Summary of Newspaper Articles

Deseret Evening News – Salt Lake City, UT (last date searched 02/04/1989)

Headline:	Utah Quake Shakes Up A Wide Area
Date:	01/30/1989
Info Categories:	B, E, L, N, P

Headline:	Several Buildings In N. Utah Are No More Quakeproof Than Those In Armenia, Experts Say
Date:	01/31/1989
Info Categories:	A, S

Emery County Progress – Castle Dale, UT (last date searched 02/21/1989)

Headline:	Quake Visits Area Again
Date:	01/31/1989
Info Categories:	B, E, L, S

Salt Lake Tribune – Salt Lake City, UT (last date searched 02/08/1989)

Headline:	Earthquake Centered In C. Utah Felt In 4 States
Date:	01/30/1989
Info Categories:	B, E, L, N, S

Headline:	Expect Quake's Aftershock This Week, Say Experts
Date:	01/30/1989
Info Categories:	B, E, G, L, S

Headline:	3 Minor Quakes Hit Utah; Coal Mine Closes Briefly
Date:	02/04/1989
Info Categories:	E, I, S

Information Categories

A -- Aid:
provide medical services, shelter, donations, loans, advice, encouragement, implement safety measures

B -- Building Damage:
structure itself plus windows and chimneys (typically damage visible from outside the building)

E -- Earthquake Description:
where, when, duration, direction, sound, motion, number and timing of aftershocks

G -- Geologic Effects:
changes at the Earth's surface, fault scarps, rockfalls, landslides, ground cracks, ground subsidence, sand boils, water spouts; effects on springs, lakes, wells

H -- Humor:

I -- Impact:
changes in daily routine; rumors; influx of reporters, politicians, cost in dollars

L -- Lifelines:
effects on transportation: roads, bridges, railroads, airports
effects on communications: telephone, telegraph
effects on power, gas, water, and sewer lines
effects on dams

N -- Nonstructural Effects:
effects on plaster, furnishings (typically damage or rearrangement of furnishings visible inside a building)

P -- People:
effects on and responses to, during and after; deaths, injuries, near misses

R -- Recovery:
clean up, rebuild

S -- Scientific:
explanation of the day

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UTAH QUAKE SHAKES UP WIDE AREA
S. L. Buildings Quiver From 5.4 Temblor Centered In Sevier County

By Will Grey and Ellen Fagg

Ethel Woolsey, 85, was sitting in her South Salt Lake home Sunday night when she felt the floor move like waves under her feet.
Then her chair started to dance.
"It was such a funny feeling sitting there in the chair and having it rock in the wrong direction," Woolsey said.
Woolsey's chair was rocked by a 9:06 p.m. earthquake that registered 5.4 on the Richter scale and was centered 16 miles southeast of Salina, Sevier County, in the Fishlake National Forest. Sunday night's tremor lasted less than a minute but was strong enough to trip off an electric generator in Carbon County, jumbled a few smokestacks in Richfield and shook lights, floors and rocking chairs throughout the Salt Lake Valley.
A dozen small aftershocks late Sunday and early Monday followed the earthquake, which was felt in eastern Utah, southwestern Wyoming, western Colorado and northern Arizona, said Sue Nava, senior staff seismologist with the University of Utah Seismograph Stations. Waverly Person, head of the U.S. Geological Survey's National Earthquake Information Service in Golden, Colo., said small aftershocks may continue for two to three days.
According to Bill Alder, meteorologist in charge at the Salt Lake office of the National Weather Service, tremors reached as far north as Sunset in Davis County and Rock Springs, Wyo., and as far south as Kanab and Grand Junction, Colo.
The quake was strong enough to cause damage, but because of the remote location of the epicenter, no major damage reports are expected. None of the aftershocks have registered above magnitude 3 on the earthquake measuring scale.
In the Salt Lake Valley and Utah County, police agencies were flooded with calls reporting the quake. No reports of damage or injuries were received, however. Callers to the Deseret News reported feeling their homes shake and seeing light fixtures swaying for several seconds. Nancy Van Valkenburg, a reporter working in the Deseret News' downtown Provo office, said the quake shook her chair from side to side and the force knocked her to the floor.
Alder said some damage reports were received in the Richfield, Logan and Hanksville areas, where some reports of foundation cracks and falling stovepipes were noted.
Utah Power & Light Co. spokesman David Mead said the earthquake's vibrations tripped off a generator for about two hours at the Huntington Power Plant in Emery County, but no customers were without power. "The power deficit, if you will, was made up from other sources," Mead said. Among the power sources was UP&L's new merger partner, Pacific Power Corp.
Last Aug. 14 a quake measuring 5.3 on the Richter scale struck about 48 miles east of Salina. No damage was reported from that quake.
[Deseret News; January 30, 1989]

