Improved Earthquake Safety for the Wasatch Front

Volume 22, Number 1—2006





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Calendar of Events

OCTOBER 2006

4-5 UFOMA Fall Conference Alpine, Utah

5 SEAU/AISC Seismic Design Manual Seminar U Of U, Salt Lake City, Utah

6 Utah Seismic Safety Commission Meeting Bluffdale, Utah

12 ACP Symposium South Towne Expo Salt Lake City, Utah

PRELIMINARY RESULTS FROM 2005 FAULT TRENCHES

By Christopher DuRoss, Greg McDonald, and William Lund

INTRODUCTION

The Wasatch fault zone (WFZ) is Utah's longest and most active normal fault, extending 350 kilometers from southern Idaho to central Utah. The central, most active part of the fault, roughly from Brigham City to Levan, includes six segments. Each individual segment is thought to be capable of generating large-magnitude (M \sim 7) earthquakes, and thus poses a significant earthquake hazard to the densely populated Wasatch Front urban corridor.

The Nephi segment of the WFZ extends 42 kilometers from Payson to Nephi (figure 1), and has the most poorly constrained record of prehistoric earthquakes of the central fault segments, despite geologic evidence for large earthquakes and a location close to the Provo-Spanish Fork urban centers. Evidence for prehistoric earthquakes on the segment includes surface faulting along two distinct strands: the 17-kilometer-long northern strand bounding Dry Mountain, and the 25-kilometer-long southern strand bounding the Wasatch Range east of Juab Valley.

During the summer of 2005, the Utah Geological Survey (UGS) excavated trenches on the northern strand of the Nephi segment near the town of Santaquin, in conjunction with trenches excavated on the southern strand by the U.S. Geological Survey (USGS). The earthquake history at the Santaquin site is critical for determining 1) the size, frequency, and extent of surface-faulting earthquakes on the northern strand, and 2) if the northern strand ruptures independently or during southern-strand (Nephi segment) and/or Provo-segment earthquakes. Ultimately, the geologic information being developed for both strands of the Nephi segment is critical to resolve the overall earthquake behavior of the Nephi segment, and will allow for a better understanding of fault segmentation and seismic hazards along the Wasatch fault.

PRELIMINARY RESULTS

The Santaquin trench site is located east of Interstate 15 near Santaquin. At the site, surface faulting from a prehistoric Wasatch-fault earthquake displaced late Holocene alluvial-fan deposits, forming a 3-4-meter-high fault scarp. To investigate the prehistoric earthquake, we mapped the surficial geology, measured topographic profiles across the fault scarp, and excavated two 20- to 30-meter-long trenches (figure 1, inset).

The fault trenches exposed evidence for one surface-faulting event in the alluvial-fan sediments (figure 2). We mapped wedge-shaped deposits of scarp-derived colluvium (deposited in response to surface faulting) and, based on the correlation of faulted alluvial-fan deposits in the trenches and scarp profiling, found that about 3 meters of vertical surface displacement accompanied the earthquake. By comparing the Nephi-segment length and Santaquin-site displacement with global historical earthquake catalogs, we estimate that the Santaquin-site earthquake had a magnitude near 7.0-7.3.

PRELIMINARY RESULTS FROM 2005 FAULT TRENCHES CONTINUED

To determine the timing of the earthquake, we collected samples from a soil buried beneath and therefore older than the scarp colluvium (figure 2). Two samples from the soil indicate a maximum time since the earthquake of about 500-550 years. Material from within the scarp colluvium, which is younger than the time of the earthquake, yielded a radiocarbon age of about 425 years. Samples collected from within older, pre-faulting alluvial-fan deposits indicate that the minimum time since the next older earthquake, which was not exposed in the trenches, is at least 1500 years and maybe more than 6900 years.

Thus, at the Santaquin trench site, our study suggests that a single surface-faulting earthquake of about magnitude 7.0-7.3 displaced alluvial-fan sediments 3 meters between about 425 and 500-550 years ago. Strong ground shaking from the earthquake would have been felt in both the Provo and Salt Lake metropolitan areas. To complete our ongoing investigation, we plan to compare the Santaquin-site data with that currently being developed by the USGS for the southern part of the Nephi segment, and analyze the potential for multi-segment and spill-over rupture between the Nephi and adjacent segments.

