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ALTA POWDER NEWS

HISTORICAL EDITION

Online edition available at alta.com

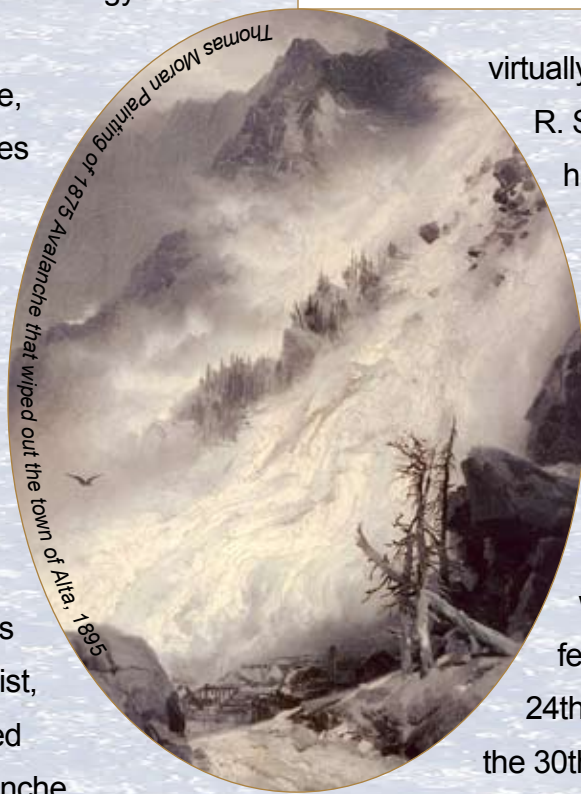
Snapshot of Alta's Snow Safety History

"Avalanche"—The word sends chills down the spine of any experienced skier in the high country! Every ski season, conditions along the Wasatch Mountains, with its abundance of snow pack, presents conditions that often can, and do, unleash avalanches, resulting in injury and (or) loss of life. This article focuses on a number of individuals who have made significant contributions to snow safety procedures, and the role Alta has made over the years as a leader in the development of avalanche-control technology.

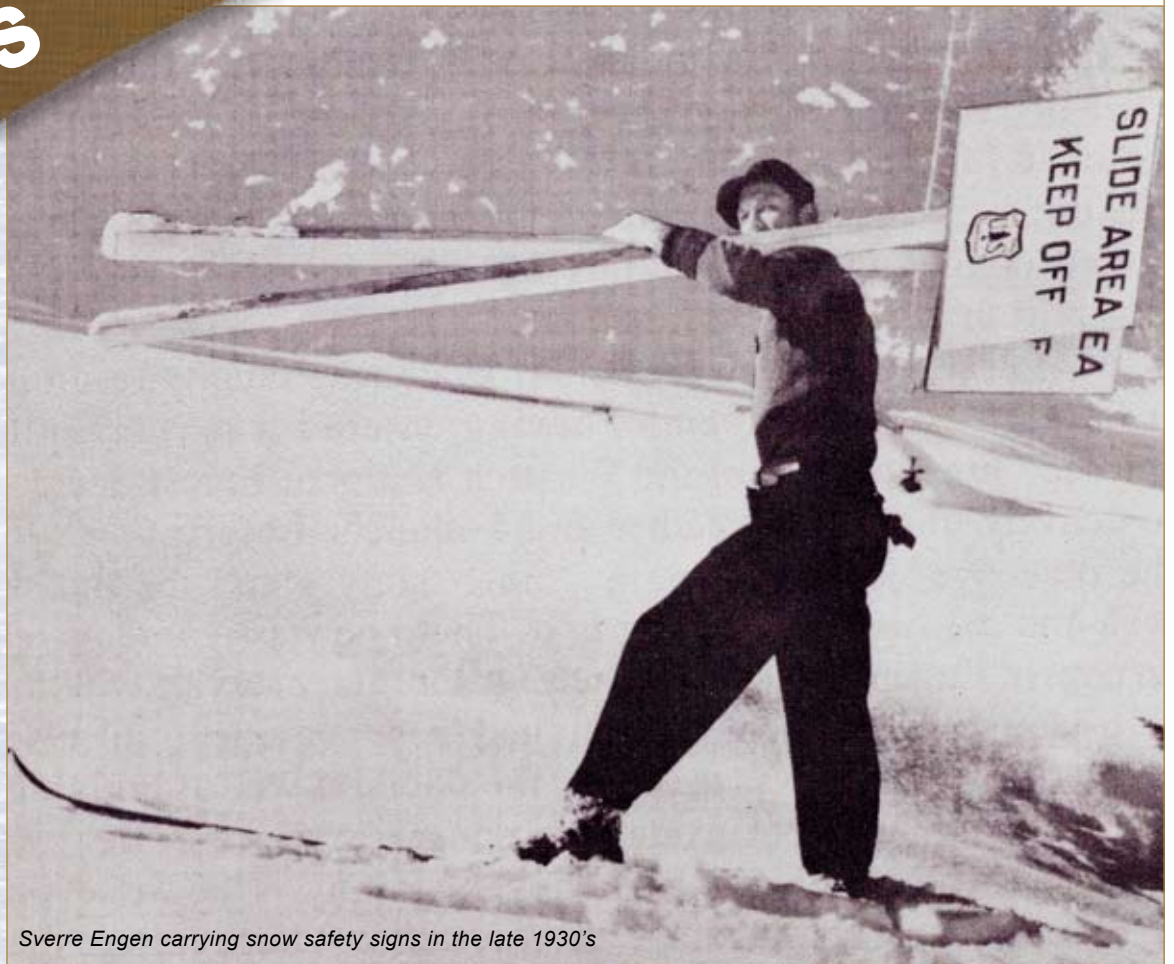
Alta lies in a powder skier's paradise, receiving on average over 500 inches of snow annually. Last year Alta received slightly more than 700 inches. When snow falls on the rugged, towering peaks of upper Little Cottonwood Canyon, avalanches become an ever-present concern. In the mid-1800s when Alta was a mining center, it was nearly destroyed by avalanches on a couple of occasions. Noted artist, Thomas Moran (1837-1926), created a painting that depicts an Alta avalanche that caused severe damage to the mining center in February 1875. The Salt Lake Daily Tribune reported that this avalanche nearly wiped out the Alta mining camp and claimed 16 lives. The survivors took shelter in mine shafts located nearby.