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SEVERAL BUILDINGS IN N. UTAH ARE NO MORE QUAKEPROOF THAN THOSE IN ARMENIA, EXPERTS SAY

By Jay Evensen

Several buildings along the Wasatch Front should be evacuated or reinforced because of the danger they will collapse during an earthquake, experts said Tuesday.

Speaking to the opening session of the fifth annual workshop on earthquake hazards along the Wasatch Front, Fred Krimgold, associate dean of the Virginia Polytechnic Institute, said Utahns must begin identifying which buildings are likely to collapse if the ground starts shaking.

Other experts said several buildings in northern Utah were built similarly to those that collapsed in heaps of rubble during the December earthquake in Soviet Armenia. The landscape and seismic activity in Armenia is similar to that of northern Utah, and many experts expect a similar quake along the Wasatch Front someday.

Once the dangerous buildings are identified, they should be evacuated, Krimgold said.

"This is a very expensive proposition," Krimgold admitted to reporters after his speech. "But life loss is the real issue. Materials you can replace. People you can't replace."

The workshops, attended by more than 200 federal, state and local earthquake scientists, planners, engineers and architects are scheduled to continue through Thursday at the University Park Hotel.

Krimgold and Walter Hays, a geophysicist at the United States Geological Survey National Center in Reston, Va., recently returned from Armenia, where they examined the damage and helped rescue efforts.

Krimgold said recently constructed buildings with reinforced concrete frames and unreinforced masonry collapsed, while older buildings remained standing. The floor pieces of high-rise concrete buildings collapsed one upon the other, leaving virtually no chance for people to survive. An estimated 50,000 people died in the quakes.

He said such buildings in Utah do not necessarily have to be evacuated immediately, but steps should be taken either to reinforce or reconstruct the buildings.

"We're talking about a disaster that was caused by mistakes made during the last 15 years," Krimgold said. "Building design is a matter of life and death."

Krimgold also questioned how well-prepared emergency teams are for such a disaster. He noted that crews were caught off guard last year when a building collapsed unexpectedly in Brownsville, Texas.

"The difficulty we have is that there is virtually no demand (for rescue efforts) for long periods of time, then there is virtually an infinite demand for a short period of time," he said, noting that crews must quickly attempt to get to survivors trapped in rubble. "When a building falls, it's not over."

The Armenia quake ignited about 50 fires while it cut off water supplies. Krimgold said emergency teams from Utah and California should have traveled to Armenia. "They need the experience in this kind of situation."

Hays said several comparisons can be drawn between Armenia and the Wasatch Front. Both sites are heavily populated, both have examples of the same types of buildings and both have the possibility of experiencing strong earthquakes every 300 years.

The Armenian quake happened along an unmapped fault.

"If minor, unmapped faults can generate an earthquake like this, then every urban area is in danger of this type of quake," Hays said.
[Deseret News; January 31, 1989]

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QUAKE VISITS AREA AGAIN
Sunday Evening

