply the price was high; the Pembina product sold from four to six dollars for an 80-pound barrel. Like Long, Keating did not see or search for

⁵ "Salt Manufacture in Syracuse," *Hunt's Merchants' Magazine* 33 (Oct., 1855): 500; account book of John McKusick's general store and lumber business, Sept. 13, 1848–June, 1852, p. 11, 26, 424, 428, and 563, in McKusick and Company (Stillwater) Papers, 1848–1906; account book, Oct. 24, 1856–Oct., 1858, p. 2, in Thomas P. Kellett Papers, 1856–1863; ledger of Peter Flynn's account with Black & Smith, assignees of McComb, Simpson & Co., Stillwater, Sept. 30, 1852, entries of Sept. 21, 1853, and Aug. 7, 1854, in Hollis R. Murdock Papers, 1837–1891—all in MHS; Lucy Leavenworth Wilder Morris, ed., *Old Rail Fence Corners: Frontier Tales Told By Minnesota Pioneers* (Reprint ed., St. Paul: MHS Press, 1976), 174.

⁶ Here and two paragraphs below, see account book, 11, 432, McKusick Papers; account book, 2–3, Kellett Papers; ledger, Oct. 18, Dec. 5, 1853, Feb. 19, May 8, 1855, Murdock Papers; Berry, *Western Prices Before 1861*, 146; *St. Anthony Express*, July 30, 1852.

⁷ *Hunt's Magazine* 30 (Feb., 1854): 249.

⁸ *St. Anthony Express*, April 28, 1855.

⁹ Lucile M. Kane, June D. Holmquist, and Carolyn Gilman, eds., *The Northern Expeditions of Stephen H. Long: The Journals of 1817 and 1823 and Related Documents* (St. Paul: MHS Press, 1978), 181.

salt, but he thought that "Probably by boring to a small depth abundant springs would be obtained."¹⁰

Although the promoters of the 1850s were unaware of it, the prospects of the Red River valley had been noted a generation before Long and Keating. North West Company trader Alexander Henry (the Younger), who passed through the area in August, 1800, reported that there was an "excellent salt pit" near the mouth of the Two Rivers and that near present-day Morris, Manitoba, there were springs from which the natives made the commodity in all seasons. Henry noted that the process was "tedious, and requires a number of large kettles, nine gallons of water producing only one pint of salt."¹¹

Henry, Keating, and Long obviously assumed that the Pembina product, which had the texture and at least the approximate color of salt, was sodium chloride or common table salt per se. It is likely, however, that without quality controls and chemical analysis the Pembinans were really producing a saline product consisting not just of sodium chloride, but also gypsum, magnesium, iron, and other minerals. The occurrence of these minerals in artesian springs was attributable to the geological characteristics of the Red River valley.

The valley's glacial till was underlaid by strata of the Cretaceous period, the last time sea water had covered the area. Saline materials, including sodium chloride, within the Cretaceous and glacial deposits were dissolved by water emanating from the deep aquifers of the Williston Basin. This mineral-laden water was

forced by hydrostatic pressure through the most permeable openings to surface springs. Any of the region's spring-fed ponds was very likely to have alkali deposits, which would be the most apparent during hot, dry weather when receding waters exposed whitish-colored shorelines. Without a knowledge of geology or mineralogy, casual observers could easily assume that these encrustations were salt.¹²

While Long and Keating failed to provide a ringing endorsement for Minnesota's future as a salt-producing state, they were considerably more encouraging than Isaac Stevens. Preparatory to assuming his duties as governor of Washington Territory, Stevens led a railroad surveying party from St. Paul to Puget Sound. Since he was concerned about the success of a future railroad, Stevens was alert to the natural resources along the route. In journeying to present-day Breckenridge on the Bois des Sioux River by way of Sauk Rapids, Stevens did not report any salt springs. However, west of the Red River and particularly in the area south and southwest of Devils Lake between the Sheyenne and Souris rivers, which he referred to as the "salt water region," he noted that "small ponds and lakes are to be found, (brackish and slightly salt) and frequently with white salt incrustations of small amount on their borders." Rather than being impressed with the economic prospects of this water, Stevens regarded it as detrimental. He was relieved to determine that throughout the region small freshwater lakes and ponds were more abundant because they were "desirable either for travelling or railroad purposes."¹³

DURING the boom times of the mid-1850s Minnesota's promise as a major salt producer was obviously based on exuberant newspaper stories and rumors rather than the restrained observations of Long, Keating, and Stevens. The lure was sufficiently strong to cause a group of St. Cloud and St. Paul businessmen to organize the Minnesota Salt Company, incorporated by the territorial legislature on February 20, 1856, when speculation in land and other enterprises was rife.¹⁴

George F. Brott, who was chosen as the firm's president, was its guiding spirit and probably its originator. Brott, whom one colleague described as "about the best sample of the western hustler that this region has ever produced," speculated wildly during Minnesota's frenzied inflationary run. Before heading the salt company, he had developed the Lower Town section of St. Cloud and the townsite of Brotchburgh in Mille Lacs County. A historian of St. Cloud called him "almost omnipresent" because of his numerous speculations. Habitually in debt, Brott seemed unconcerned. He merely satisfied his creditors by paying them with town lots, a tactic that worked well for the developer as long as the economy was spiraling upward.¹⁵

¹⁰ William H. Keating, comp., *Narrative of an Expedition to the Source of St. Peter's River* (Reprint ed., Minneapolis: Ross & Haines, 1959), 2:35.

¹¹ Elliott Coues, *New Light on the Early History of the Greater Northwest* (Reprint ed., Minneapolis: Ross & Haines, 1965), 63, 85.

¹² Geological and Natural History Survey of Minnesota, *Reports*, 1884, p. 44; Richard W. Ojakangas and Charles L. Matsch, *Minnesota's Geology* (Minneapolis: University of Minnesota Press, 1982), 87-90, 157; P. K. Sims and G. B. Morey, "Resumé of Geology of Minnesota," and Rudolph K. Hogberg, "Ground-Water Resources in Minnesota," in P. K. Sims and G. B. Morey, eds., *Geology of Minnesota: A Centennial Volume in honor of George M. Schwartz* ([St. Paul]: Minnesota Geological Survey, 1972), 14-15, 601; author's interview of G. B. Morey, St. Paul, Dec. 13, 1989.

¹³ Stevens, "Report of Explorations . . . from St. Paul to Puget Sound," 92, in *Senate Executive Documents*, No. 78, vol. 1, 33d Cong., 2d sess., 1854, (Serial 758).

¹⁴ Minnesota Territory, *Laws*, 1856, p. 176.

¹⁵ Daniel S. B. Johnston, "Minnesota Journalism in the Territorial Period," and William B. Mitchell, "St. Cloud in the Territorial Period," both in *Collections of the Minnesota Historical Society* (St. Paul, 1905, 1908), 10:312, 12:641, hereafter cited as *MHS Collections*; *Minnesota Advertiser* (St. Cloud), Aug. 20, 1857.