The inhabitants of Alta cut down the trees on the slopes to shore up the mine tunnels and to build cabins, stores, hotels, and bars. By the mid-1880s, most of the trees had been removed on the north and south-facing slopes, causing avalanches to come down from

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Thomas Moran Painting of 1875 Avalanche that wiped out the town of Alta, 1895



Sverre Engen carrying snow safety signs in the late 1930's

ALTA HISTORICAL SOCIETY

The AHS Mission Statement

The Alta Historical Society is a not-for-profit organization, approved by the IRS under 501 (c) (3) guidelines. It was formally established in 1995, chartered by direction of Alta Mayor, Bill Levitt and initially set up under the umbrella of The Friends of Alta.

The specific mission of the Alta Historical Society is to:

- *Collect and preserve valuable historical photographs, film, documents, artifacts and oral histories that are directly tied to Alta's past.
- *Facilitate ways and means to tell the story of Alta's rich history in ways that will enhance the cultural awareness for visitors and citizens of the Alta community.
- *Work in support of, and collaborate with, other organizations having a focus on Utah history and goals which are compatible with the Alta Historical Society.

virtually all directions. A now famous 1885 photo taken by Charles R. Savage shows the old Alta town with the north-facing Rustler hillside void of any timber. The ensuing avalanches that came were indeed caused, in part, by human error.

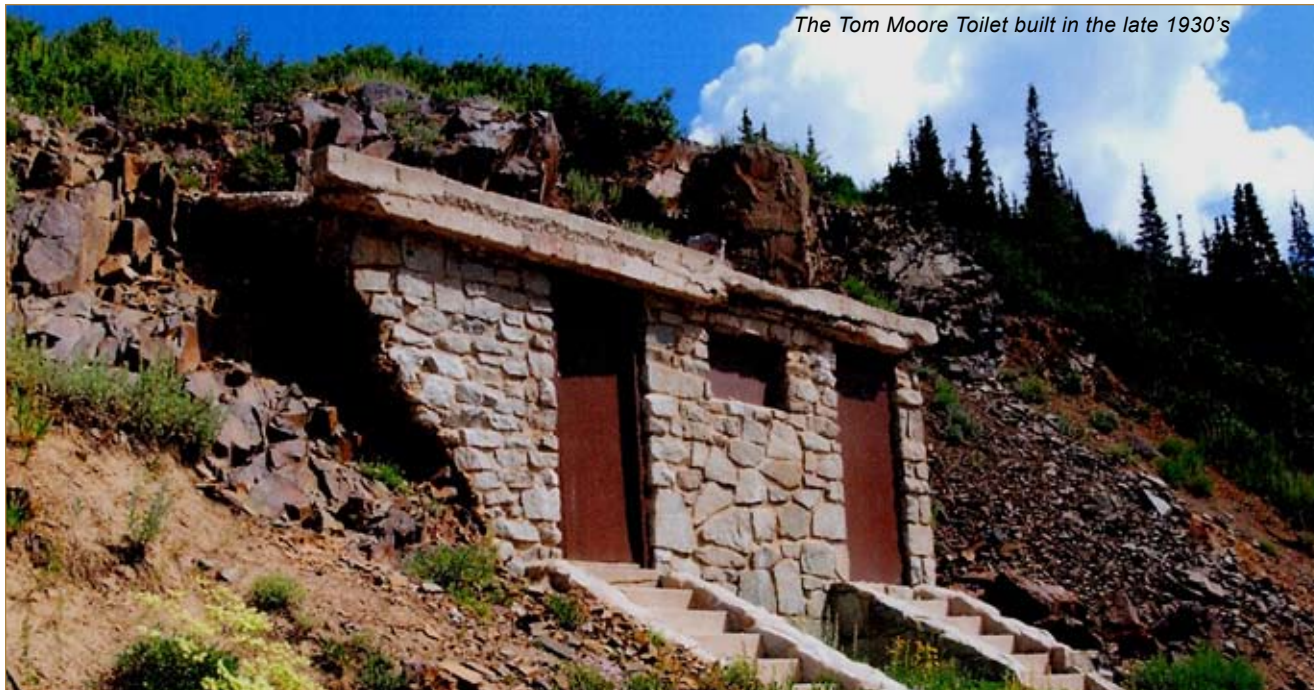
The Utah Mining Gazette wrote an article on August 30, 1873 stating: "In the year 1871, the first snow storms appeared on the 28th day of September and increased until from 12 to 15 feet on the level covered the whole district [of Alta], and in some places as deep as 40 feet. The last major storm for that winter was the 30th day of June, with a fall of upwards of two feet of snow. In the following year, the storms commenced on the 24th of October and the last snowstorm, of a very few inches, on the 30th of June. Snow slides are very frequent during the winter and they have been disastrous every season; several teamsters and miners have been killed thereby." Documented fatalities during the early mining days (1872 to 1911) at Alta total 74.

