



BRIAN SANDOVAL
Governor

STATE OF NEVADA
COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
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RICHARD PERRY
Administrator

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COMMISSION ON MINERAL RESOURCES
Clark County Commission Chambers
500 S. Grand Central Pkwy., Las Vegas, NV 89155

Thursday, May 17, 2018

1:00 P.M.

AGENDA

CALL TO ORDER

The Agenda for this meeting of the Commission on Mineral Resources has been properly posted for this date and time in accordance with NRS requirement.

ROLL CALL

PLEDGE OF ALLEGIANCE

COMMENTS BY THE GENERAL PUBLIC

Pursuant to N.R.S. 241, this time is devoted to comments by the public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item on the agenda until the matter itself has been specifically included on a successive agenda and identified as an item for possible action. All public comments will be limited to 5 minutes for each person. **ACTION WILL NOT BE TAKEN**

I. MINUTES

A. Approval of the February 20, 2018 meeting minutes

FOR POSSIBLE ACTION

B. Approval of the April 27, 2018 Commission hearing minutes

FOR POSSIBLE ACTION

II. NEW BUSINESS

A. NDOM Abandoned Mine Lands (AML) 2017 program summary and plan for 2018 work activities. AML Chief Rob Ghiglieri will present.

FOR DISCUSSION ONLY

B. Development and delivery of Minerals Education and AML lessons in Southern Nevada. Field Specialist Aubrey Bonde will present lesson plans and a summary of 2017 activities.

FOR DISCUSSION ONLY

C. 2017 Nevada Mineral, Geothermal and Oil production statistics. Production data is due from all Nevada producers by April of each year. Mike Visser will present the first look at 2017 production for the State.

FOR DISCUSSION ONLY

D. 2019-2020 biennium budget development. Development of the next biennium budget will begin this July. Rich Perry will present the major initiatives funded in the existing budget and is seeking input from the CMR on priorities for the next biennium.

FOR DISCUSSION ONLY

III. OLD BUSINESS

A. Report on Arden Mine Closure

FOR DISCUSSION ONLY

Closure work of portals and hazards at the Arden Mine was done by NDOM contractor Environmental Protection Services between April 2nd through April 27th. The work is now completed. Rob Ghiglieri and Garrett Wake will do a presentation on the work performed.

B. Report on the Prospector's and Developers Association of

FOR DISCUSSION ONLY

Canada (PDAC) meeting, March 4-7 in Toronto. Nevada was represented by Industry Trade Associations, State Agencies and the BLM in the first-ever Nevada trade booth, which was funded by NDOM. Garrett Wake will provide a report.

C. NDOM Administrator evaluation by Commission.

FOR DISCUSSION ONLY

IV. STAFF REPORTS

- 1) Mining and Reclamation Bond Pool – Mike Visser
- 2) Administrator Report and correspondence

COMMISSION BUSINESS

- A. Resolution honoring former Commissioners John Mudge and Fred Gibson for their many years of service on the Commission

FOR POSSIBLE ACTION

- B. Determination of time and place of next CMR meeting

COMMENTS BY THE GENERAL PUBLIC

Pursuant to N.R.S. 241, this time is devoted to comments by the public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item on the agenda until the matter itself has been specifically included on a successive agenda and identified as an item for possible action. All public comments will be limited to 5 minutes for each person. **ACTION WILL NOT BE TAKEN**

ADJOURNMENT

NOTICE TO PERSONS WITH DISABILITIES

Members of the public who are disabled and require special accommodations or assistance at the meeting are requested to notify the Division of Minerals, 400 W. King Street, suite 106, Carson City, NV 89701 or contact Valerie Kneefel at (775) 684-7043 or Email Vkneefel@minerals.nv.gov

The Commission will be attending a field trip on Friday 5/18 to the site of the Arden Mine closure project, located in southwest Las Vegas. CMR members will carpool from the Tuscany Hotel at 255 E. Flamingo Road, departing at 8 AM, followed by a visit to the Las Vegas Natural History Museum at 900 Las Vegas Blvd North at approximately 10:30 AM. Members of the public may attend but must provide their own transportation and safety equipment. Advanced notification is required. Please call Valerie Kneefel at (775) 684-7043.

I. MINUTES



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COMMISSION ON MINERAL RESOURCES
Legislative Counsel Bureau
401 South Carson St. Room #1214 Carson City, NV 89701

Tuesday, February 20, 2018

9:00 A.M.

MINUTES

CALL TO ORDER

The meeting was called to order by Rich DeLong at 9:01 AM

The Agenda for this meeting of the Commission on Mineral Resources has been properly posted for this date and time in accordance with NRS requirement.

ROLL CALL

Commission	Staff
Rich DeLong	Rich Perry
Dennis Bryan	Mike Visser
John Snow	Bryan Stockton
Art Henderson	Rob Ghiglieri
Nigel Bain	Lowell Price
Mary Korpi	Valerie Kneefel
Dave Parker	Garrett Wake

PLEDGE OF ALLEGIANCE

COMMENTS BY THE GENERAL PUBLIC

No comments were made by the public

I. MINUTES

A. Approval of the November 30, 2017 meeting minutes

Motion: Approval of Minutes by Dennis Bryan

Second: by John Snow

Unanimously Approved

II. NEW BUSINESS

A. NBMG Mineral Industry Report for 2016. This report is compiled annually by the NBMG, with assistance from NDOM. The report is funded annually by the Commission. John Muntean will provide a summary of the report, which was published on-time for last year's AEMA annual convention.

John Muntean: Gave a PowerPoint presentation. He indicated that the 2016 Nevada Mineral Industry Report was completed on time. This was the earliest release since 2011.

Value of Nevada's Mineral and Energy Production: \$7.49B in 2016. Gold: both production and value of production increased. Silver Production dropped, but value was up due to the price increase. Copper: Production

and value dropped significantly. Aggregate: Production down, but value is way up. Geothermal: Up nearly 8% in both megawatt hours and value. Petroleum: Production continued to decline, no exploration. Barite: Tanked due to declining oil prices.

Nevada Gold Production 1998 peak: 8.87 Moz in 2016: 5.47 Moz, 2.4% increase from 2015. 2016: Copper and silver production dropped 10% and 6%, respectively.

Metals Exploration: Gold projects: Barrick's Cortez Hills and Goldrush (underground). Kinross acquired Bald Mountain from Barrick and Barrick's 50% share of Round Mountain, spending \$110 Million on capital expenditures and \$13 Million on exploration. Other notable projects: Gold Standard Ventures: Railroad-Pinion Project. Columbus Gold: Eastside, Premier Gold mines: Cove.

Drilling Projects decreased again in 2016. 55 project drilled in 2017, the lowest since we started recording in 2006. 50 of the 55 known drill projects were drilled for gold.

Locations of 2016 drill projects for metals (mainly gold). The goal is to put all the data from 2006 to 2016 into a web map service. NBMG currently has a search for Geoscience database manager (100% state supported)

There were 197,043 active mining claims in Nevada at the end of 2016, a 4.7% increase from 2015. There were 19,040 new claims located in Nevada in 2016: 54% were for Lithium.

Clayton Valley (Pure Energy Minerals): Lithium in brine resource has 218,000 metric tonnes of lithium carbonate equivalent. The average lithium grade is 123 mg/L. Good chemistry: $Mg/Li = 2.9$, 1,536 mg/L avg $Ca, So_4^{2-}/Li$ of 18.2. The new recovery process: no evaporation ponds, real time recovery involving removing of cations, solvent extraction, electrolysis, and ion exchange.

Geothermal Energy: Geothermal plants at 16 locations. Ormat runs 9 of them. McGinness Hills passed Steamboat in 2016 to become the leading producer. Fluid production temps ranged from 97 C to 187 C. Drilling has fallen off since its high in 2010, 16 new wells drilled in 2016, 9 for production.

Oil and Barite: only one well spudded in 2016.

Rich DeLong: Is McGinness hills binary only?

John Snow: Yes

Rich DeLong: Is this report done every year?

Rich Perry: These are done every year and the Exploration survey is done every other year.

B. UNR-MSM annual \$2 claim fee approval consideration. Under the current 5-year agreement with the University, the Division designated \$2/claim in annual claim fees to support activities at the Mackay School. This is the last and final payment under the 5-year extension of this agreement, which was approved by the CMR in 2013. The Division has sufficient reserves to cover this item. A letter to the Dean of the College of Science has been prepared informing UNR that the agreement has been fulfilled.

Rich Perry: Stated that the final payment to UNR would be \$359,870, as long as the commission approves that today.

Rich DeLong: This would be the last year we would be doing this. The Division and Commission have been given direction from the Governor's office stating that the mining claim fees should be used for directed work with measurable deliverables and not for salaries at the University.

Mary Korpi: Asked if the University was aware of this?

Rich Perry: There have been conversations regarding stopping the contributions since 2015.

Rich DeLong: Indicated that he also has had discussions with the Dean.

Motion: Approved motion for the amount of \$359,870 as UNR final payment by Dennis Bryan.

Second: Mary Korpi

Unanimously Approved.

C. Election by Commission of a Chairman for the next biennium. The Commission adopted a practice to choose a Chairman every two years at the first quarter meeting in even years.

Rich DeLong: asked for a discussion on electing a chair. He indicated that he would like to continue as chairman if no one else was interested in the position.

Motion: Dennis Bryan nominated Rich DeLong to continue as Chairman for the Commission on Mineral Resources.

Second: Art Henderson
Unanimously Approved

Rich DeLong: stated that Dennis Bryan would continue as the Co-Chair.

D. Planning for a Nevada trade booth at PDAC. The 2018-19 budget included \$35,000 for a Nevada trade booth and presence at the Prospectors and Developers Assn of Canada annual trade show in Toronto on March 4-7, 2018. The scope of the project includes a professionally-designed trade booth that could be used by Nevada State agencies, trade associations, and travel expenses for two NDOM employees to attend. Garrett Wake is the project manager for this effort, and has been meeting with representatives from NvMA, GoED, NMEC, GSN, NBMG and BLM in designing the booth with coordinating efforts.

Garrett Wake: (gave a PowerPoint presentation) Mission Statement: To encourage and assist in the responsible exploration for and the production of minerals, oil, gas, and geothermal energy which are economically beneficial to the State. Nevada booth offers a “one-stop shop” for individuals and companies looking for information on exploring and producing minerals within the State. Several partnering organizations: NDOM, NBMG, BLM, NvMA, GSN, NMEC, GoED. This approach sets our state apart from many of the other states, provinces and countries in attendance. We have industry experts from several areas of expertise, not just government. More than 22,000 attendees from 100+ countries are expected to attend PDAC in 2018.

Important resources will be preloaded on USB flash drives such as organization websites, information relating to exploration and production, other information TBD. Data from file server or web can be transferred to these USB flash drives and given to potential investors. Affords us the opportunity to provide interested parties with the specific data they’re looking for in a one-on-one setting. Follows up conversation with specific information they’re looking for.

Functional and promotional – better chance of being held on to by end user.

Art Henderson: Is the booth size comparable to other States?

Garrett Wake: It’s the same size, we just have a much better layout and upgraded information this year.

Dennis Bryan: Stated that this is great for Nevada.

Garrett Wake: Hopefully we will be able to generate more interest in mining in Nevada.

Dave Parker: How will you be able to judge the increase in people at our booth?

Garrett Wake: Not sure at this time. It would be good to have a way to show that this is working.

John Snow: Will you collect name and addresses?

Rich Perry: We hadn’t thought about that but it would be a good idea.

Rich DeLong: Asked for any comments from the public. There were none.

III. OLD BUSINESS

A. DMRE Regulations Task Force update. A task force was formed by the Commission at the August 24, 2017, CMR meeting to review and provide input as the DMRE regulations progress towards an adoption hearing before the CMR. The task force met on January 30, 2018 and will provide an update.

Rich Perry: CMR formed task force at August 24th meeting consisting of; John Snow, Art Henderson, Dave Parker, Rich Perry. The Task Force met on 9/7/17 to review and comment on draft regulations. LCB draft returned 11/29/17, the Public Workshop was held on Dec. 21, 2017 and comments were accepted through 12/31/17. There were 5 oral and 5 written comments.

Regulations development team (NDOM, NDEP, DWR) met January 3rd and made some substantive changes to address comments. We re-submitted to LCB for legal review 1/8/18. The CMR task force met again on 1/30/18 to review the changes. The list of comments and responses is complete. When LCB returns final draft, we will post for CMR adoption hearing.

A 30-day notice is required for adoption hearings. For Public hearings, comments are recorded. CMR can adopt, modify or send back for editing. The timing will likely be in March, but depends on return of draft from LCB legal review. NDOM began regulating program 1/1/2018. The web site is up and running, and includes all forms, and an interactive map 2 well permits issued Jan 16 (4 business days). First borehole NOI approved Feb. 2, 2018.

Permits and approved NOI’s have been posted on web site.

We have developed a one-page communications document, posted on our web site. Communications letter on new program sent to GSN, NWRA, NPGS for their member newsletters. Presentations were made at NPGS meeting on

2/5by Lowell,

at NMA Environmental Committee meeting on 2/8/18 and the lithium regulation panel at NWRA conference in LV on 2/27/18 by Rich. Once CMR has adopted, final step is adoption by Interim Legislative Commission, date to be determined.

Rich DeLong: Asked if there was any public comment. There was none.

B. AML work planned for 2018 and Arden Mine closure project. At the August 24, 2017 Commission meeting, the CMR instructed Division staff to increase AML hard closure projects by an additional \$100,000 in 2018. The Division is partnering with Clark County on a hard closure project at the Arden Mine near Las Vegas, and has other projects planned in addition to the summer intern work plan.

Rob Ghiglieri: The historic gypsum mining left over 55 abandoned mines in the Arden area. 46 of the abandoned mines are located on land that is owned and maintained by the County, which under NRS 455.010 has the responsibility to safeguard against danger to person and animals. 40 abandoned mines are still open to the public on County land.

NDOM has constructed fencing in front of abandoned mine opening nearly 70 times in the last 4 years. Fencing has been deemed ineffective and backfilling of the portals is recommended as mitigation of these abandoned mine hazards. These are public safety hazards with no known environmental hazards. Wildlife surveys have been completed by NDOW and no significant habitat was found. CMR authorized \$100,000 towards the closures of these hazards in fiscal year 2018. Clark County has verbally approved \$150,000 funding towards the backfilling of the hazards. The Arden Mine Complex Closure Project has 40 hazards to be backfilled and will include an estimate of up to 39 acres of disturbance which includes access road and road between sites. 10' thickness of backfill material is required at the apex of each portal. Access hazards from Fort Apache Road. On site security. 20-25 working days to complete project.

The current status: Interlocal contract, February 20th Clark County Commission is voting on the approval of the \$150,000 funding towards the backfills, BLM approval, BOE approval, permits needed, water source, wildlife issues and on April 2nd, start of construction. Timing of construction to begin April 2 through approximately April 27th.

C. Land Withdrawals update Mike Visher will provide an update on Federal land withdrawal activity in Nevada.

Mike Visher: He went over the Washoe County lands bill. There are 2 components to it: 1.) Land disposal around the greater Reno/Sparks area with the intent that the lands would be transferred over or sold to highest bidder. Those are parcels that are basically adjacent to existing private property within the county as well as inholdings for the Forest Service and BLM that are surrounded by private property. This makes it difficult to manage so they are willing to dispose of those. 2.) There is a wilderness component to this which is largely in the northern 2/3 of Washoe County. This was first put forward by the Friends of Nevada Wilderness over a year ago to try and move WSA wilderness study areas from that status to actual wilderness status. They want to change the boundaries a little bit but, additionally add in some other areas that have not been identified as wilderness study areas. The discussions that were held a year ago were sidelined for a while, until everyone adjusted to the new administration. Once the Pershing County lands bill was moving forward, that became the template for the Washoe County Lands bill. The Pershing County Lands Bill is now passed through the House and now is in the Senate. There is a 30% chance of the bill being passed.

Rich DeLong: On the Washoe and Pershing County Lands bills, is there language in each of those bills to drop the WSA's those aren't selected for wilderness and return them to open public lands status?

Mike Visher: In the Pershing County Lands Bill, yes they do address the portion of the existing WSA's that are not being designated as wilderness would go back to multiple use. There is not text yet for Washoe County.

Rich DeLong: As we continue to restrict access to lands in the State of Nevada we limit our ability to find Minerals. And, that's not good for the economic development for the State.

John Snow: So you know if the Interior is doing the study for transfer of fluid minerals to the private entities or are they going to reserve?

Mike Visher: didn't have the answer and was asked to look into it.

Dennis Bryan: In regards to the Washoe County Lands Bill, the upcoming workshop that the stakeholders have been invited to, the Nevada Mineral Exploration Coalition has been very active in testifying so far and helped organize the maps and have not been invited to the workshop. And the explorationists are a big stakeholder in the future as Rich has said. Why weren't they invited?

Mike Visser: I can't answer that. The Mineral Exploration Coalition was told that it was a closed meeting not open to the public and by invitation only. They wanted to make it more of a round table discussion.

Dennis Bryan: I noticed we have the Nevada Mining Association present and I presume they will represent the exploration and industry as well.

Dana Bennett: Nevada Mining Association- Of course we will represent the exploration community. NMEC has been meeting with them and I believe there is another meeting with them on Thursday. We did send a letter to Washoe County in 2016 expressing concern about the process they were putting in place, expressing concern that they were not looking to the future and we were wanting to endorse multiple use. I can provide a copy of that letter with Rich Perry so he can share that with everyone. We are concerned how this process is taking place, it's not a public process.

