Hot Springs Mine

The Hot Springs Mine is located in T. 15 S., R. 44 W., Sections 1, 12, 13, and 24, Bear Lake County, Idaho. There are several tunnels and prospect pits in the area of the mine. The original property consisted of 12 patented lode claims, four unpatented lode claims, and one unpatented mill site (Table 3, Figure 16). The locators of the claims were Morse S. Duffield and Lewis A. Jeffs (Figure 17), both figured prominently in phosphate claim litigation elsewhere in the phosphate field (see chapter on Mining Claims and Patents).

Table 3. - Patented mining claims of the Hot Springs Mine.

Claim Name	Date of Location	Mineral Survey Number	General Land Office Serial Number (Blackfoot)	Patent Number	Date of Patent
Nashville Lode	November 8, 1907	2371	BL-069	240273	December 28, 1911
Ely Lode	November 9, 1907	2600	BL-010985	478704	June 17, 1915
Murfreesboro Lode	November 8, 1907	2601	BL-010984	488041	August 25, 1915
Chickamanga Lode	November 8, 1907	2601	BL-010984	488041	August 25, 1915
Chattanooga Lode	November 8, 1907	2601	BL-010984	488041	August 25, 1915
Lebanon Lode	September 18, 1908	2601	BL-010984	488041	August 25, 1915
Carthage Lode	November 8, 1907	2601	BL-010984	488041	August 25, 1915
Hermitage Lode	August 24, 1908	2601	BL-010984	488041	August 25, 1915
Gallatin Lode	November 9, 1907	2601	BL-010984	488041	August 25, 1915
Treadwell Lode	November 9, 1907	2601	BL-025209	586238	May 28, 1917
Robinson Lode	November 9, 1907	2601	BL-025209	586238	May 28, 1917
Campbird Lode	November 9, 1907	2601	BL-025209	586238	May 28, 1917
Mohawk Lode	November 9, 1907	2632A	BL-012751	N/A	Never Patented
Broken Hill Lode	November 9, 1907	2632A	BL-012751	N/A	Never Patented
Original Lode	November 9, 1907	2632A	BL-012751	N/A	Never Patented
Bingham Lode	November 9, 1907	2632A	BL-012751	N/A	Never Patented
North Lake Mill Site	October 26, 1911	2632B	BL-012751	N/A	Never Patented

All of the lode mining claims were located by Morse S. Duffield and Lewis A. Jeffs. The North Lake Mill Site claim was located by Albert Walter, agent for the Union Phosphate Company. All patents except the Nashville Lode were issued to the Union Phosphate Company. The Nashville lode mining claim was patented by Duffield and Jeffs. The patent applicant for the Mohawk, Broken Hill, Original, and Bingham Lodes was August Vogt, agent for the Union Phosphate Company; applications for patent were withdrawn.

