

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.nbmgs.unr.edu/nps/>

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Dinner Meeting: Thursday Apr 02, 2015

Speaker: Sean P. Long
Research Geologist, NBMG
UNR, Reno, NV

Topic: A Newly-Defined Fold Province in Eastern Nevada: a Valley and Ridge in the Basin and Range

Place: Ramada Reno Hotel
1000 East 6th Street, Reno, Nevada

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

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/1Civ9seJbmOefNJuaSed5TZNPao609UuwPLIoAHkCcRc/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 28 for upcoming meetings

► **NPGS Monthly Dinner Meeting – Apr 02, 2015**

A Newly-Defined Fold Province in Eastern Nevada: a Valley and Ridge in the Basin and Range

In Nevada, Tertiary extension has obscured the geological records of older deformation events, including the Mesozoic construction of the Cordilleran mountain belt. In this study, a paleo-geologic map of eastern Nevada, showing the ages and distributions of rocks that were at the surface at about 30 million years ago, illustrates the style and geometry of deformation associated with Cordilleran mountain building. The map reveals a region of folds in eastern Nevada that are similar in scale to those in the Appalachian Valley and Ridge province. The folds are interpreted to have formed during the Cretaceous period, as a result of eastward translation above a deep detachment surface that projects westward from the Sevier fold-and-thrust belt in Utah. These observations are synthesized with studies of other structural provinces of Nevada and western Utah, to propose a model for deformation during Cordilleran mountain building.

Sean Long has been a research geologist at the Nevada Bureau of Mines and Geology since 2010. He is a structural geologist, primarily interested in contractional orogenic belts.

► **2015/2016 Officers Elected at March Dinner Meeting:**

The 2015-2016 slate of officers was elected by a majority voice vote of the members present at the March 5th, 2015 NPGS dinner meeting. **John Snow** will automatically succeed to the office of President following his election as Vice President/President-Elect in 2014. The officers elected at this year's March dinner meeting are **John Menghini** as Vice President/President-Elect, **Dave Fitch** as Secretary, and **Tom Gallagher** as Treasurer. They will assume their positions effective June 1st. Judy Kareck, as immediate past president, will join the officers on the 2015-16 Board of Directors.

The Society's Bylaws permit election by a vote of the members at the March meeting in the event that there is only one candidate for each office on the ballot.

President	John Snow	Blue Mtn Research & Dev, LLC	Reno, NV
VP/Pres Elect	John Menghini	BLM	Reno, NV
Secretary	Dave Fitch	Geologist	Reno, NV
Treasurer	Thomas Gallagher	NV Water Solutions, LLC	Reno, NV
Past Pres	Judy Kareck	Lumos & Associates	Reno, NV

► **Welcome New NPGS Members:**

Baclawski, Paul	Geologist, Devon Energy	Oklahoma City, OK
Harner, Steve	Geologist, Geo Drilling Fluids	Bishop, CA
Robison, Daniel	Biologist, Robison Wildlife Consulting	Reno, NV
Svoboda, Mark	Geologist	Glenbrook, NV

► **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

► **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
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 a listing of parcels offered for the June 2015 sale, use the following link:

http://www.blm.gov/style/medialib/blm/nv/minerals/oil_gas/2015_lease_sales1.Par.21044.File.dat/20150609_BMDO_Parcel_List.pdf

► **Results: March 10 Nevada BLM Oil & Gas Lease Sale, Elko District:**

Twenty four parcels were offered at the BLM Oil & Gas Lease Sale on March 10, 2015. Thirteen parcels received bids, all were sold for the minimum bid of \$2/acre. Three parcels were sold over the counter the day after the sale. Sixteen of the parcels were bought by American General Energy Expl, Austin, TX. One parcel was bought by Kirkwood Oil & Gas, Casper, WY. For details:

http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/oil_gas/oil_and_gas_leasing.html

► **Global Heat flow GIS data released by AAPG:**

Submitted by Sam Limerick

<http://www.datapages.com/AssociatedWebsites/GISOpenFiles/GlobalHeatFlowDatabaseoftheInternationalHeatFlowCommission.aspx>

AAPG has created and released GIS data from the global heat flow database of the International Heat Flow Commission (website: <http://www.heatflow.und.edu/index2.html>), which is managed by the University of North Dakota, Grand Forks, ND USA. The project PI and site and heat flow database administrator is Professor William Gosnold, PhD.

Each of the .csv datasets available on the heat flow website were extracted, and converted to GIS-friendly formats: 1) "shapefiles" - which can be loaded into most any program that accepts shapefiles, 2) "layer packs" - which are files specific to ArcMap, and can be added to your open project by clicking on the file to extract the layer pack, and 3) KMZ files - which can be loaded into Google Earth, or other programs that accept KMZ format. Note that a "Global" heat flow point file is available in each format, which includes all data in the heat flow database, and secondly the heat flow data

files are available for each geographic region reflected in the online heat flow database. Additionally, a metadata file (after Jessop, Hobart and Sclater, 1975) is included in each download file that explains data columns in the attribute tables. The files have been zipped for more efficient downloads.

This GIS publishing project was initiated and reviewed by the AAPG GIS Publications Committee, managed by AAPG Datapages, and the GIS capture and quality control was carried out by Cartographic Services (part of the Geography Department) at Oklahoma State University. Funding was provided by the AAPG Foundation and OSU Foundations in conjunction with the AAPG-OSU Geoscience Consortium.

► **Nevada Senate Bill SB202 Hydraulic Fracturing Bill:**

Submitted by John Snow

Senator Segerblom filed a bill to ban hydraulic fracturing in Nevada. This was anticipated and most likely will not get much traction, however it is prudent for us to notify our members and put them on alert. I (John Snow) will keep the NPGS informed on the status of SB202 as the process goes forward.