When Alta began as a ski area in the mid- to late-1930s, alpine skiing was also growing as a winter pastime along the Wasatch Front, including Park City and Brighton. To provide a level of safety for the skiers, the Forest Service, whose mission policy

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Denuded North Rustler Hillside, circa 1885
Photo by: Charles R. Savage



A True Experience Involving Alta's Tom Moore Toilet

as told by Bengt Sandahl* and revised by Sid and Velma Jensen 10/4/2009

Keen-eyed Alta visitors often ask about the small, rock structure that is built into the solid cliff wall on the south-facing slope just off the parking lot between the Alta and Rustler Lodges. The late Bengt "Binx" Sandahl, former Alta Snow Ranger, provided the answer as reported in *The Avalanche Review* (December 1988). According to Sandahl, "The Tom Moore Toilet is a quaint little stone toilet built in the '30s by the Civilian Conservation Corps (CCC). They built the thing into a rock band and built it 'hell for stout' so it could withstand avalanches pouring over the top of it."

Sandahl gave no further explanation about the facility's namesake, but he told one tale that involves the toilet that occurred on a "typical" Alta snow day in January 1968. This story has a humorous side, but it potentially could have been very serious. Sandahl remembers:

"I remember it was a horrible morning, wind howling like a banshee, colder than a witch's tit, but clear so we could see what we were doing. We were using the 75-mm pac howitzer at that time. The howitzer has wheels, so we could drag it up and down the highway [near the Alta Lodge] to shoot down potential avalanches. Well, that morning Baldy [Warren Baldseifin] and I were the gunners and Chic Morton and three or four members of his Alta ski patrol came along to observe. Baldy and I situated the gun on the highway directly below the Tom Moore Toilet in the center of the Town of Alta. . . . The first couple of shots we didn't get much, maybe a slough, but the third shot connected and started a big avalanche. We were all hoopin' and hollerin' when suddenly it collectively occurred to us that we were about to get hosed by an avalanche. I don't remember if anyone said anything or not. I do remember people running in all directions. Baldy and I looked at each other and we both took off in a wild dash. The slide roared over where we'd been shooting, creating a hurricane-force wind as it passed.

"As soon as the slide passed, I ran back to the site to assess the damage. I started looking around and realized the pac howitzer and all its ammunition were gone, carried off by the avalanche, and that three vehicles that had been parked nearby were also gone, and I'm thinking we could be in deep yogurt. It was about then somebody yelled 'Where the hell is Baldy?' Good question, so we immediately started to probe the avalanche debris for Baldy and check the cars carried off by the avalanche. We found a woman in the back of a camper that had been cooking breakfast when the avalanche hit and rolled her camper down a steep embankment. The woman had egg all over her face, literally, from the eggs she had been frying and figuratively because she was breaking the law by camping in her vehicle. So we found her, but we hadn't found Baldy. It had been nearly an hour and we were panicked.

"Well, unbeknownst to us, Baldy had run into the Tom Moore Toilet and the avalanche had gone over the top and buried it, so Baldy couldn't get out and the snow muffled his shouts. You can imagine what it would be like buried in an outhouse for an hour. Baldy said when he first ducked into the toilet he was thinking 'Great, I'm saved.' But then after 45 minutes or so, the place lost its charm. It was hard to breathe and he was thinking 'What happened to all those other assholes. Did they get buried in the avalanche and die . . . or did they just go home and leave me to suffocate in the outhouse?' Luckily for Baldy, someone in the group was smart enough to suggest maybe Baldy had sought shelter in the shithouse so we started digging. After we dug down to the toilet, I pried the door marked 'Ladies' open and there was Baldy grinin' like a chesie cat and I said 'Baldy, what the hell you doin' in the women's john? You some kinda pervert, or what?'"

Because of that incident, Sandahl, with the support of Chic Morton, established new procedures that involved limiting mobile artillery shooting and using Alta ski patrollers, trained by the Forest Service, to do hand-charge routes and only fire military artillery as a back-up measure.

*Binx Sandahl passed away at age 73 on September 11, 1998.

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at that time was to "fully administer public land use," took it as a principal responsibility to protect life and property from avalanches. The historical significance of this is that the Forest Service played a key role in establishing the first snow safety measures taken in the infancy of American skiing. Much credit goes to the Forest Service because of the measures it took in the Intermountain area during the early skiing years at Alta.

Alta was of particular concern to the Forest Service because of its steep, towering peaks and abundance of snow during the winter. Wasatch Forest Supervisor James E. Gurr and District Ranger W.E. Tangren are responsible for preparing the initial snow safety plan to be followed at Alta. Tangren is credited with becoming the first snow and avalanche observer for the Forest Service. He was stationed at Alta during the 1938-39 winter season and maintained a log of all avalanches that he observed.

In late 1939, Supervisor Gurr retained the



Sverre Engen, early 1940's

services of then well-known ski jumper, Sverre Engen, to work with Mr. Tangren and perform various measurements and snow studies. The

following winter, 1940-41, Sverre assumed full responsibility for snow research at Alta. He maintained a weather station and other equipment donated by the U.S. Weather Bureau. The title given to Sverre was that of "Snow Ranger," the first person given that title in the U.S.. Sverre's responsibilities were to monitor snow conditions at Alta and to close the area and road if necessary when avalanche hazards were at a high level. In addition,

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Sverre was given the task of further refining the Alta Snow Safety Plan, supervising ski-related safety measures, performing various snow measurements, and recording the data.