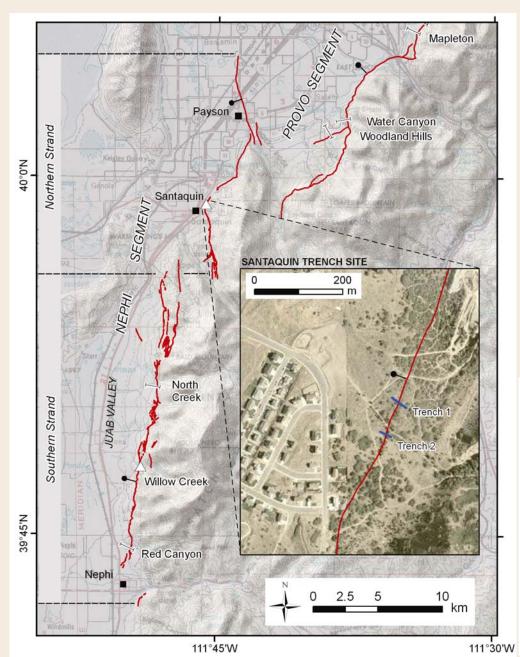


Figure 1. Fault-trace map of the Nephi segment and southern part of the Provo segment of the Wasatch fault zone, showing previous trench sites (I-shapes). 2005 sites (white triangles), and location of the Santaguin trenches (inset). Red line is the Wasatch fault trace: ball and bar on downthrown side (Black and oth-2003: UGS ers. 193DM). Basemap: Salt Lake City and Price 1 x 2 quadrangles: inset basemap: 2004 NAIP aerial photography.

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PRELIMINARY RESULTS FROM 2005 FAULT TRENCHES CONTINUERD

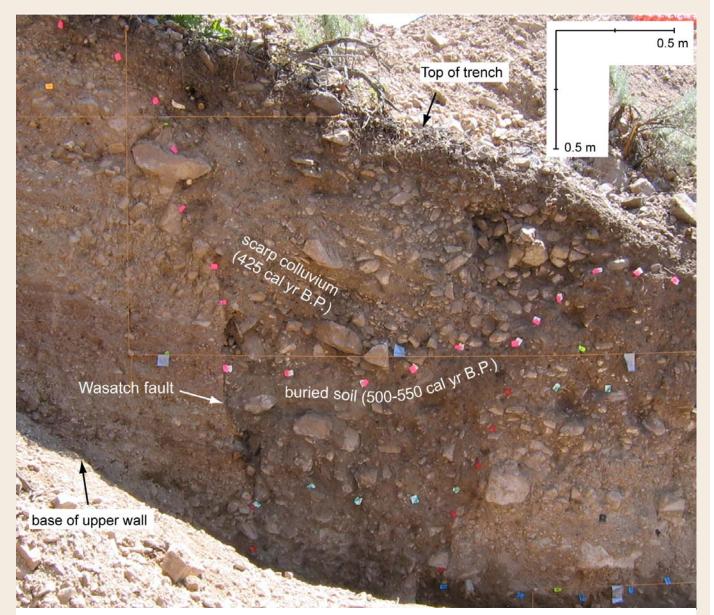


Figure 2. Santaquin trench exposure, showing soil displaced along the Wasatch fault (white arrow) and buried by scarp colluvium (above pink flagging). Horizontal level lines (orange) and 1 meter apart.

UNIVERSITY OF UTAH QUARTERLY SEISMICITY SUMMARY

EARTHQUAKE ACTIVITY IN THE UTAH REGION

October 1 – December 31, 2005

by R. Burlacu, P. M. Roberson, and M. Kline with contributions by

W. J. Arabasz, J. C. Pechmann, and K. L. Pankow

University of Utah Seismograph Stations

135 South 1460 East, Room 705 WBB

Salt Lake City, UT 84112-0111

Tele: (801) 581-6274 FAX: (801) 585-5585

email: burlacu@seis.utah.edu

URL: http://www.seis.utah.edu (aka quake.utah.edu)

During the three-month period October 1 through December 31, 2005, the University of Utah Seismograph Stations (UUSS) located 434 earthquakes within the Utah region (Figure 1). The total includes eight earthquakes in the magnitude 3 range, and 59 earthquakes in the magnitude 2 range. Earthquakes of magnitude 3.0 or larger (plotted as stars and specifically labeled on Figure 1) are listed below. Eight earthquakes were reported felt during the report period (see Table 1, a cumulative tabulation of earthquakes during 2005 that were either felt in the Utah region or for which a ShakeMap was produced, or both). Additional information on earthquakes within the Utah region is available from the University of Utah Seismograph Stations.

