

# NEWSLETTER

Serving the Petroleum and Geothermal Community

Nevada Petroleum and Geothermal Society; P. O. Box 11526; Reno, NV 89510

Visit our NPS Homepage: <http://www.nbmg.unr.edu/nps/>

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## Dinner Meeting: Thursday Jan 8, 2015

**Speaker:** Dr. Wanda J. Taylor  
Department of Geoscience  
University of Nevada, Las Vegas

**Topic:** Cenozoic structure and tectonics of southern Nevada

**Place:** Ramada Reno Hotel  
1000 East 6<sup>th</sup> Street, Reno, Nevada

**Cocktail Reception 6:30, Skyline Bar, 14th Floor**

**HOSTED BY:**



**Dinner Served at 7:00 PM**

**NPGS Members \$20; Non-Members \$23; Students \$10**

*Please RSVP with the following link:*

[https://docs.google.com/forms/d/1D-K6FNFopL16sUcQZBO7cfXbMDCYf\\_Swiux2cxaek68/viewform](https://docs.google.com/forms/d/1D-K6FNFopL16sUcQZBO7cfXbMDCYf_Swiux2cxaek68/viewform)

NPGS is charged for every meal that is reserved. If you cannot keep your reservation, please cancel prior to the meeting.

**SEE CALENDAR Page 21 for upcoming meetings**

► **January Meeting Cocktail Reception 6:30 Hosted by Barbour Well:**

Thank you to Barbour Well for hosting the bar for our January meeting!



*Scott Watkins Client Relations*

Barbour Well Inc., 260 Sunpac Ave. Suite A, Henderson, NV 89011

Direct: 805-207-6407, Ofc: 702-558-5373, [www.barbourwell.com](http://www.barbourwell.com)

► **NPGS Monthly Dinner Meeting – Jan 8, 2015**

*Cenozoic structure and tectonics of southern Nevada*

*Wanda J. Taylor, Department of Geoscience, University of Las Vegas*

A significant change in tectonism occurred in the Northern Basin and Range (NBR) and Central Basin and Range (CBR) sub-provinces between the Miocene and Pliocene-Quaternary. These changes are demonstrated by structures, volcanic rocks, and young sedimentary rocks in southern Nevada.

In the Miocene (and earlier), the NBR-CBR boundary (~37.2°N) accommodated differences across it in the timing of initiation, rate and magnitude of extension. Differences in magnetic anomalies, gravity anomalies and structures also occur across the NBR-CBR boundary. This boundary is marked by two caldera complexes, the Caliente caldera complex and the southern Nevada volcanic field, and two NE-striking left-lateral fault systems: the Caliente-Enterprise zone and the Pahranaagat Shear Zone. New work on the Pahranaagat Shear Zone, a system with three major faults, shows restraining bends and transfer fault geometries. The faults also cut an older, but post-volcanic (~18 Ma) set of normal faults, suggesting at least two different episodes of extension.

In the late Miocene, a portion of the right-lateral slip along the San Andreas fault (ie., the plate boundary) stepped to the east of the Sierra Nevada and resulted in a change in tectonism in southern Nevada. The Pliocene-Quaternary faults have a wider spacing and geometries that differ from those in the Miocene. The Miocene and earlier NBR-CBR boundary is spatially coincident with the southern Nevada seismic belt (SNSB). Geodetic strain rates are higher north of the belt than south of it. The region south of the SNSB lies between the active Eastern California Shear Zone on the west and the northern Arizona seismic belt on the east, however, this region have been called both seismically inactive and active. New paleoseismic data on the Stewart Valley fault/Pahrump fault of the Stateline right-lateral fault system, a part of the Eastern California Shear Zone, indicate at least two recent earthquakes. The latest of these occurred within the last ~1000 years. New paleoseismic data on normal faults such as the California Wash fault also suggest that these faults have been active within the Holocene. Together these data suggest that the region is tectonically and seismically active.

Las Vegas basin is a clear example of these changes in tectonism. Well log and geologic map data show that the Miocene sedimentary depocenter was controlled by the right-lateral Las Vegas Valley Shear Zone and the normal oblique slip Frenchman Mountain fault. In contrast, well log and map data show that the deepest part of the Pliocene-Quaternary basin lays west of that in the Miocene. These relations are interpreted to indicate that the Las Vegas Valley fault system became active then and impacted the basin geometry at a time consistent with the changes in the plate boundary.

► **About the Speaker**

**Wanda J. Taylor**

Department of Geoscience  
University of Nevada, Las Vegas  
4505 Maryland Parkway  
Las Vegas, NV 89154-4010  
(702) 895-4615, wjt@nevada.unlv.edu

**EDUCATION:**

- Ph.D. in structural geology and tectonics, University of Utah; 1989
- M.S. in structural geology, Syracuse University; 1984
- B.S. in geology, minor in chemistry, University of Minnesota, Duluth; 1982

**PROFESSIONAL ACADEMIC EXPERIENCE:**

- Professor, University of Nevada, Las Vegas; 2004 – present
- Interim Dean, UNLV College of Sciences; 2008 - 2010
- Nevada DOE EPSCoR Program Director, 2007 - 2008
- Chair, Department of Geoscience, University of Nevada, Las Vegas; 2004 - 2007
- Associate Professor, University of Nevada, Las Vegas; 1997 - 2004
- Assistant Professor, University of Nevada, Las Vegas; 1991 - 1997
- Research Assistant Professor, University of Utah; 1990 - 1991
- Assistant Professor (Sabbatical Replacement), University of Minnesota-Duluth; 1989 - 1990
- Field Camp Instructor, University of Utah; Summer, 1988
- Teaching Assistant, University of Utah; 1985-86, 1987, 1988 & Syracuse University; 1982 - 1984

**OTHER PROFESSIONAL EXPERIENCE**

- Exploration Field Geologist, Mobil Oil Corp., Summers, 1989 and 1990
- Geology Consultant, BHP-Utah International/FLG, 1988 & 1989; gold exploration
- Research Assistant, Univ. of Utah; 1986 to 1989 and Univ. of North Carolina; 1984 - 1985
- Geological Assistant, Syracuse University / Maine Geological Survey; Summer, 1984
- Geology Consultant, Arco Alaska; Spring, 1984

**PROFESSIONAL AFFILIATIONS**

Geological Society of America (GSA)                      American Geophysical Union                      Sigma Xi  
American Association of Petroleum Geologists      Seismological Society of America

**PROFESSIONAL SERVICE**

- Board Member, Nevada Earthquake Safety Council, 2006 – present, Vice Chair South 2010 – 2012
- Nevada Board of Geographic Names, Alternate, 2008 – present
- Governor's Workforce Investment Board, Mining and Materials Sector, 201 - present
- Associate Editor for the Geological Society of America (GSA) Bulletin, 2001 - 2007
- Geological Society of America Research Grants Committee member, 2000 - 2003
- Reviewer for GSA Bulletin, J. Structural Geology, Geophysical Research Letters, J. Geophysical Research, AAPG Bulletin, American J. Science, Tectonics, Radioactive Waste Management J., Tectonophysics, Utah Geological Survey publications, Rocky Mountain Geology, and special volume manuscripts
- Reviewer for National Science Foundation and Petroleum Research Fund grant proposals
- Member of board for Association of Environmental and Engineering Geologists 2005 conference
- Member of Board for Geological Society of America Cordilleran section meeting for 2008
- GSA Structure & Tectonics Division Short Course Committee, 1995-98, chair 1996-97
- Led and organized Nevada Petroleum Society Field Conference, 1996, 1998, presented 2002
- Assisted with organizing conference on Seismic Hazards in the Las Vegas Region, 1996
- Nevada Petroleum Society Field Conference Volume co-editor, 1994 and 1996
- Chaired symposia or technical sessions at AGU & GSA meetings, 1992, 1993, 1994, 2003, 2008

► **Scheduled Nevada BLM Geothermal Lease Sales:**

Sale Date	Nominations Due	Sale Posting Date	Protest Deadline
September 16, 2015	February 6, 2015	June 18, 2015	July 17, 2015

[http://www.blm.gov/nv/st/en/prog/minerals/leasable\\_minerals/geothermal0/ggeothermal\\_leasing.html](http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/geothermal0/ggeothermal_leasing.html)

► **Scheduled Nevada BLM Oil & Gas Lease Sales:**

***Nevada's Competitive Oil & Gas Lease Sale Schedule  
(Tentative)***

Sale Date	Parcels Offered for District Office at Sale	*EOIs Due	Sale Posting Date	Protest Deadline
March 10, 2015	Elko/Southern Nevada	June 12, 2014	December 10, 2014	January 9, 2015
June 9, 2015	Battle Mountain	September 12, 2014	March 11, 2015	April 10, 2015
September 15, 2015	Winnemucca/Carson City	December 19, 2014	June 17, 2015	July 17, 2015
December 8, 2015	Ely	March 13, 2015	September 9, 2015	October 9, 2015

\*EOI = Expression of Interest

For listings of parcels for the Dec sale, use the following link:

[http://www.blm.gov/nv/st/en/prog/minerals/leasable\\_minerals/oil\\_gas/oil\\_and\\_gas\\_leasing.html](http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/oil_gas/oil_and_gas_leasing.html)

► **AAPG Bulletins Available:**

NPGS Member, Gene Saucier has 12 volumes of AAPG Bulletins in very good condition he would like to give to anyone interested in having them, for a small donation to the NPGS Student Fund. They are unbound volumes 76 (1992) to 87 (2003). The books can be picked up from Gene at his home in Reno. Please call Gene to make arrangements 775-825-2863.

