

**AGENDA**  
**QUATERNARY FAULT PARAMETERS WORKING GROUP**  
**Tuesday, February 5, 2013**  
**Utah Department of Natural Resources Building, Room 2000 (2nd floor)**  
**1594 West North Temple, Salt Lake City**

- 8:00 Continental breakfast
- 8:20 Welcome, overview of meeting, and review of last year's activities
- 8:30 Technical presentations of work completed or in progress
- 8:30 – Utah Lake fault investigation; Ron Harris, BYU
  - 8:50 – Automated fault scarp offset analysis of the Nephi segment of the Wasatch fault utilizing LiDAR derived, high resolution DEMs; Billie Smathers, BYU
  - 9:10 – Nephi segment paleoseismic trenching; Chris DuRoss, UGS
  - 9:30 – Penrose Drive/Baileys Lake paleoseismic studies final results; Chris DuRoss/Mike Hylland, UGS
  - 9:50 – New information for the Taylorsville fault from Orange Street consultant's trench, Mike Hylland, UGS
- 10:10 Break
- 10:30 Technical presentations of work completed or in progress
- 10:30 – Does fault segmentation limit earthquake magnitude on the Wasatch fault; Scott Bennett/Rich Briggs, USGS
  - 10:50 – Bear River fault behavior—clues provided by LiDAR; Suzanne Hecker, USGS
  - 11:10 – Update on U.S. Bureau of Reclamation Joes Valley fault study; Joanna Redwine, USBR
  - 11:30 – Wasatch Front GPS monitoring and Wasatch fault ground motion simulations; Robert Smith, UU
- 12:00 Lunch
- 1:00 Technical presentations of work completed or in progress
- 1:00 – Large liquefaction features and evidence for earthquakes induced by Lake Bonneville in Cache Valley; Susanne Janecke, USU
  - 1:30 – Washington fault mapping and fault section redefinition; Tyler Knudsen, UGS
  - 1:50 – Washington fault paleoseismic investigation; Bill Lund, UGS
  - 2:10 – Preliminary results of a high resolution seismic reflection profile at Hansel Valley, Utah; Pier Bruno, UU
  - 2:30 – Update Blue Castle nuclear facility licensing project; Dean Ostenaar, Fugro, Inc.
  - 2:50 – Paleoseismic-related NEHRP FTR reports for Utah; Steve Bowman, UGS
- 3:10 Break
- 3:30 – WGUEP update; Ivan Wong, URS Corp.
  - 3:50 – Re-examination of trenches for early-mid Holocene climatic events and redefining "Active" faults; Darlene Batatian, Mountain Land Development Services
- 4:10 UQFPWG 2014 fault study priorities (see table 1 for UQFPWG list of faults requiring additional study; see table 2 for UQFPWG 2013 priority list)
- 5:00 Adjourn

**Table 1. List of Quaternary faults/fault segments identified by the UQFPWG as requiring additional study to adequately characterize Utah's earthquake hazard to a minimally acceptable level.**

<b>Fault/Fault Segment</b>	<b>Original UQFPWG Priority (2005)</b>
Nephi segment WFZ	1
West Valley fault zone	2
Weber segment WFZ – most recent event	3
Weber segment WFZ – multiple events	4
Utah Lake faults and folds	5
Great Salt Lake fault zone	6
Collinston & Clarkston Mountain segments WFZ	7
Sevier/Toroweap fault	8
Washington fault	9
Cedar City-Parowan monocline/ Paragonah fault	10
Enoch graben	11
East Cache fault zone	12
Clarkston fault	13
Wasatch Range back-valley faults	14
Hurricane fault	15
Levan segment WFZ	16
Gunnison fault	17
Scipio Valley faults	18
Faults beneath Bear Lake	19
Eastern Bear Lake fault	20
Bear River fault zone	2007
Brigham City segment WFZ – most recent event	2007
Carrington fault (Great Salt Lake)	2007
Provo segment WFZ – penultimate event	2007
Rozelle section – East Great Salt Lake fault	2007
Salt Lake City segment WFZ – northern part	2009
Warm Springs fault/East Bench fault subsurface geometry and connection	2010
Brigham City segment WFZ rupture extent (north and south ends)	2011
Long-term earthquake record northern Provo segment WFZ	2011
West Valley fault zone – Taylorsville fault	2011
Hansel Valley fault	2011
Acquire new paleoseismic information in data gaps along the five central segments of the WFZ	2012