SB202 is included in this newsletter, pages 12-15.

► **AAPG House of Delegates Meeting, Denver May 2015:**

Andrew Hanson will represent the NPGS in the House of Delegates at the National AAPG meeting in Denver this May. There are four proposed amendment changes to the bylaws that will be voted on during the meeting. The proposed changes are included in this newsletter. Andrew would appreciate and welcomes input from the membership. If you choose to provide comments in advance of the meeting, you can reach him at 702-895-2263 or Andrew.hanson@unlv.edu. Exhibits 1-4 are on pages 16-21 in this newsletter.

► **NEW BLM Hydraulic Fracturing Regulations:**

Submitted by John Snow

The new Interior regulations for HF: <http://on.doi.gov/1xmk4AC>

(Summary included here)

-Final Agency Draft-
4310-84P

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
43 CFR Part 3160
[LLWO300000 L13100000.PP0000 14X]
RIN 1004-AE26

Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands
AGENCY: Bureau of Land Management, Interior.
ACTION: Final rule.

SUMMARY: On May 11, 2012, the Bureau of Land Management (BLM) published in the Federal Register a proposed rule titled Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands. Because of significant public interest in hydraulic fracturing and this rulemaking, on May 24, 2013, the BLM published in the Federal Register a supplemental notice of proposed rulemaking and request for comment titled Oil and Gas Hydraulic Fracturing on Federal and Indian Lands. The BLM has used the comments on the supplemental proposed rule and the earlier proposed rule in drafting this final rule. Key changes to the final rule include: (1) The allowable use of an expanded set of cement evaluation tools to help ensure that usable water zones have been isolated and protected from contamination; (2) Replacement of the “type well” concept to demonstrate well integrity with a requirement to demonstrate well integrity for all wells; (3) More stringent requirements related to claims of trade secrets exempt from disclosure; (4) More protective requirements to ensure that fluids recovered during hydraulic fracturing operations are contained; (5) Additional disclosure and public availability of information about each hydraulic fracturing operation; and (6) Revised records retention requirements to ensure that records of chemicals used in hydraulic fracturing operations are retained for the life of the well. The final rule also provides opportunities for the BLM to coordinate standards and processes with individual states and tribes to reduce administrative costs and to improve efficiency.

DATES: This final rule is effective on [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Mail: U.S. Department of the Interior, Director (630), Bureau of Land Management, Mail Stop 2134 LM, 1849 C St., NW, Washington, DC 20240, Attention: 1004– AE26. Personal or messenger delivery: Bureau of Land Management, 20 M Street, SE, Room 2134 LM, Attention: Regulatory Affairs, Washington, DC 20003.

FOR FURTHER INFORMATION CONTACT: Steven Wells, Division Chief, Fluid Minerals Division, 202-912-7143 for information regarding the substance of the rule or information about the BLM’s Fluid Minerals Program. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-8778339 to contact the above individual during normal business hours. FIRS is available 24 hours a day, 7 days a week to leave a message or question with the above individual. You will receive a reply during normal business hours.

Compiled by Jerry Walker, 1-Feb-2015

2014 Bimonthly Period	Oil Production barrels	Average Daily Oil Production barrels per day	Nevada Division of Minerals Issued Drilling Permits	Rig Count	Actively Drilling Wells
Jan/Feb	49,958	847	#954: True Oil 13-31 DY-Federal, 31-T7N-R57E, Nye Co, prop TD 6,200'	2	Noble M10C-M10-11B Humboldt Tetuan 32-30 Mariagness (Completed as D&A in 2014)
Mar/Apr	52,881	861	---	0	---
May/June	54,721	897	#955: Noble S25G-S25-33A Marys River, 25-T38N-R60E, Elko Co, prop TD 14,312' #956: Noble S25G-S25-22B Marys River, 25-T38N-R60E, Elko Co, prop TD 14,380' #957: Noble S12J-S12-23A Marys River, 12-T38N-R60E, Elko Co, prop TD 14,062' #958: Noble S12J-S12-33B Marys River, 12-T38N-R60E, Elko Co, prop TD 14,000'	0	---
July/Aug	54,202	874	#959: Noble K1L-2D Huntington, 1-T29N-R55E, Elko Co, prop TD 12,000' #960: Noble K1L-1V Huntington, 1-T29N-R55E, Elko Co, prop TD 10,192' #961: Noble K2J-1D Huntington, 2-T29N-R55E, Elko Co, prop TD 12,000' #962: Andomeda 33-1B Tomera Ranch, 33-T31N-R52E, Eureka Co, prop TD 1,200'	0	---
Sep/Oct	52,348	858	#963: Noble K2J-1V Huntington, 2-T29N-R55E, Elko Co, prop TD 10,015' #964: Noble G18C-1V Huntington, 18-T30N-R56E, Elko Co, prop TD 11,762' #965: Noble G20L-1V Huntington, 20-T30N-R56E, Elko Co, prop TD 10,869'	3	Andomeda 33-1B Tomera Ranch Noble S25G-S25-33A Marys River SAM Oil 27-1R Pluto
Nov/Dec			---	1	Noble S25G-S25-33A Marys River

Number of drilling permits issued in 2014: 12

Number of wells drilled or drilling in 2014: 5



**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 and msmith@pilotgold.com.

**GSN-SEG FORUM
SUNDAY, MAY 17TH, 2015**

TOPIC:

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

**TECHNICAL PROGRAM
MONDAY-THURSDAY
MAY 18TH- 21ST, 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

Meeting Co-Hosts



FIELD TRIPS

MAY 14TH-16TH AND MAY 21ST-23RD, 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 14TH-16TH AND MAY 21ST-23RD, 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 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 or e-mail Dave Shaddrick at: 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.