Rich DeLong: asked for additional comments. Seeing none moved to the next item.

D. NDOM Administrator evaluation plan. At the CMR meeting on November 30, 2017, the Commission discussed conducting a biennial evaluation of the Administrator at the 2Q meeting in even years. Commissioners Korpi and Henderson volunteered to help develop the evaluation form and procedure for the first evaluation, which would be at the May, 2018 meeting.

Rich DeLong: The evaluation of our Administrator for NDOM. The intent is to have the evaluation at the next meeting. The evaluation should be at a public meeting. We can have private meetings in smaller groups.

Bryan Stockton: The individual meetings cannot be about what was said with other commissioners. It needs to be only your own opinion.

Mary Korpi: A lot of standard evaluations are a numbering system. We wanted quality of the Administrator not a numbering system.

Art Henderson: By no means is this the final form. We can change this.

Rich DeLong: Do we send the completed ones to Valerie?

Rich Perry: It can go to anyone you'd like.

Bryan Stockton: You can compile the evaluations with just Art and Mary.

Dennis Bryan: How do we compile this and vote?

Richard DeLong: The only thing at this point we can do is discuss this and then the next meeting we will do the evaluation.

Nigel Bain: I think we should make a comment and score it, like the numbering system.

Mary Korpi: We didn't feel that the scoring method was appropriate, but more of a written explanations.

Art Henderson: Mary and I discussed many reporting levels. He didn't ask for the staff to evaluate him. But more of a feedback to these written questions, a written response to see how he is doing.

John Snow: Does this conform to HR for the State

Bryan Stockton: For unclassified employees there isn't a regulation. This isn't a normal process. This is really new ground.

Rich DeLong: Do we want each of us to take this and make comments on the form and have his evaluation the time after next? Or do we even want to do the evaluation.

Rich Perry: I think it's appropriate to do the evaluation, just as I do one on each employee every December. I like the form that was put together here.

John Snow: Evaluations are usually done one and one. Maybe the chairman should have a one and one with the administrator?

Art Henderson: I expressed that thought with the chairman already. I thought we might give all the input to Rich DeLong and he could have that discussion with him one on one.

Bryan Stockton: I think that would be ok. I'll look into that and see if we need to make public anything.

Rich Perry: I'm ok with doing it in a public meeting. The discussion amongst the commissioners about the expectations of the administrator would be a good thing.

Rich DeLong: We need a consensus about where we want to go with this.

Dave Parker: I like the format that has been provided.

Nigel Bain: I think at some point it should be public.

Mary Korpi: Have everyone fill out form and give comments to me or Art. At the next CMR meeting discuss comments.

Dennis Bryan: We should fill out and be given to both Art and Mary.

Dennis Bryan: We need a deadline to provide the forms.

Mary Korpi: How about one month from today.

Rich DeLong: Let's make March 31st the deadline date.

IV. STAFF REPORTS

1) Oil, Gas, Geothermal and Dissolved Minerals (OGGDM) drilling Permitting and Activity –

Lowell Price: He gave a PowerPoint presentation.

Oil, Gas, and Geothermal Activity 2017-2018 permitting and drilling activity.

Permit Type	Issued	Drilled	Issued	Drilled	Issued	Drilled	Issued	Drilled
	2015	2015	2016	2016	2017	2017	2018	2018
Geothermal - Ind Prod	10	7	9	10	6	4	1	2
Geothermal - Ind Inj	1	2	3	1	4	4	---	---
Geothermal - Obs	1	1	2	4	3	1	1	1
Geothermal - TG	5	5	---	---	19	15	4	4
Geothermal - Com	---	---	---	---	---	---	---	---
Geothermal - Dom	8	5	---	4	2	2	---	---
Geothermal - Project Area	1	---	---	---	1	---	---	---
Geothermal - Total	26	20	14	19	35	26	6	7
Oil & Gas	4	2	3	1	0	1	3	0

Ormat Nevada

Completed drilling three of five production wells permitted for the McGinness Hills Phase 3 plant, with fourth production well nearing completion. Ormat Nevada completed drilling the Carson Lake 84A-31 injection well. Ormat Nevada is currently drilling the Carson Lake 21-31 observation well (for FORGE).

US Geothermal

US Geothermal Nevada is permitting the 25A-28 production well in the southwest extension of the San Emidio Field.

US Geothermal is currently seeking their stockholders approval for Ormat Nevada to acquire the company.

Homestretch Geothermal

Utah based Open Mountain Energy has entered into a partnership with Homestretch Geothermal. Open Mountain is building a new power plant at the Wabuska location, and will own it. Homestretch Geothermal will supply the plant with geothermal fluid.

Star Peak Geothermal (subsidiary of Open Mountain Energy)

Star Peak Geothermal has acquired the Rye Patch wells from Presco Energy. Star Peak Geothermal is currently re-entering each well to evaluate the potential use of the field wells. The wells have been logged and are undergoing a series of flow and injection tests.

Star Peak Geothermal plans on constructing a binary plant if testing of the wells proves to be successful.

Nevada Bureau of Mines and Geology

The Nevada Bureau of Mines and Geology completed five TG wells (geoprobe) in Granite Springs Valley in January.

True Oil

Wyoming based True Oil drilled the well approximately two miles south of the Grant Canyon Field during December and January.

After logging and testing the DY Federal 13-31, True Oil plugged and abandoned the well.

Major Oil International

Texas based Major Oil International permitted the Eblana 3 and Eblana 6 exploration wells in January.

The Eblana 3 and 6 wells will be located in Hot Creek Valley, approximately 60 miles east of Tonopah.

Major Oil International drilled the Eblana 1 in 2011. The Eblana 1 has never produced.

Permitted total depth of the Eblana 3 is 12,600 feet.

Permitted total depth of the Eblana 6 is 12,200 feet

Major Oil International has not indicated when the Eblana 3 and 6 wells will be drilled.

Envy Energy

Texas based Envy Energy permitted the Black Point 1 exploration well in February.

The well is located in White Pine County between Duckwater and Mount Hamilton.

Permitted total depth of the Black Point 1 is 7,000 feet

Envy Energy has not indicated when the Black Point 1 will be drilled.

Summary of Geothermal and Oil Well Inspections for Fiscal Year 2018:

FY 2018 Well Inspections	Total Wells	Wells Needed for FY18	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal (13 Locations)	452	151	153	101.5%	-2
Oil (5 Locations)	119	40	11	28%	29
Totals	571	191	164	86%	26

Recent inspections include the wells located in Ormat Nevada's Wild Rose, McGinness Hills, and Tungsten Mountain geothermal fields during the second full week of February.

After inspecting Wild Rose, I also inspected the three oil wells drilled in the Gabbs area, along with one geothermal observation well belonging to HRH Resources.

Sundry Notice and Transfer of Permit Activity

- Twenty-three geothermal sundry notices were approved during the 4th quarter of 2107.
- A total of fifty-nine geothermal sundry notices were approved during 2017.
- Three oil-related sundry notices were approved during the 4th quarter of 2017.
- A total of thirty-four oil-related sundry notices were approved during 2017.

BLM Lease Sales – Oil & Gas

- The BLM Ely District held an oil and gas lease sale on December 12th.
- A total of 208 parcels were offered.
- The parcels were protested by Center for Biological Diversity, The Wilderness Society, and WildEarth Guardians NGO's. No parcels were removed from the sale as a result of the protests.
- The 208 parcels comprised a cumulative total of 388,697 acres.
- The sale had thirteen bidders.
- Seventeen parcels received bids, putting an additional 33,483.72 acres under lease. Total receipts for the sale were \$119, 931.50.
- The highest bid per acre was the minimum \$2.00 per acre.
- The next oil and gas lease sale is scheduled for March 13th, where the Elko, Ely, and Carson City Districts will offer 40 parcels totaling 69,691 acres in Elko, Eureka, and Nye Counties.
- One parcel of 1900 acres is being offered by Carson City DO, one parcel of 480 acres is offered by the Ely DO, and the remaining 38 parcels totaling 67,311 acres are being offered by the Elko DO.

BLM Lease Sales – Geothermal

- The BLM held a statewide geothermal lease sale on October 24th.
- Twenty parcels were offered in Churchill, Elko, Esmeralda, Eureka, Lander, Mineral, and Washoe Counties by the Battle Mountain, Carson City, Elko, and Winnemucca BLM District Offices.
- None of the parcels were protested.
- Total cumulative acreage offered for the sale was 38,208 acres.
- There were six bidders attending the sale.
- Ten parcels totaling 19,208 acres were bought at the sale.
- The highest bid was the minimum of \$2.00 per acre.
- Receipts for the sale totaled \$78,444.00.
- The BLM has not set a date for the next annual geothermal lease sale.

Dissolved Mineral Resource Exploration

- Database and web page are in place.
- Sierra Lithium LLC submitted DMRE applications for two exploration wells, CB-1 and CB-2, on January 10th. The exploration wells are to be located in Columbus Salt Marsh.
- After review of the applications and additional information was acquired, the applications were posted on the Division's web site on January 12th.
- CB-1 is permitted to be drilled to 3,280 feet, and CB-2 is permitted to 2,624 feet.
- Permits were issued for the CB-1 and CB-2 exploration wells in Columbus Salt Marsh on January 16th, and posted on the Division's web site the same day. The permitted locations are not within an Area with Limitations. Sierra Lithium LLC began drilling the CB-1 well on February 3rd.
- Mathers Lithium Corporation submitted a borehole Notice of Intent (NOI) on February 1st. The proposed borehole is not located within an Area with Limitations, and will be drilled in the southeastern area of Clayton Valley. The NOI was approved on February 2nd.
- The proposed total depth is 1,000 feet.

2) Mining and Reclamation Bond Pool –

Mike Visher: went through the bond pool spreadsheet. He indicated that there was no additional activity for plan level bonds. On the notice level we have some increased activity. January is usually slow but we are expecting things to ramp up. Bond pool is at 127%.

3) Administrator Report and correspondence

Rich Perry: updated the commission on upcoming meetings and trade shows. He indicated that we updated the MOU for dissolved mineral resources. Once it's signed I'll put it in the packet for the next meeting.

COMMISSION BUSINESS

A. Determination of time and place of next CMR meeting
May 17th and 18th in Las Vegas.

COMMENTS BY THE GENERAL PUBLIC

There were no comments by the public.

ADJOURNMENT

11:15 PM



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COMMISSION ON MINERAL RESOURCES
REGULATION HEARING
Legislative Counsel Bureau
401 South Carson St. Room #1214 Carson City, NV 89701

Friday, April 27, 2018

9:00 A.M.

MINUTES

CALL TO ORDER

The meeting was called to order by Rich DeLong at 9:01 AM

The Agenda for this meeting of the Commission on Mineral Resources has been properly posted for this date and time in accordance with NRS requirement.

ROLL CALL

Commission	Staff
Rich DeLong	Rich Perry
Dennis Bryan	Mike Visser
John Snow	Bryan Stockton
Art Henderson	Rob Ghiglieri
Nigel Bain-showed up at 9:30 am	Lowell Price
Mary Korpi	Valerie Kneefel
Dave Parker	Courtney Brailo

PLEDGE OF ALLEGIANCE

COMMENTS BY THE GENERAL PUBLIC

Tyson Faulk: Nevada Mineral Exploration Coalition, wanted to say that they are in support of the regulations as they are written.

I. PUBLIC HEARING

For the purposes of receiving public comment from all interested persons, the Commission on Mineral Resources will hold a public hearing regarding the adoption of regulations in chapter 534B of Nevada Administrative Code for dissolved mineral resource exploration, enabled under Assembly Bill 52 of the 2017 Nevada Legislature. The proposed regulations sets forth certain restrictions for drilling boreholes, permitting and construction of dissolved mineral resource exploration wells and plugging of boreholes and wells. The proposed regulations also set the fee required to accompany an application for a permit to drill a dissolved mineral resource exploration well.

Rich Perry: Gave a brief overview of the regulations. Gave thanks to the cooperation of Tim Wilson, Bruce Holmgren, Jason King, and Greg Lovato. Based on comments received this week from industry, and review of the March 9 revised

proposed draft, the regulation development team recommends the Commission adopt the changes listed below. All of these changes were discussed with LCB and considered non-substantive.

Section 20.1: Add the words “or well”, to read: Except as otherwise provided in subsection 2, any drilling or plugging of a dissolved mineral resource exploration borehole or well within a dissolved mineral resource exploration project is subject to this chapter. (corrects an omission).

Section 24. 1(b) eliminate “at <http://data.ndom.opendata.arcgis.com/pages/dmre>” (references to an address of a website not controlled by the Division are not appropriate for regulations). The website of the Division will link to the appropriate site.

Section 25.4(a) Eliminate (a) In the same manner required for plugging a dissolved mineral resource well pursuant to section 35 of this regulation; or

(from Industry comment, to make it more clear how a borehole is plugged)

Sec. 28.2: Eliminate “at <http://data.ndom.opendata.arcgis.com/pages/dmre>” (references to an address of a website not controlled by the Division are not appropriate for regulations)

Sec. 34.1(d) Re-word this to read: “Ensure the total withdrawal of water pumped from wells in the dissolved mineral resource exploration project does not exceed 5 acre-feet”. (clarifies the provision)

Section 35.5: Eliminate: “of the dissolved mineral resource exploration well”. (wells don’t have a surface, the intent is to restore the surface around where the well was drilled)

Section 36.3: add the word “permit” to read...any provision of this chapter, permit, or an order of the Division (since conditions of approval are in permits, the term permit was added to what can constitute a violation)

Mike Visher: Explained the “Areas with Limitations” map. This map is to define areas of concern with other fluid mineral resources as well as safety concerns. Due to high heat flow, someone might be drilling a borehole and not understand why they are encountering high temperature fluid and similarly with a well drilling even deeper in these basins. We’ve added all the current active leases issued by the BLM, and we’ve updated this three times now since the first draft version last fall. Those are the shaded gray areas. Each permitted oil well has a ½ mile radius buffer around it. Those are wells that are active and permitted by us. This was also to provide some method of review in the application process, to make sure the construction of the well would be done in a manner not to interact with an existing resource to a well. And then we did the same thing for geothermal. Active permitted geothermal wells. TG wells are not included, because by definition they are not allowed to penetrate the resource.

Bryan Stockton: Could you define TG for the record please.

Mike Visher: Thermal Gradient Well. Lastly, in concern for drilling in the middle of a playa where they may encounter higher than normal temperature gradients, we took publically available information from Mark Coolbaugh (NBMG) Which included thermal gradient wells and probes throughout the state and we gleaned the data to determine at what depth a borehole might encounter 125 degree Fahrenheit water. That’s the depth that the BLM and OSHA have concerns about scalding. That turned out to be 1500 feet for a borehole. And for the blowout prevention, if you are expected to experience 200 degree Fahrenheit water you need to install blowout prevention equipment. The same data was used and it comes to 3000 feet for a well. Those are the hydrogeological basins in blue where the temperature gradients were sufficient to reach 125 degree water at 1500 feet and 200 degree water at 3000 feet. This is just a basis for review, this doesn’t disable the ability for the applicant to drill, it requires them to do additional research and explain why they think an exception should be made. They make that request to the Administrator. This allows us to learn more about the basins and modify the map. The map is meant to be dynamic as more information becomes available as well as new leases are authorized by the BLM. You’ll see dates on the map that are current, also on the map in hatch form is the current active inferred placer claims for lithium brine exploration that was just done in February. We anticipate doing these pulls (from LR2000) on a quarterly basis. To make this process easier for the applicant, they need to understand if their well is in an area with limitations. We have, on our Open Data Site, an interactive map that allows the applicant to go through that process.

Rich DeLong: you mentioned permitted wells, are there any grandfathered oil and gas or geothermal wells that are still outside the program?

Mike Visher: no, those are not incorporated.

Courtney Brailo: She went through how to access the Open Data Site from the Division of Minerals’ Website. And then demonstrated how the map works and all the functions that it will easily do. <http://data-ndom.opendata.arcgis.com/>

*Nigel Bain has joined the commission at 9:30 am

Rich DeLong: Asked for any questions from the commission.

Dave Parker: Wanted to know if there is a date on the interactive map.

Courtney Brailo: Yes.

Rich DeLong: we would like to move to public comments now.

Brian Amme: Deputy State Director for the Bureau of Land Management, Nevada State Office. He wanted to speak in support of the regulation. He felt that this regulation helps resolve a lot of potential conflicts. Safety was one of the issues we were looking at and the lack of blow out prevention, casing and everything that could possibly happen or go wrong. We feel this is a very good thing for the safety of exploration and we think that the regulations help lithium exploration throughout the state, which is always a positive economic factor. Indicated that he heard some concerns about linking the notices, whether or not an operator can put a bunch of notices out there and gain more than the accumulatively 5 acre per notice. Our regulations of 3809.21B do not allow the aggregation of notices of public lands and basic rules of thumb are that projects have to be distanced for at least a mile of separation or in separate basins. He really liked the interactive map and liked that NDOM used the BLM's LR2000 data to create it.