Online Information

A complete copy of this report, including maps and the earthquake catalog, is available on the UUSS Website at http://www.seis.utah.edu/catalog/quarterly.shtml. ShakeMaps—computer maps of the ground shak-

Seismicity of the Utah Region
October 1, 2005 - December 31, 2005

| Machine | Machine

Figure 1. Earthquake epicenters, located by the University of Utah Seismograph Stations, superposed on a map of Quaternary (geologically young) faults compiled by the Utah Geological Survey, The Wasatch fault shown in bold. Earthquakes of magnitude 3.0 and larger are labeled by local date and size. Earthquake clusters labeled A and B are discussed in the text.

ing produced by an earthquake—are automatically produced by UUSS for earthquakes of magnitude 3 and larger within the Wasatch Front urban area. On November 30, 2005, UUSS extended its capability for producing ShakeMaps to the entire Utah region for shocks of magnitude 4.0 or larger; in the greater Wasatch Front area, outside the urban corridor, the threshold is magnitude 3.5. The ShakeMaps are accessible on the UUSS Web page at http://www.seis.utah.edu/shake. Earthquakes during 2005 for which ShakeMaps are available are indicated in Table 1. For earthquakes of magnitude 3 and larger in the Utah region, the U. S. Geological Survey automatically posts a Community Internet Intensity Map (CIIM) on its "Did You Feel It?" Web page at http://pasadena.wr.usgs.gov/shake/imw. We urge anyone who feels an earthquake to report their observations on this interactive Web site; felt information is available by zip code on the CIIM site or can be obtained from UUSS directly.

Earthquakes of Magnitude 3.0 or Larger

- ML 3.0 November 14 13:25 MST 1 mi SW of Spring City, UT (felt, CIIM intensity map available, see Table 1)
- ML 3.0 November 14 13:35 MST <1 mi NE of Spring City, UT (felt, CIIM intensity map available, see Table 1)
- ML 3.1 November 14 18:17 MST <1 mi NNE of Spring City, UT (felt, CIIM intensity map available, see Table 1)
- ML 3.2 November 21 13:02 MST 10 mi N of Circleville, UT (felt; CIIM intensity map available, see Table 1)
- ML 3.1 December 11 03:28 MST 10 mi N of Circleville, UT (felt; CIIM intensity map available, see Table 1)
- ML 3.0 December 26 02:29 MST 10 mi N of Circleville, UT (felt; CIIM intensity map available, see Table 1)
- ML 3.0 December 29 07:33 MST 10 mi N of Circleville, UT (felt; CIIM intensity map available, see Table 1)
- ML 3.0 December 29 13:07 MST 10 mi N of Circleville, UT (felt; CIIM intensity map available, see Table 1)

Other Notable Seismicity

During the report period, there were two notable spatial clusters of earthquake activity (labeled A and B in Figure 1). For reporting purposes, we define a cluster as ten or more earthquakes occurring within a 10-km (6-mile) radius during the report period. Referring to the epicenter map (Figure 1), these include the following—from north to south (all dates below are UTC unless otherwise noted):

- A. A cluster of 40 earthquakes $(1.1 \le M \le 3.1)$ occurred about one mile SE of Spring City, UT (~38 miles WSW of Price). Thirty-four events, including a magnitude 3.1 shock, occurred between November 14 and November 16.
- B. A cluster of 45 earthquakes ($0.8 \le M \le 3.2$) occurred about ten miles N of Circleville, UT (~ 33 mi S of Richfield). Six events, including a magnitude 3.2 shock, occurred between November 21 and November 22; nineteen events occurred between December 26 and December 31. In Figure 1, the locally clustered seismic events within a radius of approximately 30 miles of Price, together with a localized cluster about 50 miles to its southwest, are associated with known areas of underground coal mining and are interpreted to be mining-related. These include a total of 230 located shocks ($0.7 \le M \le 2.6$) that occurred throughout the report period.