GRC Workshop

Yellowstone National Park

June 22-26, 2015

The workshop will include a tour of the major geologic features of Yellowstone Park, the first national park in the world and the site of the greatest concentration of geothermal features on the planet, and discussions of its volcanic history, geochemistry, and hydrology.

The trip will be led by Duncan Foley, Gene Suemnicht, and Joe Moore. Duncan has led geologic and photographic tours of the park since the 1970's and is familiar with its features, moods and history. Gene and Joe each have more than 30 years experience in geothermal systems worldwide.

Highlights include:

- The 13 MW net capacity U.S. Geothermal Raft River geothermal power plant and the Raft River Enhanced Geothermal System site where stimulation activities are being conducted.
- The geological and geothermal features of the Yellowstone super volcanic system.
- 300 plus geysers – more than half of all the geysers in the world.
- More than 10,000 thermal features comprised of brilliantly colored hot springs, bubbling mudpots, and steaming fumaroles.
- Grand Teton National Park



~ Cost is \$1,500 per person for GRC Members, \$1,700 for non-members.

~ The price will include travel by bus from Salt Lake City and 4 nights double-occupancy accommodation in West Yellowstone. Also included are 4 lunches, one dinner, one reception and trip materials.

~ Not included are the cost of flights to and from, and accommodation in Salt Lake City on June 21 and 26, and the cost of breakfasts each day and 3 dinners.

Register for this exciting GRC Workshop/Field Trip opportunity by completing the registration form overleaf or by going online at: <https://eseries.geothermal.org>

Register by June 12 – only 50 spaces available.

Cancellations before May 22 will incur a \$100 fee. No cancellations will be allowed after May 22.

If you have any questions contact the GRC at grc@geothermal.org or phone 530.758.2360.

Go to www.geothermal.org/workshops.html for the latest information including Visa applications.

► **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

Stay Informed about NBMG

Subscribe to our email list by sending an email to webmaster@nbgm.unr.edu with "subscribe to Publications mailing list" in the subject line

Subscribe to our blog <http://nbgm.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.nbgm.unr.edu/Departments/PubSales/PubSales.html>

New Geologic Map—RBM Pit

Title: **Preliminary geologic map of the RBM pit, Bald Mountain Mine, White Pine County, Nevada**

Author: Daniel Pace

Year: 2015

Series: Open-File Report 15-1

Format: 2 color plates: 37 x 24 inches

Scale: 1:1000

Barrick Gold Corp. and Nevada Bureau of Mines and Geology provided financial support for Daniel Pace's Master's thesis, of which this map was a major component. The Nevada Division of Minerals and the Geological Society of Nevada provided funds to prepare the map for release as a Nevada Bureau of Mines and Geology Open-File Report.

Plate 1 emphasizes geology, with geologic units in color.

Plate 2 emphasizes hydrothermal alteration and mineralization, with geologic units in grayscale.

Both plates show gold mineralization.

Free download or purchase here:

<http://pubs.nbgm.unr.edu/product-p/of2015-01.htm>

New Articles by Sean Long

Three new articles by NBMG research geologist Sean Long and co-authors (including NBMG's Chris Henry and John Muntean), two focusing on the Eureka area, and one regional study across eastern Nevada, have recently been published in the journals *Geosphere* and *Geology*. PDFs of these papers, and accompanying maps and plates, are available for download at www.seanpatricklong.com/publications.html

Long, S.P., Henry, C.D., Muntean, J.L., Edmondo, G.P., and Cassel, E.J., 2014, **Early Cretaceous construction of a structural culmination, Eureka, Nevada, U.S.A.: implications for out-of-sequence deformation in the Sevier hinterland**: *Geosphere*, v. 10, p. 564-584, doi:10.1130/GES00997.1.

Abstract: Documenting the timing relationships between deformation in the frontal and distal parts of mountain belts is fundamental for understanding the dynamics of how they are constructed. In this study, we present a new geometric and timing model for deformation in the distal part of the Mesozoic Cordilleran mountain belt in central Nevada. The model is based on new geologic mapping, cross-sections that illustrate the modern and pre-deformed geometry, new age dates from volcanic and sedimentary rocks, and assessment of regional field relationships. Our results reveal that Cretaceous deformation was taking place in the distal part of the mountain belt in Nevada at the same time as deformation in the frontal part in Utah. We use this new timing relationship, along with the predictions of models for the dynamic behavior of the construction of mountain belts, to propose that this deformation in Nevada and Utah was genetically-linked.

Long, S.P., 2015, **An upper-crustal fold province in the hinterland of the Sevier orogenic belt, eastern Nevada, U.S.A.: a Cordilleran Valley and Ridge in the Basin and Range**: *Geosphere* (published online 2-17-15), v. 11, doi:10.1130/GES01102.1.

Abstract: In Nevada, Tertiary extension of the crust has obscured the geological records of older deformation events, including the Mesozoic construction of the Cordilleran mountain belt. In this study, a paleo-geologic map of eastern Nevada, showing the ages and distributions of rocks that were at the surface at about 30 million years ago, illustrates the style and geometry of deformation associated with Cordilleran mountain building. The map reveals a region of folds in eastern Nevada that are similar in scale to those in the Valley and Ridge province of the Appalachian mountains. The folds are interpreted to have formed during the Cretaceous period, as a result of eastward translation above a deep detachment surface that projects westward from the Sevier fold-and-thrust belt in Utah. These observations are synthesized with studies of other structural provinces of Nevada and western Utah, to propose a model for deformation during Cordilleran mountain building.