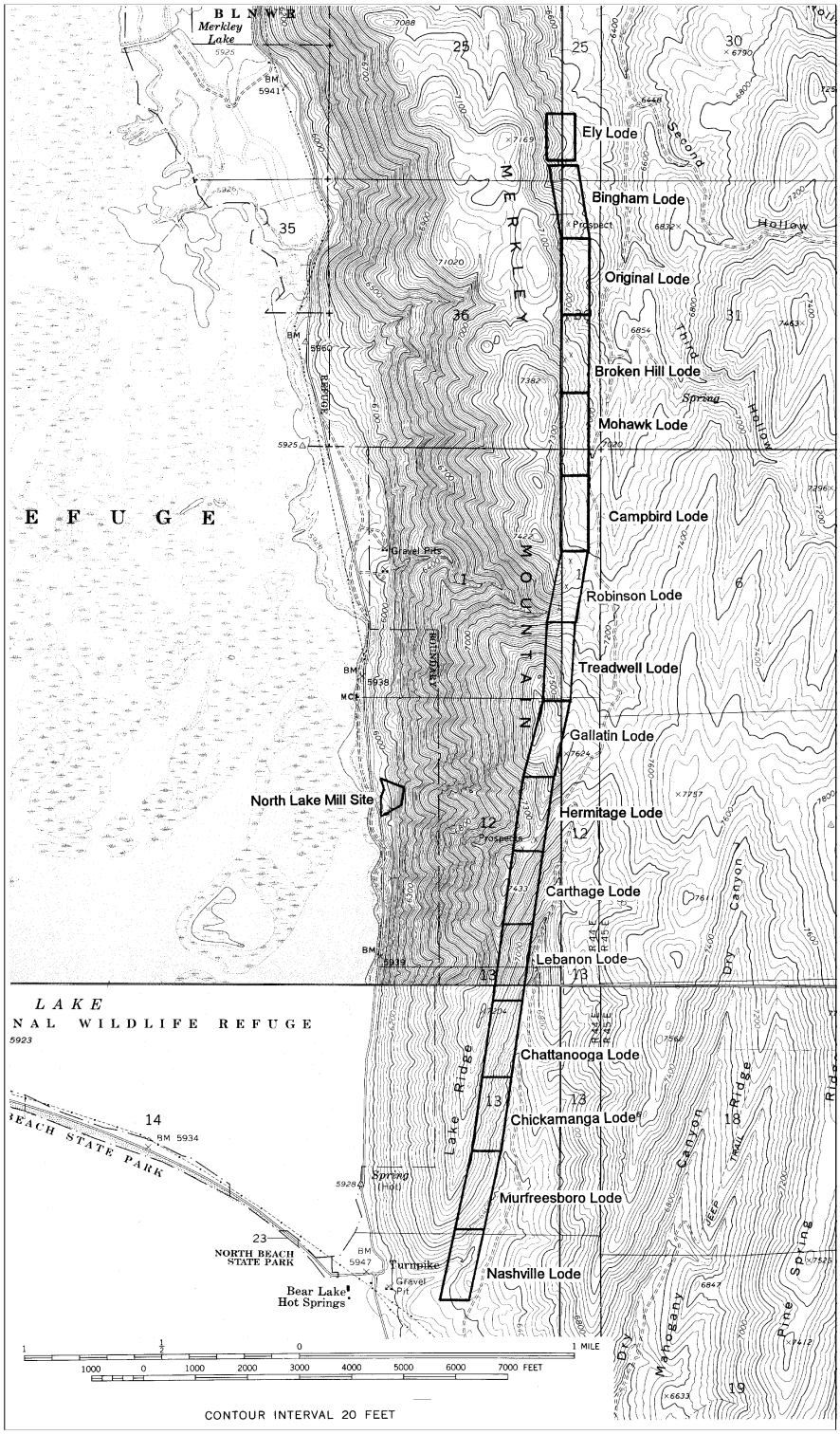

Figure 16. Map showing the location of the patented mining claims of the Hot Springs Mine, Bear Lake County, Idaho.

Figure 17. Hot Springs Mine, at Heritage Discovery, 9,000 feet north of the Nashville Lode Mining Claim, looking south, 1911. Individuals are possibly Lewis Jeffs and Morris Duffield. Photo from the patent case files, General Land Office, National Archives and Records Service, Washington, D. C.

The earliest known exploration was the assessment and development work performed on the lode claims. This work included several open cuts and tunnels of varying lengths. Unpublished records of the BLM show that these tunnels measured five feet to 477 feet in length (Figure 18). The most extensive work was done on the Nashville Lode, probably because of better access to loading and shipping facilities. Also, in 1911, the North Lake tunnel (Mansfield, 1927) was under construction near the site of the North Lake Mill Site (Figure 16). At the time of the survey, this tunnel was 216 feet long. The tunnel was intended to cut the phosphate ore at several locations at a greater depth than earlier tunnels nearer the surface. After the tunnel intersected the ore, drifts were to be driven north and south along strike. The tunnel was abandoned at 220 feet in 1912, and never came close to intersecting the ore body.

An unusual situation developed on the Nashville claim. Gale and Richards (1910) and Mansfield (1927) reported that there was a double set of entry tunnels into the phosphate rock at nearly the same place, a small gulch one half-mile east of the old Turnpike post office (Figures 19 and 20).
These two tunnels were apparently constructed by Morse S. Duffield and Lewis A. Jeffs as lode locators and the Union Phosphate Company as placer claimants. The western tunnel belonging to the lode locators was excavated to a reported depth of 95 feet at the time of the mineral survey in June, 1908 and to a depth of 238 feet with 199 feet of crosscuts at the time of patent in 1911. The eastern

Figure 18. Discovery tunnel of the Nashville Lode Mining Claim, 1911. Photo from the patent case files, General Land Office, National Archives and Records Service, Washington, D. C.

tunnel belonging to the placer locators was 182 feet long with a 15 foot crosscut in 1908 and was 477 feet long at the time of patent in 1911. The conflict between the locators was resolved in some fashion as the patent to the claim was issued to Duffield and Jeffs in December, 1911. The successful claimants continued to lengthen the tunnels and by 1916 had extended the underground workings to 700 feet (Figure 21) (Gidel, 1916a).