► **NBMG, UNR – Two New Faculty Openings**

ASSOCIATE PROFESSOR – Geothermal Specialist (tenure-track)

ASSISTANT PROFESSOR – Neotectonics (tenure-track)

**ASSOCIATE PROFESSOR – Geothermal Specialist (tenure-track)**

The Nevada Bureau of Mines and Geology (NBMG) at the University of Nevada, Reno seeks applicants with expertise in geothermal energy research. Nevada is one of the most exciting regions in the world to do research in the geosciences and one of the best in the U.S. for the study of geothermal resources.

**Position Responsibilities:** The primary responsibilities of this position will be to develop broad programs in research and education in the field of geothermal energy while serving as Director of the Great Basin Center for Geothermal Energy. The applicant is expected to conduct a nationally competitive research program that will include innovative approaches to understanding the complexities of fluid flow in the crust with a concentration on Nevada and the surrounding Great Basin region. The successful candidate will also be expected to contribute to the development of datasets and reports on Nevada's geothermal resources, maintain geothermal databases as part of NGDS (National Geothermal Data System), and provide state resource assessments. Education will include teaching courses in geothermal related topics in the Department of Geological Sciences and Engineering (DGSE), supervising graduate students, and contributing to developing a geothermal curriculum. Research and educational efforts will involve multi-departmental and multi-institutional efforts, with scientists from academia, industry, other institutions, and government labs. The successful candidate will be asked to communicate effectively with the public and community leaders regarding the geothermal resources of Nevada.

**Qualifications:** Applicants must have a doctorate in geology, geologic engineering, geophysics, or a related geoscience field by the time of hire and a demonstrated record of research on topics related to geothermal energy as indicated by dissertation research, industry experience, and/or peer-reviewed publications. The successful candidate must have at least 5 years of postdoctoral experience (either in industry or academia) in geothermal research in such areas as rock mechanics, 3D modeling, geophysical techniques, reservoir engineering, and/or geochemistry. Excellent communication skills, as demonstrated in written application materials; commitment to public service; potential for, or established record of publications; and ability to attract funding are essential. The successful candidate must also have demonstrated ability to develop/coordinate programs and work in teams to accomplish major goals.

Because the individuals will be competing for funding from a variety of sources, including industry and federal agencies, for fundamental and applied geoscience research (e.g., NSF, DOE, and USGS), preference will be given to candidates who explain achievable plans for funded research on Nevada-focused topics in geothermal energy in their letters of interest. In addition, preference will be given to candidates who understand NBMG's role as the state geological survey of Nevada, especially to those who can articulate a plan of how NBMG can better serve stakeholders (citizens, government, and industry) on issues related to geothermal resources.

**Salary and Date of Appointment:** The position will be a tenure-track faculty appointment at the associate professor level with an academic-year base salary that is competitive with other research universities. Starting date will be July 1, 2015 or shortly thereafter, depending on availability of the successful candidate.

To apply, please visit: <https://www.unrsearch.com/postings/16685>. Please submit a letter expressing your interest in the position, research plans; names, e-mail, postal addresses, and telephone numbers of at least three references; a complete vita; and electronic copies of up to three of your publications. Application deadline is March 1, 2015. For further information about NBMG, please consult our website (<http://www.nbmgnr.edu>).

The University of Nevada, Reno is committed to Equal Employment Opportunity/Affirmative Action in recruitment of its students and employees and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, and sexual orientation. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States. Women and under-represented groups are encouraged to apply.

[http://www.nbmgnr.edu/docs/Associate\\_Professor\\_Geothermal\\_Specialist.pdf](http://www.nbmgnr.edu/docs/Associate_Professor_Geothermal_Specialist.pdf)

Nevada Petroleum and Geothermal Society; Jan 2015

**ASSISTANT PROFESSOR – Neotectonics (tenure-track)**

The Nevada Bureau of Mines and Geology (NBMG) at the University of Nevada, Reno seeks applicants with expertise in neotectonics and Quaternary geology. Nevada is one of the most exciting regions in the world to conduct research in the geosciences, particularly in the fields of neotectonics and geologic hazards.

**Position Responsibilities:** The primary responsibilities of this position will be to develop programs in research and education in the field of neotectonics with emphasis on paleoseismic and earthquake hazard research in Nevada and the surrounding region. Research will focus on landscape evolution primarily as it relates to Quaternary faulting, utilizing innovative approaches, such as LiDAR, to conduct detailed geologic mapping and dating of Quaternary units and surfaces. The successful candidate will also be expected to contribute to the development of datasets and reports on Nevada's Quaternary faults and seismic activity, including periodic assessments and syntheses of hazards facing its major cities and infrastructure. Education will include teaching courses in the successful candidate's area of expertise, such as neotectonics, geologic hazards, and Quaternary geology in the Department of Geological Sciences and Engineering and supervising graduate students. Research and educational efforts will involve integrated multi-departmental (e.g. Nevada Seismological Laboratory) and multi-institutional efforts, with scientists from academia, industry, other institutions, and government labs. The successful candidate will be asked to communicate effectively with the public and community leaders regarding natural hazards in Nevada and coordinate mitigation and response efforts with local and federal emergency management agencies.

**Qualifications:** Applicants must have a doctorate in geology or a related geoscience field by the time of hire and a demonstrated record of research on topics related to neotectonics as indicated by dissertation research, industry experience, and/or peer-reviewed publications. Excellent communication skills, as demonstrated in written application materials; commitment to public service; potential for, or established record of publications; and ability to attract funding are essential. The successful candidate must also have the ability to develop and coordinate programs and work in teams to accomplish major goals.

Preference will be given to candidates with academic or industry experience in neotectonics. Expertise in paleoseismology (e.g. trenching), surficial processes, Quaternary dating techniques, LiDAR, and/or InSAR will be valued. Preference will be given to candidates who have demonstrated research productivity with publications in peer-reviewed literature. The successful candidate will compete for funding from a variety of sources, including federal agencies interested in fundamental and applied geoscience research (e.g., NSF, USGS, Department of Energy, and Bureau of Land Management) and industry. Therefore, preference will be given to candidates who explain achievable plans for funded research on Nevada-focused topics in neotectonics in their letters of interest. In addition, preference will be given to candidates who understand the role of NBMG as the state geological survey of Nevada and can articulate how NBMG can better serve stakeholders (citizens, government, and industry) on issues related to geologic hazards.

**Salary and Date of Appointment:** The position will be a tenure-track faculty appointment at the assistant professor level with an academic-year base salary that is competitive with other research universities. Starting date will be July 1, 2015 or shortly thereafter, depending on availability of the successful candidate.

To apply, please visit: <https://www.unrsearch.com/postings/16813>. Please submit a letter expressing your interest in the position and research plans; names, e-mail addresses, postal addresses, and telephone numbers of at least three references; a complete curriculum vitae; and electronic copies of up to three of your publications to <http://jobs.unr.edu/>. Application deadline is March 10, 2015. For further information about NBMG, please consult our website (<http://www.nbmg.unr.edu>).

The University of Nevada, Reno is committed to Equal Employment Opportunity/Affirmative Action in recruitment of its students and employees and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, and sexual orientation. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States. Women and under-represented groups are encouraged to apply.