Long, S.P., Thomson, S.N., Reiners, P.W., and Di Fiori, R.V., 2015, **Synorogenic extension localized by upper-crustal thickening: an example from the Late Cretaceous Nevadaplano**: *Geology* (published online 2-27-15), v. 43, doi:10.1130/G36431.1.

Abstract: Mountain belts such as the Himalayas, Andes, and North American Cordillera are formed from contractional deformation that shortens and thickens continental crust. However, in several mountain belts, extensional deformation that thins and stretches the crust has been documented to occur simultaneously with contractional deformation. At present, we do not fully understand the factors that control the location of extension during mountain building. In this paper, an example of extension during mountain building is documented in the North American Cordilleran mountain belt in Nevada, where an arch-shaped fold that developed from contractional deformation was later extended by faults. Motion on these faults brought rocks that were buried to 6-8 km depths to near the surface, resulting in significant cooling. The timing and rates of this cooling are calculated, using four different techniques that give ages for cooling through a total temperature range of 220°C to 60°C. The timing of cooling, and therefore the timing of extensional faulting, was between 75 and 60 million years ago, which is synchronous with contractional mountain building in this region of Nevada. This study demonstrates that sites of local crustal thickening can focus the location of extension during mountain building.

Guided Hikes for the Public

Truckee Meadows Parks Foundation leads guided hikes for the public.

Here are links to the [Trails Challenge schedule](#) (last Saturday of each month at 9:00 a.m.) and the [Discover Your Parks Walks](#) (Thursday evenings at 7:00 p.m. in the summer).

Jim Faulds, NBMG Director and State Geologist, co-led the hike from the Ballardini Trailhead on 2/28/2015. We will keep you informed of other NBMG faculty who may be co-leading some of these hikes in the future.

Job Announcement from BLM

Message from BLM: We are pleased to announce a new, exciting position available at BLM - BUREAU OF LAND MANAGEMENT. It is our hope that qualified, career oriented individuals at your organization or other professionals known to you will actively consider this position and apply accordingly. Efforts on your part to disseminate this information are greatly appreciated.

Nevada Petroleum and Geothermal Society; Apr 2015

Position Information:

Job Description: **Geologist**

Announcement Number: MT-DEU-2015-0065

Location(s) of position: Miles City, MT, US

Salary: \$48,403 - \$76,131

Applications will be accepted until: **04/01/2015.**

For additional information on this job posting, please go

to: <https://jobs.mgsapps.monster.com/blm/vacancy/viewVacancyDetail!execute.hms?orgId=3&jnum=111907>

New Topographic Map Web Index from NBMG

A huge thank you goes to Rachel Wearne (NBMG Cart/GIS group) for creating this new topographic map web app.

NBMG Topographic Map Index:

Instructions for use are included on this web page:

<http://nbmg.maps.arcgis.com/apps/Viewer/index.html?appid=705176c4c3444f2e96ca7d5295319c6b>

<http://pubs.nbm.unr.edu/category-s/1845.htm>

<http://pubs.nbm.unr.edu/category-s/1940.htm>

Stay tuned for the interactive index for geologic maps that the Cart/GIS group at NBMG is working on right now.

New State Managed Lands Interactive Web Map

This message was forwarded from Jennifer Vlcan.

From: Jennifer (Mauldin) Vlcan

Sent: Friday, March 27, 2015 3:16 PM

Subject: New State Managed Lands Interactive Web Map

An announcement from Stephanie Snider with NV Division of State Lands:

The Nevada Division of State Lands (NDSL) uses spatial data for land use planning, resource protection and responsible stewardship of the lands entrusted to our agency. The State Managed Lands Interactive Web Map makes it easy to view NDSL managed properties to determine land ownership, using agency, performing assets, acreage and much more. To review the web map, download GIS data and connect to the NDSL map service, please check out our **Maps and GIS Resources** webpage at:

<http://lands.nv.gov/maps/index.htm>

Stephanie Snider

IT/GIS Manager; Business Process Analyst III

NV Division of State Lands

901 S. Stewart Street, Suite #5003

Carson City, NV 89701

775-684-2727, ssnider@lands.nv.gov

Charlotte Stock, Publication Sales

Nevada Bureau of Mines and Geology

Great Basin Science Sample and Records Library

2175 Raggio Parkway, Reno, NV 89512

phone (775) 682-8766, fax (775) 784-6690, www.nbm.unr.edu

S.B. 202

SENATE BILL NO. 202—SENATORS SEGERBLOM AND PARKS

MARCH 2, 2015

JOINT SPONSOR: ASSEMBLYWOMAN SWANK

Referred to Committee on Natural Resources

SUMMARY—Revises provisions relating to hydraulic fracturing in this State. (BDR 46-438)

FISCAL NOTE: Effect on Local Government: No.
Effect on the State: No.

~

EXPLANATION – Matter in *bolded italics* is new; matter between brackets ~~omitted material~~ is material to be omitted.

AN ACT relating to natural resources; prohibiting hydraulic fracturing in this State; prohibiting certain activities relating to wastewater from hydraulic fracturing; declaring void any regulations adopted by the Division of Minerals of the Commission on Mineral Resources or the Division of Environmental Protection of the State Department of Conservation and Natural Resources authorizing a person to engage in hydraulic fracturing in this State; and providing other matters properly relating thereto.