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UNIVERSITY OF UTAH QUARTERLY SEISMICITY SUMMARY

EARTHOUAKE ACTIVITY IN THE UTAH REGION January 1 – March 31, 2006

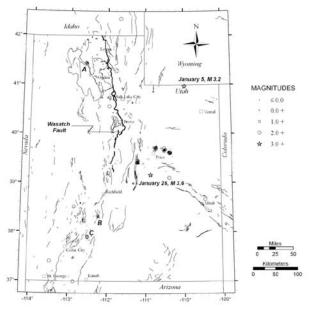
by R. Burlacu, P. M. Roberson, and M. Kline with contributions by W. J. Arabasz, J. C. Pechmann, and K. L. Pankow University of Utah Seismograph Stations 135 South 1460 East, Room 705 WBB Salt Lake City, UT 84112-0111 Tele: (801) 581-6274 FAX: (801) 585-5585

email: burlacu@seis.utah.edu

URL: http://www.seis.utah.edu (aka guake.utah.edu)

During the three-month period January 1 through March 31, 2006, the University of Utah Seismograph Stations (UUSS) located 745 earthquakes within the Utah region (Figure 1). The total includes two earthquakes in the magnitude 3 range, and 46 earthquakes in the magnitude 2 range. Earthquakes of magnitude 3.0 or larger (plotted as stars and specifically labeled on Figure 1) are listed below. Three earthquakes were reported felt during the report period (see Table 1, a cumulative tabulation of earthquakes during 2006 that were either felt in the Utah region or for which a ShakeMap was produced, or both). Additional information on earthquakes within the Utah region is available from the University of Utah Seismograph Stations.

Seismicity of the Utah Region January 1, 2006 - March 31, 2006



Online Information

A complete copy of this report, including maps and the earthquake cata-

log, is available on the UUSS Web site at http://www.seis.utah.edu/catalog/quarterly.shtml. ShakeMaps—computer maps of the ground shaking produced by an earthquake—are automatically produced by UUSS for earthquakes of magnitude 3 and larger within the Wasatch Front urban area. On November 30, 2005, UUSS extended its capability for producing ShakeMaps to the entire Utah region for shocks of magnitude 4.0 or larger; in the greater Wasatch Front area, outside the urban corridor, the threshold is magnitude 3.5. The ShakeMaps are accessible on the UUSS Web page at http://www.seis.utah.edu/shake. Earthquakes during 2006 for which ShakeMaps are available are indicated in Table 1. For earthquakes of magnitude 3 and larger in the Utah region, the U. S. Geological Survey automatically posts a Community Internet Intensity Map (CIIM) on its "Did You Feel It?" Web page at http:// pasadena.wr.usgs.gov/shake/imw. We urge anyone who feels an earthquake to report their observations on this interactive Web site; felt information is available by zip code on the CIIM site or can be obtained from UUSS directly.

Earthquakes of Magnitude 3.0 or Larger

ML 3.2 January 5 07:44 MST 38 mi N of Neola, UT

ML 3.6 January 26 23:47 MST 8 mi E of Castle Dale, UT (felt, CIIM intensity map and ShakeMap available, see Table 1)

Other Notable Seismicity

During the report period, there were three notable spatial clusters of natural earthquake activity (labeled A to C in Figure 1). For reporting purposes, we define a cluster as ten or more earthquakes occurring within a 10-km (6-mile) radius during the report period. Referring to the epicenter map (Figure 1), these include the following—from north to south (all dates below are UTC unless otherwise noted):

A. A cluster of 16 earthquakes $(1.0 \le M \le 2.2)$ occurred about twenty miles NNE of Lakeside, UT (~36 miles WNW of Ogden). Nine events, including two magnitude 2.2 shocks, occurred between January 29 and January 31.

B. A cluster of 13 earthquakes $(0.4 \le M \le 2.6)$ occurred about ten miles N of Circleville, UT (~33 mi S of Richfield). Ten events. including a magnitude 2.6 shock, occurred between January 5 and January 10.

C. A cluster of 12 earthquakes ($1.2 \le M \le 2.2$) occurred about five miles WNW of Panguitch, UT (~34 mi NE of Cedar City). Seven events, including a magnitude 2.2 shock, occurred on January 6. In Figure 1, the locally clustered seismic events within a radius of approximately 30 miles of Price, together with a localized cluster about 50 miles to its southwest, are associated with known areas of underground coal mining and are interpreted to be mining-related. These include a total of 588 located shocks ($0.4 \le M \le 2.6$) that occurred throughout the report period.