George F. Brott

Brott brought some of the territory's best-known men into the Minnesota Salt Company. They included veteran fur trader Joseph Rolette; former Territorial Supreme Court Associate Justice Bradley B. Meeker; Henry T. Welles, a business associate of developer Franklin Steele; and Charles T. Stearns, Brott's father-in-law and a former member of the territorial legislature after whom Stearns County was named.¹⁶

The incorporated Minnesota Salt Company promised to be a major enterprise. Its stock, to be divided into \$100 shares, had a ceiling of \$500,000. The company was formed "for the purpose of mining, evaporating, refining, or manufacturing salt, or of reducing any rocks, minerals, or earths in which salt is contained, and to sell and dispose of the same at pleasure." Within Minnesota Territory the firm was authorized to "occupy, purchase, select, or otherwise lawfully secure" land that was for sale or was to be offered for sale and also to claim any lakes, rivers, creeks, "or other streams or body of water as they may lawfully secure in the Territory of Minnesota or any State or States which may hereafter be formed therefrom."¹⁷

Shortly after its formation the company, headquartered at St. Cloud, announced its intention "to com-



Charles T. Stearns

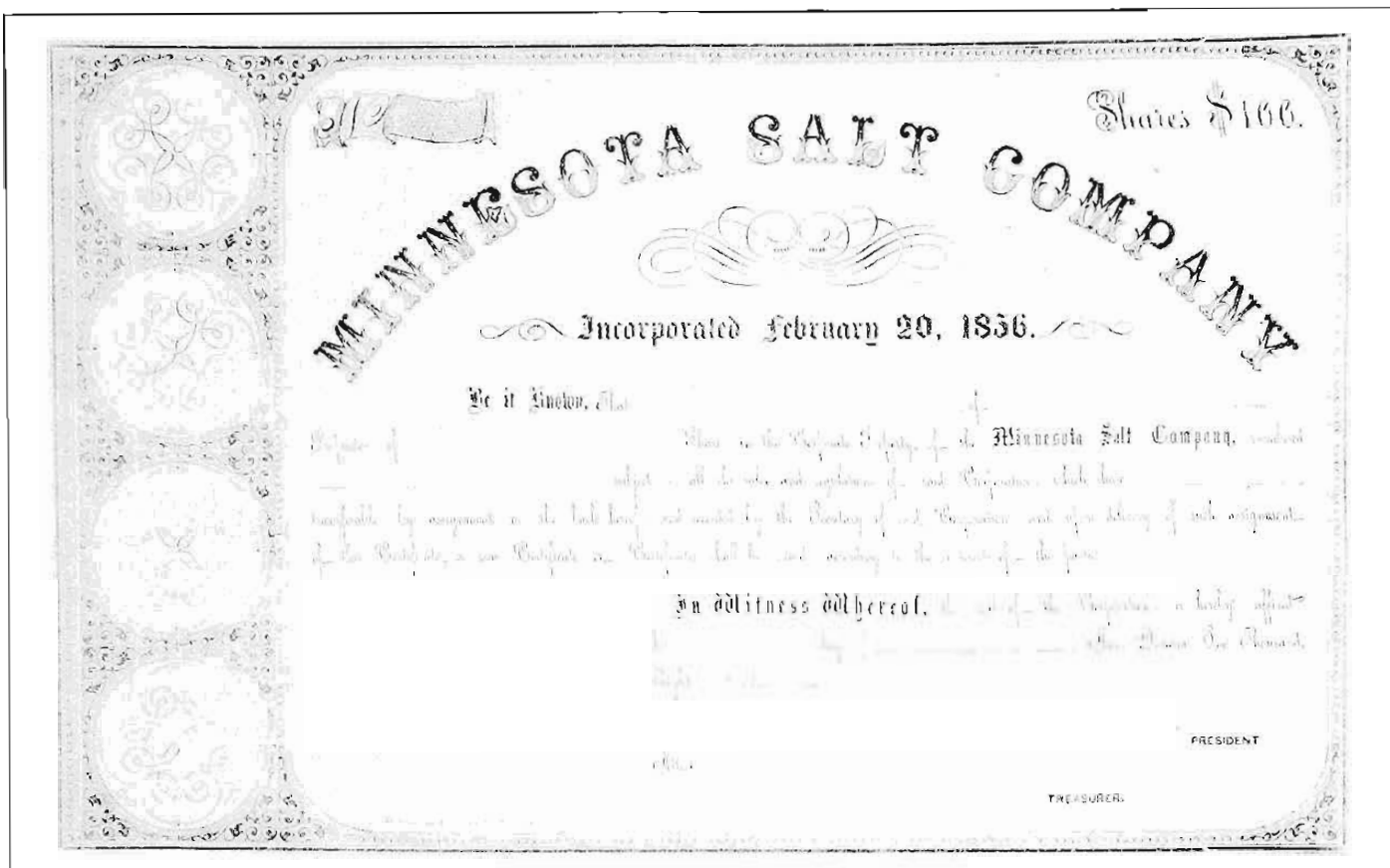
mence explorations of routes and localities preparatory to manufacturing and refining salt to supply the Upper Mississippi Valley."¹⁸ However, the company did not begin operating immediately, probably because Brott and his partners believed the best salt deposits lay west of the Red River and they needed to establish a base closer to them than St. Cloud.

As the company planned its future, extravagant claims about another great find were circulated in the Minnesota press. A story that seems to have originated in the *Henderson Democrat* described the discovery of a rich salt lake in the "salt region" extending westward from the Red River to the Sheyenne River. The bottom of the lake was reported to be "one solid mass of Rock Salt, from which pieces may be broken, but not without difficulty.—The Indians use rat spears or other iron that will answer as a wedge, and force off pieces, in some instances large and heavy." The newspaper's pro-

¹⁶ Minnesota Territory, *Laws*, 1856, p. 176; Mitchell, "St. Cloud," 642; *St. Anthony Express*, Mar. 22, 1856; *Weekly Pioneer & Democrat* (St. Paul), Mar. 27, 1856.

¹⁷ Minnesota Territory, *Laws*, 1856, p. 176.

¹⁸ *St. Anthony Express*, Mar. 22, 1856; *Weekly Pioneer & Democrat*, Mar. 27, 1856.



The Panic of 1857 rendered Minnesota Salt Company stock certificates worthless.

nouncement was that "this deposit is destined to prove highly beneficial to the prosperity of Minnesota, and . . . its influence will be more or less felt throughout the west." Readers were assured that the lake was near a navigable stream and timber, but the writer coyly noted that "As we propose visiting the deposit again this fall, however, we will refrain from describing its location more closely at this time."¹⁹

The effect of this story was to focus attention on the Sheyenne River region as the most likely salt source. The Minnesota Salt Company probably did not need this intelligence, because its founders apparently already regarded the area west of the Red River as the best location. The company's plans became clearer after January, 1857, when Brott and several associates platted Bois des Sioux City, which was renamed Breckenridge later in the year.²⁰ Once the townsite was lo-

cated, Brott began publicizing it and the salt region in his *Minnesota Advertiser*, St. Cloud's first newspaper.