Felix Koziol, circa early 60's

In 1942 Felix C. Koziol, nicknamed Kozy, replaced James Gurr as Forest Supervisor of the Wasatch National Forest (now named the Uinta, Wasatch, Cache National Forest). Koziol concentrated on becoming fully versed on all operational aspects involved with winter activities at Alta up to the end of World War II. He became convinced that with the additional number of skiers coming up Little Cottonwood Canyon, the Forest Service needed to find a better way to control avalanches.

In an article by Koziol himself, titled "In the "Wake of a Snow Flake—A New Industry Comes to Utah," December 1946 edition of The Utah Magazine, he wrote: "During the first postwar year of 1945-1946, when things were again getting a bit under way, Alta had 80,000 visitors. . . . In this figure lie problems ahead for the Forest Service and other agencies within whose jurisdiction come matters pertaining to public service, sanitation, and safety. When skiers by the scores of thousands begin to use the mountain regions that are so vast and expansive as those of Utah, there is no easy way of conversion to provide the necessities and facilities that one reads about in Switzerland or Bavaria [Austria] where the first ski resorts of the world were developed. . . . Winter skiers wander all over the landscape. Many are not content to stay on the practice slopes and on the ski runs close to the lifts. An increasing number are seeking ways of getting far out into the alpine hinterlands, far away from the snow bunny crowd. These enthusiasts want marked ski trails, ski huts and shelters, first aid caches and similar guarantees of safety. The wandering public that seeks to use the national forests for winter recreation is making new and growing demands upon the Forest Service."

Kozy commissioned the Forest Service engineering section to do a detailed historical study on the history of avalanches and to define "essential factors" that would determine the necessity of closing the ski area, and to determine under what conditions the area would be allowed to reopen following a snow storm.



Monty Atwater checking the snow stake at Alta, circa 1949

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In 1945, Montgomery M. Atwater, nicknamed Monty, replaced Sverre Engen as Snow Ranger when Sverre accepted the position of Alta's ski school director. Monty brought significant knowledge of explosives to the position because of his military experience during World War II as a member of the legendary 10th Mountain Division. Sverre Engen had developed a close friendship with Atwater during winter warfare training with the 10th Mountain Division in Colorado Springs. Immediately following the war, Sverre resumed his duties as Alta's Snow Ranger, but shortly after, he recommended to the Forest Service that Atwater be hired as his replacement. Atwater was a multi-talented individual who graduated from MIT (Massachusetts Institute of Technology) with a degree in English. In addition to his accumulated knowledge of explosives, he was a very gifted writer and put those skills to good use by authoring several of the first books on avalanche control and a number of high-adventure books for children.



Monty Atwater firing a 75-mm French howitzer, early 1950's

In 1948, Monty wrote an article for Ski Illustrated magazine, titled Cerberus of the Snows. In it he touched upon his early days as a snow ranger. He wrote:

"I often wonder what made me think becoming a snow ranger would be a good cure for the frayed nerves and demo[lition] phobia of war. . . . What an existence: his own house at Alta, passes on every lift, nothing to do all winter but ski, and paid for it besides! When I received my appointment as Forest Service Administrator at Alta, I had cherished illusions. Snow and only snow would be my concern. Equipped with every

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scientific device, backed by the records and experience of years, I would study the Eldritch stuff. It would yield to me the secrets of why it [snow] stays put one day and comes tumbling down another. The skiers would gambol under my watchful eye and look on me as a helpful father. However, the first thing I did when I got to Alta was fill the thousand-gallon tank of a chemical toilet, on foot, with buckets. I practiced the arts of mason, carpenter, electrician, plumber, house painter and garbage collector. I got involved in a forest fire. By the time the mountains put away their gorgeous autumn trappings and donned the bridal robes of winter, I had been deflated to normal size.”



Felix Koziol shooting High Rustler, circa early 50's

Although Atwater was not the first to use explosives for avalanche control at Alta, he was the first to employ the use of snow sampling tubes containing dynamite inserted into holes drilled into cornice buildup and subsequently detonated electronically from a safe distance.

The combination of Atwater and Koziol resulted in significant advances made in the early development of winter sports on National Forest land during the late 1940s and early '50s. One of their contributions included producing a manual, published by the Forest Service, for winter-recreation-area administrators titled, "Alta Avalanche Studies."

With increasing interest in skiing along the Wasatch front, Koziol and Atwater took another step forward by introducing the use of a military howitzer to dislodge potential avalanches. Koziol negotiated for an old 75mm French artillery howitzer from the Utah National Guard. The old artillery cannon was being used only for ceremonial purposes by the military at that time. Agreement was reached to put it to use at Alta for snow safety purposes, conditional on its being used only by trained military personnel. Its first firing was performed by Captain Elkins of the Utah National Guard on March 30, 1949, and proved successful in bringing down the snow as planned.

Continued use of artillery was not easy because the military took a dim view of using weapons of this type for non-military use. It took considerable effort by Koziol and another prominent Federal Government person, John Herbert, to convince those in charge in Washington D.C. that continuation of the avalanche work being done at Alta was crucial for public safety. At that time, John's son, Jack, was a member of Alta's ski patrol. This probably helped shape the elder Herbert's personal interest in promoting avalanche studies at Alta.