[http://www.nbmg.unr.edu/docs/Assistant\\_Professor\\_Neotectonics.pdf](http://www.nbmg.unr.edu/docs/Assistant_Professor_Neotectonics.pdf)

Thank you,

James E. Faulds, Ph.D.  
Director/State Geologist/Professor  
Nevada Bureau of Mines and Geology  
University of Nevada, Reno, MS 178  
Reno, NV 89557  
(775)-682-8751

► **Endowed Chair in Petroleum Geology for Western State University, Colorado**  
Job Bulletin Page 1 of 2



**WESTERN STATE COLORADO UNIVERSITY**  
invites applications for the position of:  
**Rady Chair in Petroleum  
Geology**

**SALARY:** See Position Description

**OPENING DATE:** 09/08/14

**CLOSING DATE:** Continuous

**POSITION:**

Western State Colorado University invites applications for the Rady Chair in Petroleum Geology. The Rady Chair is made possible by a generous endowment from the Paul M. Rady Family Foundation.

**DUTIES:**

The successful candidate will work with the department to recruit students into the petroleum geology program, to place students in professional jobs and internships, and to develop industry support for the program. Teaching responsibilities include developing and teaching undergraduate courses in petroleum geology with an emphasis on subsurface mapping, log analysis, seismic interpretation and workstation techniques. The successful candidate will also teach courses in the geology core curriculum that support the petroleum emphasis.

**QUALIFICATIONS:**

Significant experience in the oil and gas industry is required. The ideal candidate should have a broad range of experience within the oil and gas industry, including significant time spent at a major oil company and experience in the independent sector. A Master's degree in geology or related field is required. Candidates must possess a strong commitment to undergraduate education as well as demonstrable teaching excellence. The successful candidate will demonstrate the ability to serve as the chief liaison between the program and industry partners.

If the successful candidate has a Master's degree, the Rady Chair is a non-tenure track position. If the successful candidate has a PhD degree, the position can be tenure track.

**ADDITIONAL APPLICATION INFORMATION:**

**Start date:** spring 2015, or as agreed.

**Salary Range:** Salary will be commensurate with experience and qualifications, approximately \$90,000-94,000 per year.

**To apply,** use our online application at [www.western.edu/jobs](http://www.western.edu/jobs) (scroll up the page and select the "apply" link). **Required attachments** to your online application include a cover letter, curriculum vitae, statements of teaching and research philosophies, and academic transcripts.

Three letters of recommendation are also required and these must be submitted via email to Lori Clement: [lclement@western.edu](mailto:lclement@western.edu)

Please direct questions regarding the position to Dr. Allen Stork: [astork@western.edu](mailto:astork@western.edu)

Unofficial transcripts are acceptable during screening. Official transcripts are required prior to

employment.

Screening of applications will begin November 15 and continue until the position is filled.

Western is a residential, four-year public University with an enrollment of 2,400 students who come from across Colorado and all fifty states. Faculty members share a strong commitment to personalized undergraduate education with the liberal arts as its core. They are student-oriented, collegial, energetic, and engaged in the campus and community. The curriculum provides professional flexibility where experiential learning and interdisciplinary approaches are valued. The University is located in Gunnison, Colorado, a rural community 200 miles southwest of Denver. At an elevation of 7,700 feet in the Southern Rocky Mountains, the Gunnison Valley provides significant year-round outdoor recreational opportunities. Employees have chosen Western because of the quality of life combined with rewarding careers. Visit <http://www.western.edu> to learn more about Western.

*Western State Colorado University is an affirmative action/equal opportunity educator and employer.*

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APPLICATIONS MAY BE FILED ONLINE AT:  
<http://www.western.edu/jobs>

600 N. Adams Street  
Gunnison, CO 81231  
970-943-3142

Position #51495F-FY15-1  
RADY CHAIR IN PETROLEUM GEOLOGY  
LC



**GEOLOGICAL SOCIETY OF NEVADA  
2015 SYMPOSIUM**

**ANNOUNCEMENT and  
CALL FOR PAPERS**

**ABSTRACT DEADLINE EXTENDED**

**THEME: New Concepts and Discoveries**

**WHEN: MAY 14-24, 2015**

**WHERE: JOHN ASCUAGA'S NUGGET  
RENO/SPARKS, NEVADA**

The Geological Society of Nevada invites contributions for oral, poster, and core shack presentations covering a broad range of geological topics for its upcoming seventh symposium. The symposium's focus is New Concepts and Discoveries emphasizing both the major deposit types and the trends that have sustained the mining industry for several decades as well as other deposit types and areas that may eventually have greater influence. The focus of the meeting is to utilize case studies; descriptions of new and reinvigorated deposits and targets; framework geology; tectonics and metallogeny; and the latest deposit concepts and exploration technologies.

Oral presentations require abstracts and a written paper that will be peer-reviewed and published in the Symposium Proceedings following the meeting. Poster presentations require abstracts and written papers are encouraged. Core shack presenters are welcome to submit abstracts and written papers, but are not required to do so.

Draft abstracts up to 500 words should be submitted **no later than October 1, 2014**. Written papers should be 2,000 to 20,000 words and include figures and tables.

Information for contributors is available on-line at: <http://www.gsnv.org/2015-symposium/>. Submit abstracts to John Muntean and Moira Smith via e-mail at: [munteani@unr.edu](mailto:munteani@unr.edu) and [msmith@pilotgold.com](mailto:msmith@pilotgold.com).

**GSN-SEG FORUM  
SUNDAY, MAY 17<sup>TH</sup>, 2015**

**TOPIC:**

Carlin-like Gold Deposits: What Can We Learn  
Beyond the Known Trends and Nevada

**TECHNICAL PROGRAM**

**MONDAY-THURSDAY**

**MAY 18<sup>TH</sup>- 21<sup>ST</sup>, 2015**

**Focus Topics:**

- Regional Geology and Metallogeny of the Great Basin
- Exploration Technology
- Case Histories of Discoveries and Exploration Update
- Intrusion-Related Cu-Au-Mo Deposits
- Northeastern Nevada: The New Frontier
- Advances in Carlin-type Gold Deposits
- Epithermal Deposits
- Diversification: Looking Beyond Gold, Copper and Silver

**Questions? Contact us at:**

<http://www.gsnv.org/2015-symposium/> or email at [mollymhunsaker@2015GSNSymposium.org](mailto:mollymhunsaker@2015GSNSymposium.org)

**Meeting Co-Hosts**



**FIELD TRIPS**

**MAY 14<sup>TH</sup>-16<sup>TH</sup> AND MAY 21<sup>ST</sup>-23<sup>RD</sup>, 2015**

**Pre-meeting:**

- Introduction of Carlin Gold Deposits
- Epithermal Deposits of Northern Nevada
- Mining for Non-Geologists: Exploration to Reclamation

**Post-meeting:**

- The Pequoop Trend-Nevada's Newest "Carlin" Trend
- Epithermal Deposits of Central Nevada
- Porphyry-related Deposits of Nevada
- The Famous Comstock Gold and Silver District

**SHORT COURSES**

**MAY 14<sup>TH</sup>-16<sup>TH</sup> AND MAY 21<sup>ST</sup>-23<sup>RD</sup>, 2015**

**TOPICS TO BE ANNOUNCED**

**EXHIBITS**

An active exhibit hall will provide excellent industry exposure for your company or organization. Space will go fast for this popular venue, so **please reserve your booth early!** Contact Elizabeth Zbinden or Mary Stollenwerk at [exhibits@2015GSNSymposium.org](mailto:exhibits@2015GSNSymposium.org) for more information.

**Sponsorship Opportunities**

We invite you to join GSN as we continue the tradition of excellence in presentations, field trips, and short courses. Opportunities are available for Patronage sponsorships, along with specific events. Please visit the website: [www.gsnv.org/symposium](http://www.gsnv.org/symposium) or e-mail Dave Shaddrick at: [dshaddrick@aol.com](mailto:dshaddrick@aol.com)

The **Geological Society of Nevada (GSN)** is a non-profit scientific society whose principal mission is to promote the advancement of the geological sciences, especially as they relate to Nevada. The Society encourages the dissemination of scientific and practical knowledge through semiformal presentations, field trips and symposia as well as by publishing the literature resulting from these activities.

► **News from Nevada Bureau of Mines & Geology:**

*From: Charlotte Stock*

*The following information is taken directly from emails provided by Charlotte Stock, Nevada Bureau of Mines & Geology*

**Year in Review—2014**

List of publications released this past year:

[http://www.nbmg.unr.edu/Departments/PubSales/new\\_publications\\_2014.pdf](http://www.nbmg.unr.edu/Departments/PubSales/new_publications_2014.pdf)

**Stay Informed about NBMG**

Subscribe to our email list by sending an email to [webmaster@nbmg.unr.edu](mailto:webmaster@nbmg.unr.edu) with “subscribe to Publications mailing list” in the subject line

Subscribe to our blog <http://nbmg.wordpress.com/>

“Like” our Facebook page <https://www.facebook.com/pages/Nevada-Bureau-of-Mines-and-Geology/106397989390636>

You can place an order for other publications or check for shipping charges through our shopping cart at

<http://www.nbmg.unr.edu/Departments/PubSales/PubSales.html>

**>January is National Radon Action Month:**

**Learn how to reduce the radon health risk; Free radon test kits available through Feb. 28**

<http://www.unce.unr.edu/radon/>

RENO, Nev. – **January is National Radon Action Month**, and University of Nevada Cooperative Extension’s Radon Education Program is offering educational presentations at various locations across the state. Free test kits for homes will also be available at the presentations.