By Steve Christensen

SALINA--An earthquake measuring 5.4 on the Richter scale shook the ground from Rock Springs, Wyoming to Flagstaff, Arizona Sunday night.
No major damage has been reported.
People in Carbon and Emery counties had visions of last August when a similar size quake occurred east of Ferron in Emery County.
Sunday's quake, which was centered 16 miles southeast of Salina near Flat Top Mountain, occurred at 9:06 p.m. and rumbled through Carbon and Emery counties in a similar manner to the August tremor.
There were reports of cracked building foundations and chimneys in Sevier Valley and as far away at Clawson, but those reports have not been substantiated, said Sue Nava, staff seismologist with the University of Utah Seismograph Station.
The only known problem caused by the quake was at the Huntington Power Plant, where equipment detected the vibration and shut down one of the units. UP& L spokesman Gene Hess said normal procedures were initiated and the plant was soon back in operation.
Nava said there were no foreshocks and there had been about a dozen aftershocks as of late Monday afternoon. None of the aftershocks to that point were large enough to feel, Nava said.
She said there is no way to tell if the activity has ended. Typically aftershocks continue for several days. Aftershocks from the Emery quake in August lasted nearly a month.
[Emery County Progress; January 31, 1989]

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EARTHQUAKE CENTERED IN C. UTAH FELT IN 4 STATES

By Christopher Smart

An earthquake of Richter Scale magnitude 5.4 centered near Salina in central Utah sent chandeliers and lamps swinging from Arizona to Wyoming Sunday night.
The quake was equivalent to one in the region last August, said to be the largest in 13 years.
But only minor structural damage was reported Sunday night from counties in the area of the epicenter in Salina Canyon, 16 miles southeast of Salina, Sevier County and about 140 miles from Salt Lake City.
Some telephone service was reportedly interrupted in Carbon and Millard Counties, minor structural damage was reported in Sevier County, the IPP power plant in Delta, Millard County was shut down for a short time and operations at Utah Power & Light Co's Huntington Power Plant, Emery County, were interrupted briefly.
However, no power outages were reported.
The 9:06 p.m. earthquake was the first large temblor in the central Utah area since an Aug. 14, 1988 quake centered in Emery County, about 50 miles northeast of Sunday's temblor. The Aug. 14 quake also register 5.4 on the Richter Scale and was said by University of Utah seismology experts to be the largest in 13 years.
That August mid-day quake was one of a trio of temblors ranging in strength from 3.5 to 5.4 on the Richter Scale. The quakes triggered rock slides but no major damage resulted.
The August quake, however, was located on the Colorado Plateau, said Dr. Walter Arabasz, director of the University of Utah seismographic stations. Sunday's quake, he said was located on the Wasatch Plateau about 25 miles south of the most southern point of the Wasatch Fault.
Historically, Dr. Arabasz said "small to moderate-size quakes have been scattered around central Utah."
A dispatcher for UP&L said one unit at Huntington was tripped off for a short time. He said the earthquake was distinctly felt in Sigurd, Sevier County, 10 miles southwest of Salina. "Oh boy, it really shook here. It felt like the building was coming down."
A dispatcher for the Sevier County sheriff said he had reports of "pictures coming off the walls."
A preliminary report from the U.S. Weather Service and the National Earthquake Center in Boulder, Colo., stated that no roads or dams in the area had been damaged. But crews were inspecting DMAD and Yuba Dams in Millard County, the sheriff's dispatcher said.
An official for the Denver & Rio Grande Railroad said crews had begun to check rail lines in central Utah.
The University of Utah Seismology station had reports of the quake throughout Utah. Most of Utah's 14 seismology stations reported the quake, a spokesman said. One station in Arizona also reported the quake.
A spokesman for the U.S. Weather Service said the quake had also been recorded in Grand Junction, Colo.
"It shook worse than the last one," said Carbon County sheriff's deputy Marty Estrada.

He said phone service had been interrupted in the area
The quake was also felt by many residents along the Wasatch Front.
Ed Dellinger, 2882 S. 2955 West, said he felt the quake in West Valley City. "The couch moved and my wife felt her chair move and some chimes we had started moving. I thought at first it was my nerves but my wife said look at the chimes move."
Helen Maris in the Cottonwood area of 5600 So. Van Winkle said her heart began to pound following the quake. "My lamps are still swinging," she said shortly after the quake.
Richard Scott, who lives near 11400 South and 2300 East in Sandy said he felt four ripples from the temblor. "Our lights moved, our couch moved . . . I'd say about four ripples."
[Salt Lake Tribune; January 30, 1989]