THROUGHOUT its brief history the paper regularly featured a "Map of Minnesota" showing the area of the present-day state as well as that portion of the territory that now comprises the eastern part of the Dakotas. Across the Sheyenne River the map bore the label "Salt Region," and the area north of Devils Lake was called the "Salt Water Region." An accompanying "Table of Distances from St. Cloud" stated that it was 120 miles to both the "Salt Springs" and Bois des Sioux City. The evident intention was to inform readers that the "salt springs" area started at and lay west of the Bois des Sioux and Red rivers. In ballyhooing "St. Cloud—Her Resources and Prospects," Brott promoted it as the gateway to the northwest, including the salt region "lying between 47 and 49 degrees North latitude and 97 and 99 degrees West longitude."²¹

Through his newspaper Brott announced that the Minnesota Salt Company would begin operating in 1857. This notification, which was apparently carried in all issues of the paper starting in January, lost much of its plausibility as the seasons passed. By late summer

¹⁹ *Henderson Democrat*, July 17, 1856; *Daily Pioneer & Democrat*, July 21, 1856.

²⁰ Daniel S. B. Johnston, "A Red River Townsite Speculation in 1857," in *MHS Collections* (1915), 15:411; *St. Cloud Visiter*, Dec. 10, 1857, Mar. 4, 1858.

²¹ Here and below, see *Minnesota Advertiser*, Feb. 26, Aug. 20, 1857.

it was very obvious that the company would not take to the field that year. The firm evidently had difficulty raising the necessary capital. There were indications by late summer of 1857 that the nation's boom was nearing an end. Business was reported to be dull, and stagnation in the East was affecting Minnesota. Nonetheless, despite this downturn Brott propagandized the salt region. He claimed it "will yet prove to be more value to Minnesota than gold mines. . . . If the salt region be as it is supposed to be," he stated, "the whole north west will be supplied from it."

But, unfortunately for the Minnesota Salt Company, the dull times were soon followed by the disastrous Panic of 1857, a crash whose immediate cause was the failure of the Ohio Life Insurance and Trust Company of New York. This major bankruptcy precipitated a chain reaction among Eastern creditors who demanded payment on outstanding loans. The effect on Minnesota's fragile frontier economy was calamitous. As a debtor region whose only wealth lay in its greatly overvalued land, Minnesota Territory suffered an exodus of capital.²²

Numerous Minnesota businesses were ruined, and those that survived did not recover until after the panic finally ran its course during the Civil War. Brott was described as "crippled" by the panic. For several years he futilely tried to develop Breckenridge, but finally returned to the East early in the Civil War. Years later, one of his former associates recalled Brott as having been "hustling, jovial, joking, impulsive" of the type of men who "went with the buffalo."²³ Brott's failure ended the brief, troubled history of the Minnesota Salt Company, which never progressed further than the idea stage.

NONETHELESS, the very fact that the company had been created contributed to Minnesota's salt tradition. This legacy and congressional precedent resulted in a grant of salt springs lands by the federal government to the new state of Minnesota, making it the tenth to receive such a land grant. Its enabling act, approved February 26, 1857, stipulated that the new state would be granted six sections of land adjoining each of twelve designated salt springs. The springs and 72 sections had to be selected within a year after statehood.²⁴

In early September, 1858, less than four months after Minnesota entered the Union, Governor Henry H. Sibley ordered a salt lands expedition, headed by James D. Skinner, a civil engineer, to locate the springs and lands in the Red River valley. During his nearly three months in the field Skinner claimed nine salt springs in the present-day Fergus Falls-Lawndale area and three on the South Branch of the Wild Rice River in present-day northwestern Becker County. In choosing the springs and adjoining lands, Skinner, in keeping with

Sibley's wishes, emphasized the lands rather than the quality of the springs. Skinner, who was obviously not competent to assay salt springs, did not even bother to take water specimens for later chemical analysis. Instead, he relied on his own taste tests, which proved only that he had found water that tasted salty, but not necessarily of sodium chloride.²⁵

The extensive newspaper coverage of Skinner's expedition did nothing to stimulate Minnesota's quest for salt. The state never contemplated developing salt springs as a public enterprise and, with the economy deep in depression, private capital, especially for new, risky ventures, was not forthcoming. The Minnesota Salt Company, the most likely developer, showed absolutely no interest in Minnesota's newly found springs.

The hope of producing Minnesota salt was buoyed periodically by effusive newspaper stories, however. In the spring of 1859 there was a published report about a water sample from a lake near Alexandria that contained a measurable amount of sodium chloride or common salt. Two years later four springs were reported to have been recently discovered in the Sauk River valley about 50 miles west of St. Cloud.²⁶

Despite the failure to develop their own springs, Minnesotans during the turmoil of the Civil War and the Dakota Indian War became less dependent on Syracuse, Kanawha Valley, and foreign suppliers because of massive salt finds in Michigan. That state, which proved to have one of the world's greatest salt deposits, began commercial production in 1859 after its legislature provided a generous bounty. During the first year the East Saginaw Salt Company produced 58,860 bushels of 56 pounds each and tripled that amount in 1860. A decade later, Michigan's yield, principally from the Saginaw Valley, was 628,979 barrels, which ranked it behind only New York and West Virginia.²⁷

²² On the panic, see, for example, H[enry] T[itius] Welles, *Autobiography and Reminiscences* (Minneapolis: M. Robinson, 1899), 2:70-75.

²³ Johnston, "Minnesota Journalism," 312.

²⁴ Matthias Nordberg Orfield, *Federal Land Grants to the States with Special Reference to Minnesota* (University of Minnesota, Studies in the Social Sciences, no. 2—Minneapolis, 1915), 66; United States, *Statutes at Large*, 11:167.

²⁵ Here and below, see Sibley's instructions to Skinner's party, Aug. 23, 1858, in Governor's Office, Executive Journal A, 45-48, State Archives, MHS; Skinner's journal in *Daily Pioneer & Democrat*, Dec. 22, 1858.

²⁶ *Daily Pioneer & Democrat*, April 10, 1859, Sept. 4, 1861.

²⁷ Willis F. Dunbar and George S. May, *Michigan: A History of the Wolverine State* (Rev. ed., Grand Rapids, Mich.: Eerdmans, 1980), 413; S. S. Garrigues, "Report on the Salt Manufacture of Michigan," in Geological Survey of Michigan Report—*Lower Peninsula 1873-1876* (New York: Julius Bien, 1876), 3:214; United States, *Census, 1870, Wealth and Industry*, 3:622.