Radon is a radioactive, colorless, odorless and tasteless gas that comes from the ground. It accumulates in homes and can cause lung cancer. The U.S. Environmental Protection Agency (EPA) estimates 21,000 Americans die each year from radon-caused lung cancer, killing more people than secondhand smoke, drunk driving, falls in the home, drowning or house fires.

Radon-caused lung cancer is preventable. A simple three-day test can determine if a house has a radon problem, and winter is an ideal time to test a home for radon. If radon problems are found, they can be fixed. Find out more and get a free test kit at a presentation in your community:

**Scheduled presentations for Reno, Sparks, Carson, Tahoe and Douglas are:**

- Jan. 4 – Downtown Reno Library, 301 S. Center St., Reno, at 2:30 p.m.
- Jan. 6 – Sparks Library, 1125 12th St., Sparks, at 2 p.m.
- Jan. 8 – Sierra View Library, 4001 S. Virginia St., Reno, at 3:30 p.m.
- Jan. 13 – Washoe County Cooperative Extension, 4955 Energy Way, Reno, at 6 p.m.
- Jan. 14 – South Valleys Library, 15650A Wedge Parkway, Reno, at 6 p.m.
- Jan. 15 – Kahle Community Center, 236 Kingsbury Grade, Stateline, at 6 p.m.
- Jan. 17 – Northwest Reno Library, 2325 Robb Drive, Reno, at 10 a.m.
- Jan. 20 – Spanish Springs Library, 7100A Pyramid Lake Highway, Sparks, at 5:30 p.m.
- Jan. 21 – North Valleys Library, 1075 N. Hills Blvd. #340, Reno, at 6 p.m.
- Jan. 27 – Carson City Senior Center, 901 Beverly Drive, Carson City, at 6 p.m.
- Jan. 29 – CVIC Hall, 1604 Esmeralda Ave., Minden, at 6 p.m. (Radon Poster Contest Awards follow)
- Feb. 4 – Incline Village GID Public Works, 1220 Sweetwater Road, Incline Village, at 6 p.m.

**Scheduled presentations for Las Vegas are:**

- Feb. 7 – West Charleston Library, 6301 W. Charleston Blvd., at 10:30 a.m.
- Feb. 7 – Spring Valley Library, 4280 S. Jones Blvd., at 3 p.m.,
- Feb. 8 – Clark Co Library, 1401 E. Flamingo Road, at 1 p.m.
- Feb. 9 – Windmill Library, 7060 W. Windmill Lane, at 1 p.m.
- Feb. 9 – Clark Co Library, 1401 E. Flamingo Road., at 6 p.m. (Radon Poster Contest Awards follow)

**Scheduled presentations in other communities are:**

- Jan. 6 – Great Basin College, 1500 College Parkway, Elko, at 12 p.m.
- Jan. 7 – Churchill Co Multi-purpose building, 225 Sheckler Road, Fallon, at 1 p.m.
- Jan. 12 – Pershing Co Community Center, 820 Sixth St., Lovelock, 6 p.m. (Radon Poster Contest Awards)
- Jan. 26 – Grass Valley Community Center 13295 Grass Valley Road, Winnemucca, at 7 p.m.
- Feb. 10 – S. Nye Co Cooperative Extension, 1651 E. Calvada Blvd., Pahrump, at 5:30 p.m.

**For those who cannot attend a presentation, free radon test kits will also be available through Feb. 28 at University of Nevada Cooperative Extension offices and partner offices statewide.**

<http://www.unce.unr.edu/programs/sites/radon/files/pdf/NVRadonProgramOffices.pdf>

In Nevada, one in four homes already tested have shown radon concentrations at or above the EPA action level. According to experts, living in a home with radon concentrations at the action level poses as much risk of developing lung cancer as smoking half a pack of cigarettes a day.

The Nevada Radon Education Program is a program of University of Nevada Cooperative Extension and is funded by the Nevada Division of Public and Behavioral Health. Since the program began in 2007, more than 36,000 radon test kits have been distributed and more than 18,000 homes have been tested.

Cooperative Extension, the EPA and the Nevada Division of Public and Behavioral Health urge all Nevadans to get their homes tested for radon. For more information, visit the Nevada Radon Education Program website at [www.RadonNV.com](http://www.RadonNV.com), call the Radon Hotline at 888-RADON10 (888-723-6610).

### >New Geologic Map:

#### **Minden Quadrangle Map 182**

Geologic map of the Minden quadrangle, Douglas County, Nevada and Alpine County, California, by Alan R. Ramelli, James C. Yount, David A. John, and Larry J. Garside, 2014

A 1:24,000-scale, color geologic map of the Minden 7.5-minute quadrangle in Douglas County, Nevada and Alpine County, California with descriptions of 37 geologic units and two cross sections. Accompanying text includes full unit descriptions and references. This quadrangle includes portions of the Genoa fault, which ruptured in a major earthquake several hundred years ago. The Minden quadrangle also includes extensive deposits of the Carson River; understanding the distribution of these deposits helps in assessing flood hazards for populated areas in the Carson Valley.

This map was prepared as part of the COGEOMAP and STATEMAP components of the National Cooperative Geologic Mapping Program in cooperation with the U.S. Geological Survey.

This map supersedes Open-File Report 2003-13: Preliminary Geologic Map of the Minden Quadrangle, Nevada (2nd ed., 2009).

Map 182, one 33x27-inch color map, scale 1:24,000; 8-page text, b/w; folded or rolled, \$20.00

Available free on the Web or purchase here:

<http://www.nbmg.unr.edu/sales/pbsdts.php?sku=M182>

### >New Geologic Map:

#### **Mount Rose Quadrangle with shaded relief: Open-File Report 14-7**

Preliminary geologic map of the Mount Rose quadrangle, Washoe County, Nevada, by Nicholas H. Hinz, Alan R. Ramelli, and James E. Faulds, 2014

A 1:24,000-scale, preliminary geologic map of the Mount Rose 7.5-minute quadrangle in Washoe County, Nevada. This quadrangle straddles the northern Carson Range directly north of Lake Tahoe and includes much of Incline Village, the Mount Rose Highway, three north Lake Tahoe ski areas, part of the Tahoe Rim Trail, Mount Rose proper, and numerous major tributary drainages to the Truckee River and Lake Tahoe. Mapping of this quadrangle has important implications for understanding earthquake and landslide hazards in the Reno–Carson City–Lake Tahoe region.

The bedrock exposures in the quadrangle consist of Mesozoic crystalline basement and Tertiary volcanic and sedimentary rocks. The Mesozoic rocks are dominantly granitic with local metamorphic roof pendants. The Tertiary section includes a complex section of lavas, intrusions, and volcanic sedimentary rocks. Much of these volcanic and sedimentary rocks were derived from a Miocene ancestral Cascades volcanic center in the northwest quarter of this quadrangle. Principle surficial deposits include late Pliocene to modern alluvial fan and fluvial deposits, Quaternary glacial deposits, and late Quaternary mass wasting deposits. Notable deep-seated landslide complexes reside in the Whites Creek, Gray Creek, and First Creek drainages. The Tertiary section is cut by a system of north-northwest to north-northeast-striking normal and dextral-normal faults with both down-to-west and down-to-east sense of displacement, kinematically linked with a system of northeast to east-northeast-striking sinistral-normal faults. Detailed mapping of Quaternary fault scarps associated with the

Incline Village fault zone benefited greatly from publicly available, high-resolution LiDAR data for the Tahoe basin.

This publication was prepared as part of the STATEMAP component of the National Cooperative Geologic Mapping Program in cooperation with the U.S. Geological Survey.

Open-File Report 14-7, scale 1:24,000, 39 x 28 inches, color; 4-page text, b/w; folded or rolled, \$18.00

Be sure and check out the new shaded relief format on this map of Mount Rose.