Greg Lovato: Administrator for the Division of Environment Protection. Beside him is Bruce Holmgren, Chief of NDEP-Water Pollution Control previously he was Chief of Bureau of Mining Regulation and Reclamation at NDEP. He is part of the technical working group that formed these regulations. In accordance to section 20 of AB52, NDEP participated in the development of these regulations with, NDOM, DWR, DCNR, the Governor's Office, industry and interested stakeholders. He wanted to clarify how NDEP is going to interact with exploration projects going forward. As required by Sec. 16 and 17 of the legislation, Sec. 27 of the proposed regulation requires that an application for an exploration well include a plan for management of fluids generated in accordance with existing water pollution and control requirements administered by NDEP. This would typically require a temporary permit from NDEP requiring control of pumped fluids to prevent potential impact to water quality. This may only be a sump to contain fluids or in cases where ground water is shallow or exploration in near surface, a disposal option may be required. NDEP would like to stress that operators of exploration projects that have potential of conversion of boreholes into wells need to anticipate and plan for such conversions in advance to prevent delays in the field. NDEP is committed to working with all involved and encourage project proponents to submit the required application ahead of time if there is potential to convert a borehole into a well. The existing NDEP regulations related to mine exploration for production are not affected by these regulations. We support the existing regulations with the updates submitted today.

Jason King: State Engineer and the Administrator of the Division of Water Resources. Sitting beside him is Tim Wilson-head of Well Drilling and Adjudication Section. Mr. King wanted to thank him for all his hard work on the development regulation team. Nevada's regulatory agencies are very familiar with mining explorations when it comes to hard rock minerals. However, dissolved mineral exploration is new and very different; in hard rock mining exploration water is needed primarily to support the drilling of the exploration core hole. In exploration for dissolved minerals, lithium in this case, mineral is in the very water or brine that the exploration companies are drilling wells to access. The drilling of the boreholes and exploration wells for dissolved minerals could be thousands of feet deep and are similar to geothermal exploration. Geothermal exploration in Nevada is regulated by the Division of Minerals due to their extensive experience with geothermal fluids and deep exploration well design. Our office believes that these regulations which are rooted in the intent of AB52 and will have clarity to the exploration process while keeping the production process within the established protocol, including managing the need for production water within the purview of our office, the State Engineer's office. There are four issues I'd like to get on the record:

- 1.) Any withdrawal of water in excess of 5 acre-feet needed in the exploration of a dissolved mineral resource will require the mining company to obtain sufficient water rights pursuant to established Nevada water law.
- 2.) Pursuant to Sec. 20 2b, it is clear that if an exploration company has secured a valid water right for dissolved mineral mining and milling prior to January 1, 2018 that company does not have to apply to the Division of Minerals for permitting of wells. If an exploration company files a water right change application, post January 1, 2018 of a valid water right that pre-dates January 1, 2018, that exploration company is still exempt from NDOM permitting because the base right of that change pre-dates the January 1, 2018 date.
- 3.) Moving forward, the State Engineer's office will consult with NDOM on well construction issues on all future water right application for dissolved minerals, mining or milling water rights, so their expertise can be used.
- 4.) Throughout the process leading up to these regulations, there was discussion and desire from the exploration companies that if a water right was secured through our office, which would only occur after consultation with NDOM on well construction, the exploration companies would not have to go through the permitting outlined in these regulations. Subsequent to those discussions, the regulation development team included that exemption in the draft regulation submitted to the Legislative Counsel Bureau. After the legal review by LCB, they determined that this type of proposed exception in regulations was inconsistent with the Statutory language found in Section 16 sub 1 in AB52 which says that a person may

not drill a dissolved mineral resource exploration well without first obtaining a permit from the Administrator of the Division of Minerals and complying with the conditions of the permit.

Thomas Gallagher: Nevada Water Solutions, LLC, consulting engineer in Reno. He is currently representing 3 lithium prospects pursuing water rights applications necessary for production. He is also assisting legal counsel at Pure Energy. He is also the President of the Nevada Groundwater Association. For clarification; sec 12 AB52 defines dissolved minerals exploration borehole is made for sampling or obtain water which cannot be pumped as a well. As he sees the distinction between the two is that one can be pumped and the other cannot. Would like clarification on how statute defines a borehole and defines a well. He also has a question regarding why a permit is required for a well but not a borehole, however you have to file a notice of intent and get approval for a borehole which is essentially a permit. And this regulation we have to live with the 5 acre-feet, not per well but per project, is that correct?

Rich DeLong: We're here to review and potentially approve these regulations. We are not a Legislative body and we cannot speak to exactly what the specific or indirect intent that the Legislature meant. We have to read the text as plain text.

Thomas Gallagher: then I'm stating my opinion on the plain text. Sec. 25 paragraph 3 implies that a temporary casing can be set and any pipe or tubing used for ground control or sampling must be removed for the well, so that implies temporary casing can be set in a borehole. What I believe needs to be addressed is the plugging of a well. Some of it was addressed this morning, but I'm looking for some clarity. In Sec. 25 the plugging of a borehole goes into some good detail, however in Sec. 35 it does not. I would like to see more detail in plugging requirements put into Sec. 35. In Sec. 31 the construction of a well, there is no specification on a steel casing. In Sec. 31 it goes over surface casing; provide a minimum of 2 inch annular space. Is that to the sealing depth annular space or is that to the depth of the well? That needs clarification. In Sec 33 asked that the phrase "flowing at the surface" be deleted.

Art Henderson: asked what kind of participation have you had in the development of these regulations? Have you been involved or is today your first time coming forward with any comments?

Thomas Gallagher: stated he came to the workshop in December.

John Snow: asked if he could reiterate his point on the artesian flow at the surface versus penetrating a confined layer, and why you feel that doesn't meet the intent.

Thomas Gallagher: he stated that he thinks it misses the intent.

Carolyn McIntosh: Attorney on behalf of Albemarle Corporation and Albemarle US Inc. Albemarle is the owner and operator of Silver Peak lithium project. They are the only lithium producer in Nevada and in the United States. Albemarle and Dajin Resources Inc. submitted written comments jointly. *(Please see written comments attached). She indicated that her comments today are consistent to the written comments already submitted. She appreciated being involved in the process and has seen development, changes and improvements as things have gone along. The comments are pretty narrow due to the concerns we had which have been addressed along the way in the process.

Chris Mahannah: Consulting Engineer, licensed water rights surveyor from the Division of Water Resources. He is here on behalf of Dajin Resources. *(Please see written comments attached). His concern was regarding dual permitting.

Walter Weinig: Hydrogeologist-Vice President for projects and permitting for Pure Energy Minerals. *(Written comments were submitted). He wanted to clarify an instrumentation borehole. When that kind of borehole is drilled, it is a borehole and under the Division of Water Resources regulations permitted it is allowed as a borehole. When you abandon that borehole, you grout it up and you can leave some instruments behind. Particular for dissolved mineral resource exploration, it would be useful to leave vibrating wire piezometers behind. They are very small instruments; they are grouted into the hole, with a couple of wires left sticking out of the surface so you can read the instruments periodically. These are not open boreholes or open wells, standpipe wells, that would need to be permitted as a monitoring well or permitted as a dissolved mineral resource exploration well. It is a grouted borehole at the end of the process. We have a comment in Sec. 20 about the exclusion for existing wells that were installed and sampled under valid MM waivers prior to January 1, 2018. We have two of those wells in Clayton Valley, obtained MM waivers from the Division of Water Resources. We have drilled the wells, conducted the sampling-testing and during that process we extracted approximately 0.7 acre feet out of the 5 acre-feet total allowed under the MM waiver. We applied for an extension of that waiver because the results indicated we should do additional testing, particularly in the deep portion of the Clayton Valley aquifer. We wanted to apply the extension under the new regulations, we aren't trying to go beyond the 5 acre-feet but we want to test them completely consistent under the new DMRE regulations. The issue is that these wells are already installed. As far as I know our wells are the only ones that fall under this category. So, the intent of this comment is to bring these small number of wells into the new regulations understanding the reason for a clean break between the old and the new. We don't want to have to impose a new burden of drilling new wells. We disagree on a couple of previous comments made, Sec. 35-1 the language would be modified so that only a water right appropriation could be used to allow that well to continue in existence. The waiver process is outside the appropriation process, that's not typically the way in terms of day to day operations. There are a variety of waivers that can

be issued by the Division of Water Resources; we consider that to be a part of the appropriation process. We like the language the way it is. The other suggestion earlier was in Sec. 34-1a it was suggested the clause for the purpose of testing and sampling the well be removed in terms of installing a water meter. In general I don't see a problem with that with one exception of well construction versus the use of a well for testing and sampling. We think the language is fairly precise the way it is.

Nigel Bain: on the instrument in boreholes leaving the piezometers in the hole, you're saying you also have to pump the well?

Walter Weinig: No, those are 2 separate wells. Instrumentation well doesn't need to be pumped.

John Snow: I understood your point on the vibrating water piezometers, that if you applied in the abandonment of the borehole to leave the piezometer in and was actually grouted not bentonite that would be allowed and some flexibility in the regulations to be allowed to do so.

Walter Weinig: that's allowable in the DWR regulations now.

Tim Donahoe: Hydrogeologist representing 3 Lithium companies who have projects in Columbus Salt Marsh Valley, Clayton Valley and Alkali Spring Valley. He has been involved in obtaining permits and waivers for Lithium exploration under the previous regulatory system and the new regulatory system. It is his opinion that the new regulations are necessary and appropriate and the authority with NDOM is properly vested and believes its working well. He had one question: what is the purpose of the 2-inch annular requirement, is it mainly to have enough space in the borehole to fit a tremie pipe or are there other reasons?

Thomas Gallagher: Wanted clarification on the transition between permitting under DWR and the new permitting under the new regulation. Mr. Weinig pointed out had previously had test wells permitted under a waiver through DWR and since it has expired and DWR has taken the position that when asked if the waiver to be extended has denied the request. Where does that leave the wells that were once permitted by DWR? If it was expired, or cancelled are they going to be grandfathered in under the DWR process or do they have to follow the new regulations? Also, does the water right have to be in place, is it clear in the regulation that an approved water right or the application for permitting water rights have begun before 2018 will that also be considered that the applicant pursuing the water right application good faith under the existing law at the time, do they then flip over to Minerals' new regulation? During this transition period will anything be extended or granted?

Rich DeLong: I'll respond to one of your questions, as it relates to DWR we have no jurisdiction over DWR regulations. We will leave that up to the State Engineer.

Rich DeLong: asked for Rich Perry, Jason King and Greg Lovato to respond, as they felt appropriate, to any of the public comments. Also to respond to any questions that the Commissioners may have about what has transpired so far during the public hearing.

Art Henderson: he asked a question to Bryan Stockton. Is it not reasonable for me to believe that when we come here today to potentially approve regulations, that the LCB confirms that the regulations meet the statute?

Bryan Stockton: Senior Deputy Attorney General, in the legal profession the standard answer is that it depends. But, the short answer is yes, and the long answer is that if LCB's opinion is reasonable under that law, I think they are entitled to not really, you don't have to defer to them but since they are the legislative branch then they are entitled to some deference to their interpretation of the law. An example is that you've heard a lot of testimony regarding the dual permitting provisions, that the new draft in some instances will require dual permitting and the legislative counsel bureau's logic behind that was the reading that Mr. King read in Sec 16.1 of AB52 says a person may not drill a dissolved mineral resource exploration well without a permit from the Division of Minerals. The law in Nevada is, if the statute is clear then you cannot even look at the legislative history if the language is clear then you stop with the statute. That is one instance where LCB made this change based on Nevada law and I think they are correct in this instance. That's why we ended up with possible dual permitting in some instances because the statute is pretty clear. But, if you feel what LCB has written is in conflict with your duty then you can make changes. Does that answer your question?

Art Henderson: I was just concerned when I heard some testimony today indicating that the regulations did not match the statute. Thank you for clarifying that.

Rich Perry: He started clarifying and answering some of Mr. Gallagher's questions. Regarding the sampling of boreholes, we have actually seen this because it has actually occurred with bailers, packer tests, hydro-sleeves and air-lifting and none of those are pumping, those are sampling. With the plugging detail in Sec. 25 and 35 I had recommended an edit to detach those earlier than those that you have before you, and I think it's clear how to plug a borehole and it's clear how to plug a well. And yes there are sometimes collars and tubing put into boreholes to hold them open, that's very common in exploration. The language there is pretty clear. With regards to well construction specification, we did not put specific construction specifications because these exploration wells could be 100 foot wells that have thermoplastic casing that are 2

inch diameter plastic or they could be 4000 foot wells. As a group we decided that it would be impossible to determine the specifications like you would a geothermal or oil well. We would allow the applicant to choose to select and submit what they choose they want to build. In answer to question of whether exploratory wells can have an open-hole component, yes, for some period of time they can. Section 33, on artesian conditions, we use a slightly different definition than the State Engineer but we feel it is appropriate. Regarding drilling of borehole, it depends on when you received the water right, if you had a water right prior to 1/1/2018, you don't need to permit through us, but you do if you got your water right after 1/1/2018. Regarding dual permitting, I look at it simply, what we're really doing is exchanging the State Engineer's water well drilling manual with the dissolved mineral resource exploration drilling procedures before you today. Even when an entity wants to get a water right and explore for dissolved minerals, which manual do you want them to use. He gave an overall comment and appreciates all the time Carolyn and Chris put into this; they were very helpful throughout the whole process that started last year. Most of the issues that were brought up that we did address in the regulations that the team accepted and we moved through and were legally reviewed by LCB are in these regulations now. Most of what we heard today (from Ms. McIntosh and Mr. Mahannah) was rejected by the regulation development team and LCB in their legal review. You can't write a regulation to undue the statute. In regards to Mr. Weinig's concerns (on instrumented boreholes), we will take a look into that and see if there is a way to allow for that. Having worked for the State Engineer for many years we used to allow for that in boreholes and the language for instrumentation boreholes was added later for clarity so that may be possible to do without any changes in the regulations. For the final comment from Mr. Donahoe, the 2-inch annular space, which there was quite a bit of discussion, is necessary and is something that you always find in a geothermal or in an oil well because you have to be able to go behind the casing and put cement in order to seal the annular area.

Jason King: Appreciated all the comments here today. Don't let perfect be the enemy of good. I think we have a good set of regulations.

Greg Lovato: He felt that some of the clarifying recommendations made today were good ones and should be considered. With the exception of the following two suggestions: there was a request to amend language regarding applications and where they don't meet the requirement then they "shall" be denied. He compared that to the dozens of permits that NDEP administers in their regulations and typically our regulations do not explicitly and in fact I could not find any example that do not deny when they don't meet requirements. If they don't meet requirements then they are denied. One more comment regarding the posting of information, every attempt has been made so far what NDOM is doing in providing information as quickly as they can and on their website to be made publically available, you need to weigh that requirement against the need for expeditiousness and the need to move things along. And the nature of what we are dealing with in terms of what should be di minimus impacts from less than 5 acre-feet withdrawal and the many temporary discharge permits NDEP issues every day that do not go through public notice but the information is still available.

Rich DeLong: opened the meeting up for questions from the commission.

Mary Korpi: on the topic of timely reporting relating to the public, during the hearing and inputs to the process was there the true general public that have weighed in? That's one entity that isn't here, and without them here it shows there is little interest from them on these time constraints.

Rich Perry: The only one was Kyle Davis representing the conservation community. He wanted to be notified if there was a hearing. That was one thing we did change, that we would keep a list of interested parties (for notification). It has been mostly industry folks interested.

Dennis Bryan: these regulations have been going on for quite some time. In his opinion, one of the great things behind this is the exploration community in the State of Nevada; we put the lithium brine people in the same kind of category as the rest of the exploration industry with minimal permitting in regards to drilling. The brine needed clarification and we shouldn't over regulate this.

John Snow: In the appeal process and the consultation between the 2 agencies, has there been discussion on how that will work?

Rich Perry: in the statute there is that mechanism. However, we actually used some of that language in the regulations; the legal review at LCB removed it. And their comment when we asked why was that the State Engineer has the ability to conduct hearings and the Administrator of the Division of Minerals has the ability to conduct hearings. Under existing statute in NRS 513 it says that NDOM and State Engineer can work together on any common issues that they need.

Jason King: Ms. McIntosh did mention that the regulation and the statute was inconsistent. The Statute makes it clear that it could be either NDOM or State Engineer or jointly to conduct a hearing. In the regulations it appears that NDOM is in the driver's seat. With the few permits that have already been issued, we've been notified on each one and I think that it's already been baked into the process.

Bryan Stockton: Read NRS 513.113 into the record.

NRS 513.113 Assistance from state agencies. The Division may request assistance from the Bureau of Mines and Geology of the State of Nevada and the State Engineer and cooperate with them in carrying out the purposes of this chapter.

Rich DeLong: has a couple of items as it relates to the two wells that were completed under waivers and have expired. They have an asset in the ground, is there a system to preserve that asset if they choose to go forward? Or would they have to abandon and re-drill the wells?

Rich Perry: with regards to the new regulations we did not put in an ability to re-permit an existing well as a DMRE well.

Jason King: stated he didn't have an answer for that, unless they had a water right.

Nigel Bain: With regards to the dual permitting, I didn't hear anyone say that it was so onerous, that it would drive them away. Is that correct?

Rich Perry: You're correct, we have not heard that. Rather that the explorationists desired a pathway to explore without going through the process of acquiring a water right. The \$1,000 fee for the permit is more expensive than the mining/milling waiver but certainly much less than a water right.

Rich DeLong: Brought forth it was time if anyone needed to do disclosures before voting. Disclosed that the firm he works for has been involved in lithium exploration permitting, but others do it, and it would not hinder his ability to provide judgement for the best interest of the State.

Dennis Bryan: disclosed that he was VP of Lithium America for nearly 10 years, but retired last year and has no financial involvement in any lithium concerns.