Notwithstanding the increased production nationwide and improved transportation with the advent of railroads, there was still lingering hope of developing salt resources in the Minnesota region. General Land Office Commissioner Joseph S. Wilson redirected attention to the Red River valley in his 1868 report by commenting that "Not the least important of the indigenous raw material of Minnesota is the salt from the numerous springs of the Red River valley—the beginning of immense salines which stretch westward along the international boundary to the Rocky mountains. These large reservoirs of salt are destined to form a considerable source of wealth, the immense consumption of this article in the northwest, in the packing of beef and pork and other purposes, rendering it of great value." Wilson's promising outlook may very well have been inspired by Oliver H. Kelley, later famed as the founder of the National Grange, who, when employed as a federal agricultural agent in Minnesota, had observed that "In the northwest portion of our State, extending over an immense area of country, including Devil's lake, the country is filled with salt lakes and springs." Kelley boldly claimed that "Many of these lakes are of great extent, and the time is not far distant when salt will be exported by rail from this section of the country to supply all the country bordering on the Mississippi river."²⁵

DESPITE the assumption that the Red River valley would yet prove to be a commercial producer, Minnesota's next salt excitement came from a thoroughly unexpected source—Belle Plaine in the southern part of the state. On April 13, 1867, the *Minneapolis Chronicle* prominently announced the discovery of "Salt Springs at Belle Plaine." The springs, which yielded "a kind of saltish water," had been a salt lick for deer, according to an old Indian tradition. The first effort to develop the Belle Plaine springs was made by Dr. N. Stanton and M. H. Crittenden. In 1867 they sank a pipe to a depth of 65 feet near the springs, thereby effecting a great flow of water to the surface. From this water they managed to make some reputed salt specimens, which Crittenden showed to St. Paul newspaper editors. Newspaper reaction, which probably was nothing more than a parroting of Crittenden's hopes, was positive. The *St.*

Paul Daily Press noted that "It is expected that the water from further down will be much richer, and that salt of excellent quality can be manufactured."²⁹

For some reason Stanton and Crittenden, who apparently did not live in Belle Plaine, did no further work after 1867, and the project of developing the springs languished until a group dominated by town businessmen formed the Belle Plaine Salt Company. The firm was organized on November 29, 1869, by Sanford A. Hooper, Stephen A. Packer, Robert H. Rose, Andrew G. Chatfield, Moses M. Carson, Israel P. Black, William J. Wood, and Charles J. Metzner of Belle Plaine and Horace B. Gates and Frank V. Heyderstaedt of St. Paul. Its purposes were "the boring or sinking shafts for salt water or natural brine, or other mineral or medicinal water, in the town of Belle Plaine . . . and the conversion or reduction of salt water to salt for sale or profit."³⁰

The Belle Plaine company's articles of incorporation

<p style="text-align: center;"><u>Articles of Incorporation</u> of the <u>Belle Plaine Salt Company</u> Filed August 24, 1872</p> <p>Whereas Title 2, of chapter 34 of the General Statutes of the State of Minnesota in the subscribers to wit: Sanford A. Hooper, Stephen A. Packer, Robert H. Rose, Andrew G. Chatfield, Moses M. Carson, Israel P. Black, William J. Wood and Charles J. Metzner, of Belle Plaine, Scott county, Minnesota, Horace B. Gates and Frank V. Heyderstaedt, of St. Paul, Ramsey county, Minnesota, have agreed to adopt and liquid, and hereby do agree to adopt and sign these articles of agreement, whereby we do, under and by virtue of the statute aforesaid, associate ourselves together and constitute ourselves and all those whom we hereafter become associated and interested with us and their successors under the name and for the purposes hereinafter mentioned and specified, that to say:</p> <p><u>Article 1</u>—The name of the corporation hereby created and established shall be "The Belle Plaine Salt Company."</p> <p><u>Article 2</u>—The purposes of said corporation are the boring or sinking shafts for salt water or natural brine, or other mineral or medicinal water, in the town of Belle Plaine, in the county of Scott and State of Minnesota, and the raising of such water to the surface of the ground, and the conversion or reduction of salt water to salt for sale or profit, and the appropriation or use of any water so found and obtained to any proper and lawful use or purpose for pecuniary profit, and for any and all such purposes the said corporation may purchase, acquire, take, hold, possess and use any and all necessary, proper and convenient tools, implements, apparatus, machines and mechanical power and force, and all the lands, buildings, furniture, messuages and fixtures, and real estate that may from time to time be found or deemed to be necessary, proper, useful or convenient for such purposes.</p> <p><u>Article 3</u>—The principal place of said corporation is Belle Plaine, in the county of Scott and State of Minnesota.</p>

²⁵ House Executive Documents, no. 1, p. 27, 40th Cong., 3d sess., 1868, (Serial 1366); House Executive Documents, no. 91, p. 41, 38th Cong., 1st sess., 1865, (Serial 1196).

²⁹ *St. Paul Pioneer*, Oct. 24, 1867; *St. Paul Daily Press*, Oct. 27, 1867.

³⁰ Here and below, see "Articles of Incorporation of the Belle Plaine Salt Company," in Secretary of State, Corporation Division, Record of Incorporations Series, 1858–1946, Book B, p. 566, State Archives, MHS.

The capitalization of the Belle Plaine Salt Company was \$15,000 to be divided into 300 shares worth \$50, with the proviso that the capital could be increased to a maximum of \$150,000. With the long-range view clearly in mind, the company's creators provided that they would begin operations on December 1, 1869, for a 50-year period, which, they agreed, "may be renewed from time to time."

Company management was to be by a seven-man board of directors and a president, vice-president, treasurer, and secretary to be chosen by the directors. The president and vice-president had to be directors and stockholders. The articles of incorporation were clearly written with the intention of keeping company control in the hands of a relatively small, tight-knit group. Hooper, Packer, Rose, Chatfield, Carson, Metzner, and Gates were chosen as the company's first directors.

During its brief history, the company's most prestigious directors were Hooper, Rose, and Chatfield. Hooper, whose name was consistently listed first throughout the articles of incorporation, was selected as the company's first and only president. A native of New York State, he had lived in Belle Plaine since at least 1857 when the village was only three years old. At various times he had owned and operated hotels there, engaged with Metzner in Minnesota River commercial navigation, and worked as a federal government contractor to improve that river.³¹

Rose, the company's first secretary, had moved to Belle Plaine in 1857 where he became one of the town-site owners and worked as a real estate agent. Serving in the army during the Civil War, he was the first commander and builder of Fort Wadsworth on the Dakota frontier. In that capacity he worked with Joseph R. Brown in organizing a command of Indian scouts to counteract hostile Indians in the aftermath of the Dakota conflict in Minnesota. After resuming his Belle Plaine business, Rose was generally referred to as "Major" in deference to his military rank. During the time he was associated with the Belle Plaine Salt Company, he served one term as a state senator, perhaps mainly for the purpose of seeking state aid for the company.³²

Chatfield, one of the founders and the namer of Belle Plaine, was well known in Minnesota. He had served as an associate justice of Minnesota Territory's Supreme Court from 1853 to 1857 and because of his prominence at that time the town of Chatfield in Fillmore County was named in his honor. He practiced law in Belle Plaine from 1857 to 1870 before being elected judge of Minnesota's 8th judicial district.³³

Early in 1870 Hooper and his associates prepared to bore a well into the proclaimed salt springs that were located at the base of a bluff on the north edge of Belle Plaine about two blocks east of the St. Paul and Sioux City Railroad depot. The company bought a lot at the

site of the springs from L. B. Woolson and his wife and augmented this later by purchasing three nearby lots from Hooper and his wife, Mary.³⁴

Always seeking favorable publicity, company spokesmen regularly supplied "scoops" to Twin Cities newspapers. On January 27, 1870, the *Minneapolis Daily Tribune* reported that the springs at Belle Plaine were "so strongly impregnated with salt, that even the surface water, from distillation on an ordinary stove, has produced fine specimens of salt." The editor told of the company's plans to seek a land grant from the state to subsidize its enterprise and to order a steam engine preparatory to boring to "at least 1,000 feet." As a way of endorsing the project, the editor thought that "Every well-wisher of the State will, no doubt, rejoice at the success of the enterprise, and the inauguration of a home supply of salt."