Available free on the Web or purchase here:

<http://www.nbmg.unr.edu/sales/pbsdtls.php?sku=OF14-%207>

### >New Geologic Map:

#### **Lookout Mountain, Ratto Ridge, and Rocky Canyon, Eureka County**

#### **Open-File Report 14-8**

Preliminary geologic and alteration maps of Lookout Mountain, Ratto Ridge and Rocky Canyon, southern Eureka mining district, Eureka County, Nevada, by Russell V. Di Fiori, Sean P. Long, John L. Muntean, and Gary P. Edmondo, 2014

Identification of favorable structural settings for Carlin-type gold deposits is fundamental for future exploration. In this study, mapping and structural analysis were performed in the southern part of the Eureka mining district in east-central Nevada, in order to understand geometric and temporal relationships between structural systems and Carlin-type mineralization. Geologic and alteration maps at a scale of 1:10,000 of a ~3.5 km (east-west) by ~8 km (north-south) region were generated, along with cross sections that illustrate pre- and post-extensional deformation geometry. This project bridges a gap between recent 1:24,000-scale mapping and <1:500-scale mapping performed in an active exploration campaign.

The stratigraphy of the map area consists of ~4 km of Cambrian-Devonian carbonate and siliciclastic rocks, which are unconformably overlain and intruded by late Eocene silicic volcanic rocks. Four structural systems are identified, consisting of Early Cretaceous contractional structures and three separate sets of normal faults: 1) 1st-order, kilometer-scale offset, down-to-the-west normal faults, including the Lookout Mountain and Dugout Tunnel faults, 2) 2nd-order, 10's to 100's meter-scale offset, north-striking normal faults, including the Rocky Canyon, Oswego, and East Ratto Ridge fault systems, and 3) a set of 3rd-order, meter-scale offset, east-striking normal faults that cut jasperoid bodies of presumed late Eocene age. The 1st- and 2nd-order faults are interpreted to be contemporary, cut Late Cretaceous intrusions and an associated contact metamorphic aureole, and are overlapped by a late Eocene, subvolcanic unconformity.

In addition to lithology and structure, specific types of hydrothermal alteration and mineralization were mapped, including silicification, decarbonatization, dolomitization, quartz/calcite-veining, argillization, and the introduction of sulfides and their limonite weathering products. Carlin-type replacement mineralization, primarily hosted within Cambrian carbonate rocks, occurs in a series of deposits in the southern part of the map area. The deposits are associated with decarbonatization, silicification and jasperoid formation, and argillization, and are constrained to late Eocene or older by the overlap and intrusion of dated volcanic rocks. The map area contains a km-scale, faulted relay-ramp of 2nd-order faults that transfer slip between synthetic 1st-order faults. Within accommodation zones, wall-damage zones are predicted to provide hydrothermal fluid pathways and therefore localize mineralization. The footwall of the Lookout Mountain fault, which contains the majority of Carlin-type deposits identified in the map area, contains a set of antithetic, 2nd-order normal faults, which is interpreted as a wall-damage zone that was responsible for controlling fluid flow that led to mineralization.

The southern Eureka mining district contains several favorable structural conditions for Carlin-type gold mineralization, including: 1) normal fault systems that predate or are contemporary with late Eocene gold mineralization, and 2) complex normal fault interactions in an accommodation zone, including zones of dense fault intersections, antithetic normal faults, and fault-damage zones. These structural conditions were fundamental for generating a network of open-system fluid pathways, which created an ideal structural architecture for Carlin-type mineralization, and can be used as predictive tools for exploration elsewhere.

This project was supported by Timberline Resources Corporation and the Geological Society of America.

Open-File Report 14-8, two plates, scale 1:10,000; plate one: 56 x 41 inches, plate two: 29 x 41 inches; folded or rolled, \$35.00

Available free on the Web or purchase here:

<http://www.nbmng.unr.edu/sales/pbsdtls.php?sku=OF14-%208>

**>Paper in Geology – NBMG coauthor Chris Henry**

A paper coauthored by Chris Henry was recently published in the November issue of Geology. Profile of a paleo-orogen: High topography across the present-day Basin and Range from 40 to 23 Ma by Elizabeth J. Cassel, Daniel O. Breecker, Christopher D. Henry, Toti E. Larson and Daniel F. Stockli Geology, November 2014, v. 42, no. 11, p. 1007-1010

Read the abstract here:

<http://geology.gsapubs.org/content/early/2014/10/09/G35924.1.abstract>

**>Geodesy, GPS, and Dark Matter—research by Geoff Blewitt**

The research of Geoff Blewitt has been featured in two recent online articles by Mike Wolterbeek in Nevada Today.

Hiding in plain sight: elusive dark matter may be detected with GPS (November 17, 2014):

[http://www.unr.edu/nevada-today/news/2014/finding-dark-matter?utm\\_campaign=nevadatoday&utm\\_medium=email&utm\\_source=newsletter](http://www.unr.edu/nevada-today/news/2014/finding-dark-matter?utm_campaign=nevadatoday&utm_medium=email&utm_source=newsletter)

Geoff Blewitt receives top European science award in geodesy (December 2, 2014):

<http://www.unr.edu/nevada-today/news/2014/blewitt-award>

**>News from USGS—mountain bike trails on topo maps**

Get Your Wheels Spinning

Posted: 04 Dec 2014 06:00 AM PST

Summary: As part of the continued US Topo maps revision and improvement cycle, the USGS will be including mountain bike trails to upcoming quadrangles on a state-aligned basis.

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The USGS will show mountain bike trails on newly revised US Topo maps.

Contact Information:

Mark Newell, APR (Phone: 573-308-3850); Brian Fox ( Phone: 303-202-4141 );

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As part of the continued US Topo maps revision and improvement cycle, the USGS will be including mountain bike trails to upcoming quadrangles on a state-aligned basis. The 2014 edition of US Topo maps covering Arizona will be the first maps to feature the trail data, followed by Nebraska, Missouri, Nevada, California, Louisiana, New Hampshire, Mississippi, Vermont, Wyoming, Connecticut, Massachusetts, Illinois, Rhode Island, South Dakota, Florida, Alaska (partial), and the Pacific Territories in 2015.

The mountain bike trail data is provided through a partnership with the International Mountain Biking Association (IMBA) and the MTB Project. During the past two years, the IMBA has been building a detailed national database of mountain bike trails with the aid and support of the MTB Project participants. This activity allows local IMBA chapters, IMBA members, and the public to provide trail data and descriptions through their website. MTB Project and IMBA then verify the quality of the trail data provided, ensure accuracy and confirm that the trail is legal. This unique “crowdsourcing” project has allowed availability of mountain bike trail data through mobile and web apps, and soon, revised US Topo maps.

“IMBA is stoked to have MTB Project data included on US Topo maps as well as other USGS mapping products,” added Leslie Kehmeier, IMBA’s Mapping Specialist. “It’s a really big deal for us and reflects the success of the partnership we’ve developed with the MTB Project team to develop a valuable and credible resource for mountain bike trails across the country.”

The partnership between the USGS and the MTB Project is considered a big move towards getting high quality trail data on The National Map and US Topo quadrangles. The collaboration also highlights private and public sectors working together to provide trails data and maps to the public.

“This is a significant step for USGS,” said Brian Fox of the USGS NGTOC. “National datasets of trails do not yet exist, and in many areas even local datasets do not exist. Finding, verifying, and consolidating data is expensive. Partnering with non-government organizations that collect trails data through crowdsourcing is a great solution. The USGS-IMBA agreement is the first example of such a partnership for US Topo map feature content and we’re looking forward to expanding the number of trails available as the MTB Project contributions grow.

US Topo maps can be downloaded using the Map Locator and Downloader.

To be a part of IMBA’s crowd sourcing effort and help get mountain bike trails onto US Topo maps, be sure to share trail data, descriptions, and ratings on <http://www.mtbproject.com/>

The USGS structure and feature crowdsourcing effort, The National Map Corps, also features a link to the MTB Project

The MTB Project mobile app is available to help mountain bikers discover trails on the go:

§ iOS on iTunes, § Android on Google Play, § IMBA’s partnership with MTB Project

Thank you very much for your support of NBMG in 2014.

Happy New Year!