By the early 1950s, Atwater had gained a strong national reputation for his knowledge of avalanche control resulting in strong demands for his time as a teacher/consultant for new avalanche schools being conducted at Alta and other locations in the Western United States. As a result of demands on his time, which took him away from Alta, Atwater brought in Ed LaChapelle to assist with his Snow Ranger duties in 1952. In contrast to Atwater, LaChapelle was a trained scientist. His skills included being a graduate physicist, glaciologist with a year's study at the Avalanche Institute in Switzerland, and he was also an expert ski mountaineer.



Ed LaChapelle at Alta, circa mid 1950's

In early 1953, LaChapelle gained a full appreciation of the power of avalanches at Alta. In the early morning

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hours following a heavy snow storm, a large avalanche ran, involving both Cardiff and Flagstaff on the south facing slopes above the ranger station cabin. Luckily, there existed a natural hillside barrier above the cabin which caused the avalanche to split, half running down a draw and ending close to the Peruvian Lodge and the other half destroying the instruments in the weather-observation tower set up near the guard station. The avalanche barely missed the old Alta bunkhouse. It continued at full strength over the road, hitting the west side of the Alta Lodge. The avalanche went through the Alta Lodge dining area on the main floor and hit a room on the lodge's west side, which was occupied by the Alf Engen family, completely covering 12-year-old Alan Engen, who was sleeping in the room at the time. Fortunately, Alan was dug out quickly by his father and no one else was buried. However, damage to the Alta Lodge, other structures, and large pine trees, was extensive. In a film clip of Ed LaChapelle recounting this event, he said, "That encounter certainly remains vivid in my mind. It was pretty impressive and my first experience with large avalanches like that one. My learning curve went up quickly at that point."

LaChapelle, because of his prior training with the Avalanche Institute in Switzerland, began setting up a European-style snow-study program at Alta using skills he acquired from leading winter experts in snow safety. This program, called the Alta Avalanche Study Center (AASC), gained international recognition by avalanche experts and resulted in a number of scientific publications being produced and distributed world wide.

In the late 1950s, Atwater left Alta to take on a special consultant position in evaluating avalanche hazards at Squaw Valley, California, which was preparing for the 1960 Winter Olympics.

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LaChapelle took over Atwater's duties, along with continuing his scientific research efforts.



Ron Perla at Alta, circa mid 1960's

By the mid 1960s, the winter snow safety activities at Alta had expanded. Ron Perla was hired to join the AASC staff. During his tenure at Alta, he completed his Ph.D. at the University of Utah. In the early 1970s, Perla joined the Forest Service research group in Fort Collins, Colorado.

During the 1970s, because of funding limitations by the Federal Government, the avalanche study facilities at Alta were greatly diminished, with most of the research programs transferred to a similar facility, called the Alpine

Snow and Avalanche Project, located in Colorado.

LaChapelle left Alta in the early 1970s and began an academic career at the University of Washington. LaChapelle, in leaving Alta, summarized his feelings on the demise of the AASC program by saying, "Perhaps some day the AASC, like the fabled phoenix, will rise from the ashes of neglect under a new banner and resume work in the Wasatch Mountains of Utah, surely one of the finest places in the world for avalanche research." LaChapelle passed away at the age of 80 on February 1, 2007, following a ski outing at Monarch Mountain in Silverton, Colorado.

Another Alta snow safety expert who provided contributions during the 1960s through late 1980s was Bengt "Binx" Sandahl. Binx first came to Alta in 1953 and worked as a bar tender in the Alta Lodge. The following year, he left Alta and moved to Alaska where he worked for the Alaska Highway Department and also worked as the snow safety director at the Alyeska ski area. In 1964, he moved back to Utah and following a brief stint as a ski instructor in the Alf Engen Ski School, began work full time with the Wasatch National Forest as a Snow Ranger at Alta.



Binx Sandahl, circa mid 1970's

One of Sandahl's primary early beliefs in the 1960s was that the ski patrol at Alta could, and should, also play a primary role in snow safety activities. He was able to persuade then Alta Ski Lifts General Manager, Chic Morton, to provide a team of ski patrolmen to work with the Alta Snow Rangers on avalanche control work. By working as a collective team, they were able to perform avalanche control efforts during storms as well as during the early hours following a heavy snow fall. This resulted in the area being able to be opened earlier to the public—this was and is greatly applauded by Alta's "Powder Hounds."

Sandahl retired as Alta's Snow Ranger in 1990. One of his lasting contributions was erecting a weather station on top of Cardiff Peak, elevation 10,500 feet above sea level. Using an antenna on the building, Binx formed the shape of a pine tree, with electric lights. During the Christmas holiday, the lights are turned on, adding to the festive spirit. Binx was particularly proud of the artificial tree and would comment that it was "the highest Christmas tree in the U.S." Throughout his years at Alta, Binx brought a great amount of personality, team building, and community support to both the highway and ski-area avalanche programs.

Alta Ski Area's first Snow Safety Director was a family friend of John and Jack Herbert's, a young ski patroller from Ogden, Utah, named Dave Hamre. Dave, with the help of the Snow Rangers, laid out the original avalanche-control routes that are still used today. He left Alta in the late 1970s and moved to Alaska where he still remains involved with snow safety work for

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Alyeska Ski Area, the Alaska Railroad, and Chugach Mountain Guides.