Legislative Counsel's Digest:

1 Existing law authorizes the Division of Minerals of the Commission on Mineral
2 Resources to regulate wells drilled for the production of oil, gas and geothermal
3 resources. (Chapters 522 and 534A of NRS) In 2013, the Legislature enacted
4 Senate Bill No. 390, which requires the Division of Minerals and the Division of
5 Environmental Protection of the State Department of Conservation and Natural
6 Resources, jointly, to develop a hydraulic fracturing program for the State of
7 Nevada and to adopt regulations to implement the program. (NRS 522.119) A
8 person who desires to drill a well for oil or gas, including a well for
9 hydraulic fracturing, is required to obtain a permit from the Division of Minerals.
10 (NRS 522.050)

11 **Section 2** of this bill revises the provisions governing the hydraulic fracturing
12 program in this State to prohibit any person from: (1) engaging in hydraulic
13 fracturing in this State; (2) collecting, storing, discharging or treating in this State
14 wastewater from hydraulic fracturing; and (3) transferring wastewater from



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15 hydraulic fracturing to any facility for the treatment of wastewater in this State.
16 **Section 4** of this bill voids any regulations adopted by the Division of Minerals and
17 the Division of Environmental Protection which authorize a person to engage in
18 hydraulic fracturing in this State.

19 **Section 3** of this bill provides a temporary exemption from the amendatory
20 provisions of **section 2** relating to the storage and treatment of wastewater from
21 hydraulic fracturing. **Section 3** provides that a person who, before the effective date
22 of this bill, has been issued by the Division of Minerals a permit authorizing
23 hydraulic fracturing and who is storing or disposing of wastewater from hydraulic
24 fracturing in accordance with the provisions of the permit may, for a period of 1
25 year after the effective date of this bill, continue to store and dispose of such
26 wastewater in accordance with the terms of the permit.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN
SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

1 **Section 1.** NRS 522.040 is hereby amended to read as follows:
2 522.040 ~~{Except as otherwise provided in NRS 522.119:}~~

3 1. The Division has jurisdiction and authority over all persons
4 and property, public and private, necessary to effectuate the
5 purposes and intent of this chapter.

6 2. The Division shall make investigation to determine whether
7 waste exists or is imminent, or whether other facts exist which
8 justify or require action by it.

9 3. The Division shall adopt regulations, make orders and take
10 other appropriate action to effectuate the purposes of this chapter.

11 4. The Division may:

12 (a) Require:

13 (1) Identification or ownership of wells, producing leases,
14 tanks, plants and drilling structures.

15 (2) The making and filing of reports, well logs and
16 directional surveys. Logs of exploratory or "wildcat" wells marked
17 "confidential" must be kept confidential for 6 months after the filing
18 thereof, unless the owner gives written permission to release those
19 logs at an earlier date.

20 (3) The drilling, casing and plugging of wells in such a
21 manner as to prevent the escape of oil or gas out of one stratum into
22 another, the intrusion of water into an oil or gas stratum, the
23 pollution of fresh water supplies by oil, gas or salt water, and to
24 prevent blowouts, cavings, seepages and fires.

25 (4) The furnishing of a reasonable bond with good and
26 sufficient surety conditioned for the performance of the duty to plug
27 each dry or abandoned well or the repair of wells causing waste.

28 (5) The operation of wells with efficient gas-oil and water-oil
29 ratios, and to fix these ratios.



1 (6) The gauging or other measuring of oil and gas to
2 determine the quality and quantity thereof.

3 (7) That every person who produces oil or gas in this State
4 keep and maintain for a period of 5 years within this State complete
5 and accurate record of the quantities thereof, which must be
6 available for examination by the Division or its agents at all
7 reasonable times.

8 (b) Regulate, for conservation purposes:

9 (1) The drilling, producing and plugging of wells.

10 (2) The shooting and chemical treatment of wells.

11 (3) The spacing of wells.

12 (4) The disposal of salt water, nonpotable water and oil field
13 wastes.

14 (5) The contamination or waste of underground water.

15 (c) Classify wells as oil or gas wells for purposes material to the
16 interpretation or enforcement of this chapter.

17 **Sec. 2.** NRS 522.119 is hereby amended to read as follows:

18 522.119 1. ~~{The Division of Minerals and the Division of~~
19 ~~Environmental Protection shall, jointly, develop a hydraulic~~
20 ~~fracturing program to:~~

21 ~~—(a) Assess the effects of hydraulic fracturing on the waters of the~~
22 ~~State of Nevada;~~

23 ~~—(b) Require a person who engages} *A person shall not:*~~

24 ~~(a) Engage in hydraulic fracturing {to disclose each chemical~~
25 ~~used to engage in hydraulic fracturing; and~~

26 ~~—(c) Provide for notice to members of the general public~~
27 ~~concerning activities relating to hydraulic fracturing in this state.~~

28 ~~—2. The Commission on Mineral Resources shall adopt~~
29 ~~regulations to implement the hydraulic fracturing program required~~
30 ~~by subsection 1.~~

31 ~~—3.} in this State.~~

32 ~~(b) Collect, store, discharge or treat in this State any~~
33 ~~wastewater from hydraulic fracturing.~~

34 ~~(c) Transfer wastewater from hydraulic fracturing to any~~
35 ~~facility for the treatment of wastewater in this State.~~

36 2. As used in this section ~~†~~

37 ~~—(a) “Division of Environmental Protection” means the Division~~
38 ~~of Environmental Protection of the State Department of~~
39 ~~Conservation and Natural Resources.~~

40 ~~—(b) “Hydraulic} , “hydraulic~~ fracturing” means the process of
41 pumping a fluid into or under the surface of the ground to create
42 fractures in the rock to facilitate the production or recovery of oil or
43 gas.