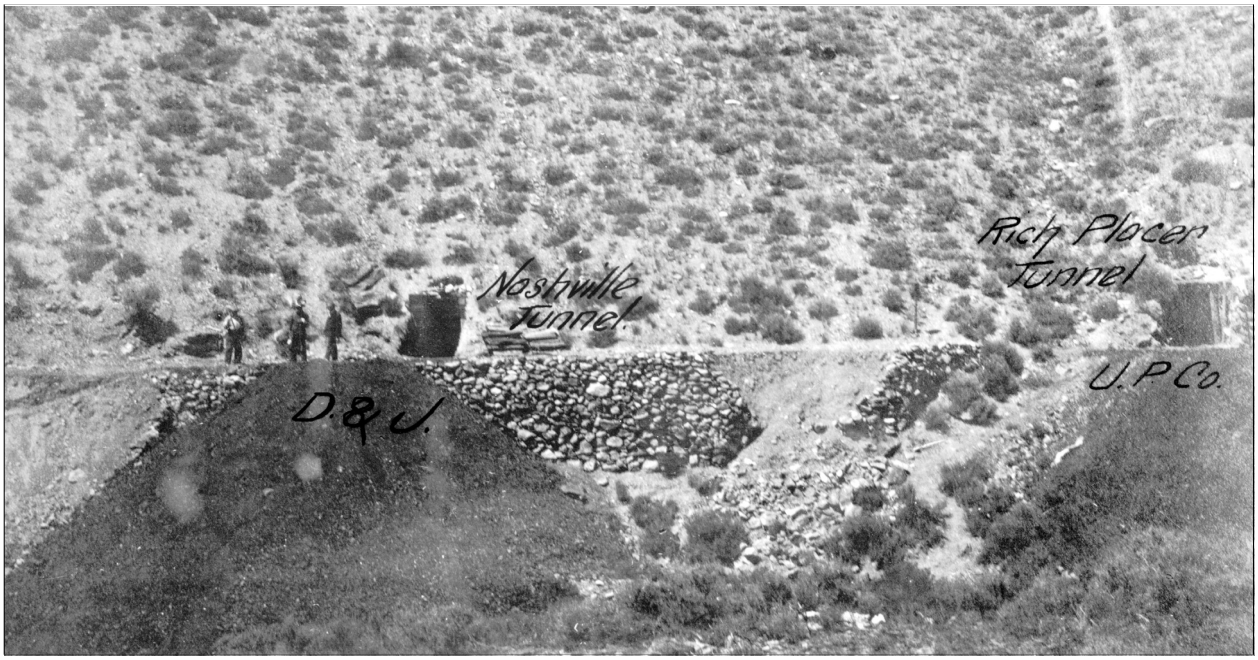

Figure 19. Union Phosphate Company's tunnel on the right (Rich Placer Claim) and the Nashville Lode Mining Claim tunnel on the left, 1911. Photo from the patent case files, General Land Office, National Archives and Records Service, Washington, D. C.

Figure 20. Union Phosphate Company's tunnel on the right (Rich Placer Claim) and the Nashville Lode Mining Claim tunnel on the left, September 9, 1996. Photo by the author.