Snow Safety Director Onno Wieringa, circa 1979

Beginning in 1972, Alta Ski Area's current President and General Manager, Onno Wieringa, began work on Alta's ski patrol. Prior to coming to Alta, Wieringa served several years on the ski patrol at Bridger Bowl near Bozeman, Montana. Because of Wieringa's knowledge and interest in snow safety, he was named Alta Snow Safety Director when Dave Hamre left in 1978, a position he retained until taking the general manager reins from Chic Morton in 1988. Snow safety was then taken over by Titus Case, who to this day is assisted by his cohort, Dan "Howie" Howlett. They have continued to refine and evolve the Alta forecasting and control activities into a highly effective state-of-the-art program.



Titus Case at Alta, circa 2008

During the early years when Wieringa was Alta Snow Safety Director, he also worked on the ski patrol and lived in the Alta Forest Service Guard Station with Forest Service Snow Ranger Binx

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Dan "Howie" Howlett at Alta, circa 1984

Sandahl. In 1998, he was credited by The Avalanche Review, published by the American Association of Avalanche Professionals, as building "one of the finest snow safety departments in the ski industry." This special expertise is still put to good use on the mountain during heavy storms at Alta. Onno is not one prone to stay put in his office during inclement weather, and he continues to work with the snow safety team and serves as a gunner on the 105mm rifle crew when they fire from one of his favorite vantage points on Alta's Peruvian Ridge.

Alta's ski patrol enjoys a strong reputation as being one of the finest in the country. The reason, in part, is because it has been active since the very early stages of Alta's ski development in the late 1930s and early '40s. At that time, most of the ski patrol efforts were on a part-time basis consisting of volunteer members of the Salt Lake Metropolitan Patrol, considered a subdivision of the National Ski Patrol System. Much of the early Utah-based snow safety training was conducted at Alta due to its rugged mountain terrain and significant snowfall during winter months.

On one occasion in 1945, a training exercise turned into an actual rescue effort. It occurred during April and was considered a routine Civil Defense exercise conducted by the Ski and Mountain Corps volunteers. The exercise involved dropping a special marker from a Civil Air Patrol Piper Cub in the Albion Basin area that was intended to mark the spot for a planned, emergency, test-recovery effort. Unfortunately, the small plane was unable to gain altitude after dropping into the Basin area and ended up stalling and crashing, injuring the pilot and his passenger. A full-blown rescue effort was immediately implemented, headed by Alta patrollers Harold Goodro and Jim Shane. Others on the rescue team included Sverre Engen, Chic Morton, Lee Steorts, Steve McDonald, Pete Peterson, and Larry Davenport.



Sverre Engen in his book, *Skiing a Way of Life*, said that when they arrived at the crash scene with a rescue toboggan, "there was one man standing outside the plane with a bloody nose and some missing teeth. The pilot was in the plane unconscious. He had to be transported carefully on the toboggan. The report we got later was that his back had been injured in the crash, but it was a miracle that they had lived through it. No doubt they were saved because the snow was so deep that it cushioned their landing."

The first "full-time" ski patrolman at Alta was Larry Moss, hired in 1947. He was followed by Gordon Allcott who replaced Moss in early 1948. By the fall of 1948, the full-time ski patrol

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at Alta had grown to four, consisting of Tom Foley, Harold Goodro, Dave Sheldon, and Allcott.



Alta's first full-time ski patrol, circa 1948

Throughout the early ski-development years at Alta, two ski patrolmen were considered the "key" individuals on all significant rescue efforts. They were the late Jim Shane and Harold Goodro. The book *For the Love of Skiing—A Visual History* by Alan Engen, described Jim Shane as "a quiet, gentle giant



Jim Shane, Monty Atwater & Harold Goodro, circa late 40's

of a man, regarded by many as one of Utah's strongest men. He saved several lives single-handedly and is perhaps one of the Intermountain region's most unsung heroes. . . . Harold Goodro was one of America's true mountain men, a legend

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in skiing and mountain climbing, and probably the best known of early Utah ski patrollers.” Together, these two individuals were responsible for numerous inclement weather mountain rescues throughout the Intermountain region, not just at Alta, and are deserving of the many commendations they received during their lifetimes.



Alta's ski patrol, circa 1968

By the late 1960s, the Alta Powder News reported Alta's ski patrol growing to 11 full time professionals and an additional 29 patrollers who served part time. This was further expanded in the mid 1970s by highlighting in the Alta Powder News eighteen full-time professional ski patrol individuals, including Julia Page, one of, if not Alta's first woman member of the patrol.



Alta's ski patrol, circa 1975

Two of the members of Alta's ski patrol in the 1970s have moved on to become key ski area managers. They are Onno Wieringa, Alta Ski Area's current General Manager and Chuck English, who oversees mountain operations at Utah's Deer Valley Resort.

In 1980, Alta expanded its winter ski-patrol operations by adding its first avalanche dog to the force. Je Yu was her name, derived from the Indian word meaning treasure. The value of having trained avalanche dogs in and around Alta has paid large dividends over the years. Because time is critical for individuals when buried in an avalanche, animals such as Je Yu proved themselves extremely valuable in search operations in finding the victim under the snow. Other canines

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Jamie with handler Remi, circa 2007



Onno Wieringa at Alta, circa 1998

followed Je Yu over the years including Jingo, Crystal, Emma, Lucy, Stella, Binx, Riki, Jake, Jamie, Ross, and Minga. Two of the primary trainers and handlers of these wonderful animals over the years have been Barbara Altum and the late Dan O'Connor. Alta has indeed been very fortunate to have these dedicated individuals as primary members of the search and rescue teams.