44 **Sec. 3.** Notwithstanding the provisions of NRS 522.119, as
45 amended by section 2 of this act, a person who before the effective



- 4 -

1 date of this act stores or disposes of wastewater from hydraulic
2 fracturing pursuant to a permit issued by the Division of Minerals of
3 the Commission on Mineral Resources may continue to store and
4 dispose of such wastewater in this State for a period of 1 year after
5 the effective date of this act. As used in this section, the term
6 "hydraulic fracturing" has the meaning ascribed to it in
7 NRS 522.119.

8 **Sec. 4.** Any regulations adopted by the Division of Minerals of
9 the Commission on Mineral Resources or the Division of
10 Environmental Protection of the State Department of Conservation
11 and Natural Resources pursuant to NRS 522.119 or otherwise
12 authorizing a person to engage in hydraulic fracturing in this State
13 are void. The Legislative Counsel shall remove those regulations
14 from the Nevada Administrative Code as soon as practicable after
15 the effective date of this act.

16 **Sec. 5.** This act becomes effective upon passage and approval.

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The American Association of Petroleum Geologists
2015 Proposed Amendments to Bylaws
[~~strikeouts~~ – deletions; underlining – additions]

EXHIBIT 1

A proposed amendment to Article II, Sections 11 and 12, of the AAPG Bylaws changing certain officer election procedures.

ARTICLE II. OFFICERS, EXECUTIVE DIRECTOR, AND ASSOCIATION POSITIONS

* * * * *

SECTION 11. Election of Officers

(a) These officers shall be elected from among the members of the Association by means of secret ballot in the following manner: not later than ~~June 30~~ November 15 of each year the Advisory Council shall annually recommend two (2) or more candidates for the office of President-Elect, biennially recommend two (2) or more candidates each for offices of Vice President, Sections; Vice President, Regions; Secretary; and Treasurer; and on the advice of the editorial board triennially recommend one or more candidates for the office of Editor ~~two (2) or more candidates for the office of Editor to stand for election during the following fiscal year, and, if elected, to serve during the second succeeding fiscal year.~~ The Executive Committee shall approve the candidates recommended in the order (if the Advisory Council recommends candidates in a particular order) and for the office recommended by the Advisory Council unless the Executive Committee, by the affirmative vote of not less than five of its members in each instance, alters the order in which candidates are recommended or changes the office for which a particular candidate is recommended; provided, however, that no person shall be a candidate who declines such candidacy. The Executive Committee shall annually approve two (2) candidates for the office of President-Elect and; biennially approve two (2) candidates each for the offices of Vice President, Sections; Vice President, Regions; Secretary; and Treasurer; The Executive Committee will and triennially approve one or more candidates for Editor ~~two (2) candidates for the office of Editor.~~ Candidates shall be announced to Members via e-mail on or before December 1. Additional nominations may be made by written petition or by email of fifty (50) or more members in good standing received by the Executive Director at Association headquarters not later than ~~October 15~~ January 31 following. A candidate or nominee for the office of Vice President, Sections must reside within the United States and be a member of a Section at the date of his or her approval by the Executive Committee as a candidate for such office as described in this Section 11 or when otherwise initially becoming a candidate or nominee for such office. A candidate or nominee for the office of Vice President, Regions must reside outside of the United States and be a member of a Region at the date of his or her approval by the Executive Committee as a candidate for such office as described in this Section 11 or when otherwise initially becoming a candidate or nominee for such office. The names of candidates shall be published in the Explorer or by other suitable means by January 1 ~~ninety (90) days prior to distribution of ballots to members.~~ Petition candidates will be announced no later than February 15. The Executive Committee shall then prepare a printed, electronic, or other suitable ballot, listing the candidates for each office, and one (1) ballot shall be mailed, electronically distributed, or distributed by other suitable means to each member on or before April 1. Such ballots may consist of any combination of printed, electronic, and other suitable

ballots. Marked ballots returned to and received by the Association after May 15 shall not be counted. The ballot committee shall count the ballots promptly after May 15 and report the results to the President. A majority of all votes cast for an office is necessary for election. In case of a tie vote the Executive Committee shall cast one (1) additional deciding vote.

(b) In the event that there are more than two (2) candidates for any office, whether through petition or other means as provided for in these Bylaws, then the candidate elected to that office shall be determined as provided in this subsection (b). The ballots for offices having more than two (2) candidates shall provide for the candidates to be voted upon by the voters in order of preference; i.e., first choice, second choice, etc. The candidate receiving a majority of the first choice votes shall be elected to that office. If no candidate receives a majority of the first choice votes cast, then the candidate that received the least number of first choice votes shall be dropped from consideration, and the second choices of those voters whose first choice was the dropped candidate shall be deemed those voters' first choice. Upon a tabulation of the votes according to the provisions of the previous sentence, a candidate with a majority of first choice votes shall be elected; if no candidate yet has a majority, the candidate remaining with the least number of first choice votes shall be dropped from consideration, and the process described above shall again be applied in another tabulation of the votes to determine if a candidate has received a majority of the first choice votes. The process provided in this subsection (b) shall be re-applied until a candidate receives a majority of the first choice votes cast. In the process described in this subsection (b) the first choice of any voter in any tabulation shall be deemed to be the candidate chosen highest by that voter after removing from that voter's selections the candidate or candidates who have been dropped from consideration prior to the pertinent tabulation.

SECTION 12. Vacancies

(a) A vacancy occurring in the office of Secretary, or Treasurer, or Editor shall be filled by the unsuccessful candidate for that office in the most recent election. If there were more than one unsuccessful candidate for that office in said election, the candidate to fill the vacancy will be selected in accordance with the election process in Article II, Section 11, subsection (b), of these Bylaws. Should the unsuccessful candidate or candidates be unwilling or unable to fill such vacancy, the Executive Committee may fill such vacancy.