WITH THE EXPECTATION that the Belle Plaine Salt Company would produce, the legislature, by an act of February 28, 1870, granted it six sections of salt springs lands. The lands, which still had not been formally transferred by the General Land Office to the state, were to be allocated to the company on the basis of one section for every \$1,600 the firm expended in developing the Belle Plaine springs. The law forbade the company from selecting any section in which one of the springs designated by Skinner was located, and the firm was further restricted to claiming no more than three sections associated with any given spring. The company was authorized to sell these granted lands for no less than \$2.50 an acre to reimburse it for expenditures on the Belle Plaine well. In the event it manufactured salt, the company would have to pay a state tax of one cent per bushel.³⁵

The land grant brought the Belle Plaine Salt Company under closer public scrutiny and made its activities the object of yet more extensive newspaper publicity. In early May, 1870, with a steam engine and drilling equipment it had obtained from the Pennsylv-

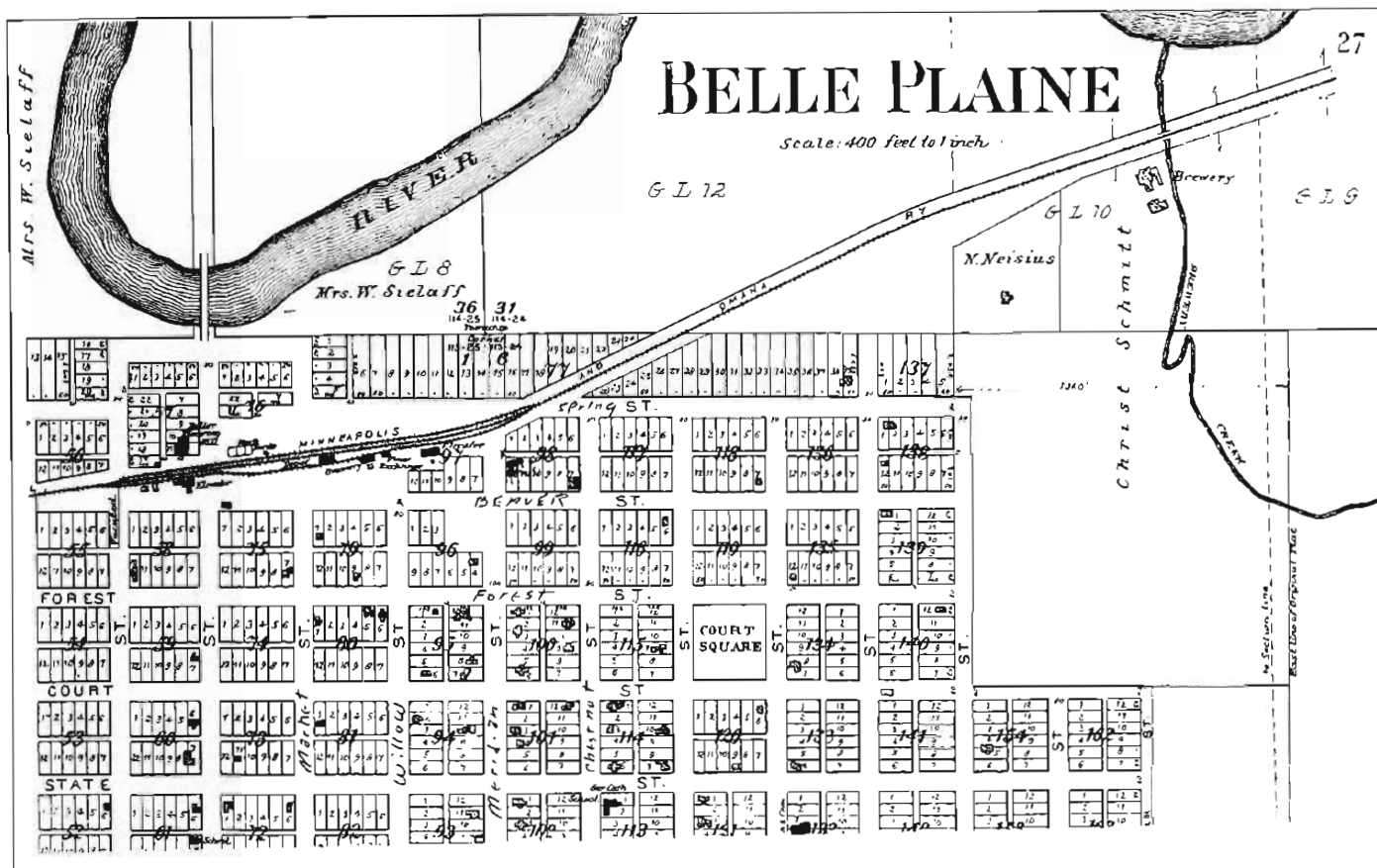
³¹ "Death Register A," 84, in Scott County Clerk of Courts Office, Shakopee; "General Grantee Index, Book A," in Scott County Recorder's Office; *Belle Plaine Enquirer*, Mar. 31, April 18, 1859, Mar. 30, April 13, Aug. 17, 1861; *Shakopee Argus*, Aug. 29, 1867.

³² *Belle Plaine Enquirer*, Feb. 10, 1859; *Mankato: Its First Fifty Years* (Mankato: Free Press, 1903), 298; *Minneapolis Daily Tribune*, Jan. 27, 1870.

³³ *St. Paul Daily Pioneer Press*, Oct. 5, 1875.

³⁴ The well site, which is no longer visible, was in Block 98, a block east of the present-day Wendt Laboratories. See "General Grantee Index, Book B," entries of Jan. 28, 1870, pertaining to lot 21 in Block 77, and June 10, 1872, pertaining to lots 10, 11, and 12 in Block 98, Scott County Recorder's Office.

³⁵ Minnesota, *Special Laws*, 1870, p. 421-424.



The salt company's well site, no longer visible, was located in Block 98.

nia oil district, the company started drilling at the Belle Plaine springs. As drilling progressed under supervision of a reported "practical salt manufacturer" from Syracuse, New York, the *Minneapolis Daily Tribune* predicted that "The success of this enterprise will build up a most useful and important branch of industry in our State, add very considerably to the resources of the State, and cheapen the price of salt to our farmers." The editor expected that the Belle Plaine company "will soon divide with those of Syracuse in New York and those of Saginaw in Michigan the business of supplying the salt market of the Mississippi valley, and, so far as Minnesota is concerned, will relieve us of the heavy tax now paid on the transportation of this bulky commodity from those distant sources of supply."³⁶

As the drilling season continued, the Belle Plaine venture proved to be more adept at gaining good publicity than finding salt water. By late summer when drilling was completed to the depth of 220 feet, the

company was reported to have struck brine that was 10 to 15 percent salt and to have produced some specimens from it.³⁷ Not only did a later chemical analysis prove the falsity of these claims, but the company's inability to produce quantities of its product quickly added to a growing number of skeptics.