While much more could and perhaps should be written about Alta's snow safety and ski patrol history, what should be remembered is the primary role various individuals played in the development of snow safety procedures at Alta, many of which became the source for books, such as The ABCs of Avalanche Safety by Ed Lachapelle and Avalanche Hunters by Montgomery M. Atwater. What also needs to be underscored is that the snow safety programs and ski patrol efforts at Alta comprise only a part of the important elements involved in running a ski area, such as lift operations, snow grooming, building maintenance, ticketing, food services, medical care, and ski school, to name but a few.

Alta has just completed its 70th winter season as a ski area—a justifiable record to be proud of with a rich history worth telling. However, we should remember that “we all live downstream of history and upstream of the future.” When asked recently about the most pressing issues facing the avalanche programs at Alta, Onno Wieringa said, “the growth and associated pressures from

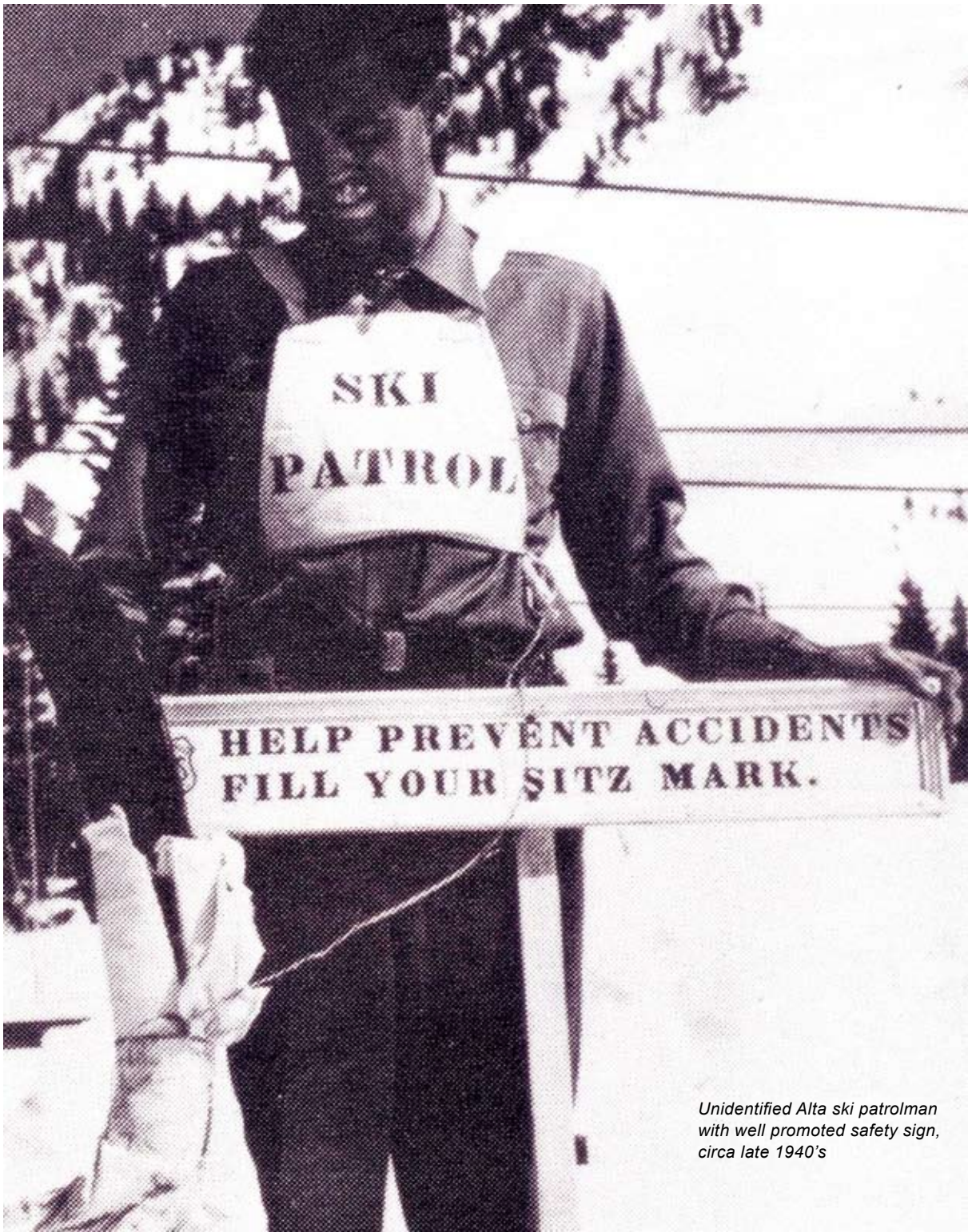
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Alta Avalanche Seminar by Dr. Ed LaChapelle, circa 1969