**Table 2. UQFPWG 2013 list of highest priority Quaternary faults/fault segments requiring additional study to adequately characterize Utah's earthquake hazard to a minimally acceptable level, and status of current paleoseismic investigations for all currently identified Utah priority faults/fault segments.**

<b>2012 Highest Priority Faults/Fault Sections For Study</b>			
<b>Fault/Fault Section<sup>1</sup></b>	<b>Investigation Status</b>		<b>Investigating Institution<sup>2</sup></b>
Acquire new paleoseismic information in data gaps along the five central segments of the WFZ – e.g., (a) Brigham City segment rupture extent (north and south ends); (b) long-term earthquake record northern Provo segment; (c) long-term earthquake record southern Weber segment.	See long-term Nephi segment earthquake record investigation below		UGS/USGS
Penultimate event Provo segment WFZ	No activity		
West Valley fault zone – Taylorsville fault	Consultant's trench of opportunity		UGS
<b>Other Priority Faults/Fault Sections Requiring Further Study</b>			
<b>Fault/Fault Section</b>	<b>Original UQFPWG Priority</b>	<b>Investigation Status</b>	<b>Investigating Institution<sup>2</sup></b>
Cedar City-Parowan monocline/Paragonah fault <sup>3</sup>	10	No activity	
Enoch graben	11	No activity	
Clarkston fault <sup>3</sup>	13	Black and others (2000)	
Gunnison fault	17	No activity	
Scipio Valley faults	18	No activity	
Faults beneath Bear Lake	19	No activity	
Eastern Bear Lake fault	20	No activity	
Carrington fault (Great Salt Lake)	2007	No activity	
Rozelle section, Great Salt Lake fault <sup>4</sup>	2007	No activity	
Warm Springs fault/East Bench fault subsurface geometry and connection <sup>4</sup>	2010	No activity	
Hansel Valley fault <sup>3</sup>	2011	McCalpin, (1985), McCalpin and others (1992), Robinson (1986)	UU?
<b>Faults/Fault Sections Studies Complete or Ongoing</b>			
<b>Fault/Fault Section</b>	<b>Original UQFPWG Priority</b>	<b>Investigation Status</b>	<b>Investigating Institution<sup>2</sup></b>
Nephi segment WFZ	1	UGS Special Study 124 USGS Map 2966 New UGS study funded 2012	UGS/USGS
West Valley fault zone (Granger fault)	2	Ongoing	UGS/USGS
Long-term earthquake record Nephi segment WFZ	2012	Ongoing	UGS/USGS
Weber segment WFZ – most recent event	3	UGS Special Study 130	UGS/USGS
Weber segment WFZ – multiple events	4	UGS Special Study 130	UGS/USGS
Utah Lake faults and folds	5	Ongoing	UUGG/BYU
Great Salt Lake fault zone	6	Ongoing	UUGG
Collinston & Clarkston Mountain segments WFZ	7	UGS Special Study 121	UGS
Sevier/Toroweap fault	8	UGS Special Study 122	UGS
East Cache fault zone	12	Ongoing	USU
Wasatch Range back-valley fault (Main Canyon fault)	14	UGS Miscellaneous Publication 10-5	USBR
Hurricane fault	15	UGS Special Study 119	UGS
Levan segment WFZ	16	UGS Map 229	UGS
Brigham City segment WFZ – most recent event	2007	Ongoing	UGS/USGS
Bear River fault zone	2007	Ongoing	USGS
Salt Lake City segment WFZ – north end	2009	Ongoing	UGS/USGS

<sup>1</sup>Not in priority order

<sup>2</sup>UGS (Utah Geological Survey), USU (Utah State University), USGS (U.S. Geological Survey), UUGG (University of Utah Department of Geology & Geophysics), USBR (U.S. Bureau of Reclamation), BYU (Brigham Young University)

<sup>3</sup>Earthquake source on the USGS National Seismic Hazard Maps

<sup>4</sup>Previous highest priority fault/fault segment