Consequently, when the Belle Plaine Salt Company sought another land grant from the state, legislators were understandably cautious. By an act of March 6, 1871, they provisionally granted it an additional six sections of salt springs lands. The new law's expenditure provisions were the same as those of the 1870 act, but it stipulated that before the company received the lands it had to "employ a competent and practical geologist to be named and selected by the governor of the state, to make a thorough geological survey of the grounds where the works of the said company are located, and of adjacent territory." The appointed geologist was to submit a written opinion to the governor "as to the probabilities of a deposit of salt being found in paying quantities in that neighborhood, and as to its definite location, if any." The company would receive the land only if the geologist reported positively that "there is a deposit of salt at that point where said company are

³⁶ *Minneapolis Daily Tribune*, May 5, 6, 29, 1870.

³⁷ *St. Paul Daily Pioneer*, Aug. 21, Sept. 6, 1870; *St. Paul Daily Press*, Sept. 6, 1870; *Minneapolis Daily Tribune*, Sept. 7, 1870.

now boring [sic] for the same, or in that vicinity, which is accessible [sic] to mining in quantities that may be profitably worked."³⁸

WITH the legal requirements now clearly defined, the officers of the Belle Plaine Salt Company and Governor Horace Austin hastened to have the geological survey made. Apparently the only geologist they considered was Professor Alexander Winchell, the director of the Michigan Geological Survey and an expert on the geology of salt formations. After being instrumental in causing the re-establishment of the Michigan Geological Survey in 1859, Winchell discovered and analyzed the major salt formations in the Saginaw Valley.³⁹

In correspondence with representatives of the Belle Plaine company, Winchell briefly explained the geology of salt deposits and offered to inspect the Belle Plaine springs for \$100 and expenses from Chicago. Finding these terms "very favorable to the Co. in a pecuniary point of view," C. B. Tyler, who had succeeded Rose as company secretary, recommended Winchell's appointment to Governor Austin. On March 30, 1871, Austin appointed Winchell to make a geological survey of the Belle Plaine Salt Company's springs "to determine the probabilities of a deposit of salt being found there."⁴⁰

Austin's commission was forwarded by Tyler to Winchell, who subsequently negotiated with Tyler to examine the Belle Plaine's well in early June. Winchell made the round trip by railroad from Ann Arbor to Belle Plaine by way of Chicago and St. Paul between May 29 and June 6. Several days after his arrival home, Winchell wrote to an acquaintance that he had just returned from Minnesota "where I have been to examine some reported salt lands in Scott County on which I have to report unfavorably."⁴¹

Winchell promptly sent Tyler the bad news. On June 17 he forwarded a lengthy report in which he explained the stratigraphy of the Belle Plaine area, the geological nature of salt-bearing formations, and the various methods of measuring the content of brine. In this context he informed Tyler that the formations reached thus far in the company's drilling would not yield salt in significant amounts. While Winchell did not think that paying quantities would ever be found at Belle Plaine, he did extend two small rays of hope to the company: he suggested that the company might find worthwhile brine by using the pumping methods outlined in his report on its present well, and he also thought it would be advisable to deepen its drilling to the bottom of the Potsdam sandstone strata.⁴²

After the submission of Winchell's report, the prospects of the Belle Plaine Salt Company waned, in part, because of adverse newspaper publicity. On June 28 the *St. Paul Daily Press* printed a copy of the report verba-



Alexander Winchell

tim. Its release to the newspaper obviously was not intended to benefit the company. Certainly neither Tyler nor any other company officers made it public. The most likely possibility was Governor Austin, who apparently believed that the acclaimed Belle Plaine salt well was merely a cover for land grabbers. After the *Press*, other newspapers reported on Winchell's unfa-

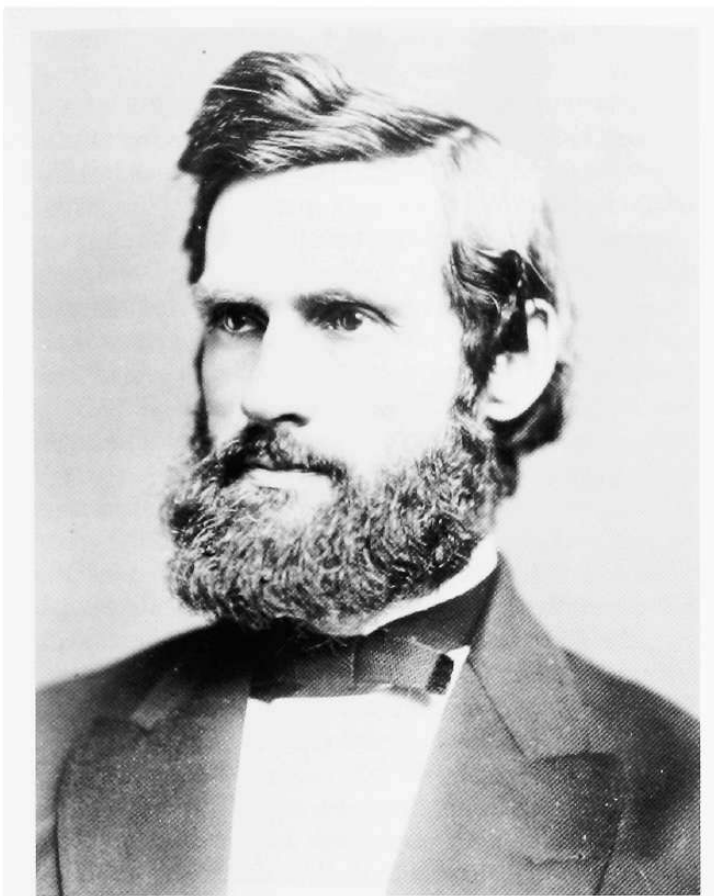
³⁸ Minnesota, *Special Laws*, 1871, p. 365.

³⁹ George P. Merrill, *The First One Hundred Years of American Geology* (Reprint ed., New York: Hafner Publishing, 1969), 393; Charles W. Cook, *The Brine and Salt Deposits of Michigan* (Michigan Geological and Biological Survey, *Geological Series*, no. 12—Lansing, 1914), 18.

⁴⁰ Winchell to S. Y. McMasters, Mar. 11, 1871, Tyler to Austin, Mar. 24, 1871, Governors' Records—Horace Austin, Miscellaneous Correspondence, 1871, and Governor, Executive Journals, Book D, 589—all in State Archives.

⁴¹ Winchell's diary, April 5, 1871; Winchell to Tyler, April 5, May 24, 1871; to McMasters, May 24, 1871; to Col. Whittlesey, June 9, 1871 (quotation)—all in Alexander Winchell Collection, Bentley Historical Library, Ann Arbor, Michigan.

⁴² Winchell to Tyler, June 17, 1871, and "Report of a Survey of a Reputed Salt Region in Scott County Minnesota: Survey made May 29—June 6th," [1871], both in Winchell Collection.



Governor Horace Austin

avorable opinion.⁴³ The critics of the Belle Plaine Salt Company were determined to circulate the report as widely as possible. Consequently, it was later published in the first report of the Minnesota Geological Survey and the *Minnesota Executive Documents* for 1871.

⁴³ See, for example, *Mankato Weekly Record*, June 17, 1871.

⁴⁴ Winchell to J. A. Stevens, June 17, Aug. 14, 1871; to [_____] Spangler, June 17, 1871; to Sanford A. Hooper, June 26, 1871—all in Winchell Collection.