John Snow: Partner in McGinley and Associates, has three clients that have interest in lithium exploration, Blue Mountain Energy is a company owned by himself and his wife which has geothermal and oil leases which also would include lithium, zinc, etc. provisions.

Rich DeLong: Asked if Commission wanted to have discussion or make changes in the regulations.

Dave Parker: Motion to approve changes in regulation language recommended by Rich Perry that were read.

Mary Korpi: Seconded the Motion

Unanimously approved

Dave Parker: Motion to proceed with acceptance of regulations.

Mary Korpi: Seconded the Motion

Unanimously approved

COMMENTS BY THE GENERAL PUBLIC

There were no comments.

Meeting Adjourned at 12:20 pm

Albemarle Corporation, Albemarle U.S., Inc., & Dajin Resources Joint Comments
Revised Proposed Regulation of the Commission on Mineral Resources
LCB File No. R109-17, March 9, 2018
DISSOLVED MINERAL RESOURCE EXPLORATION REGULATIONS

I. General Comments

Albemarle Corporation and Albemarle U.S., Inc. (together, “Albemarle”) and Dajin Resources (“Dajin”) have been actively involved in the development of Assembly Bill No. 52, adopted as Chapter 507, Statutes of Nevada 2017 (“Chapter 507”), and the implementing regulations. We are the only parties that have provided comments throughout the process of development of the Dissolved Mineral Resource Exploration Regulations (“Regulations”). Acknowledging that numerous improvements have been made from the initial draft, we start our comments by thanking the Commission on Mineral Resources (“Commission”), and the Division of Water Resources (“DWR”) and the Division of Environmental Protection (“DEP”) of the State Department of Conservation and Natural Resources for all working together, as directed by Chapter 507, § 20, to develop these Regulations. We have identified a very limited number of remaining issues in the current draft that we believe would provide greater clarity and further improve the Regulations. To that end, we appreciate this opportunity to comment on the draft issued by the LCB on March 9, 2018, LCB File No. R109-17 (the “LCB Draft”).

Assembly Bill No. 52, adopted as chapter 507, Statutes of Nevada 2017 (“Chapter 507”) was enacted to promote exploration for dissolved mineral resources, specifically lithium, in Nevada, while protecting the State’s unique environment and limited water supplies. The Nevada Legislature recognized that exploration could occur under Nevada’s water laws, but that obtaining water rights or waivers from the State Engineer can be a time consuming and challenging process. Accordingly, the Legislature sought to provide a less burdensome alternative—one that permits a de minimus use of groundwater solely for exploration—that would not require a water right or waiver. However, the Legislature did not eliminate or amend the rights pursuant to Nevada water laws that remain available under NRS Chapters 533 and 534 for those that have a water right and choose to use that water right for exploration. Nor did the Legislature intend to create a dual permitting system, with both the Division of Minerals of the Commission on Mineral Resources (the “Division”) and DWR, that increases the burden for those choosing to explore with a water right. Chapter

507 should serve as the foundation for a “best in class” structure to balance these objectives and create a stable regulatory environment in Nevada that is attractive for continued investment and the prosperity of its citizens. However, these important goals will not be realized if the Regulations increase burdens on explorers that also have water rights. The Regulations will only be successful if they facilitate identification of additional, economic lithium resources in the State and attract investment to develop those new resources. Those objectives are best accomplished by regulations that conform to the language and legislative intent of Chapter 507, are clear and unambiguous, avoid duplicative obligations, and provide transparency to encourage public participation.

The current version of the Regulations has addressed the majority of the concerns raised by Albemarle and Dajin in response to previous regulation drafts. Accordingly, we focus our comments on the last remaining provisions that do not conform to Chapter 507, would result in duplicative regulation, are ambiguous, could create loopholes, or do not promote transparent public information and participation. First and foremost, the legislative history of Chapter 507 is clear that the law is to operate prospectively and is to promote exploration. Contrary to these legislative directives, the LCB Draft would subject operations that are producing and explorers that have water rights to dual-permitting obligations—making it more cumbersome to explore. Chapter 507 does not apply to operations that are producing or have water rights, yet the LCB Draft would require all dissolved mineral resource exploration (“DMRE”) boreholes and wells to be regulated through these Regulations, even for those explorers that have water rights and are already regulated by the Office of the State Engineer and the DWR (collectively, the “State Engineer”). This overlap between existing water laws in NRS Chapters 533 and 534 and the new Chapter 507 will create confusion, unintended regulatory loopholes, and increase costs through duplicative and overlapping regulation. Second, a clear problem under existing laws has been the limited regulation of DMRE boreholes and their conversion to DMRE wells. The LCB Draft fails to include a clear directive that applications to convert must be denied if the resultant well will not meet DMRE well requirements. Third, meaningful public participation is not possible if the public does not receive information timely. The LCB Draft fails to include sufficient advance notice provisions—that were in Division Draft #4—thereby limiting public participation. Fourth, the Regulations ignore the balance struck by the Legislature in permitting limited water use for exploration—on a

“project” basis and the continued collaboration between the Division and the State Engineer. Accordingly, our comments focus on: 1) prospective application of Chapter 507 and avoiding dual regulation; 2) conversion of boreholes to wells; 3) transparency and public information; and 4) better integration of the “project” concept and implementation of a collaborative hearing process.

Albemarle and Dajin appreciate the Commission’s process and the opportunity to provide these additional comments. Collectively, we have the most experience regarding lithium exploration and production from brine in the State of Nevada and, as such, hope that our comments will be useful. Albemarle is happy to share its 50-plus years of experience as the only operator in the unique playa environment and the only producer of lithium from brine in the United States. Dajin has identified a new location and source of lithium in Nevada and is in advanced stages of true exploration of this new lithium resource. We hope that our comments will help inform and improve the final Regulations.

1. Prospective application of Chapter 507 to avoid burdensome, dual regulation:

We support § 20 of the LCB Draft providing that wells and boreholes under current regulatory management by the State Engineer will continue to be managed by the State Engineer. However, the Regulations impose dual regulatory obligations on those explorers and producers that have water rights, hampering exploration. In enacting Chapter 507, the Nevada Legislature made clear that the law was to operate prospectively. Specifically, Senator Yvanna Cancela, Chairwoman of the Senate Natural Resources Committee, stated in her floor remarks that the law would be prospective and would not affect ongoing operations. Further, in response to her request for a legal opinion, legal counsel to the Committee opined that Assembly Bill No. 52 would only operate prospectively. To conform to Chapter 507 authority, § 20 of the LCB Draft properly excludes DMRE boreholes and wells that are already regulated by the State Engineer under existing laws. In stakeholder meetings, personnel from the Division, including Mr. Perry, stated that: (i) wells ordered plugged or deemed illegal by the State Engineer will not be permitted under AB 52; (ii) projects/wells that have already pumped 5 acre-feet will not be permitted or extended under AB 52; and (iii) monitoring wells will not be permitted under AB 52. Accordingly, we applaud § 20 in the LCB Draft which retains State Engineer regulatory authority over production wells and existing wells drilled under waivers or water rights permits. This

approach is consistent with the legislative directive to apply Chapter 507 prospectively: “the provisions in this chapter [507] should not apply to projects previously permitted by the State Engineer.”¹

However, the Legislature did not eliminate or amend any Nevada water laws or current permitting procedures with the State Engineer. Accordingly, § 20 of the LCB Draft fails to recognize that explorers and producers that have water rights are subject to regulation by the State Engineer and can elect to conduct their exploration under the auspices of Nevada’s water laws. Instead, § 20 subjects explorers and producers that have water rights to these Regulations and regulation by the State Engineer when drilling DMRE boreholes or wells. While § 20 avoids regulatory duplication and opportunities to “game the system” for **existing** DMRE boreholes and wells, it creates additional, dual-regulatory burdens for those explorers that have water rights under Chapters 533 and 534. Accordingly, Albemarle and Dajin recommend revisions to § 20 through the addition of the following new paragraph and edits to §20(2)(c), explicitly stating that operations with water rights will remain under NRS Chapters 533 and 534, to make clear that Chapter 507 and its implementing Regulations operate prospectively only after January 1, 2018 and do not apply to those explorers and producers that have or obtain water rights.

“20(2)(c): A well drilled for the production or exploration of dissolved mineral resources for which water rights are established pursuant to chapters 533 and 534 of the NRS.

§20(2)(d): Existing and future dissolved mineral resource wells and boreholes that have a permitted or certificated water right shall also continue to be regulated by

¹ Moreover, the exclusion of existing boreholes and wells from the Regulations has little impact since the universe of existing exploration wells to which the Regulations might apply is limited to 9 wells in the Clayton Valley Hydrographic Basin (“Clayton Valley”) and 4 deep exploration wells permitted by Dajin in Teels Marsh—a total of 13 wells. Dajin opposes application of the Regulations to existing wells out of concern that it will be subject to both Chapter 507 and Chapters 533 and 534; it would like to avoid duplicative, potentially conflicting regulatory actions, and the attendant extra cost on existing or proposed exploration projects which hold water rights. Of the 9 wells in Clayton Valley, the State Engineer has order that 3 of those be plugged as illegally drilled wells and the remaining 6 wells are the subject of litigation. Thus, Albemarle and Dajin support § 20 to the extent that it requires these existing wells to remain under management of the State Engineer and NRS Chapters 533 and 534.

the Division of Water Resources of the State Department of Conservation and Natural Resources.

2. Borehole to well conversion: In the hardrock mining sector it is rare that a borehole is converted to a well. In contrast, in the DMRE sector, borehole to well conversion is commonplace. Experience of the last three years has shown that DMRE borehole to well conversion is a concern. It would make sense to address the issue proactively. Both regulators and the regulated community would benefit from greater clarity—at the beginning—in these Regulations. In stakeholder meetings, Division representatives made it clear that a DMRE borehole will NOT be permitted to be converted to a DMRE well unless the borehole meets all of the requirements for a DMRE well specified in these Regulations. The Division draft, Draft #4, included that requirement, but the LCB Draft, § 25(2), is not explicit about requiring denial of an application to convert a DMRE borehole to a DMRE well if the borehole does not meet all requirements for DMRE wells in §§ 27 and 28. Failure to effectively address this known issue in the LCB Draft is puzzling when it was commented on extensively and included in the Division Draft #4. To address this known problem, we urge the inclusion of the following at the beginning of § 25(2): *“The Division shall deny an application to convert a dissolved mineral resource exploration borehole into a dissolved mineral resource exploration well unless the application demonstrates that the resulting well meets all requirements of sections 27 and 28 of this regulation.”*

3. Use and definition of “Project”: Albemarle and Dajin continue to note the lack of clarity in how the statutory 5 acre-feet use limitation on a “dissolved mineral resource exploration project” will be implemented on an application for a DMRE well. Chapter 507, § 18(2) states: “Any water pumped in excess of 5 acre-feet within a dissolved mineral resource exploration project is subject to the appropriation procedures of chapters 533 and 534 of NRS.” Section 34 of the LCB Draft uses the terms “well” and “project” interchangeably and together, exacerbating the confusion about the scope of the term “dissolved mineral resource exploration project” and reducing the effectiveness of the 5 acre-feet limitation. Albemarle and Dajin propose several minor, clarifying revisions (see Specific Comments, below) to facilitate implementation of the Regulations and provide greater clarity for the public.

4. Transparency and public information: After much work by the Division, the regulatory development team, and stakeholders, the Division's Draft #4, sent to the LCB, included a number of reasonable time requirements for posting information of public interest. These timing requirements are critical to ensure transparency and enable meaningful public participation. It is extremely disappointing that the LCB Draft includes only one specific time requirement for posting (*see* § 27(5)(c)). Where feasible, information should be available to the public before approval or denial actions are taken in order for the public to be involved in a meaningful way and to enable the public to provide information to the Division. We recommend reasonable, specific posting timeframes in a number of provisions.

II. Specific Comments

Sec. 20. Albemarle and Dajin support Section 20, but propose edits to §20(2)(c) and adding a new subsection to avoid unnecessary burdens of dual-permitting for those explorers that have or obtain water rights:

“20(2)(c): A well drilled for the production or exploration of dissolved mineral resources for which water rights are established pursuant to chapters 533 and 534 of the NRS.

§20(2)(d): Existing and future dissolved mineral resource wells and boreholes that have a permitted or certificated water right shall also continue to be regulated by the Division of Water Resources of the State Department of Conservation and Natural Resources.”

Sec. 22. It is unlikely that at the time of filing a Notice of Intent to Drill, that the operator would not know what well drilling contractor it plans to use. The “if known” language at the end of § 22(3)(c) creates unnecessary ambiguity. Similarly, the well driller should be able to state definitively whether the proposed borehole will be on public or private land, not just provide “an indication.” If the Commission strikes the “if known” language from § 22(3)(c), the first clause of § 22(4) (“Except as otherwise provided in this subsection”), and the last sentence of that section should also be deleted. Albemarle and Dajin recommend the following revisions to § 22:

“3.(c) The name of the well drilling contractor, ~~if known~~; . . .

(f) ~~An indication~~ statement of whether the proposed borehole will be drilled on public or private land; . . .”

Lastly, regarding this section, public participation is not possible and cannot be meaningful if information is not provided timely. Albemarle and Dajin recommend the following additional revisions to § 22:

“6. The Division shall provide the application for a notice of intent on the Internet website maintained by the Division. A well driller or operator may submit to the Division an application for a notice of intent in an electronic format if the Division approves this manner of submission. The Division shall post on the Internet website of the Division all complete notices of intent at least 2 days before approval and not later than 3 days after the Division’s receipt.

7. Concurrent with its issuance of any approval, ~~The~~ the Division shall post any approved application for a notice of intent on the Internet website of the Division.”

Sec. 24. The Regulations limit the locations where DMRE boreholes are permitted to be drilled and how deep they may be drilled to protect safety, the environment, the mineral resource, and existing rights. The Administrator should be required to consider these values and can achieve the proper balance between these values and flexibility for exploration without also considering unknown criteria. The LCB Draft added “without limitation” language that was not included in the Division Draft #4. Albemarle and Dajin recommend deleting that language and requiring consideration of only the relevant factors, as follows:

“2. Upon written application, the Administrator may grant an exception to the provisions of subsection 1. When considering whether to grant an exception, the Administrator may shall consider, ~~without limitation~~; . . .”

Sec. 25. As noted in the General Comments, it is critical that the Division deny borehole conversion applications if the resultant well will not conform to the requirements of §§ 27

and 28 applicable to DMRE wells. The regulations will have greater clarity if that obligation is made explicit, as follows:

“2. The Division shall deny an application to convert a dissolved mineral resource exploration borehole into a dissolved mineral resource exploration well unless the application demonstrates that the resulting well will meet all requirements of sections 27 and 28 of this regulation. If an application for a permit for a dissolved mineral resource exploration well is denied by the Division, . . .”

Also, to provide meaningful public information, for better transparency and to enable public participation, Albemarle and Dajin recommend that § 25(11) include a specific timeframe for posting plugging reports, as follows:

“11. The Division shall post all plugging reports for dissolved mineral resource exploration boreholes on the Internet website of the Division, within 5 days after the Division’s receipt of each plugging report.”

Sec. 27. In § 27(1)(f), by the time one is applying for a permit to drill a DRME well it is unlikely that the well drilling contractor would not be known. Accordingly, the clause “if known” should be deleted.

Albemarle and Dajin strongly support the inclusion of the bonding requirements in §§ 27(1)(i) and (j) to ensure that wells are properly plugged.

To provide meaningful public information, for better transparency and to enable public participation, the Regulations should specify in § 27(5)(a) a time within which the Division must post the completed permit application forms on the Division website. Similarly, to ensure effective coordination between the Division and the State Engineer, § 27(5)(b) should state the number of days within which the Division will transmit completed permit application forms to the State Engineer. In both cases, 5 days is proposed as a reasonable time for the Division to effectuate posting.

“5. The Division shall:

(a) Post applications for a permit to drill a dissolved mineral resource exploration well on the Internet website of the Division within 5 days after receipt;

(b) Transmit applications for a permit to drill a dissolved mineral resource exploration well to the Division of Water Resources of the State Department of Conservation and Natural Resources within 5 days after receipt; and, . . .”

Sec. 28. The formatting of this section is somewhat confusing because the protections that DMRE wells “be designed, drilled and operated so as to not degrade an aquifer or an oil, gas, or geothermal resource” should apply to all DMRE wells. This is consistent with § 31(1)(c). However, that provision is currently in § 28(2)(c), the section for wells drilled in an “area of limitation.” Albemarle and Dajin recommend that that provision be renumbered as subsection 28(3), that current § 28(3) be renumbered as 28(4), and that the exception clauses in Sections 1 and 2 be revised to refer to subsection 28(4).

Similar to § 24 for DMRE boreholes, § 28 of the Regulations addressing wells limits the locations where DMRE wells are permitted to be drilled and how deep they may be drilled to protect safety, the environment, the mineral resource, and existing rights. The Administrator should be required to consider these values and can achieve the proper balance between these values and flexibility for exploration without considering unknown criteria. The LCB Draft added “without limitation” language that was not included in the Division Draft #4. Albemarle and Dajin recommend deleting that language and requiring consideration of only the relevant factors. We recommend the following changes:

~~“(e)3. A dissolved mineral resource exploration well must be~~ designed, drilled and operated so as not to degrade an aquifer, or an oil, gas or geothermal resource.

~~34. Upon written application, the Administrator may grant an exception to the provisions of subsection 1 or 2. When considering whether to grant an exception, the Administrator may~~shall consider~~, without limitation~~: . . .”