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EXPECT QUAKE'S AFTERSHOCK THIS WEEK, SAY EXPERTS

By Jess Gomez

Seismologists say an aftershock measuring in the high 3s to low 4s on the Richter scale can be expected this week following Sunday evening's earthquake in Sevier County.
Dr. Walter Arabasz, director of University of Utah Seismograph Stations, said such an aftershock, which might be felt throughout Utah, is normal, usually occurring within five days of the main temblor.
As of 3 p.m. Monday, 15 aftershocks had been detected in the Central Utah region--none registering more than a magnitude 2 on the Richter scale, said senior staff seismologist Sue Nava.
Sunday's quake measured magnitude 5.4 and was centered in Salina Canyon, 16 miles southeast of Salina, Sevier County, and about 140 miles from Salt Lake City.
A quake registering magnitude 5 or greater can cause considerable damage if concentrated in a populated area.
Each full number on the Richter scale represents an earthquake 10 times as strong as one of the next lower magnitude. For example, a magnitude 7 quake (considered major) is 10 times as strong as a 6 and 100 times stronger than a 5.
Although felt in four states, the temblor caused no major damage, said Jim Tingey at the office of the Division of Comprehensive Emergency Management. Division investigators were assessing the situation Monday, taking photographs, interviewing residents and answering questions, he said.
"There were some rock slides and some damage to people's chimneys but that's about it," Mr. Tingey said.
A rock slide, triggered by the temblor, closed I-70 in Salina Canyon temporarily Sunday night, but crews quickly cleared the road, a Utah Highway Patrol dispatcher reported.
Telephone service was out for about 10 minutes in Carbon County, but the sheriff's office there received no reports of major damage, said another dispatcher.
Although the quake "tripped" off a Utah Power & Light generator in Huntington for a little over an hour, no power was lost, a UP&L spokesman said.
Dr. Arabasz said data from the quake is of great interest to seismologists because it is the first magnitude 5 temblor to rock Central Utah's 10,000 foot High Plateaus--at least since 1850 when instruments were implemented to monitor ground movement.
Although there have been scattered magnitude 2 temblors in the area, they have occurred primarily in the Sevier Valley and Sanpete region, he said.
"The depth of this earthquake sequence will be very important to us to study the faults of the area and the style of deformation," said Dr. Arabasz.
Sunday's earthquake was the largest in the area since a temblor measuring 5.3 on the Richter scale was recorded on Aug. 14, 1988. That quake was located on the Colorado Plateau.
[Salt Lake Tribune; January 31, 1989]

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3 MINOR QUAKES HIT UTAH; COAL MINE CLOSES BRIEFLY

Three minor earthquakes hit separate areas of the state Thursday night and Friday morning, with the most recent one briefly shutting down a coal mine near Helper in Carbon County.

"One of the three is an aftershock," said Sue Nava, a senior staff seismologist at the University of Utah Seismological Stations. "The others are independent geologically and seismologically."

Ms. Nava said three minor earthquakes within a 24-period is not unusual.

The quake prompted Castle Gate Coal Mine near Helper to halt operations while it checked for structural damage to the mine.

"This is a longwall mine and we took quite a bit of a shake on the longwall section," said Robert Gossman, a spokesman for the company. "We checked the mine out and everything seems to be OK."

The first earthquake, measuring 3.1 on the Richter scale, occurred at 9:15 p.m. Thursday about 11 miles southeast of Beaver, Ms. Nava said.

This was followed by an earthquake measuring 3.0 that occurred at 7:04 a.m. Friday about 15 miles east of Salina, Sevier County. The earthquake was an aftershock of Sunday's earthquake that measured 5.4 on the Richter scale.

The earthquake that hit Sunday was centered about 16 miles southeast of Salina.

Four hours later, at 11:08 a.m., an earthquake measuring 3.0 struck about 5 miles north-by-northeast of Helper.

The Richter scale measures the amount of energy released by an earthquake, as measured by ground motion recorded on a seismograph. Every increase of one number, for instance from 3.0 to 4.0, means the ground motion is 10 times greater.

[Salt Lake Tribune; February 4, 1989]

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