⁴⁵ C. B. Tyler and S. A. Hooper to Horace Austin, June 15, 1871, and Austin to Commissioner Chas. McIlrath, July 5, 1871, both in "University, State Capital, Salt Spring, and Agricultural [College] and Mech[anic] A[rts?] Lands, 1867-1876," Record of Payments of State Land Contracts: School Lands, in State Land Office Records, State Archives.

The legal description of these lands is as follows: T133, R43—Sec. 7, west 1/2 of Sec. 8, Sec. 18, west 1/2 of Sec. 20; T136, R44—southwest 1/4 of Sec. 29, southwest 1/4 of northwest 1/4 of Sec. 29, south 1/2 of Sec. 30, Sec. 31, and southwest 1/4 of Sec. 33 and T136, R45—Sec. 25.

⁴⁶ "Annual Message of Governor Austin," Jan. 2, 1872, *Minnesota Executive Documents*, 1871, p. 26.

⁴⁷ Minnesota, *Special Laws*, 1872, p. 428.

⁴⁸ *St. Paul Daily Press*, Mar. 13, Aug. 18, 1872.

Through correspondence Winchell continued advising the Belle Plaine Salt Company about pumping methods. He even acted on the company's behalf in trying to find an experienced salt-well engineer in Michigan, who would be willing to work on the one in Minnesota. These efforts were abruptly canceled in August, however, after Winchell was notified that the company would delay any further drilling until after the Minnesota legislature convened in January, 1872.⁴⁴

Having failed to obtain any land under the act of 1871, the company decided to seek more state aid. Meanwhile, the lands to which it was entitled under the 1870 law were formally transferred to it in July, 1871. These lands amounting to 3,843.73 acres were all in western Otter Tail and eastern Wilkin counties.⁴⁵

Governor Austin opposed the Belle Plaine Salt Company's plans to acquire more salt springs lands from the 1872 legislature. In his annual message delivered to the lawmakers on January 4, 1872, Austin was openly critical. In calling for the establishment of a state geological survey to be headed by an "efficient, practical geologist," he commented that the previous creation of such a position "would probably have saved the State the six sections of land consumed at Belle Plaine in the vain search for salt."⁴⁶

IN SPITE OF Winchell's report and Austin's reservations, the Belle Plaine Salt Company wrested another salt springs land grant from the legislature. Hooper and his associates showed a certain degree of political savvy in their lobbying. Seizing on Winchell's notion that deeper drilling might result in striking salt brine, they convinced the legislature to grant them two sections of land for each 200 feet drilled below their well's current depth.⁴⁷ An additional 600 feet of drilling would penetrate well below the bottom of the Potsdam sandstone strata recommended by Winchell. But neither the company nor the legislators apparently chose to quibble about geological particulars.

Two weeks after winning approval of its second land grant the Belle Plaine Salt Company announced plans to resume "boring for salt." By mid-August the well had been drilled 500 feet below the previous 210-foot depth, and the company scheduled a meeting of its stockholders to determine "what further action, if any, shall be taken." The *St. Paul Daily Press* of August 18 reported that "for the last 450 feet no water has been found, and prospects for salt don't seem to be exhilarating just at present."⁴⁸

Austin had been monitoring the well's progress. In July he arranged to have samples of the drilling sent to Alexander Winchell for analysis. After examining the specimens and deciding they did not relate to salt-bearing formations, Winchell informed Austin that if his conclusions "are correct, there is no hope, either of salt

or a well of fresh water, by boring deeper, and not another dollar ought to be expended in this hope." Miffed that the Belle Plaine Salt Company had drilled below the Potsdam sandstone, Winchell informed Austin that there were many places in Minnesota where artesian water could be obtained from the bottom of this sandstone, but that Belle Plaine was not one.⁴⁹

Although the company did not satisfy Winchell and Austin, it did fulfill the requirements of the second state land grant and was accordingly given six sections of salt springs lands in western Otter Tail and eastern Wilkin counties. By the time the company received its second grant of lands, it had already sold its first grant lands. On June 18, 1872, James M. Sprague, company treasurer, informed Austin that on April 10 the company had sold the lands to Sanford Hooper for \$9,609.32 or \$2.50 an acre. This money was to be used to defray the total expenses of \$9,819.45 that the company had spent on its Belle Plaine well.⁵⁰

Despite its failure to find salt in 1872 and Alexander Winchell's condemnation of its site, the Belle Plaine Salt Company, with characteristic audacity, attempted to secure further state aid. This effort caused Austin to order yet another on-site examination of the Belle Plaine well. For this work the governor used Minnesota's newly appointed first director of the geological survey, Newton H. Winchell, the younger brother of Alexander. Austin specifically asked Winchell to determine if any additional state expenditures at Belle Plaine could be justified either to find salt or enhance the understanding of Minnesota's geology. As a result of his one-day inspection in February, 1873, Winchell concluded that salt formations did not exist at Belle Plaine and that deeper boring there for scientific purposes could not be justified, because there were other points in Minnesota that could be investigated more profitably. Later Winchell had water specimens from the Belle Plaine well chemically analyzed by Professor Stephen F. Peckham of the University of Minnesota. In concluding that the springs yielded mineral water, Peckham labeled them as "nothing but a hard well or spring water." There was nothing about this mineral water, he wrote, "to justify the expectation that it can be made of any commercial value as a source of common salt."⁵¹

Newton Winchell's report apparently gave Austin the evidence he needed to forestall any additional grants to the Belle Plaine Salt Company. The company, meanwhile, had taken steps to close out its affairs. It sold its second grant lands consisting of 3,800 acres to Horace Thompson and Francis M. Coker of St. Paul for \$9,500; in a related move, Hooper sold them the first grant lands for exactly the same amount as his purchase price from the Belle Plaine Salt Company. Finally in May, 1875, the company, in probably its last official

act, sold its four lots at the Belle Plaine well site to Hooper for \$750.⁵²

THE FAILURE at Belle Plaine had a sobering effect. Minnesotans finally seemed to recognize that they would never find a home supply of salt. By the 1870s, however, this lack did not have the same dire impact that it had had in the territorial period. Michigan's increasing production and a rapidly improving railroad network made salt more plentiful and cheaper. At the time the Belle Plaine Salt Company was active, the commodity in the state was selling for about \$2.50 a barrel wholesale and about 2 cents a pound retail.⁵³ Furthermore, by the 1870s importing was less of an aggravation, because Minnesotans were exporting wheat, pork, butter, and other produce.

Faced with declining prospects of finding salt in Minnesota and the advent of more, cheaper, imported salt, the 1873 legislature passed a law transferring all salt springs lands that had not been granted to the Belle Plaine Salt Company to the University of Minnesota to support the recently formed Geological and Natural History Survey.

Because the lawmakers were not willing to abandon completely hope of finding salt in Minnesota, the act included a stipulation that the university's board of regents was to "cause a full and scientific investigation and report on the salt springs of the state, with a view to the early development of such brine deposits as may exist within the state." This survey was to be completed

⁴⁹ Winchell to Austin, Aug. 12, 1872, in Minnesota Geological and Natural History Survey, *Reports*, 1873, p. 81. For Winchell's specimen analysis, Aug. 12, 1872, see vol. 187, p. 171, in Winchell Collection.