UTAH SEISMIC SAFETY COMMISSION MEETING NOTES

JANUARY 2006 BY AMISHA LESTER



The Utah Geological Survey, the University of Utah Seismograph Stations, and the Utah Office of Emergency Services along with the U.S. Geological Survey are collaboration on a new brochure to replace the one produced by OES. The USGS is providing the template for the brochure from one published in the San Francisco Bay area entitled "Putting Down Roots in Earthquake Country, Your Handbook for the San Francisco Bay region". The brochure illustrates the location of the earthquake-related hazards, quantifies the impact on the built environment, and provides preparedness information for businesses, schools, hospitals and

homeowners. The ad hoc committee working in this project Gary Christenson, Walter Arabasz, Barry Welliver, and Bob Carey, were seeking support from the Commission for the brochure.

Laura Bohn, from the Governor's Office of Planning and Budget, gave a presentation on the critical lands initiative, earthquake component. Laura distributed a brochure to the Commission discussing this issue. You can access the toolkit online at: www.planning.utah.gov/CriticalLandsHome.htm.

Bob Carey discussed the USSC workshop that was held on December 13, 2005, at the Salt Lake County Emergency Operations Center. The workshop was successful and was well received by those that attended. Nearly 70 people attended the half-day conference.

Bob Carey reported on the pre-disaster mitigation program grants. For FY05, Utah had seven grants funded. One was for wildfires, two for planning and four were seismic related. For FY06, Utah has five grants total. Jordan Valley Water and Salt Lake City Library are two of the projects to use the 2006 grant money.

Barry Welliver presented and the Commission discussed the plan for a USSC meeting outside of Salt Lake City. During the last planning meeting the executive committee discussed having the Commission's quarterly meeting in the southern part of the state in the fall. Costs, transportation, and speakers from the local area will be considered. The joint meeting with the Nevada Earthquake Safety Council is still in consideration for a location and time that is convenient to both states.

Barry Welliver sent a letter on behalf of the Commission endorsing the National Earthquake Preparedness Response and Recovery Act (H.B. 4205; Rep. Harold Ford E. Jr. [TN-9]). This bill is before the 109th Congress and proposes to provide funding for seismic retrofits of buildings.

Rick Allis reported on Western States Seismic Policy Council (WSSPC) news. At the 1906 Anniversary Conference in April 2006, WSSPC will hold their annual business meeting. March 1, 2006, is the deadline for all nominations for awards in excellence. This year the awards are focused on lifetime achievement in reducing earthquake losses.

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FAULT (FLY) LINE FORUM

BY BARRY H. WELLIVER

Somewhere between January and March, I decided I miss fishing. I still haven't gone, but the thought of getting back on the stream with my fly rod pulls me forward because I like it. It invigorates me and keeps me fascinated and I began to wonder if this attraction isn't similar to my other more professional interests.

I doubt that I can equate earthquake engineering with fly fishing in any metaphysical sense, but the attractions for me are similar. There are interests in life which need very little fuel to keep burning and applying what you know to real life situations has an undeniable "hook" which pulls me along.

This past year has brought about the unfolding of a number of developments at the USSC which deserve mention and reflection. Not just because they are presently on our radar screen, but for reasons that interest in them reveals a growing surge of attention to disaster preparedness and forward thinking about what we often don't want to admit or consider. We observe the destruction of hurricane Katrina and hear the stories of the disruption to normal life and then project the possibility within our own communities and state and ask; are we doing enough?

House bill 434 (Task Force Studying Natural Disasters – Rep. Ted E. Kizer) was introduced in the 2006 Legislative session and took a swipe at admitting that we may be underestimating our abilities to cope with a significant natural disaster in our state. It asked that a task force be established to study the readiness of state and local governments in the event of a natural disaster and sought to understand the potential impact such an event would have on our economy. Significantly, it questioned whether our insurance industry was capable of sustaining a "hit" from a major event and begged the question, 'should we have a state-wide insurance coverage plan?'

The bill was passed by the Government Operations Standing Committee and endorsed by the USSC. Unfortunately it languished for lack of support for task force study initiatives in this session. The seed was planted however for legislators to renew their support in future sessions.