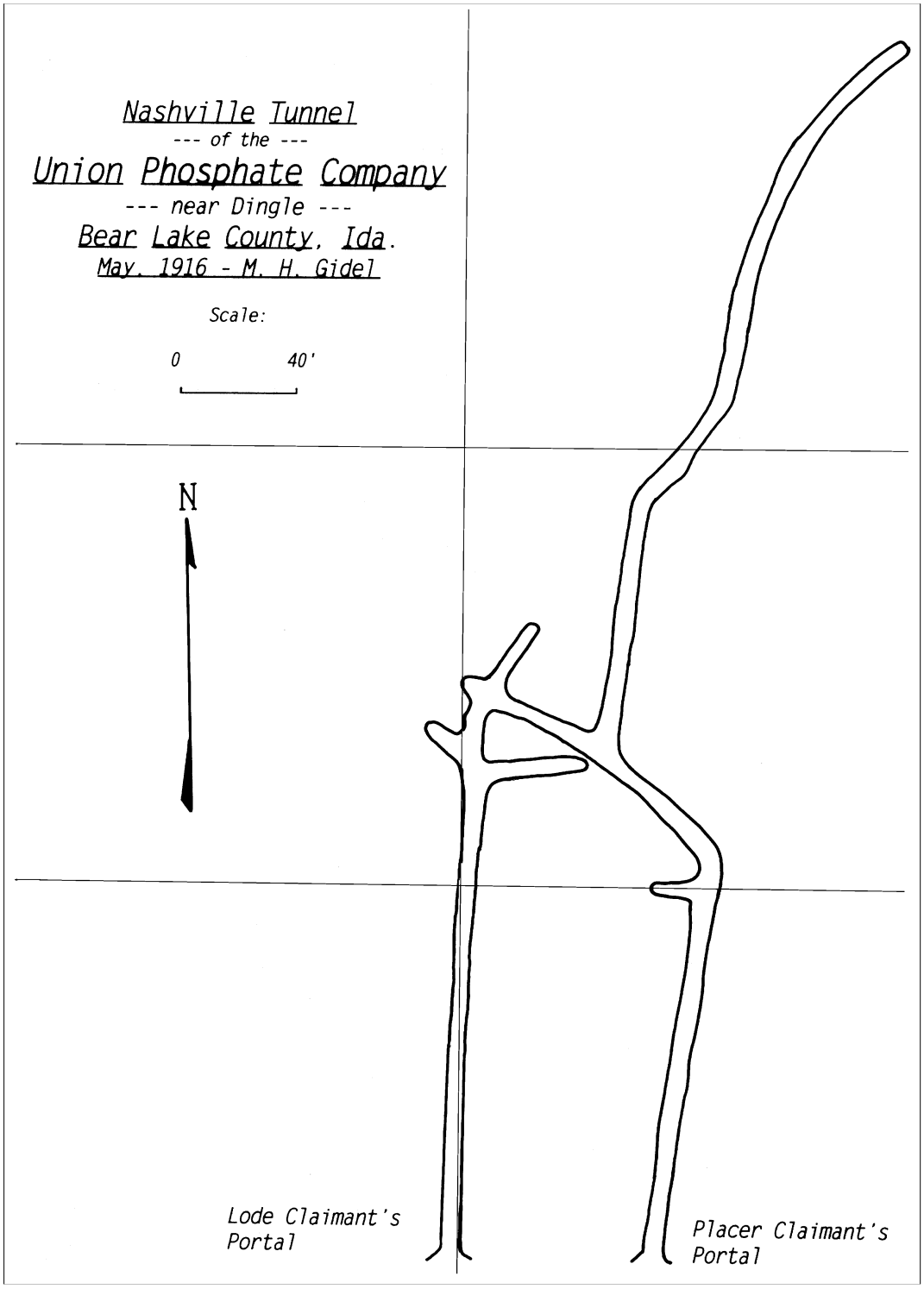

Figure 21. Underground mine map of the two tunnels on the Nashville Lode Mining Claim. Map from the Anaconda Collection, File 20111, American Heritage Center, Laramie, Wyoming.

Sometime between the patenting of the Nashville Lode in 1911 and the patenting of the other lode claims in 1915 and 1917, Duffield and Jeffs and the Union Phosphate company resolved their differences because all the lode claims and the patented Nashville Lode were sold to the Union Phosphate Company. The Union Phosphate Company took all of the remaining lode claims, except Mohawk, Broken Hill, Original, and Bingham lodes, to patent. Records in the Idaho Secretary of State's office indicate that the Union Phosphate Company forfeited the right to conduct business in Idaho on December 1, 1912. This meant that they could not mine or develop their claims after that date. However, the company was still active across the state line at Leefe, Wyoming.

The exploration on the patented claims (Figure 22) showed that the phosphate ore was severely faulted and that mining conditions would be difficult (Service, 1966). Eventually, the exploration program was abandoned and about 1920-21, the patented lode claims were sold to the San Francisco Chemical Company. The property lay dormant until 1954, when the San Francisco Chemical Company started development and exploration near the middle of the phosphate exposure (Service, 1966). The work consisted of a crosscut adit (Figure 23) 1,600 feet long with drifts north and south and a raise to the surface. Significant phosphate reserves were proved with this exploration but a very limited production was achieved. The ore was unaltered and hard. When crushed in a rod mill, the flint-like ore chewed up the rods (Gordon Aland, personal communication, 2001). All work was suspended in 1956, and the property has been dormant since then.

Figure 22. Trench above the Hot Springs Mine, on the Hermitage Lode Mining Claim, June 25, 1996. Photo by Peter Oberlindacher, BLM.

The owners of the patented lode claims have changed several times since location and patenting. After acquiring the patented claims from the Union Phosphate Company in 1920 or 1921, the San Francisco Chemical Company held them until 1969 when they reorganized and changed their name to the Stauffer Chemical Company. Stauffer held the claims until 1987 when they were acquired by the Rhône-Poulenc Basic Chemicals Company. On January 1, 1998, Rhône-Poulenc reorganized and formed a subsidiary company entitled Rhodia, Inc. which still owns the Hot Springs Mine.

Figure 23. Hot Springs Mine portal, exploring the Carthage and Hermitage Lode Mining Claims, June 25, 1996. Photo by the author.