⁵⁰ These lands were as follows: T136, R44—east 1/2 of Sec. 29, north 1/2 of northwest 1/4 of Sec. 29, southeast 1/4 of northwest 1/4 of Sec. 29, northwest 1/4 of Sec. 33, and Sec. 26; T135, R45—Sec. 17; T136, R45—Secs. 17, 28, 32 and the south 1/2 of Secs. 22 and 23. See Austin to McIlrath, June 24, Aug. 26, 1872, and sworn statement of Sanford A. Hooper and George L. Deming, Aug. 17, 1872, both in "University, State Capital, Salt Spring, and Agricultural [College] and Mech[anic] A[rts?] Lands, 1867-1876." State Land Office Records; sworn statement of James M. Sprague, Aug. 15, 1872, and Sprague to Austin, June 18, 1872, in Governors' Records—Horace Austin, File 260: Salt Lands and Springs and Swamplands, Jan.-July 1871, State Archives.

⁵¹ Winchell to Austin, Feb. 8, 1873, Letter Press Book, Jan. 24, 1873-April 18, 1879, in Newton Horace Winchell and Family Papers, MHS; N[ewton] H[orace] Winchell, *The Geology of Minnesota* (St. Paul, 1888), 2:147.

⁵² Deed Record A, 77, in Wilkin County Recorder's Office, Breckenridge; Deed Record A, 567, in Otter Tail County Recorder's Office, Fergus Falls; Abstract Book, Lots 6, p. 51, 74, in Scott County Recorder's Office.

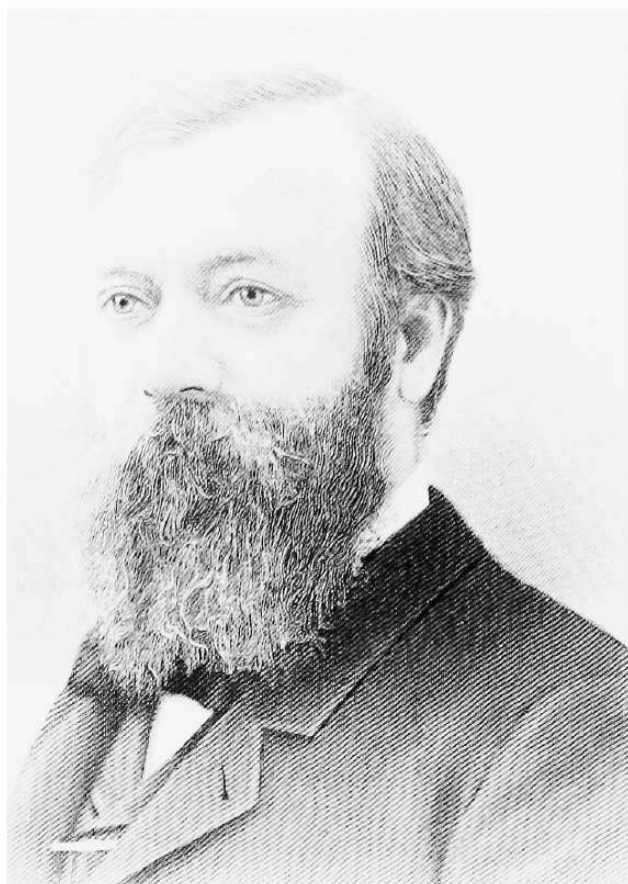
⁵³ *Minneapolis Daily Tribune*, Feb. 1, April 12, Aug. 29, 1871; "Day Book, 1874—General Store," 9, 20, 24, 33, 42, in Jeremiah Russell and Family Papers, MHS.

"as soon as practicable," but neither the regents nor Newton Winchell showed any interest in a systematic investigation.⁵⁴ Winchell did have Peckham complete some water analysis at the Belle Plaine springs, but he devoted much of his time and effort to winning the Geological and Natural History Survey its full allotment of salt lands. For their part, the regents were soon more concerned about selling the lands than finding brine water.

Interest in Minnesota's natural resources was rekindled by the state's participation in the World's Industrial and Cotton Centennial Exposition. As preparation for this major New Orleans fair of 1884–85, the state appropriated funds and named Oliver Gibbs, Jr., to serve as its commissioner. One of the many units placed under Gibbs's general supervision was the Department of Geology, Fauna and Flora headed by Winchell. As part of his large exhibit Winchell collected specimens of Minnesota rocks and minerals including catlinite, building stones, hematite, and sodium chloride.⁵⁵

Winchell's salt sample was processed from brine obtained from an artesian well located at Humboldt in northwestern Kittson County. This flow, which was in Minnesota's most likely salt area and near the springs reported by Long and Keating in 1823, was discovered alongside the St. Paul, Minneapolis and Manitoba Railway. Nearly 83 percent of the solids in the Humboldt brine consisted of sodium chloride, which Winchell noted was a higher percentage than that of the Michigan brines. Compared to the Michigan waters, however, the Humboldt well water contained only from one-third to one-half as much solid material; thus, the extraction process was more laborious. Nonetheless, Winchell was pleased that he was able to exhibit for the first time two new Minnesota products—salt and iron ore—at the New Orleans Exposition.⁵⁶

Winchell was careful not to magnify the significance of the Humboldt well. He cautiously observed that "It remains for the future to determine whether these salt deposits shall become economically of importance to the Northwest." Although Winchell proved



Newton H. Winchell

that salt at least in a small quantity could be extracted from Minnesota brine, he did not prove that such production was commercially feasible. By the time of the New Orleans Exposition, fine salt was selling for \$1.45 to \$1.50 a barrel or only about a half cent a pound. This marketing came at a time when the nation was on the eve of major salt finds in Kansas. The Kansas strikes as well as heavy production in Texas, California, and Utah made the commodity commonplace and relatively inexpensive, so there was no inducement to develop Minnesota's brines, which were marginal at best.

Whatever future Winchell may have anticipated for Minnesota salt never materialized. Thus, the state's long-standing quest was, in the final analysis, merely wishful thinking bolstered by some frontier hucksterism with an end product of but one jar of salt.

The map on p. 131 is from the *Minnesota Advertiser*, Mar. 12, 1857; the picture of Brott is from the 1874 *Andreas Atlas*, 197; the illustration on p. 139 is from *Plat Book of Scott County, Minnesota*, n.p., Northwest Publishing Co., 1898; all other illustrations are in the MHS.

⁵⁴ Minnesota, *General Laws*, 1873, p. 255.

⁵⁵ Statement of Oliver Gibbs, Jr., July 25, 1885, "New Orleans Exposition, Salary and Expense Account"; Winchell to Samuel E. Adams, Nov. 15, 1884, in "New Orleans Exposition: Geology, Flora and Fauna" folder; handwritten manuscript, "The Department of Geology, Fauna and Flora. Report by N. H. Winchell, Superintendent," [1885]—all in Auditor, New Orleans Exposition Records, State Archives, MHS.

⁵⁶ Here and below, see Minnesota, Geological and Natural History Survey, *Reports*, 1884, p. 8, 44; *Review* (Mankato), April 28, June 30, 1885.



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