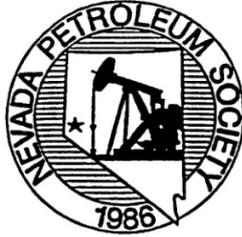
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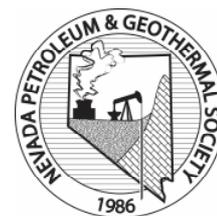
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# Nevada Petroleum and Geothermal Society

## Publication Price List - October 2013



<b>Paper</b>	<b>CD-ROM</b>	<b>Download from Dropbox</b>	<b>Title</b>
<b>SPECIAL VOLUMES</b>			
NPS1 n/a	<b>NPS1c</b> \$80.00	<b>NPS1y</b> \$65.00	Oil Fields of the Great Basin (1994) R.A. Schalla and E.H. Johnson, editors, 31 papers on regional and field specific geology, 5 plates, soft cover with plastic comb binding, 380 p.
NPS2 n/a	n/a	n/a	Membership Directory (only available free on the Web at <a href="http://www.nbmg.unr.edu/nps/membershipdir.htm">http://www.nbmg.unr.edu/nps/membershipdir.htm</a> )
<b>NPS15</b> <del>\$20.00</del> \$5.00	n/a	n/a	TerraScan's Geologic Map of the Eastern Great Basin, Nevada and Utah (1978, rev. 1987) compiled and edited by E.L. Howard, 3 sheets (includes cross-sections) \$20.00/NPS or \$25.00/non-NPS, order by phone for discounted price of \$5.00
NPS21 n/a	<b>NPS21c</b> \$35.00	<b>NPS21y</b> \$20.00	Carboniferous–Permian (Late Paleozoic) Hydrocarbon System, Rocky Mountains–Great Basin Region, U.S., Major Historic Exploration Objective (2001, updated 2003) J. Peterson, RMAG Open-File Report, 54 p., 45 illustrations
<b>FIELD TRIP GUIDEBOOKS</b>			
NPS3 n/a	<b>NPS3c</b> \$35.00	<b>NPS3y</b> \$20.00	Oil Fields, Production Facilities and Reservoir Rocks of Northern Nye Co, Nevada (1989) compiled by W.J. Ehn and D.M. Evans, 8 abstracts and papers, 30 p.
<b>NPS4</b> \$15.00	<b>NPS4c</b> \$35.00	<b>NPS4y</b> \$20.00	Oil Fields and Geology of the Pine Valley, Eureka County Area, Nevada (1990) D.M.H. Flanigan, L.J. Garside, and M. Hansen, editors, 15 papers and abstracts, 74 p. (xerox copy only – unbound)
NPS5 n/a	<b>NPS5c</b> \$35.00	<b>NPS5y</b> \$20.00	Geology of White River Valley, the Grant Range, Eastern Railroad Valley and Western Egan Range, Nevada (1991) D.M.H. Flanigan, M. Hansen, and T.E. Flanigan, editors, 10 papers and abstracts, 74 p.
<b>NPS6</b> \$25.00	<b>NPS6c</b> \$40.00	<b>NPS6y</b> \$25.00	Structural Geology and Petroleum Potential of Southwest Elko County, Nevada (1992) J.H. Trexler, Jr., T.E. Flanigan, D.M.H. Flanigan, M. Hansen, and L.J. Garside, editors, 9 papers, 2 plates, 96 p.
<b>NPS7</b> \$33.00	<b>NPS7c</b> \$48.00	<b>NPS7y</b> \$33.00	Structural and Stratigraphic Relationships of Devonian Reservoir Rocks, East Central Nevada (1993), C.W. Gillespie, editor, 15 papers, 3 plates, 203 p.
NPS8 n/a	<b>NPS8c</b> \$40.00	<b>NPS8y</b> \$25.00	Dating of Pre-Tertiary Attenuation Structures in Upper Paleozoic and Mesozoic Rocks and the Eocene History in Northeast Nevada and Northwest Utah (1994) C.H. Thorman, C.J. Nutt, and C.J. Potter, editors, 11 papers, 125 p.
NPS9 n/a	<b>NPS9c</b> \$55.00	<b>NPS9y</b> \$40.00	Structural and Stratigraphic Investigations and Petroleum Potential of Nevada, with Special Emphasis South of the Railroad Valley Producing Trend (1994) S.W. Dobbs and W.J. Taylor, editors, two volumes bound as one, 13 papers, 22 plates, 281 p.

<b>Paper</b>	<b>CD-ROM</b>	<b>Download from Dropbox</b>	<b>Title</b>
<b>NPS10</b> \$25.00	<b>NPS10c</b> \$40.00	<b>NPS10y</b> \$25.00	Mississippian Source Rocks in the Antler Basin of Nevada and Associated Structural and Stratigraphic Traps (1995) M.W. Hansen, J.P. Walker, and J.H. Trexler, Jr., editors, 16 papers and 7 abstracts, 166 p.
<b>NPS11</b> \$25.00	<b>NPS11c</b> \$40.00	<b>NPS11y</b> \$25.00	Cenozoic Structure and Stratigraphy of Central Nevada (1996) W.J. Taylor and H. Langrock, editors, 11 papers, 122 p.
<b>NPS12</b> \$25.00	<b>NPS12c</b> \$40.00	<b>NPS12y</b> \$25.00	The Roberts Mountains Thrust, Elko and Eureka Counties, Nevada (1997) A.J. Perry and E.W. Abbott, editors, 4 papers, 2 abstracts and reference papers/abstracts, 86 p.
NPS13 n/a	<b>NPS13c</b> \$40.00	<b>NPS13y</b> \$25.00	Hydrocarbon Habitat & Special Geologic Problems of the Great Basin (1998) D.E. French and R.A. Schalla, editors and co-chair
<b>NPS14</b> \$35.00	<b>NPS14c</b> \$50.00	<b>NPS14y</b> \$35.00	Cenozoic Geology of the Northern Colorado River Extensional Corridor, Nevada and Arizona: Economic Implications of Extensional Segmentation Structures (1999) J.E. Faulds, editor, 183 p., 3 color plates
<b>NPS16</b> \$30.00	<b>NPS16c</b> <b>\$45.00</b>	<b>NPS16y</b> \$30.00	Structure & Stratigraphy of the Eureka, Nevada Area (2001) Marilyn S. Miller and Jerome P. Walker, editors, 108 p., 11 color plates
NPS17 n/a	<b>NPS17c</b> \$50.00	<b>NPS17y</b> \$35.00	Detachment and Attenuation in Eastern Nevada and its Application to Petroleum Exploration (2002) W. Ehni and J. Faulds, editors, 163 p.
<b>NPS18</b> \$25.00	<b>NPS18c</b> \$40.00	<b>NPS18y</b> \$25.00	Oil, Gas, and Geothermal Occurrences in Northwestern Nevada (2003) S. Foster, editor, 102 p.
NPS19 n/a	<b>NPS19c</b> \$50.00	<b>NPS19y</b> \$35.00	Megabreccias and Impact Breccias of East Central Nevada (2004) C.W. Gillespie and S. Foster, editors
NPS20 n/a	NPS20c n/a	NPS20y n/a	Great Basin Paleozoic Carbonate Platform: Facies, Facies Transitions, Depositional Models, Platform Architecture, Sequence Stratigraphy, and Predictive Oil and Gas Reservoir and Mineral Host Models (2006) H.E. Cook and J.J. Corboy, 129 pages, out of print (report from USGS Open-File Report 2004-1078, <b>free on Web at <a href="http://pubs.usgs.gov/of/2004/1078/">http://pubs.usgs.gov/of/2004/1078/</a></b> )
NPS22 n/a	<b>NPS22c</b> \$40.00	<b>NPS22y</b> \$25.00	Geology, Geothermal Resources and Petroleum Exploration of Neogene Basins in the Reno, Nevada Area (2007, 2nd ed., includes two papers not in 1st ed.) S. Limerick, editor, 7 papers, 3 reprints, and roadlog, 140 p.
<b>NPS23</b> \$25.00	<b>NPS23c</b> \$40.00	<b>NPS23y</b> \$25.00	Sedimentology and Tectonic Setting of the Late Cretaceous to Eocene Sheep Pass Formation in the Southern Egan Range (2008) P. Druschke, trip leader; J. Trexler, Jr., editor
<b>NPS24</b> \$30.00	<b>NPS24c</b> \$45.00	<b>NPS24y</b> \$30.00	Geothermal and Petroleum Developments in Several Extensional Basins of the Central Walker Lane, Nevada (2013) L.J. Garside, editor, 11 papers, 131 p.

These publications are only available from the Nevada Bureau of Mines and Geology (NBMG). If a publication is out of print or unavailable, it is marked "n/a" (not available). **Please check with us for the most current prices.** Thanks.