Another important issue for the commission was addressing the growing concern for the safety of our older existing building stock. The ad hoc committee on unreinforced masonry buildings presented a resolution to the legislature asking for its support in mapping out a direction for clarifying this danger and paving a path toward solutions. While this opportunity did not result in a specific action by the Government Operations Interim Committee, it did offer an occasion to air the concern before legislators and gauge the needs for a strategy for the future.

At our April quarterly meeting, the commission will finalize its review of our progress report covering the years 2000 to 2005. This project has afforded a look back at the last five years in the life of the USSC and will highlight some of the more noteworthy efforts and programs. Additionally, there will be reflections from individual commissioners which will help lend a personal perspective of the relevancy of the work of the USSC.

In April, a milestone earthquake conference will take place in San Francisco, CA commemorating the 100 years after that fateful event in 1906. The programs are ambitious and the seemingly vast media coverage will focus attention on this natural disaster and our present state of readiness.

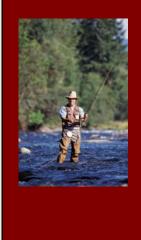
This chain of events keeps me captivated by the possibility of getting things accomplished in our state. There is a growing community of proponents who will continue to chip away at the undone list of priorities and look for fertile times to speak up and be heard.

Seismic safety is squarely at the heart of our name and even though progress seems slow at times, the river will always call.











UTAH EARTHQUAKE WORKING GROUPS MEET TO PLAN FOR 2007

By Gary E. Christenson

We held the fourth annual meetings of Utah's Ground Shaking, Quaternary Fault Parameters, and Liquefaction Working Groups on February 14-16, 2006. Each working group discussed 2005 research results and upcoming 2006 projects, and set priorities for 2007 research.

The Ground Shaking Working Group heard presentations on the latest research to determine shallow shear-wave velocities and deep-basin structure along the Wasatch Front. These studies were conducted by the USGS, Utah State University, University of Utah, and Utah Geological Survey. The working group reviewed progress on developing the community velocity model (CVM), which uses these data in a three-dimensional subsurface model of basins along the Wasatch Front. The ultimate goal is to use the CVM to produce detailed urban ground-shaking-hazards maps, initially for



Salt Lake Valley and then the remainder of the Wasatch Front. In summer 2006, scientists from the USGS and University of Texas at Austin will use vibrator-truck sources to perform geophysical surveys to collect additional deep subsurface data for the CVM from one 5-km-long P-wave seismic-reflection line and multiple deep shear-wave-velocity profiles along the Wasatch Front.

Priorities of the Ground Shaking Working Group for 2007 are to:

- Continue laboratory dynamic soil testing of Lake Bonneville clays.
- Collect additional shallow (less than 30 m) shear-wave-velocity data for Weber/Davis/Utah Counties (if needed, pending analysis of 2005 data).
- Collect additional and/or re-analyze gravity, seismic, and geologic data to better model the geologic structure of the deep sedimentary basins along the Wasatch Front.
- Complete development and verification of the CVM and perform additional verification studies to assess sensitivity to basin parameters and determine whether shear-wave-velocity and deep-basin-structure data are adequate to develop urban ground-shaking-hazards maps.
- Consider passive instrumental monitoring to model basin effects on ground shaking.

The Quaternary Fault Parameters Working Group heard presentations on paleoseismic studies of the Nephi, Provo, Weber, Collinston, and Clarkston Mountain segments of the Wasatch fault zone. The working group also discussed multi-segment-rupture models for the Wasatch fault, and other fault considerations for the next update of the USGS National Seismic Hazards Maps used in the International Building Code.

The Quaternary Fault Parameters Working Group renewed last year's priorities for paleoseismic studies on the following fault zones (listed in order of priority):

- West Valley fault zone
- Weber segment most recent event
- Weber segment multi-event trench
- Faults beneath Utah Lake
- East Cache fault zone

The Liquefaction Working Group heard presentations on data collection and initial liquefaction analyses underway in southern Salt Lake Valley, and development of a lateral-spread map showing likely liquefaction-induced ground displacements for northern Salt Lake Valley for a scenario M 7.0 earthquake. Working group priorities for 2007 are to:

- Complete the probabilistic lateral-spread map and deterministic lateral-spread map (for a scenario M 7.0 earthquake) for southern Salt Lake County.
- Collect and perform preliminary geologic analyses of subsurface data to identify data gaps and data-collection requirements for future liquefaction mapping in Utah Valley.
- Develop a liquefaction-induced settlement map for Salt Lake County.