(b) A vacancy occurring in the office of President-Elect, Vice President, Sections, or Vice President, Regions shall be filled by mail, electronic mail, or other suitable ballot by membership, through a special election called by the Executive Committee. Any such ballot may consist of any combination of mail, electronic mail, or other suitable means.

(c) A vacancy occurring in the office of Editor shall be filled by a candidate nominated by the Advisory Committee, upon the advice of the editorial board, and approved by the Executive Committee.

[strikeouts – deletions; underlining – additions]

EXHIBIT 2

A proposed amendment to Article II, Section 15, of the AAPG Bylaws clarifying limitations on nomination and honors and awards.

ARTICLE II. OFFICERS, EXECUTIVE DIRECTOR, AND ASSOCIATION POSITIONS

* * * * *

SECTION 15. Limitations on Nomination and Honors and Awards

a) Members serving in any of the Association positions described in Section 14, sub-section (a), of this Article II these Bylaws, shall not be eligible to be nominated for any of the offices described in Section 14, sub-section (a), of this Article II these Bylaws, or selected for an honor or award by the Executive Committee of the Association, except for an honor or award that has been determined by an impartial convention judging process. This limitation continues for one year immediately following the end of such service.

b) Candidates for the Association positions described in Section 14, sub-section (a), of this Article II these Bylaws, may not be nominated for any other Section 14, sub-section (a) position, while a candidate for a Section 14, sub-section (a) ~~Article II~~ position, and may not be selected to receive any honor or award by any Association body, division or committee, during the period of their candidacy, unless the honor or award has been announced prior to the announcement of their candidacy, or determined by an impartial convention judging process.

[~~strikeouts~~ – deletions; underlining – additions]

EXHIBIT 3

A proposed amendment to Article VI, Section 1, of the AAPG Bylaws changing the names of the International Regions.

ARTICLE VI. UNITED STATES SECTIONS, INTERNATIONAL REGIONS AND TECHNICAL DIVISIONS

* * * * *

SECTION 1. United States Sections and International Regions

This Association shall establish United States Sections within the United States and International Regions outside the United States on a geographical basis to include Association members as individuals or as groups of federated affiliated geological societies, for the purpose of sponsoring technical meetings and publications and otherwise furthering the objectives of the Association within such Sections or Regions.

United States Sections shall be the:

- (a) Eastern Section;
- (b) Mid-Continent Section;
- (c) Southwestern Section;
- (d) Gulf Coast Section;
- (e) Rocky Mountain Section; and
- (f) Pacific Section;

International Regions shall be the:

- (a) ~~Canadian~~ Canada Region;
- (b) ~~Mexican, Central American, and South American Region~~ Latin America and the Caribbean Region;
- (c) ~~European~~ Europe Region;
- (d) ~~African~~ Africa Region;
- (e) ~~Asian/Pacific~~ Asia Pacific Region; and
- (f) ~~Middle Eastern~~ East Region.

The composition of each Section and Region may be revised, individual Sections and Regions may be dissolved, and additional Sections and Regions may be established upon application of interested individuals and upon the recommendation of the Executive Committee by vote at the annual meeting of the House of Delegates. The internal affairs of such Sections and Regions shall be administered by each Section and Region consistent with the purposes and policies of this Association.

Each Section and Region shall be entitled to elect, subject to the provisions of Article V, Section 8, subparagraph (d), of these Bylaws, from among Association members in such Section or Region, a Councillor or Councillors to serve for three (3)-year terms as elected members of the Advisory Council. Each United States Section and International Region with less than seven hundred and fifty (750) Association members shall be entitled to elect an Observer as provided in Article V, Section 8, subparagraph (d), of these Bylaws. Each such Councillor and Observer shall be elected by ballot, submitted to all Association members of the respective Section or Region, from among not less than two candidates nominated by the Section or Region governing body or by submission of a petition of nomination signed by not less than fifty (50) members of

such Section or Region and delivered to the Section or Region president at least 30 days prior to start of said election. Vacancies in Councillor or Observer positions shall be filled by election to be held within 120 days of said vacancy.

[~~strikeouts~~ – deletions; underlining – additions]

EXHIBIT 4

A proposed amendment to Article VI of the AAPG Bylaws adding a section authorizing the creation of technical and special interest groups.

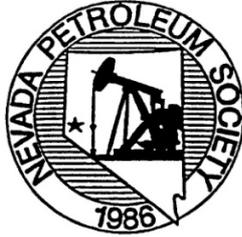
**ARTICLE VI. UNITED STATES SECTIONS, INTERNATIONAL REGIONS, ~~AND~~
TECHNICAL DIVISIONS, AND GROUPS**

* * * * *

SECTION 3. Technical Interest Groups and Special Interest Groups

Technical Interest Groups (TIGs) and Special Interest Groups (SIGs) may be established, provided that the members interested perfect a purpose, and make application to the Executive Committee. The Executive Committee shall have the authority to establish, maintain, and dissolve these Groups of the Association.