**NBMG contact information:**

Phone: (775) 682-8766

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Web: <http://www.nbmgs.unr.edu>

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## Oil and gas resources from NBMG

The following publications are available from the Nevada Bureau of Mines and Geology. **NBMG publications that are underlined are also available free on the Web at <http://www.nbmgs.unr.edu/>.**

Oil and gas information page on the NBMG website  
<http://www.nbmgs.unr.edu/Oil&Gas/index.html>

### Bulletins

**B104** Oil and gas developments in Nevada: **Garside, Hess, Fleming and Weimer (1988), \$15.00, for updates, see OF01-7, OF04-1, and M162**

### Educational Series

E-6 **Oil and gas in Nevada** (Student book for grades 4-8, 23 pages) \$3.45  
E-24 **Nevada oil**: Division of Minerals (Brochure, 1996) free

### Lists

L-8 **List of oil and gas wells drilled in Nevada since 1907**: Hess, Davis, and Boldi (2001, updated 2003) *superseded by OF04-1, see also OF01-7*

L-12 **Nevada oil and gas well catalog (NVOILWEL)**, *superseded by OF04-1, see also OF01-7*  
Complete list of Nevada oil and gas well exploration data, 1906-present. Listed logs and cuttings are housed at NBMG. Shows, geologic tops and tests are given when available.

### Maps

**M162** **Petroleum data map of Nevada**: Garside and Hess (2007), 1:1,000,000, \$15.00

### Mineral Industry Series

The Nevada Mineral Industry is **published annually**, beginning in 1979. Each volume has a **section on oil and gas in Nevada**. Most of these reports are available *free on the Web* at <http://www.nbmgs.unr.edu/>.

### Open-File Reports

OF83-5 **Nevada oil shale**: Garside, 10 pages, \$4.00 (for more oil shale information, see also USGS MF-1546 and MF-2091)

OF86-13 **Nevada petroleum production statistics, 1954-1986**: Hess, Loomis and Garside, 14 pages, \$5.00

**OF92-5** **Nevada oil and gas source-rock database**: Hess, compilation of source-rock analyses performed on cuttings samples taken at varying depth intervals from oil and gas exploration wells in Nevada up to 1992, complete print-out, \$20.00

OF96-6c **Nevada oil and gas wells, 1907-1996**: 1:1,000,000 color digital map of Nevada showing major roads, county boundaries, and locations of oil wells drilled since 1907, original printout, \$20.00, *see also OF01-7, M162*

**OF01-7** **Nevada oil and gas well database map**: Hess, CD and 4 page text, \$15.00

Contains the following: L-12; updated OF96-6, partial; L-8; B104 text; digital base layers of Nevada data in Shapefile and Arc/Info export file format designed for use at scale 1:1,000,000 (county, towns, roads, USGS topo boundaries for 1:100,000 and 1:24,000, Township and Range); georeferenced raster graphic of the Nevada state base map, B&W, scale 1:1,000,000; 18 USGS digital raster graphic maps (DRG), 1:250,000-scale, topo maps in tiffw format

OF00-2 **Hydrocarbon assessment of the Yucca Mountain vicinity, Nye County, Nevada**: French, 78 pages and 4 plates, \$44.40

**OF04-1** **Nevada oil and gas well database (NVOILWEL)**: Hess (2004), \$86.40 for photocopy

**OF07-7** **Assessment of the potential for carbon dioxide sequestration with enhanced oil recovery in Nevada**: LaPointe, Price, and Hess (2007), 24 pages, \$7.20

**OF11-2** **Qualitative petroleum potential map of Nevada**: Garside and Hess (2011), plate 1:1,000,000 and text

**OF11-6** **Oil and gas well information for Nevada – 2011 update**: Hess, Henson, David, Limerick, Siewe, and Niles; portable hard drive, 105 GB, 9643 files, \$115; free on web at <http://www.nbmgs.unr.edu/Oil&Gas/NVWellInfo.html>

### Reports

**R51** **Preliminary assessment of the potential for carbon dioxide disposal by sequestration in geological settings in Nevada**: Price and others (2005), CD-ROM or paper copy, 35 pages, \$15.00

**R52** **Assessment of the potential for carbon dioxide sequestration by reactions with rocks in Nevada**: Sturmer, LaPointe, Price, and Hess (2007) \$22.00 paper

### USGS

Assessment of undiscovered oil and gas resources of the Eastern Great Basin Province, 2005, Fact Sheet

**FS-2005-3053**, free at <http://pubs.usgs.gov/fs/2005/3053/>

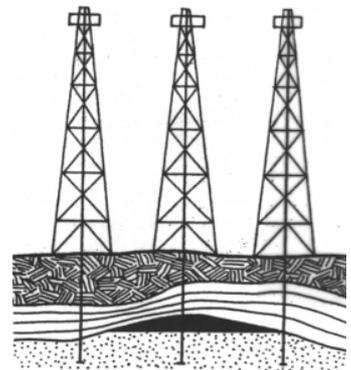
**Basin and Range Carbonate Aquifer System Study**:

<http://nevada.usgs.gov/barcass/data.htm>

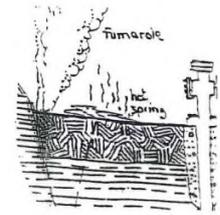
Ordering information for Nevada Bureau of Mines and Geology

Sales office located at Great Basin Science Sample and Records Library, 2175 Raggio Parkway, Reno, NV 89512

Phone: (775) 682-8766 Fax: (775) 784-6690 Web: <http://www.nbmgs.unr.edu>



# Geothermal resources in Nevada



## Geothermal information page on the NBMG website

<http://www.nbmq.unr.edu/Geothermal/index.html>

The following publications on geothermal resources are available from the Nevada Bureau of Mines and Geology. NBMG items that are underlined are available **free on the Internet** and can be viewed at <http://www.nbmq.unr.edu/>.

### Bulletins

- B65 Mineral and water resources of Nevada: Cornwall (1964) pp. 267-269, \$7.00  
B89 Geology and mineral deposits of Pershing County, Nevada: Johnson (1977) pp. 104-106, \$21.00  
B91 Thermal waters of Nevada: Garside and Schilling (1979) \$22.00, *for update see L-5*  
B97 Discovery and geology of the Desert Peak geothermal field—a case history: Benoit, Hiner, and Forest (1982), \$15.00 (*see also OF03-27*)  
B99B Mineral resources of northern Nye County, Nevada: Kleinhampl and Ziony (1984) pp. 37-38, \$19.00

### Educational Series

- E-7 Geothermal resources in Nevada: Student reading/activity book for grades four through eight, 27 pp., \$4.05  
E-15 Nevada geothermal electric power production, brochure (1992) 2 pp., \$0.60  
E-35 Major mines, oil fields, and geothermal plants in Nevada  
E-46 Taking the pulse of the Earth  
E-51 Life's a beach: In search of ancient shorelines and volcanoes in the Grimes Point and Lahontan Mountains area

### Lists

- L-5 Index to geothermal well files housed at NBMG: Davis and Hess (2009) *updates* App. 2 of B91, \$19.50

### Maps

- M126 Nevada geothermal resources: Shevenell, Garside, and Hess (2000), *superseded by M161*  
M141 Nevada geothermal resources (second edition): Shevenell and Garside (2005), 1:750,000, \$16.00 for paper copy, *available folded or rolled, superseded by M161*  
M146 Geologic map of the Fraser Flat quadrangle and the west half of the Moses Rock quadrangle, Washoe Co., NV  
M151 Geothermal potential map of the Great Basin, western United States: Coolbaugh and others (2005), 1:1,000,000, \$30.00, *rolled only*  
M161 Nevada geothermal resources: Penfield, Shevenell, Garside, and Zehner (2010), 1:750,000, \$18.00, *folded or rolled, supersedes M126 and M141*

### Mineral Industry Series

MI-1979 through current year—The Nevada mineral industry is published annually and has a section on geothermal activities, varies with year, MI-1994-current year available free on Internet at <http://www.nbmq.unr.edu/> and click on "Online Documents."