Sec. 34. Chapter 507 excepts “the reasonable loss of water” from water rights permitting requirements of NRS Chapters 533 and 534. Thus, the Legislature provided at Chapter 507 § 18(2) that “Any water pumped in excess of 5 acre-feet within a dissolved mineral

resource exploration project is subject to the appropriation procedures of 533 and 534 of NRS.” (Emphasis added.) The language in the LCB Draft § 34(1)(a) is inconsistent with this statutory limitation, ambiguous, and internally inconsistent with § 34(1)(d). Albemarle and Dajin have several recommended changes to this section to add clarity and reduce confusion between a DRME well and a DRME project in the context of the 5 acre-feet reasonable use limitation. Specifically, § 34 is ambiguous, but should require that all water withdrawals from a DRME well be measured. Another provision creates confusion by referring to a “well project”.

Additionally, to provide meaningful public information, transparency, and to promote public participation, Albemarle and Dajin recommend that §34(3) specify that the Division will post: (i) quarterly water withdrawal report summaries on the Division website within 10 days after receipt (to provide time for summary preparation); and (ii) any other report received under § 34 within 5 days of receipt. To address these issues, we recommend the following revisions:

“34(1). The operator of a dissolved mineral resource exploration well shall:

(a) Install a water meter capable of measuring the total withdrawal of water ~~resulting from pumping~~ the dissolved mineral resource exploration well ~~for the purpose of testing and sampling~~.

(b) Maintain an accurate record of meter readings, including the serial number of the meter.

* * * * *

(d) Ensure the total withdrawal of water from the dissolved mineral resource exploration ~~well~~ project does not exceed 5 acre-feet.

* * * * *

3. The Division will post on the Internet website of the Division:

(a) A summary of the quarterly reports filed pursuant to paragraph (c) of subsection 1, within 10 days after the Division’s receipt of the reports for each quarter; and

(b) Any reports submitted pursuant to paragraph (c) of subsection 2, within 5 days after the Division’s receipt of each such report.”

Sec. 35. Language in this section is inconsistent with Chapter 507 and its requirement that use of more than 5 acre-feet of water is subject to a water right from the State Engineer. Specifically, Chapter 507 § 18(2) states: “Any water pumped in excess of 5 acre-feet within a dissolved mineral resource exploration project is subject to the appropriation procedures of 533 and 534 of NRS.” The statute does not say that pumping in excess of 5 acre-feet is permitted under waivers. The legislative history on this point is clear that any use of water in excess of 5 acre-feet is subject to obtaining a water right. To correct this problem, Albemarle and Dajin recommend as follows:

“1. A dissolved mineral resource exploration well must be plugged by a well driller before the expiration of the permit, unless a water right is obtained and a waiver or permit is issued by the State Engineer to change the status of the dissolved mineral resource exploration well, by:”

Additionally, to provide meaningful public information, better transparency, and enable public participation, Albemarle and Dajin recommend that § 35(9) specify that the Division post plugging reports on the Division website within 5 days after receipt of each report, as follows:

“9. As soon as practicable, but not later than 5 days after the filing of a plugging report pursuant to subsection 7, the Division shall post the plugging report on the Internet website of the Division.”

Sec. 36. Albemarle and Dajin suggest one addition to clarify § 36, as follows:

“1. A permit to drill a dissolved mineral resource exploration well may be modified, suspended or revoked in whole or in part for any violation of this chapter and any violation may be grounds for an action for enforcement.”

Sec. 37. The current LCB Draft is inconsistent with the statute regarding the process for determining whether to hold a hearing on an application for a permit to drill a DRME well. Specifically, Chapter 507, § 17(3) states: “The Administrator and the State Engineer may hold public hearings jointly or separately to gather such evidence or information **as they deem necessary** for a full understanding of all the rights involved and to properly guard the public interest.” (Emphasis added.) A determination of what both the Administrator

and the State Engineer deem necessary cannot be made by the Administrator, alone, yet § 37(1) provides for such decision being made solely by the Administrator. To conform to the statute § 37(1) should be modified, as follows:

| “1. If the Administrator and the State Engineer ~~determines~~ that a public hearing is necessary for a full understanding of an application for a permit to drill a dissolved mineral resource exploration well, the rights involved with the application or to properly guard the public interest, the Administrator shall hold the hearing on the application. . . .”

Sec. 40. Chapter 507, § 17 provides for a joint and collaborative process between the Administrator and the State Engineer. That requirement is overlooked throughout § 40 where reference is made only to the Administrator regarding the conduct of a hearing. If a hearing is determined to be conducted jointly per § 37 of the Regulations, decisions about the conduct of the hearing must be made, at a minimum, in consultation with the State Engineer. For example, § 40(2) should state: “The applicant must be heard first at the hearing unless the Administrator, in consultation with the State Engineer, finds good cause to hear from another party first.” Similar revisions should be made throughout § 40.



April 23, 2018

Mr. Richard Perry
Administrator, Division of Minerals
State of Nevada Commission on Mineral Resources
400 W. King Street, Suite 106
Carson City, NV 89703

Via email: vkneefel@minerals.nv.gov

Dear Mr. Perry:

This letter conveys comments from Pure Energy Minerals, Ltd. (Pure Energy) on the proposed Adoption of Regulations for Dissolved Mineral Resource Exploration. We have reviewed the draft regulations posted in advance of the upcoming April 27, 2018 public meeting and have the comments and concerns outlined below. I plan to attend the public meeting and will raise these points in person as well.

1. *Section 20, subsection 1*: The text should indicate that the chapter applies to both dissolved mineral resource exploration boreholes and dissolved mineral resource exploration wells. As written, it states that the chapter applies to dissolved mineral resource exploration boreholes, but the exceptions in subsection 2 are all related to dissolved mineral resource exploration wells.
2. *Section 20, subsection 2(a)*: This paragraph excludes existing wells that are already "...authorized to operate by a mining, milling, or other waiver issued by the Division of Water Resources of the State Department of Natural Resources." This places existing dissolved mineral resource exploration wells in a no-man's land of regulation, where neither the Division of Minerals nor the Division of Water Resources will allow extraction of brine for dissolved mineral resource exploration. An example illustrating the issue with this paragraph follows.

Pure Energy owns two existing dissolved mineral resource exploration wells in Clayton Valley, known as CV-7 and CV-8, that were constructed and operated under mining and milling (MM) waivers issued by the Division of Water Resources on November 16, 2016. Under those waivers, the wells were constructed, sampled and used for pumping tests to determine aquifer characteristics.

The sampling and aquifer testing showed promising initial results. Pure Energy applied for routine extensions of the MM waivers prior to their expiration in November 2017, in anticipation of further testing planned for the deeper sections of the lithium-bearing brine aquifer. However, on January 11, 2018 the Division of Water Resources denied the waiver extension. In the letter denying the extension (attached), the staff engineer for the Division of Water Resources stated, "The intent for the denial of these waiver applications is that new regulations are being adopted by the Nevada Division of Minerals that will oversee recovering dissolved mineral deposits that will be in force on January 1, 2018."

Pure Energy, like the Division of Water Resources, anticipated that existing dissolved mineral resource exploration wells would be brought under the umbrella of the new regulations. We were prepared to document the amount of brine extracted from CV-7 and CV-8 during the pumping tests.

We expected that those volumes would be deducted from the five acre-feet that would have been allowed under the new Division of Minerals regulations.

There are likely very few existing dissolved mineral resource exploration wells that were operated under MM waivers. The only such wells we are aware of in Nevada are owned by Pure Energy.

We respectfully request that subsection 2(a) be deleted and that the small number of existing wells used for dissolved mineral resource exploration be brought under the jurisdiction of the proposed Division of Minerals regulations. Pure Energy invested over \$1,000,000 in the construction of CV-7 and CV-8. Excluding this class of wells from the proposed regulations after the Division of Water Resources denied waivers under its regulations severely diminishes the value of those wells for ongoing dissolved mineral resource exploration.

3. *Section 25, Borehole Plugging*: Converting a dissolved mineral resource borehole to an instrumentation borehole upon plugging as defined in NAC 534.144 should be allowed.
4. *Section 25, subsection 4(b)(1)*: The word “or” appears to be missing from this paragraph. The intent appears to be that the procedures in paragraphs 1, 2, or 3 would be considered acceptable methods for plugging.
5. *Section 27, subsection 2*: The application fee of \$1,000 for a dissolved mineral resource well permit is excessive when compared to the analogous fees charged by the Division of Water Resources.
6. *Section 27, subsection 5*: Applications for permits to drill dissolved mineral resource exploration wells should not be posted on the Division of Mineral’s Internet web site. There is no required public notice or comment period that necessitates publishing applications on the Internet. Section 37 already provides for a public hearing if the Administrator deems it necessary, and includes notification procedures in advance of such a hearing.

Thank you very much for the opportunity to comment on the proposed Adoption of Regulations. I look forward to discussing these issues further at the April 27, 2018 public meeting.

Regards,
Pure Energy Minerals, Ltd.



Walter T. Weinig, PG, PMP
Vice President, Projects and Permitting

cc: Tim O’Connor, Taggart & Taggart
attachment: January 11, 2018 Division of Water Resources letter

BRIAN SANDOVAL
Governor

STATE OF NEVADA



BRADLEY CROWELL
Director

JASON KING, P.E.
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

901 South Stewart Street, Suite 2002
Carson City, Nevada 89701-5250
(775) 684-2800 • Fax (775) 684-2811
<http://water.nv.gov>

January 11, 2018

RE: Applications for extension of waivers for Mineral Exploration Wells CV7 (MM-212)- and CV-8 (MM-213).

Patrick Highsmith
Esmeralda Minerals, LLC
100 West Liberty Street, 10th Floor
Reno, Nevada 89501

Re: Request to continue use of wells CV-7 and CV-8 as mineral exploration wells for mineral resource development within the Clayton Valley Hydrographic Basin (143), Esmeralda County, Nevada.

Proposed Coordinates: Universal Transverse Mercator (UTM) meters (m), North American Datum 1983 (NAD83).

CV-07 143 S02 E40 32 Bd [se¼ NW¼] UTM (m) E: 450,055, N: 4,175,143, APN: 006-281-02
CV-08 143 S02 E40 31 Ab [nw¼ NE¼] UTM (m) E: 448,955, N: 4,175,605, APN: 006-281-02

Dear Mr. Highsmith,

This letter is in response to your waiver extension requests received in this office on November 13, 2017. As provided in Nevada Administrative Code (NAC) 534.441 of the Regulation for Water Well and Related Drilling, permission is herewith **denied** to allow extension of Waivers MM-212 and MM-213 as mineral exploration wells.

The intent for the denial of these waiver applications is that new regulations are being adopted by the Nevada Division of Minerals that will oversee recovering dissolved mineral deposits that will be in force on January 1, 2018.

Should you have any questions regarding this matter, please contact me at the address above, by email at khaffey@water.nv.gov or at 775-684-2814.

Sincerely,

A handwritten signature in blue ink that reads "Kenneth M. Haffey".
Kenneth M. Haffey
Staff Engineer

KMH/jw

cc: Timothy Donahoe, SRK Consulting
Tim Wilson, Well Drilling Regulation, e-mail
Jake Echeverria, Well Drilling Regulation, e-mail
Mike Scott, Well Drilling Regulation, e-mail
Erielle Cushing, Well Drilling Regulation, e-mail

April 18, 2018

State of Nevada
Commission on Mineral Resources
Division of Minerals
400 West King Street
Suite 106
Carson City, Nevada 89703

RE: Adoption of Regulations for Dissolved Mineral Resource Exploration

Gentlemen:

Westwater Resources, Inc. ["WWR"] conducts exploration for dissolved mineral resources in Nevada, in part through its wholly-owned subsidiary company, Lithium Holdings Nevada, LLC. As such, we have an ongoing interest in the State of Nevada's efforts toward the development of regulations that will guide drilling for dissolved mineral resources. We are appreciative of the efforts of the Commission on Mineral Resources and the Division of Minerals in the development of viable regulations governing drilling while maintaining and protecting groundwater resources and the natural environment. We have reviewed the "Revised Proposed Regulation of the Commission on Mineral Resources [LCB File No. R109-17", dated March 9, 2018, and we appreciate the opportunity to provide comments on specific aspects of the proposed regulations for your consideration.

Our comments include:

1. In as much as the use of a "tremie pipe" is set forth in the regulations [Section 24, Part 4 (i) (1) and Section 26, Part 1] we suggest the inclusion of a definition of such for the sake of clarity;
2. The draft regulations, set forth in Section 24 Part 9 and Section 35 Part 8 the requirement that "the owner and lessor of the land on which a dissolved mineral resource exploration borehole is located, the operator and the well driller are jointly and severally responsible for plugging a dissolved mineral resource exploration borehole." While Westwater understands and supports the need to properly and effectively plug and abandon all exploration boreholes in a timely manner, we feel that placing a portion of the responsibility for plugging on the land owner may not provide the level of performance that would otherwise be afforded by reserving this responsibility to the project operator[s] and the well driller. Accordingly, we recommend that references to the "owner and lessor" be struck from these two sections of the draft regulations;
3. We note a potential conflict regarding surface casing. In Section 25 Part 3 the draft regulations state that "Any pipe or tubing used for ground control or sampling must be removed by the well driller before plugging a dissolved mineral resource exploration borehole." Section 35 Part 4 states "All casing strings must be cut off below ground level and casing stub must be permanently capped." We feel that some clarification of these two parts would be helpful to future operators; and

4. Section 23 and Section 29 Part 1 may conflict with each other. Section 23 states that “If a well driller does not begin drilling the dissolved mineral resource borehole within 60 days after the Administrator or Division approved the application for the notice of intent, the well driller may not drill the borehole unless the well driller or operator submits to the Division a new application for approval of a notice of intent to drill the borehole and such application is approved by the Administrator or Division.” Section 29 Part 1 states “A permit to drill a dissolved mineral resource exploration well expires 2 years after the date on which it was issued.” While we recognize that a Dissolved Mineral Resource Exploration Well Permit Application is separate and distinct from a Notice of Intent to Drill Dissolved Mineral Resource Exploration Borehole. However, it is our opinion that some clarification of the terminology of these two approval steps would facilitate more efficient compliance by potential operators.

Westwater Resources appreciates the efforts of the Commission, the staff of the Division of Minerals, and the legislature of the State of Nevada in coming together to streamline various regulations governing the exploration for lithium-enriched brines in the State. It is my opinion that while the cost to permit drilling programs for dissolved mineral resources may have increased marginally by the implementation of AB 52 the application and approval process has become more clear and efficient. These draft regulations are clear and understandable and set forth an efficient and effective permitting process for the exploration of all types of dissolved mineral resources.

Sincerely,

Dean T. Wilton – PG, CPG
Chief Geologist
Westwater Resources, Inc.
3536 Desert Fox Drive
Sparks, Nevada 89436
(775) 276-2764
twilton@westwaterresources.net