The Utah Earthquake Working Group meetings are organized by the UGS and cooperatively funded by the UGS and USGS under the National Earthquake Hazards Reduction Program. Working group leaders are Ivan Wong, URS Corporation/University of Utah (Ground Shaking Working Group); Bill Lund, UGS (Quaternary Fault Parameters Working Group), and Steven Bartlett, University of Utah (Liquefaction Working Group). The working groups meet each year to set priorities and coordinate earthquake research in Utah. Summaries of the 2007 working group meetings will be posted at the UGS Web site: http://ugs.utah.gov/ghp/workgroups/index.htm.

UTAH SEISMIC SAFETY COMMISSION MEETING NOTES

APRIL 2006 BY AMISHA LESTER

Barry reported that the URM ad hoc committee gave its presentation to the Legislative interim committee and recognized the need to carry out its recommendation for some form of inventory of the unreinforced masonry buildings in the state. Several methods were discussed including a possible sidewalk survey in the Murray/Salt Lake City area. Rapid Visual Screening was discussed as the tool which would provide a beginning inventory of the extent of the URM problem. Several other methods for raw data would be to be a part of the Be Ready Utah Campaign, to make contact with the Utah State Historical Society and the County Assessor.

Gary Wallace and Kelly Johnson gave a presentation for S.A.F.E. (Save All From Earthquakes). Kelly Johnson's website is www.utahearthquake.org. The Commission had possitive feedback and recommendations from S.A.F.E.

Barry Welliver spoke on the 2000-2005 USSC Progress Report. All Commissioners are to give final thoughts and changes on the progress report. The final report comments are to be submitted to Barry Welliver by May 15, 2006.

Gary Christenson gave the results of the fourth annual meetings of Utah's Ground Shaking, Quaternary Fault Parameters, and Liquefaction Working Groups that were held on February 14-16, 2006. Each working group discussed 2005 research results and upcoming 2006 projects, and set priorities for 2007 research. Working group leaders are Ivan Wong, URS Corporation/University of Utah (Ground Shaking Working Group); Bill Lund, UGS (Quaternary Fault Parameters Working Group), and Steven Bartlett, University of Utah (Liquefaction Working Group). The working groups meet each year to set priorities and coordinate earthquake research in Utah. Summaries of the 2007 working group meetings are posted at the UGS Web site: http://ugs.utah.gov/ghp/workgroups/index.htm.

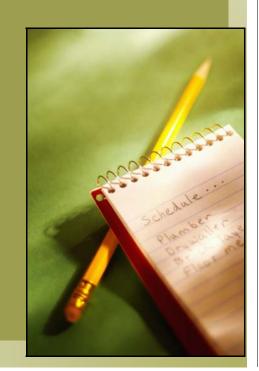
Walter Arabasz reported on the 40th Anniversary of the University of Utah Seismograph Stations. For more information about the seismograph stations you can log on to www.quake.utah.edu or www.eartquake.usgs.gov.

Gary Christenson reported that the Western States Seismic Policy Council (WSSPC) has expanded it's membership to include seismic safety commissions. Therefore, the current Chairman will represent USSC at all annual WSSPC meetings.

Walter Arabasz reported on Mary Lou Zoback's presentation on the 1906 San Francisco earthquake. The setting of the presentation was the Salt Lake City Library before an audience of about 100 and was broadcast live on radio. The presentation described the political environment at the time of the earthquake, the damage that resulted from the earthquake and fire, the recovery, and the continuing importance for seismic monitoring.

Barry Welliver reported that the 2006 Earthquake Preparedness Week proclamation signing went very well. Name tags were created for the occasion.

Barry reminded Commissioners that the July USSC meeting will be the annual election of the Chair and Vice Chairs. He encouraged all those that would like to be involved to please come forward. Jake Watson will be replacing Barry on the Commission to represent SEAU.





Department of Public Safety Division of Homeland Security 1110 State Office Building P.O. Box 141710 Salt Lake City, UT 84114-1710 www.utah.gov

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Remember the
Utah Seismic
Safety Commission
Meeting on
October 6, 2006!



Jordan Valley Water Conservancy District 15305 South 3200 West Bluffdale, Utah @ 9:00 A.M.