### Newsletters

Nevada Geology Newsletter no. 19, page 3 (Summer 1993) "Low-temperature geothermal resources in Nevada" by Larry Garside, free

### Open-File Reports

- OF83-6 Preliminary map of thermal wells in the Moana geothermal area, Reno, Nevada: Garside, \$8.00  
OF87-2 Mineral resource inventory – U.S. Navy master land withdrawal area, Churchill County, Nevada: Quade and Tingley, \$92.00  
OF94-2 Nevada low-temperature geothermal resource assessment: 1994: Garside, with a bibliography by Davis and Garside, \$40.00 for text and plate, or \$20.00 for text on disk, or \$7.00 for plate only  
OF96-2-9 Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada: (Plate 9) 1:1,000,000, map and text, \$15.00  
OF03-27 Preliminary geologic map of the Desert Peak-Brady geothermal fields, Churchill County, Nevada: Faulds and Garside (2003), \$15.00 (*see also B97*)  
OF06-5 Mineral- and energy resource potential for White Pine County, Nevada  
OF06-6 Mineral- and energy resource potential for Pershing County, Nevada  
OF06-7 Mineral- and energy resource potential for Lyon County, Nevada  
OF06-12 Potential resources associated with proposed roadless areas in Nevada  
OF09-10 Preliminary geothermal potential and exploration activity in Nevada: Zehner, Coolbaugh, and Shevenell, 1:1,000,000-scale plate and text, \$20.00 (*supersedes OF09-1*)  
OF10-6 Preliminary geologic map of the Lee-Allen geothermal area, Churchill County, Nevada  
OF11-3 Preliminary geologic map of the Reese River geothermal area, Lander County, Nevada  
OF11-10 Descriptive logs, skeletonized samples, and photographs of core from Presco Energy's thermal gradient wells P3-1, P 10-1, and P 32-2 in the Rye Patch area, Pershing County, Nevada: Davis (2011, Web version only)

OF11-11 Preliminary geologic map of the northern Lake Range, San Emidio geothermal area, Washoe County, Nevada: Rhodes, Faulds, and Ramelli, scale 1:24,000, \$18.00

OF12-3 Data tables and graphs of geothermal power production in Nevada: Shevenell, Price, and Hess (1985-2011, Web version only)

### Reports

- R21 Geothermal exploration and development in Nevada through 1973  
R25 Evaluation of geothermal activity in the Truckee Meadows, Washoe County, Nevada: Bateman and Scheibach (1975), \$4.00  
R33 Papers on mineral deposits of western North America: (1979), presented at the Fifth Quadrennial Symposium of IAGOD, \$10.00  
R41 Precious-metal mineralization in hot springs systems, NV-CA: Tingley and Bonham (1986), \$15.00  
R43 Mineral resources of the Kumiva Peak 30' by 60' Quadrangle: Tingley (1989) pp. 16-17, \$5.00  
R44 Mineral resources of the Pahranaagat Range 30' by 60' Quadrangle: Tingley (1989) pp. 8-9, \$5.00  
R45 Mineral resources of the Overton 30' by 60' Quadrangle: Tingley (1989) pp. 12-13, \$5.00  
R46 Mineral resources of the Timpahute Range 30' by 60' Quadrangle: Tingley (1991) pp. 30-31, \$5.00  
R51 Preliminary assessment of the potential for carbon dioxide disposal by sequestration in geological settings in Nevada

### Special Publications

- SP4 Geology of Nevada: a discussion to accompany the Geol. map of Nevada (see below): Stewart (1980), \$25.00  
00001 Geologic map of Nevada: Stewart and Carlson, U.S.G.S. (1978) 1:500,000, *available rolled only*, \$20.00 *available free on the Internet at <<http://keck.library.unr.edu/>> and click on "Great Basin geoscience dataset" or at <<http://www.nbmj.unr.edu/dox/dox.htm>>, see SP4 for descriptive text*

### Urban Map Series

- 3Ah Energy and mineral resources map of the Las Vegas SE Quadrangle: Papke and Bell (1973) *available rolled or folded*, \$2.00  
4Ah Energy and mineral resources map of the Reno Quadrangle: Bingler, Bonham, and Luza (1973) *available rolled or folded*, \$2.00  
5Ah Energy and mineral resources map of the Washoe City Quadrangle: Papke and Jones (1978) *available rolled or folded*, \$2.00

### Nevada Petroleum Society

- NPS5 Geology of White River Valley, the Grant Range, Eastern Railroad Valley and Western Egan Range, Nevada  
NPS18 Oil, gas and geothermal occurrences in northwestern Nevada  
NPS22 Geology, Geothermal Resources and Petroleum Exploration of Neogene Basins in the Reno, Nevada Area

### USGS Publications

- C1249 Geothermal energy – clean power from the earth's heat: Duffield and Sass, *free on the Internet at <<http://geopubs.wr.usgs.gov/circular/c1249/>>*  
I-1701 Bouguer gravity anomalies, depth to bedrock, and shallow temperature in the Humboldt House geothermal area, Pershing County, Nevada: Schaefer (1986), \$9.00  
OF74-271 Geothermal systems of northern Nevada: Hose and Taylor (1974), 30 pages, call for prices  
OF74-1066 The chemical composition and estimated minimum thermal reservoir temperatures of the principal hot springs of northern and central Nevada, call for prices  
OF81-918 Geothermal resources of the western arm of the Black Rock Desert, northwestern Nevada, part I, geology and geophysics: Schaefer, Welch, and Maurer (1983), 41 pages and 4 plates, call for prices  
OF02-374 A helicopter-borne magnetic survey over Dixie Valley geothermal field, Nevada: A web site for distribution: Pearson, deRidder and Johnson (2002), *available free on the Internet at <<http://pubs.usgs.gov/of/2002/ofr-02-0374/>>*, call for prices  
OF02-384 High-resolution aeromagnetic survey to image shallow faults, Dixie Valley geothermal field, Nevada: Grauch (2002), *<<http://pubs.usgs.gov/of/2002/ofr-02-0384/>>*, call for prices

### Other Resources

Great Basin Center for Geothermal Energy is at <http://www.unr.edu/geothermal/>.

### For more information, please contact:

Nevada Bureau of Mines and Geology  
Great Basin Science Sample and Records Library  
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[www.nbmj.unr.edu](http://www.nbmj.unr.edu)

<b>Nevada Petroleum and Geothermal Society Calendar: Year 2014-2015</b>	
Jan 8, 2015	<b>NPGS Monthly Dinner Meeting</b> – Thursday Jan 8, 6:30 PM Ramada Reno Hotel, 1000 E 6 <sup>th</sup> St, Reno, NV <i>Speaker: Wanda J. Taylor, Dept of Geoscience, UNLV</i> <i>Topic: Cenozoic structure and tectonics of southern Nevada</i> See Page 1 for details
Feb 5, 2015	<b>NPGS Monthly Dinner Meeting</b> – Thursday Feb 5, 6:30 PM <i>Speaker: Dr. John Louie</i> <i>Topic: Advanced Seismic Imaging of Geothermal Reservoirs in Nevada – Is there a Geothermal Seismic Signature?</i>
Mar 5, 2015	<b>NPGS Monthly Dinner Meeting</b> – Thursday Mar 5, 6:30 PM <i>Speaker: Dr. David Boden</i> <i>Topic: Iceland Trip – Sustainability</i>
Mar 10, 2015	<b>Nevada BLM Oil &amp; Gas Lease Sale, Reno NV</b> <b>Elko NV District, posting date: Dec 10, 2014</b> <a href="http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/oil_gas/oil_and_gas_leasing.html">http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/oil_gas/oil_and_gas_leasing.html</a>
Apr 2, 2015	<b>NPGS Monthly Dinner Meeting</b> – Thursday Apr 2, 6:30 PM <i>Speaker: Sean Long</i> <i>Possible Topic: A Valley and Ridge in the Basin and Range</i>
May 7, 2015	<b>NPGS Monthly Dinner Meeting</b> – Thursday May 7, 6:30 PM <i>Speaker: Ben Delwiche – Ormat Nevada</i> <i>Topic: McGuinness Hills Project</i>
May 14-24, 2015	<b>GSN Symposium 2015</b> <b>John Ascuaga's Nugget Hotel and Casino in Sparks, Nevada</b> <a href="http://www.gsnv.org/2015-symposium">www.gsnv.org/2015-symposium</a> <a href="http://www.nbmgs.unr.edu/docs/GSN_2015_Symposium.pdf">http://www.nbmgs.unr.edu/docs/GSN_2015_Symposium.pdf</a>
May 31-Jun 3, 2015	<b>AAPG Annual Convention and Exhibition 2015</b> <b>Denver, CO</b> <a href="http://www.aapg.org">www.aapg.org</a>
<b>Oct 2-5, 2016</b>	<b>Rocky Mountain Section/Pacific Section Meeting – AAPG 2016</b> 2016 joint RMS-AAPG/PS-AAPG annual meeting Paris Hotel, Las Vegas, Nevada. Host societies: Idaho Association of Professional Geologists and the Nevada Petroleum & Geothermal Society.

The NPGS Newsletter is provided to members of the Nevada Petroleum and Geothermal Society. For information about membership and events, see the NPGS website at <http://www.nbmgs.unr.edu/nps/>. To submit articles, corrections or suggestions for the newsletter; Contact Vicki Ehni 775-883-1107, cell 775-720-6387; email [vehni@aol.com](mailto:vehni@aol.com).