II. NEW BUSINESS

II. A NDOM Abandoned Mine Lands (AML)
2017 program summary and plan for 2018
work activities.



Commission on Mineral Resources 2017 AML Program Review and 2018 Plans

Rob Ghiglieri

May 17, 2018



2017

Nevada Abandoned Mine Lands Report



Commission on Mineral Resources

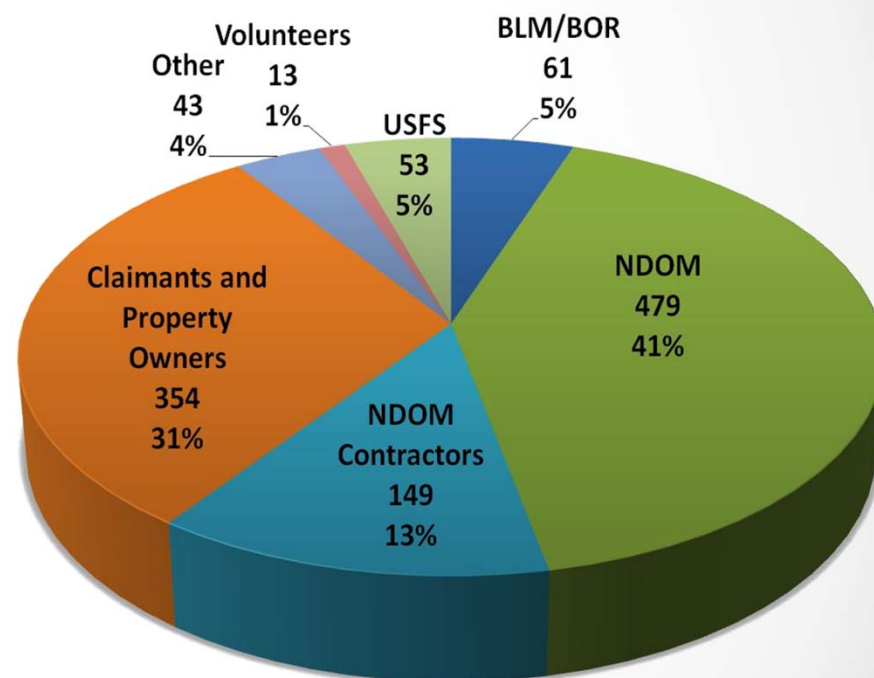
Division of Minerals

May 2018



2017 Review

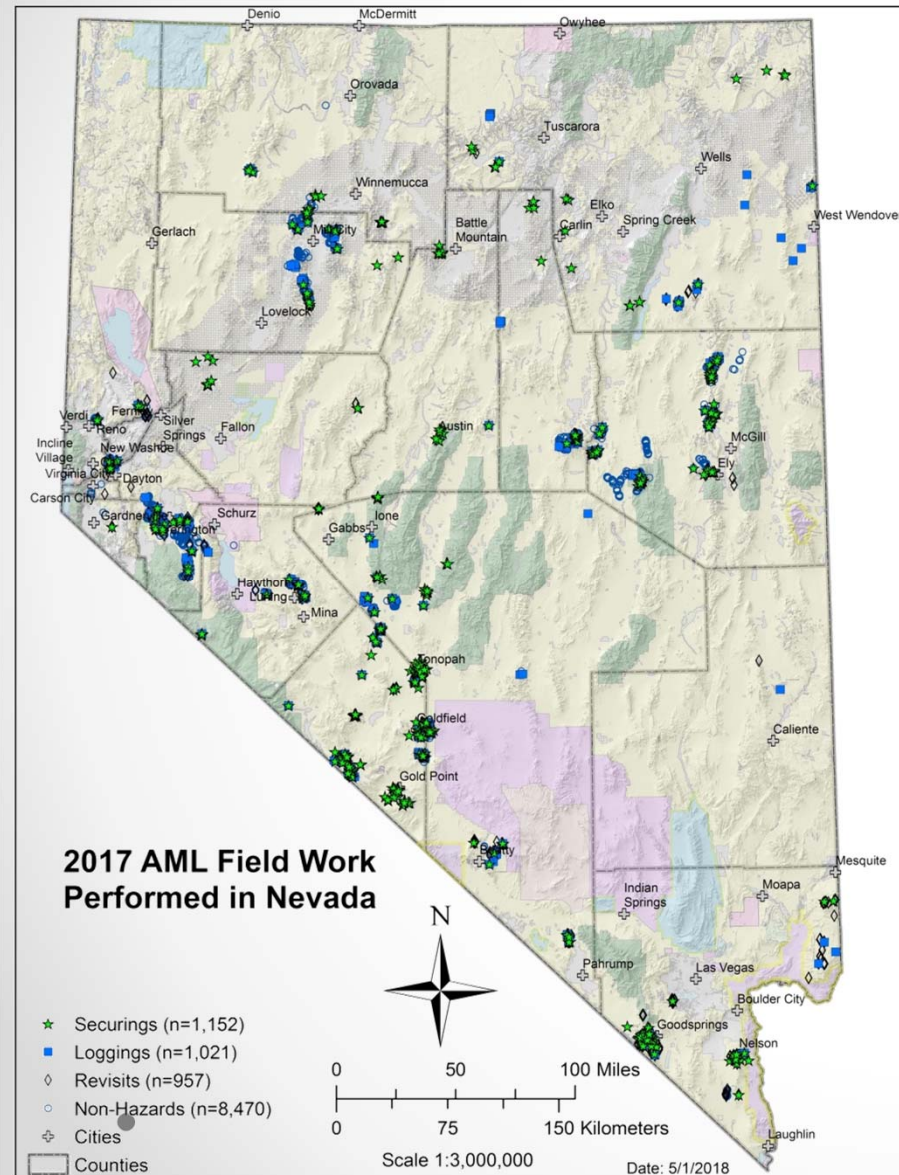
- There were NO reported abandoned mine accidents or fatalities making 2017 the fourth year in a row without an incident.
- In 2017, 1,021 hazards were discovered and 1,152 hazards were secured.
 - 641 hazards securings by the Division, the most in program history for a calendar year.
- 957 known hazards were revisited to confirm securing status and make repairs as needed.
- Hazards discovered and ranked since the beginning of the program is now 21,632 discovered and the total number recorded as secured is 17,456.



2017 Hazards securing by Agency or Group (n=1,152)



2017 Review



- 329 permanent AML closures took place in 13 of 17 Nevada counties.
 - 87 by the Division
- AML interns secured 490 hazards between summer and winter
- The Division and its contractor Environmental Protection Services, built a demonstration bat compatible grate with informational kiosk at the Tonopah Historic Mining Park
- The Division surpassed both of the AML performance indicators required by the State Legislature. 80.7% of discovered hazards were secured, and total public awareness presentations averaged 31 per staff member for the year.

Nevada Division of Minerals Abandoned Mine Lands 2017 Intern Program

A BIG THANK YOU TO THE FOLLOWING STUDENTS
Andy Olson, Aaron Rimshaw, Connor Ostling, Dan Whiteley, Devin
McAndrews, Haley Wieczorek, Kameron Devine, Marcus Alsagoff,
Nick Ramano, Nick Winter, Sage Gandolfo, and Trey McGowan



Loggings : 888

Securings: 490

Revisits: 285

Non-Hazards: 7,688

11 Counties Visited

Over 30,000 miles traveled

2017 Emergency Closures

Carnation

- A Jeep was parked on the road when the back right tire collapsed into a “ballroom” style working below and almost took the Jeep with it
- Hazard was fenced and road closed the following day after being reported
- 14 hazards in the immediate area were closed, including five wildlife compatible closures, for \$46,038.68

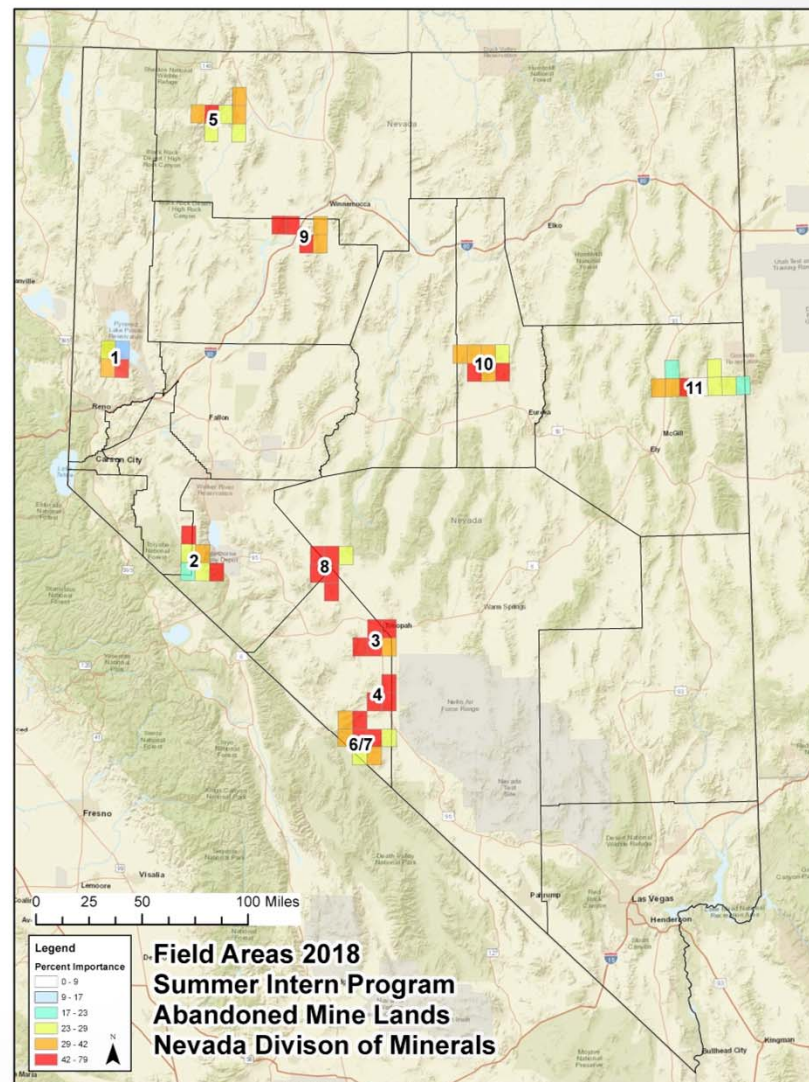
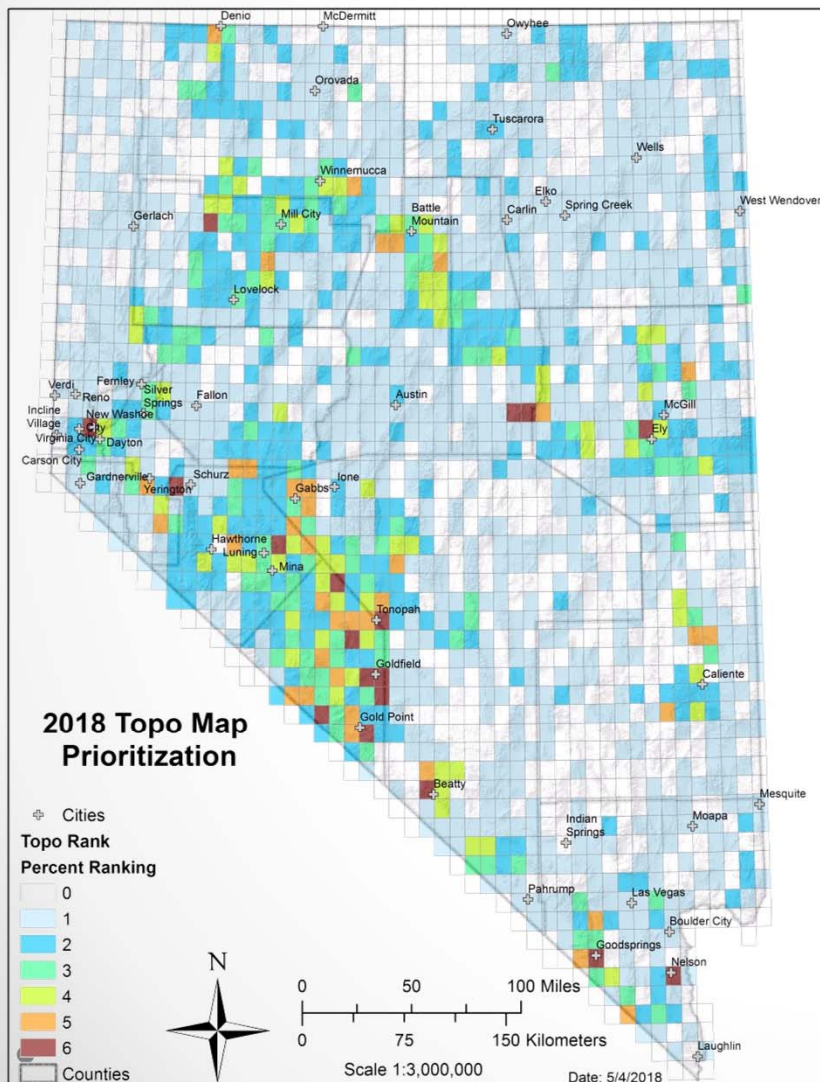


Monte Cristo

- A collapse of a “ballroom” style working along a the Virginia City Grand Prix race route.
- NDOM staff and County Firefighter constructed a fence the same day it was reported.
- Site was backfilled for \$3,000



2018 Topo Quad Ranking





Expected 2018 Contractor Work

- **Hard Closure Projects**
 - Arden (Completed)
 - 47 hard closures on County and BLM land
 - Broken Hills
 - 40 hazards Mineral County
 - Tungsten Mountain Closure Project
 - Some BCC's completed in 2017, the 11 remaining sites to be completed
 - Fort Churchill
 - Gold Butte AML
 - 42 hazards in the new National Monument
 - \$165,000 of funding from Clark County Desert Conservation
- **Inventory and Fencings projects**
 - Gold Point, fencings in the area after 2018 summer intern loggings
 - Shoshone, Inventory and Fencing
 - White Pine, Fencing
 - Walker River State Park
 - MGL Mine

II. B Development and delivery of Minerals

Education and AML lessons in Southern

Nevada

A woman with long brown hair, wearing a white cardigan over a patterned top and grey pants, stands at the front of a classroom. She is gesturing with her hands while speaking to a group of children. The children, of various ages and ethnicities, are sitting on the floor, facing her. In the background, there is a large screen displaying a close-up image of a cluster of small, brown, textured objects, possibly a biological specimen. To the left of the screen, there is a large blue poster on the wall. The classroom is filled with educational materials, including colorful charts and posters on the walls.

CMR meeting: Southern Nevada Education & Outreach Update

**Aubrey Bonde
NDOM Field Specialist
May 17, 2018**

NDOM education & outreach



- CCSD classrooms: presentations & career days.
- Outreach for geoscience content and materials.
- Nevada's science standards adhere to NGSS (**N**ext **G**eneration **S**cience **S**tandards). All our lesson plans list standards that are addressed.

Example of lesson plan that we provide to the teachers

Grade Level & Duration: Kindergarten & 50 minutes

Description: This activity demonstrates the ability of people to use natural materials to meet their needs.

Goals: Students will understand how people extract and use Earth's materials and the suitability of those materials for different applications.

Objectives: Students will use natural materials (e.g., straw and wood) and mined, processed materials (e.g., brick) to build model homes and then test the durability of each of the materials as a use in construction.

Background: Lesson can begin by reading the story of the Three Little Pigs. Then talk about each of the materials they used. Straw comes from dried stalks of grain, sticks come from trees and are made of wood, bricks are processed sand and clay that is baked to become hardened. Talk about if we currently use straw, wood, and bricks as uses for homes. Then test why we would use each following the activity below.

Standards:

Science and Engineering Practices	Crosscutting Concepts	Disciplinary Core Ideas	NGSS	NVACC
Engaging in Argument for Evidence	Systems and System Models	ESS2.B. <u>Biogeology</u>	K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	RI.K.1. With prompting and support, ask and answer questions about key details in a text.
Planning and Carrying Out Investigations	Interdependence of Science, Engineering, and Technology	ESS3.A. Natural Resources		MP.2. Reason abstractly and quantitatively.
Developing and Using Models		ESS3.C. Human Impacts on Earth Systems	K-ESS3-3. Communicate solutions that will reduce the impact of humans on land, water, air, and/or other living things in the local environment.	MP.4. Model with mathematics.
Obtaining, Evaluating, and Communicating Information	Influence of Engineering, Technology, and Science on Society and the Natural World	ETS1.A. Defining and Delimiting an Engineering Problem		

New NDOM Geoscience Lessons

Grade	Lesson	Adaptability
Kinder	The Three Little Pigs: Building Materials	1 st
1 st	Rolling along the Rock Cycle	2 nd – Middle
2 nd	What am I made of?	4 th – 5 th
3 rd	Minerals Role in Fossilization	1 st – 5 th
4 th	Earth and Human Activity	5 th – High
5 th	Minerals and their Products	4 th – Middle
Middle	Minerals Identification and Social Utility	High
High	Nevada's Minerals and Reserves	Middle

Lessons in Action



2nd/3rd – What am I made of?

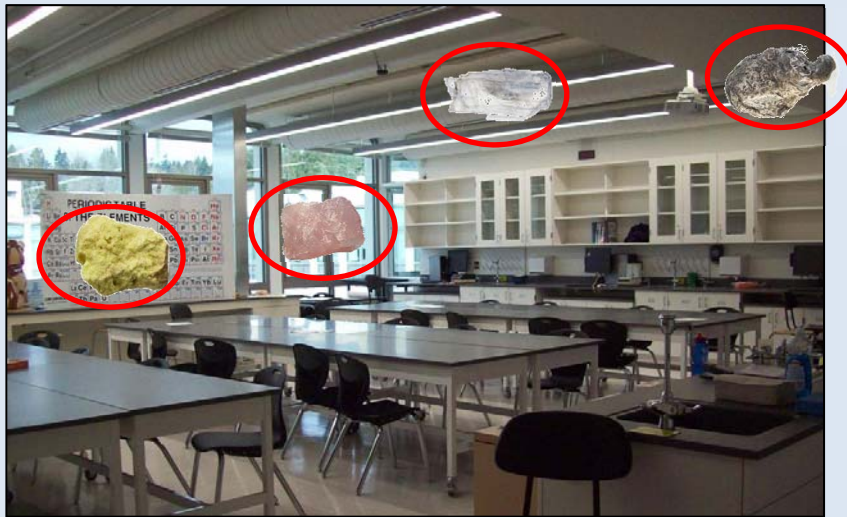
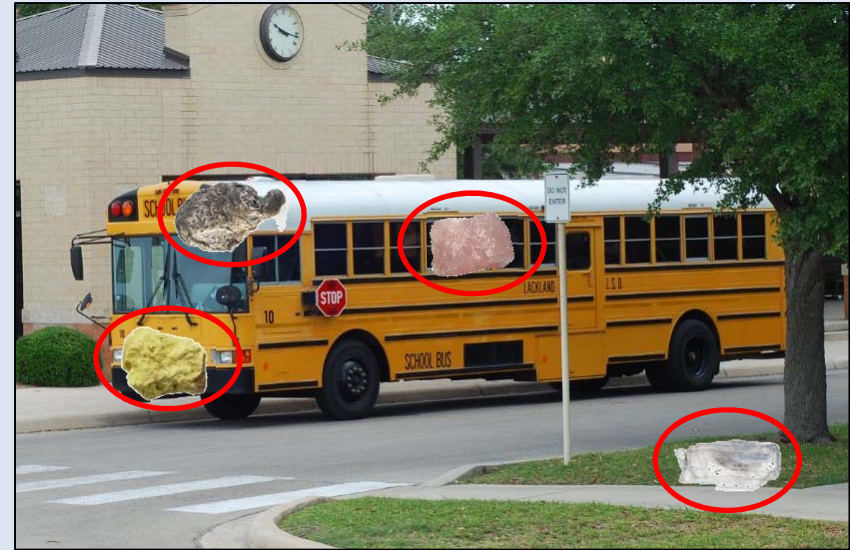
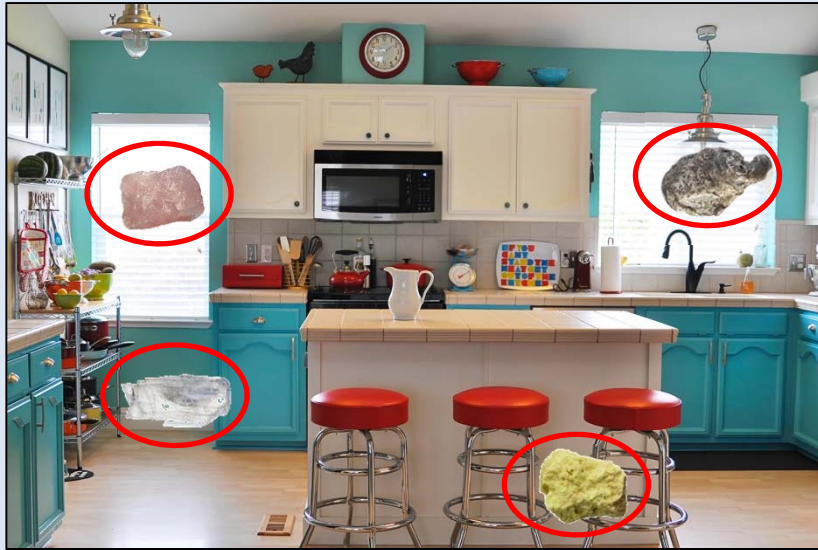


5 km
5 mi

2016

Slow

Minerals Identification and Social Utility



Learning techniques



- We use a variety of techniques to engage students of all learning types.
 - Interactive presentations, hands-on activities (manipulative objects, maps, books, activity pages, mineral and rock hand samples, mineral testing tools, etc.), group work, group presentations.