[~~strikeouts~~ – deletions; underlining – additions]



APPLICATION FOR MEMBERSHIP

Name _____

Occupation/Title _____

Company/Affiliation _____

Work Address _____
Street City State Zip Code

Residence Address _____
Street City State Zip Code

Preferred Mailing Address? WORK -or- RESIDENCE

Work Phone _____ Residence Phone _____ Fax _____

Mobile Phone _____ Email _____

Member of AAPG? YES -or- NO

Professional References – list two references with phone numbers and addresses

1) Name _____ Phone _____

Address _____
Street City State Zip Code

2) Name _____ Phone _____

Address _____
Street City State Zip Code

Education – list colleges and universities attended, degree(s) received, and date of degree(s) (OPTIONAL)

Membership Type

- ACTIVE \$20.⁰⁰/year
 ASSOCIATE \$15.⁰⁰/year
 STUDENT \$10.⁰⁰/year
 LIFE \$200.⁰⁰ (one-time payment)

Signature _____

Date _____

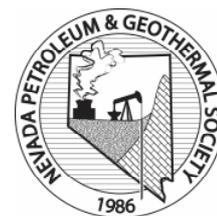
Please make check payable to:

Nevada Petroleum Society
P.O. Box 11526
Reno, NV 89510-1526

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For NPS Membership Committee Signatures Only

Nevada Petroleum and Geothermal Society

Publication Price List - October 2013



Paper	CD-ROM	Download from Dropbox	Title
SPECIAL VOLUMES			
NPS1 n/a	NPS1c \$80.00	NPS1y \$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 http://www.nbmg.unr.edu/nps/membershipdir.htm)
NPS15 \$20.00 \$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	NPS21c \$35.00	NPS21y \$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
FIELD TRIP GUIDEBOOKS			
NPS3 n/a	NPS3c \$35.00	NPS3y \$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.
NPS4 \$15.00	NPS4c \$35.00	NPS4y \$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	NPS5c \$35.00	NPS5y \$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.
NPS6 \$25.00	NPS6c \$40.00	NPS6y \$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.
NPS7 \$33.00	NPS7c \$48.00	NPS7y \$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	NPS8c \$40.00	NPS8y \$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	NPS9c \$55.00	NPS9y \$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.

Paper	CD-ROM	Download from Dropbox	Title
NPS10 \$25.00	NPS10c \$40.00	NPS10y \$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.
NPS11 \$25.00	NPS11c \$40.00	NPS11y \$25.00	Cenozoic Structure and Stratigraphy of Central Nevada (1996) W.J. Taylor and H. Langrock, editors, 11 papers, 122 p.
NPS12 \$25.00	NPS12c \$40.00	NPS12y \$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	NPS13c \$40.00	NPS13y \$25.00	Hydrocarbon Habitat & Special Geologic Problems of the Great Basin (1998) D.E. French and R.A. Schalla, editors and co-chair
NPS14 \$35.00	NPS14c \$50.00	NPS14y \$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
NPS16 \$30.00	NPS16c \$45.00	NPS16y \$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	NPS17c \$50.00	NPS17y \$35.00	Detachment and Attenuation in Eastern Nevada and its Application to Petroleum Exploration (2002) W. Ehni and J. Faulds, editors, 163 p.
NPS18 \$25.00	NPS18c \$40.00	NPS18y \$25.00	Oil, Gas, and Geothermal Occurrences in Northwestern Nevada (2003) S. Foster, editor, 102 p.
NPS19 n/a	NPS19c \$50.00	NPS19y \$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, free on Web at http://pubs.usgs.gov/of/2004/1078/)
NPS22 n/a	NPS22c \$40.00	NPS22y \$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.
NPS23 \$25.00	NPS23c \$40.00	NPS23y \$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
NPS24 \$30.00	NPS24c \$45.00	NPS24y \$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

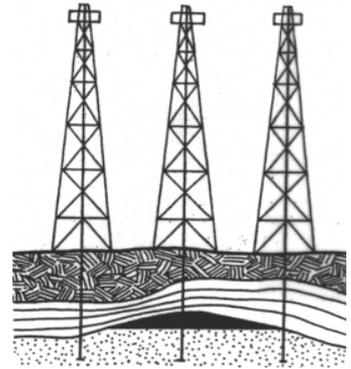
Fax: (775) 784-6690

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

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

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:

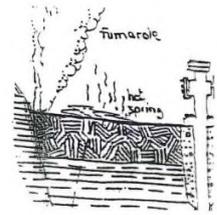
<http://nevada.usgs.gov/barcass/data.htm>

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: Faults 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:

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Great Basin Science Sample and Records Library
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Reno, NV 89512

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www.nbmj.unr.edu

Nevada Petroleum and Geothermal Society Calendar: Year 2014-2015	
Apr 2, 2015	<p>NPGS Monthly Dinner Meeting – Thursday Apr 2, 6:30 PM <i>Speaker: Sean Long</i> <i>Topic: A Valley and Ridge in the Basin and Range</i></p> <p><i>See page 1 for details</i></p>
May 7, 2015	<p>NPGS Monthly Dinner Meeting – Thursday May 7, 6:30 PM <i>Speaker: Ben Delwiche – Ormat Nevada</i> <i>Topic: McGuinness Hills Project</i></p>
May 14-24, 2015	<p>GSN Symposium 2015 John Ascuaga's Nugget Hotel and Casino in Sparks, Nevada www.gsnv.org/2015-symposium http://www.nbmng.unr.edu/docs/GSN_2015_Symposium.pdf</p>
May 31-Jun 3, 2015	<p>AAPG Annual Convention and Exhibition 2015 Denver, CO www.aapg.org</p>
June 9, 2015	<p>Nevada BLM Oil & Gas Lease Sale, Reno NV Battle Mountain NV District, posting date: Mar 11, 2015 http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/oil_gas/oil_and_gas_leasing.html</p>
Jun 22-26, 2015	<p>GRC Workshop – Yellowstone National Park GRC Website: http://www.geothermal.org/yellowstone.html For any questions or concerns, please contact Anh Lay by email at alay@geothermal.org mailto:alay@geothermal.org or by phone at (530) 758-2360 ext. 100.</p>
Oct 2-5, 2016	<p>Rocky Mountain Section/Pacific Section Meeting – AAPG 2016 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.</p>

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.nbmng.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 .