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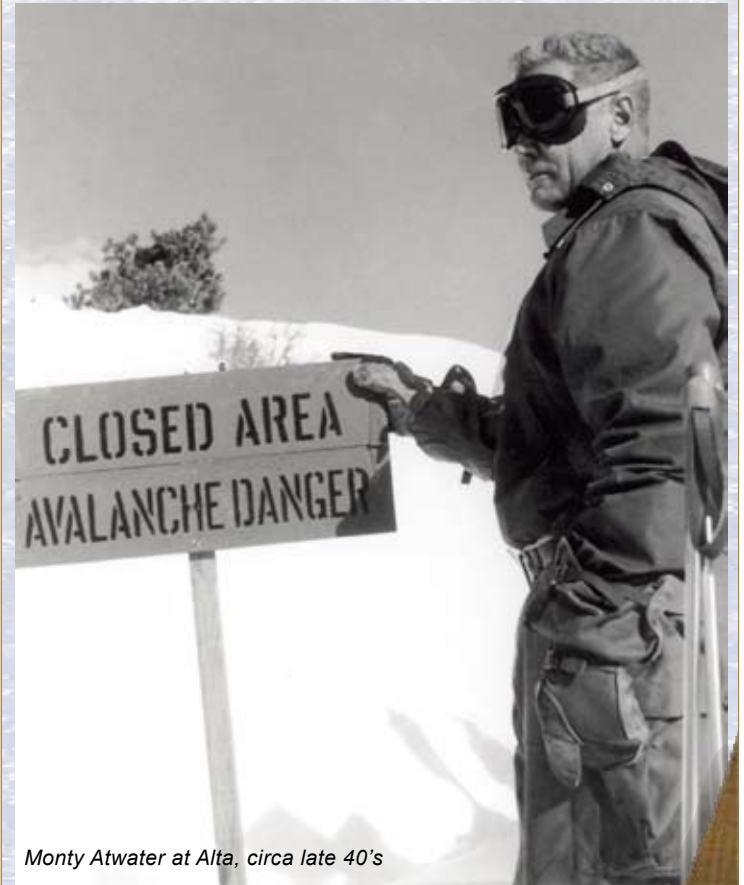
Salt Lake are slowly closing in on use of artillery as a control tool. Technologies used in other places and creative ideas are going to someday replace artillery at Alta. What hasn't changed are the great abundance of Alta powder, the wonderful steep skiing terrain, and the essential 11 contributory factors in the formation of avalanche hazard. Snow safety operations are going to be around for a long time."



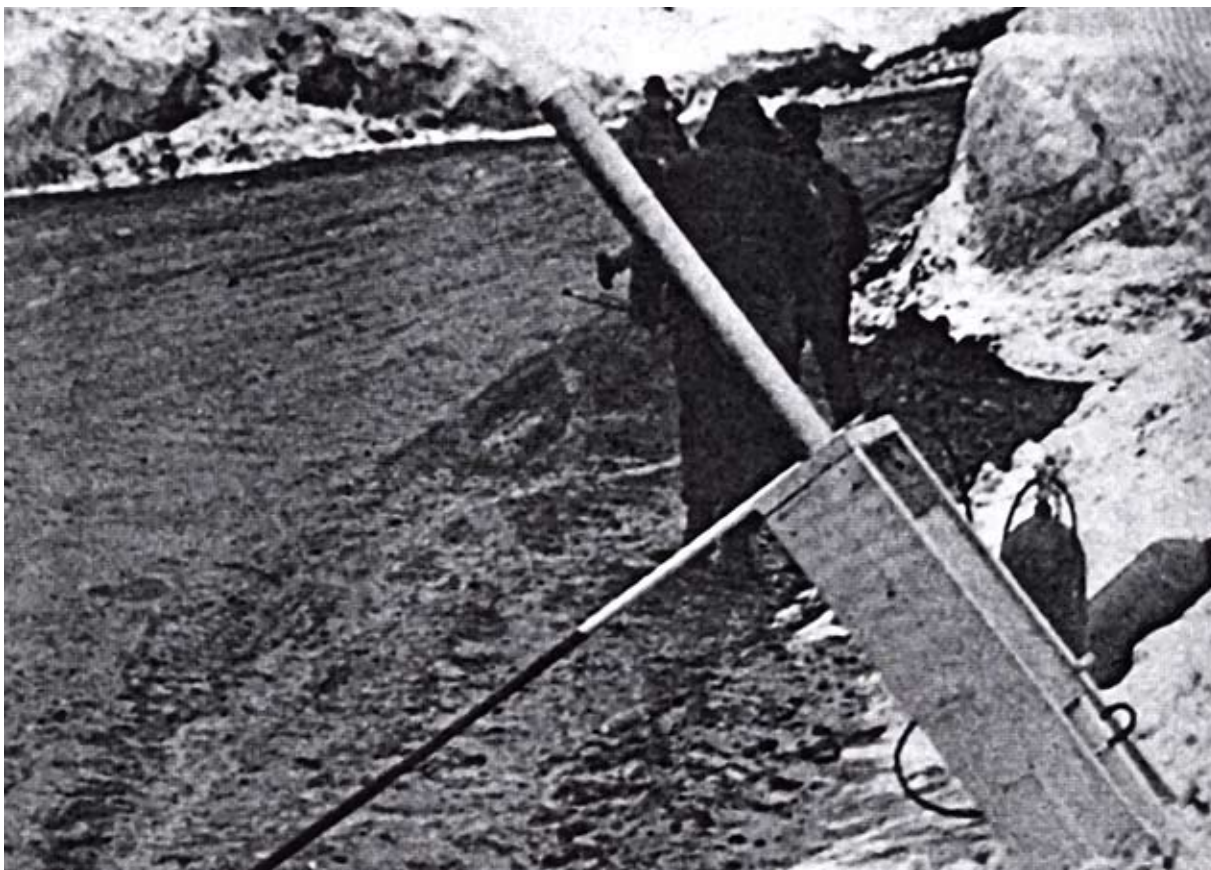
Unidentified Alta ski patrolman with well promoted safety sign, circa late 1940's

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Monty Atwater at Alta, circa late 40's



Test firing of an early Avalancher, developed by Monty Atwater, circa early 1960's

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