Lesson Development



- Lessons are designed to be flexible in addition to adaptable.
 - For example, a teacher may just provide grade level and leave the content up to us, although if they are specific in their content we can use these lessons to pluck information from and meet their preferences.

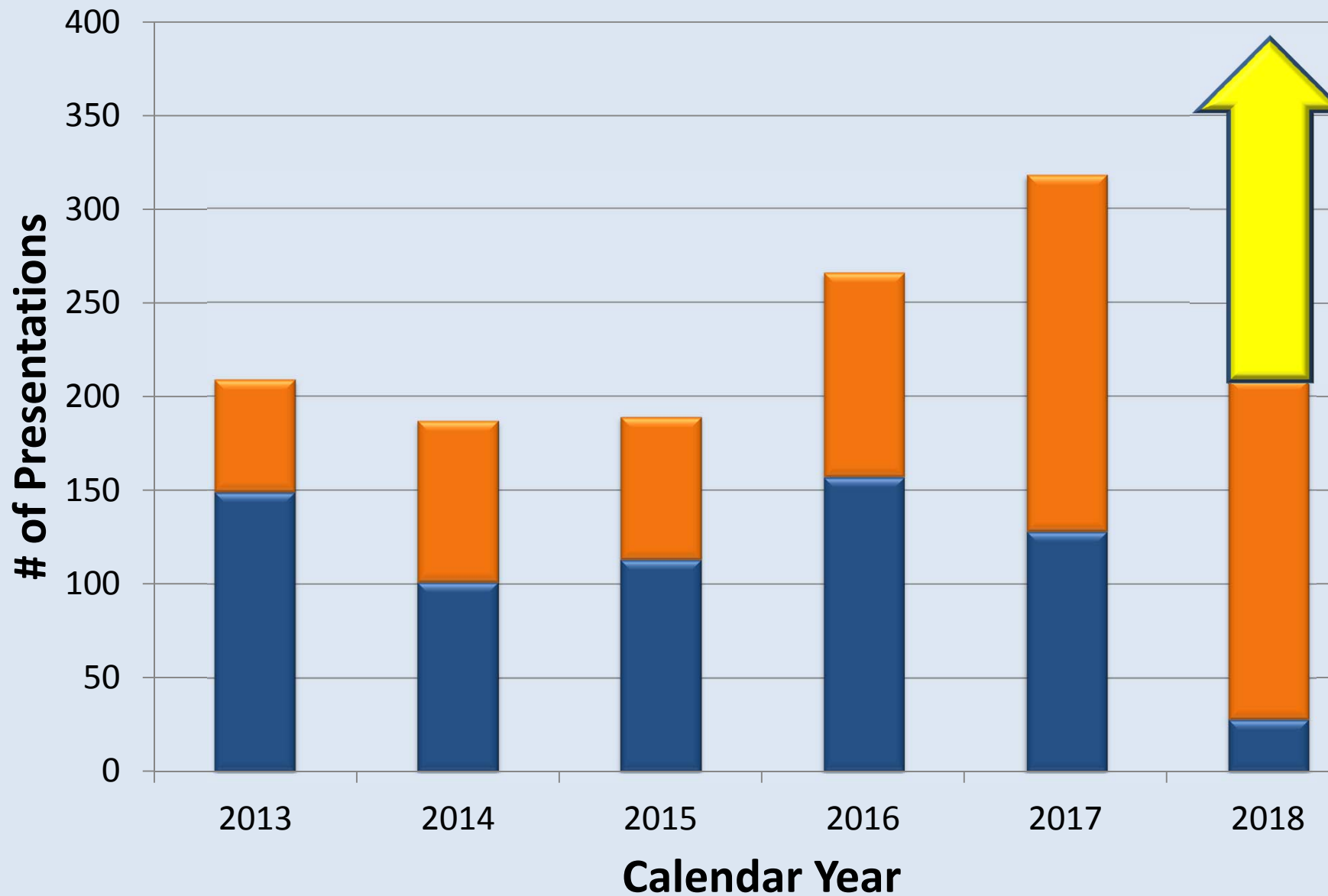


Efficacy of the lessons

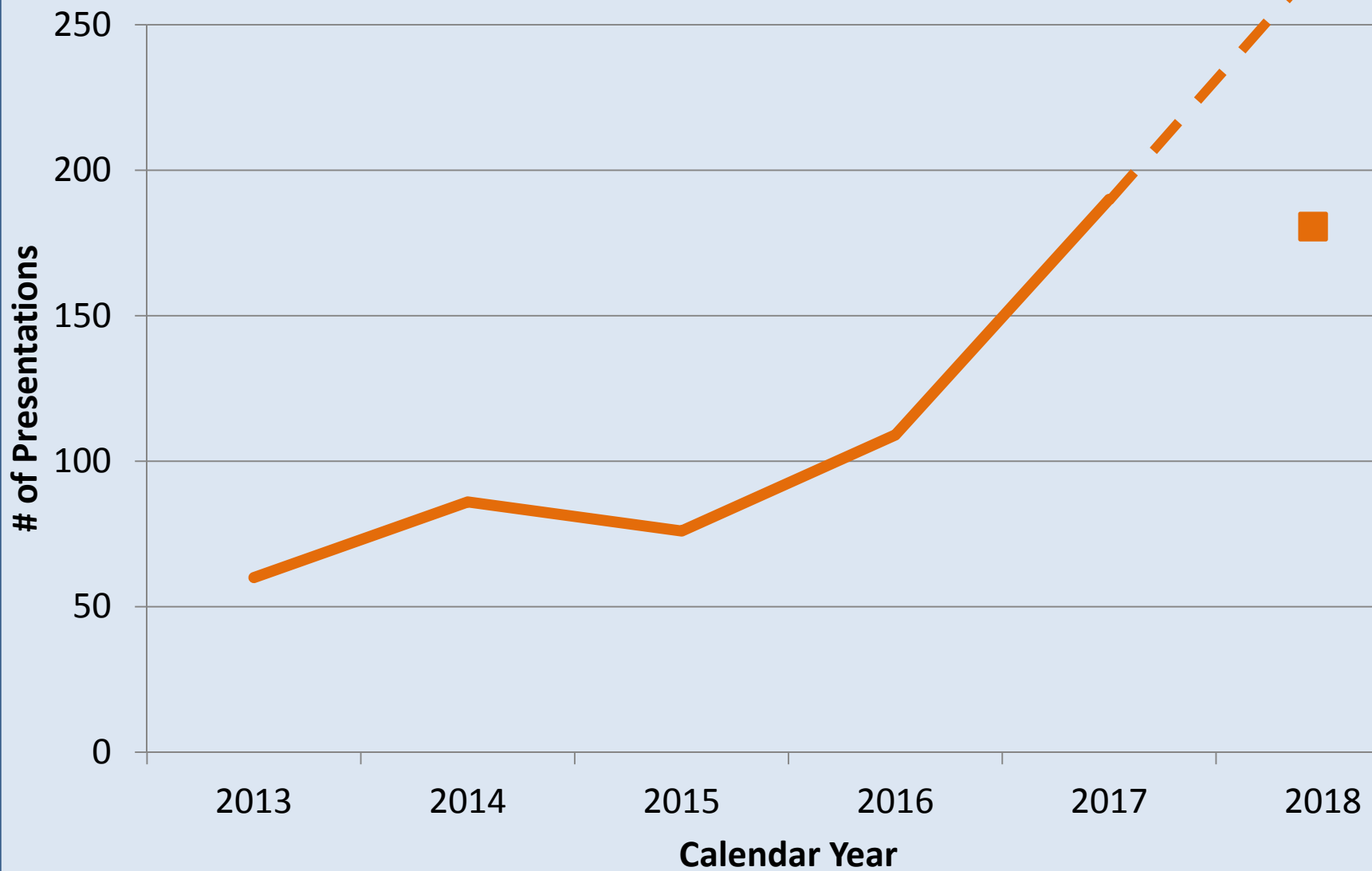


- Teachers have used the lessons for their activity grades for that day.
- Extremely positive feedback from teachers.
- Already booking lessons for next school year.
- # of classroom presentations has increased.

2013-2018 Education Outreach



Education Presentations, Southern Nevada Office



Plans for the future

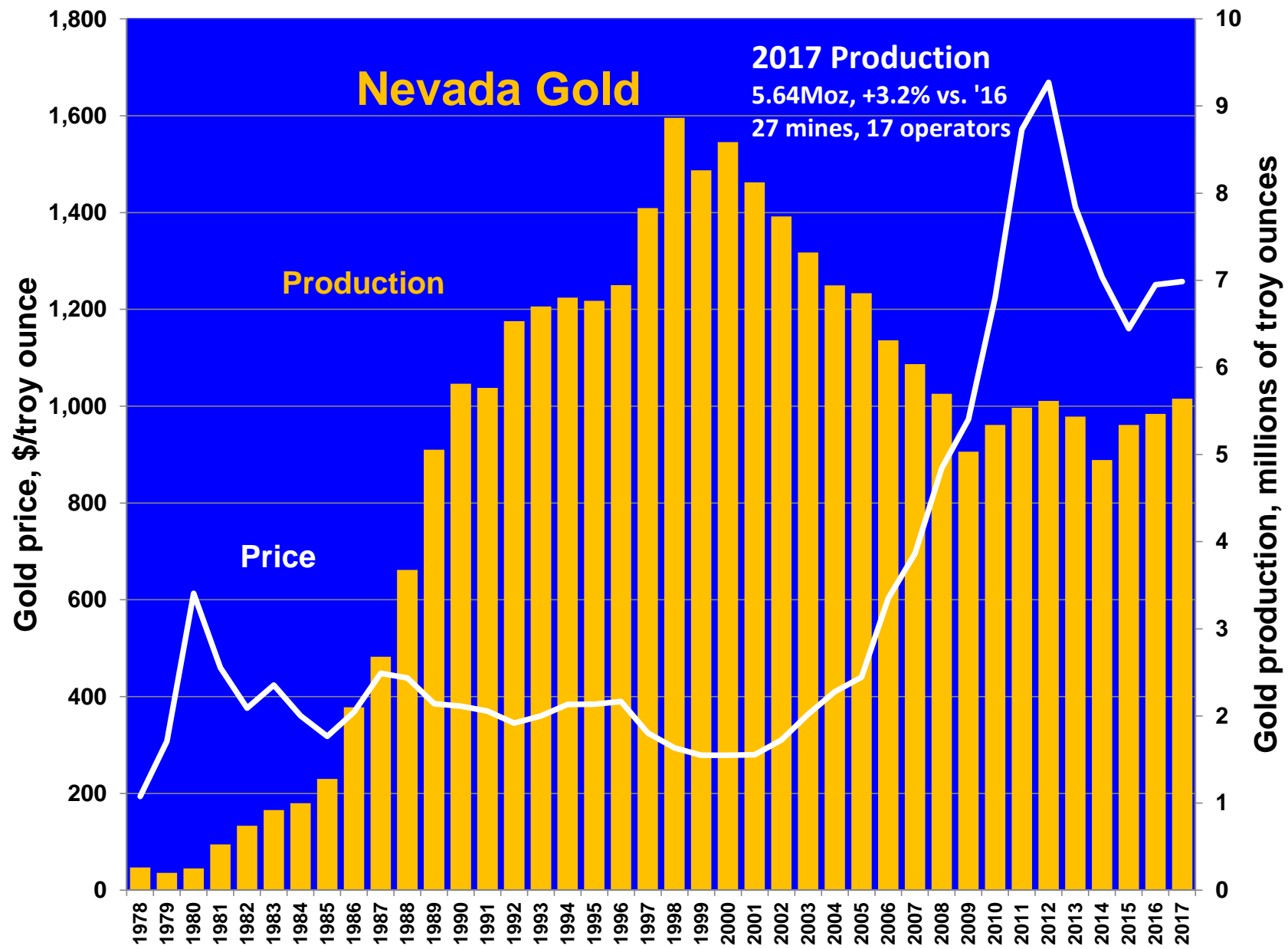


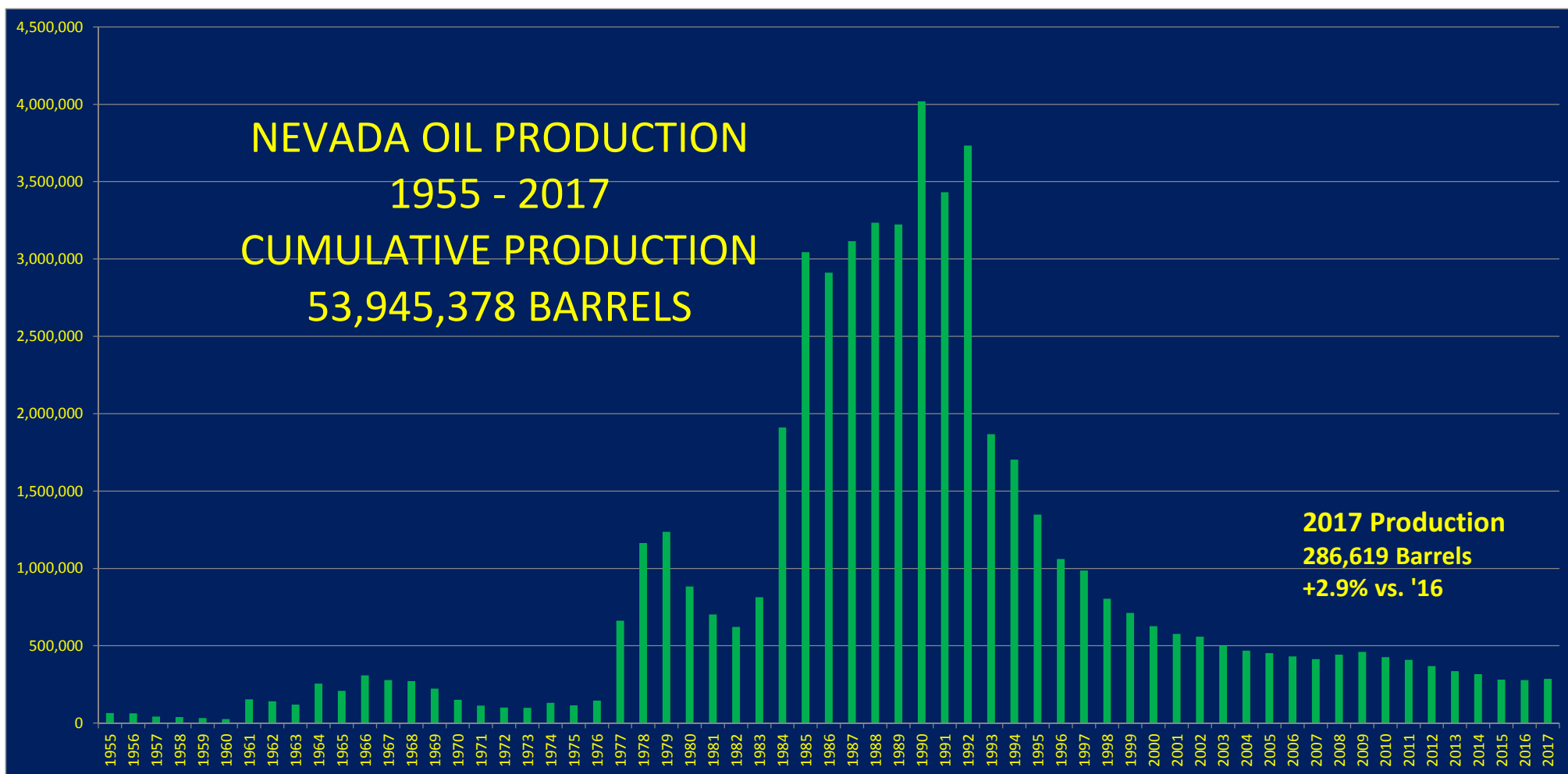
- Reach out to more MS and HS.
- Reach out to more rural schools.
- Updating lessons and creating additional novel activities.

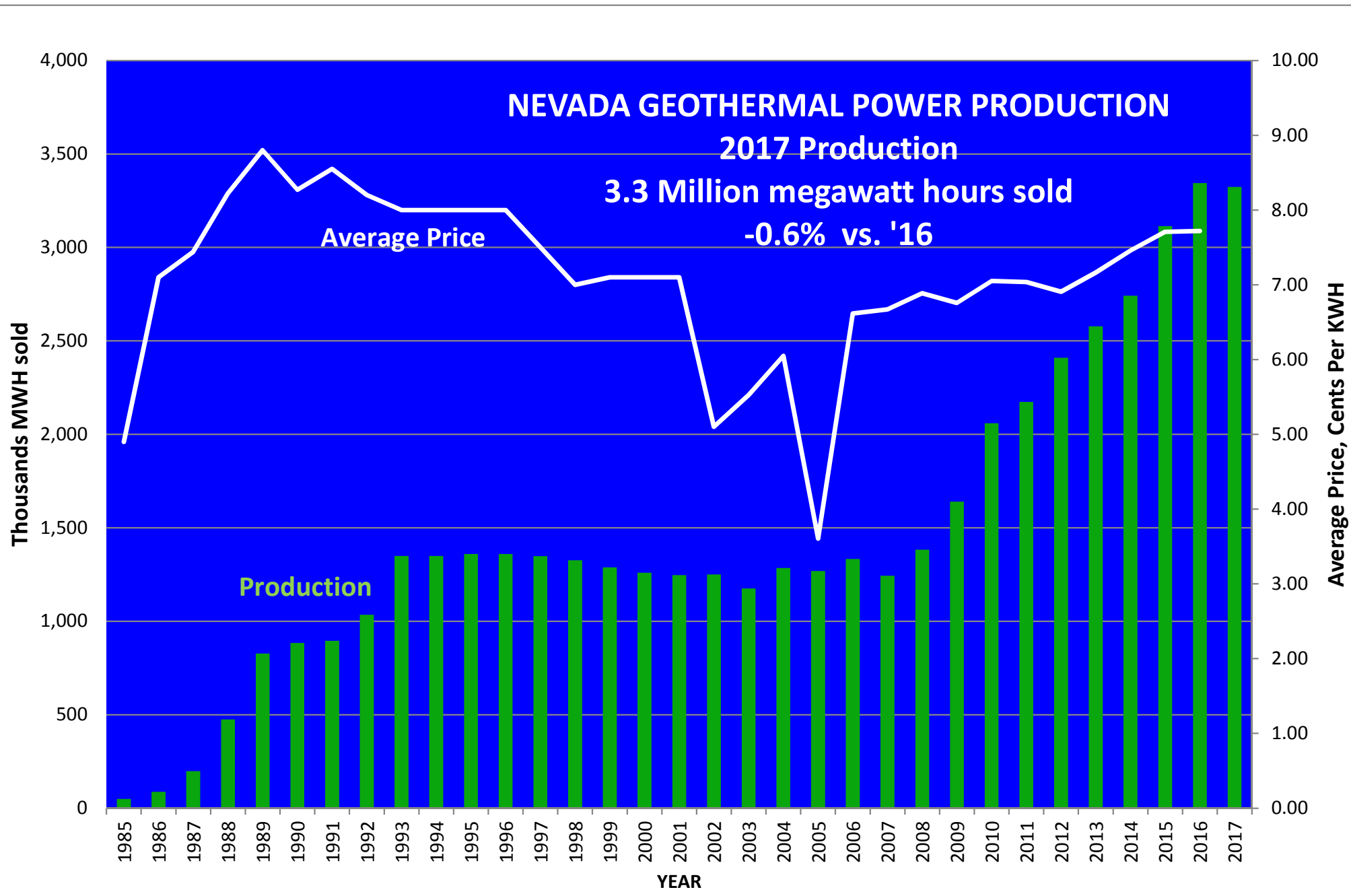
II. C 2017 Nevada Mineral, Geothermal and Oil production statistics

2017 Metallic Mine Production for Nevada - DRAFT			Not yet reported						
Nevada Division of Minerals Annual Status and Production Reports									
Operator	Mine	Gold 2016 (ounces)	Gold 2017 (ounces)	Silver 2016 (ounces)	Silver 2017 (ounces)	Copper 2016 (pounds)	Copper 2017 (pounds)	Molybdenite 2016 (pounds)	Molybdenite 2017 (pounds)
A.U. Mines Inc.	Manhattan Gulch	21		8					
Barrick Cortez	Cortez Hills OP/Pipeline	850,312	902,887	22,565	28,690				
Barrick Cortez	Cortez Hills UG	338,275	336,063	6,294	55,284				
Barrick Gold	Turquoise Ridge JV	354,560	369,000	NR	NR				
Barrick Goldstrike Mines	Arturo	223,145	142,810	NR	NR				
Barrick Goldstrike Mines	Betze Post	544,736	433,422	134,283	96,541				
Barrick Goldstrike Mines	Meikle	417,438	332,315	37,615	20,632				
Bernell Lloyd	BBD Placer	4		0					
Borealis Mining	Borealis	618	300	1,511	508				
Coeur Rochester	Rochester	50,750	51,051	4,564,139	4,713,574				
Comstock Mining	Lucerne	4,086	0	75,657	0				
Dun Glen Mining	Dun Glen Placer	43	0	NR	0				
Florida Canyon Mining	Florida Canyon	10,873	28,157	21,898	21,128				
Geo-Nevada	Spring Valley	24		18					
GRP Pan	Pan	8,714	15,652	NR	NR				
Hycroft Mining	Hycroft	32,265	1,866	235,934	6,067				
Jerritt Canyon Gold LLC	Jerritt Canyon	140,990	129,439	NR	NR				
KGHM International	Robinson	49,217	37,897	NR	NR	118,411,099	112,633,428	823,659	652,763
Kinross Gold	Bald Mountain	129,282	281,597	61,728	82,271				
Kinross Gold	Round Mountain	371,484	425,324	721,465	868,402				
Klondex	Aurora	NR	922	NR	4,854				
Klondex	Fire Creek	101,284	107,143	80,593	72,283				
Klondex	Hollister	NR	6,751	NR	47,305				
Klondex	Midas	29,577	34,343	1,345,990	780,316				
Mineral Ridge Gold	Mineral Ridge	36,879	19,045	16,950	10,203				
New Gold Nevada	Black Rock Canyon	NR	23	NR	2				
Newmont Mining	Carlin Trend Operations	943,823	971,613	101,475	74,594				
Newmont Mining	Lone Tree Complex	31,884	41,784	0	936				
Newmont Mining	Long Canyon	22,500	174,462	NR	NR				
Newmont Mining	Phoenix	176,756	197,026	1,175,126	1,191,630	41,806,950	33,178,523		
Newmont Mining	Twin Creeks	367,528	374,740	227,814	181,104				
Northern Empire Resources/Sterling Gold Minin	Sterling Mine	350		NR					
Rawhide Mining	Denton-Rawhide	17,972	18,379	105,413	213,481				
Ruby Hill Mining	Ruby Hill	6,472	4,463	7,791	4,263				
SSR Mining	Marigold Mine	205,116	202,239	2,349	3,216				
Sunrise Minerals	Sunrise Placer	668	546	121	91				
Totals		5,467,646	5,641,259	8,946,737	8,477,375	160,218,049	145,811,951	823,659	652,763
			3.2%		-5.2%		-9.0%		-20.7%
			YOY Change		YOY Change		YOY Change		YOY Change

2017 NEVADA METAL PRODUCTION, BY PRODUCER - DRAFT				
		Not yet reported		
Operator	Gold (ozs)	Silver (ozs)	Copper (lbs)	Moly (lbs)
Barrick	2,424,247	201,147		
Newmont	1,851,875	1,448,264	33,178,523	
Kinross	706,921	950,673		
SSR Mining	202,239	3,216		
Klondex	149,159	904,758		
Jerritt Canyon Gold	129,439	NR		
Coeur Rochester	51,051	4,713,574		
KGHM International	37,897	NR	112,633,428	652,763
Florida Canyon Mining	28,157	21,128		
Mineral Ridge Gold	19,045	10,203		
Rawhide Mining	18,379	213,481		
GRP Pan	15,652	NR		
Ruby Hill Mining	4,463	4,263		
Hycroft	1,866	6,067		
Sunrise Minerals	546	91		
Borealis Mining	300	508		
New Gold Nevada	23	2		
Comstock Mining	0	0		
Sterling Gold Mining	0	0		
Dun Glen Mining	0	0		
Geo-Nevada	0	0		
A.U. Mines	0	0		
Bernell Lloyd	0	0		
Totals	5,641,259	8,477,375	145,811,951	652,763







II. D 2019-2020 biennium budget development

Nevada Division of Minerals

2019 – 2021 EXECUTIVE BUDGET DEVELOPMENT ASSUMPTIONS

**COMMISSION ON MINERAL
RESOURCES**

May 17, 2018

Rich Perry, Administrator



STATUTORY RESPONSIBILITIES

- **NRS 513 – Commission on Mineral Resources**
 - **duties of CMR, NDOM, AML Program**
- **NRS 517 – Mining Claims, Mill Sites and Tunnel Rights**
- **NRS 519A.290 - Pooling of Reclamation Performance Bonds**
- **NRS 522 - Oil and Gas**
- **NRS 534A – Geothermal Resources**
- **NRS 534B – Dissolved Mineral Resource Exploration**

RECAP OF 2018-19 Budget

- **Personnel**
 - Moved vacancy and hired Field Specialist in Las Vegas
 - F/T staffing at 11
 - Legislature approved salary caps for 4 unclassified positions
- **Special Projects**
 - NBMG 2-year agreement for reports and archiving \$85K/yr
 - NvMA Teachers Workshop supplies and buses - \$15K/yr
 - PDAC Trade Booth – \$25K/yr + travel (2018 was 1st year)
 - 2 new portable trade show booths - \$18K
 - 2018 was last year of MSM \$2 claim fee - \$359K
- **AML Enhancement – Hard closure work**
 - 2018: \$488K - \$150K reimbursed = \$338K
 - 2019: Forecast: \$417K - \$192 reimbursed = \$225K



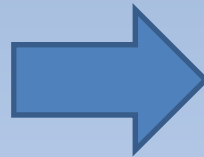


PERFORMANCE MEASURES	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018P</u>	<u>2019</u>
ACTIVITY: <i>OGG Well and Resource Regulation</i>						
MEASURE: Percent of OGG Wells inspected per year	99.64%	33.69%	60%	48%	41%	41%
GOAL: 33% of all wells in state inspected per year						
ACTIVITY: <i>Mining Regulation and Fluid Management and Reclamation</i>						
MEASURE: Percent of Hazardous Abandoned Mine Openings Secured	79.06%	80.40%	80.97%	80.88%	80.00%	81.02%
GOAL: > 70% annually						
ACTIVITY: <i>Mining Regulation and Fluid Management and Reclamation</i>						
MEASURE: AML AND MINERALS EDUCATION PRESENTATION PER YEAR	196	192	252	345	386	220
Goal: 20 per year per employee average						

Budget Approval Path

Division Prepares
Budget & Projects

July-Aug, 2018



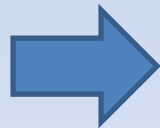
CMR Reviews Budget
Sets Priorities

Late August, 2018



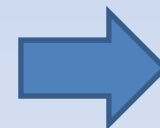
Division
Submits to
Governor's
Office

August 31, 2018



Governor
Recommends
to Legislature

Early January, 2019



Legislature
Modifies
& Approves

Feb-June 2019

Budget Assumptions

Biennium July, 2019-June 2021

- **Personnel**
 - No change at 11 F/T employees and 8 summer interns
- **Special Projects**
 - Continue with \$85K/yr deliverables with NBMG
 - PDAC trade booth + travel for 2-3 ~\$38,000/yr
 - Continue annual funding for Teacher Workshops at \$15K/yr
 - New professional Stay Out, Stay Alive video (HD) and Public Service Announcements ~\$110,000
- **Fleet Services for truck replacements**
- **AML Enhancements (contracted hard-closure work)**
 - Estimate our upper capacity at appx \$500K/yr (5 projects of avg. \$100K each)
- **Hardware/Software/GIS - \$22K in FY 2020, \$25K in FY 2021**

2019-2021 BDR's and Regulation Updates

- No BDR's from CMR for next session
- Update NAC 534A – Geothermal Resources regulations.
 - *Except for fees, the last comprehensive update was in 1992*

OPTIONS TO EVALUATE WHEN BUILDING BUDGET

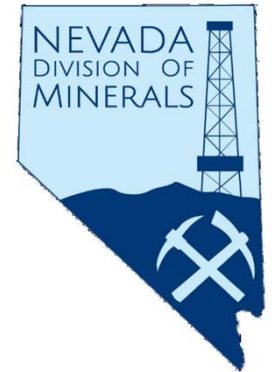
- Performance measures
 - Ideas from CMR on what else should be measured?
- Additional AML hard-closure contracted work each year to keep reserve at minimum ~\$950K
- Assumptions of number of claims
 - In last budget we assumed declining number of claims
- Other ideas for discussion

III. OLD BUSINESS

III. A Report on Arden Mine Closure

Arden Mine AML Closure Project

Commission on Mineral Resources Meeting
17 May, 2018



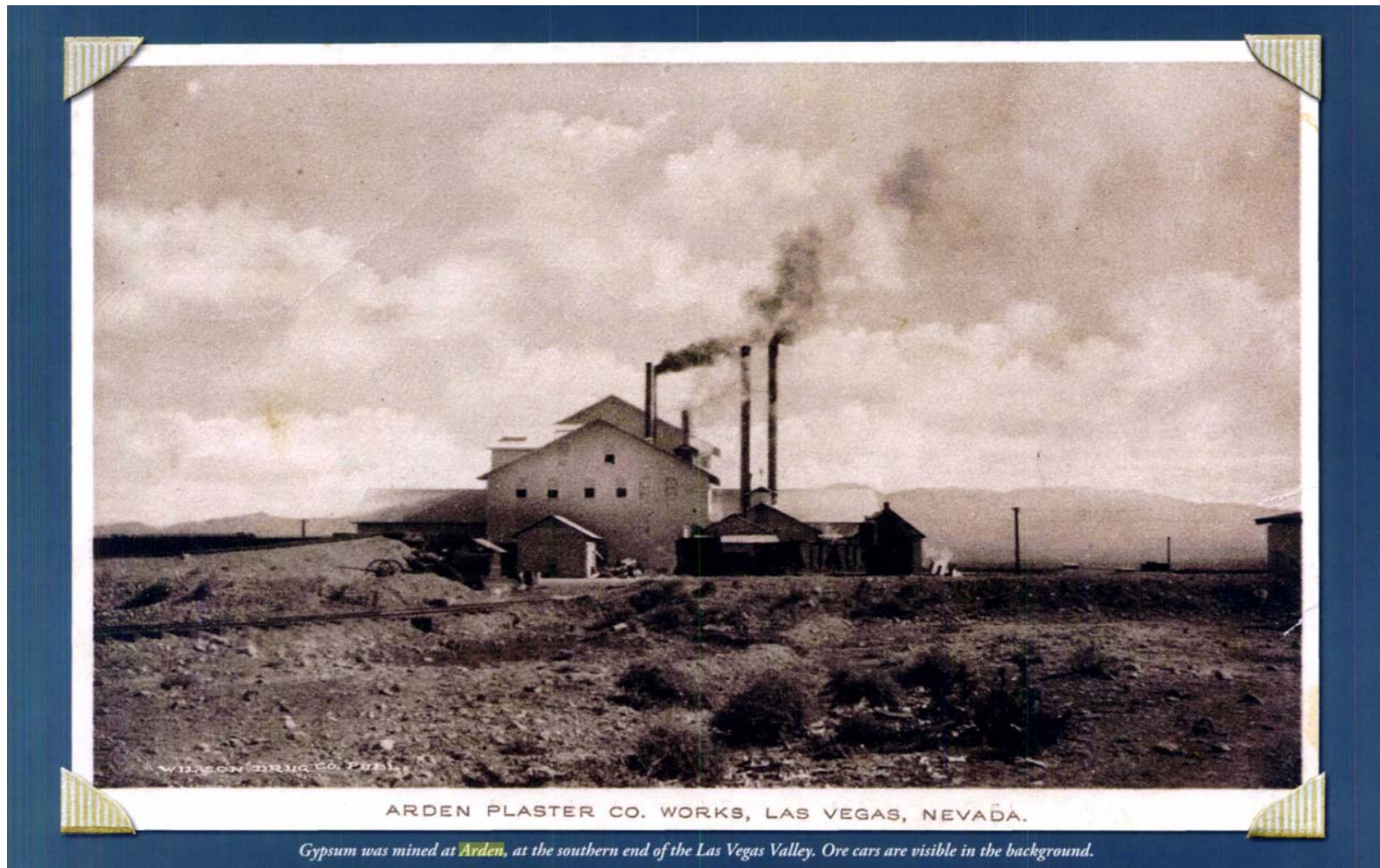
Rob Ghiglieri and Garrett Wake
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rghiglieri@minerals.nv.gov
gwake@minerals.nv.gov
Minerals.nv.gov



Overview

- A Brief History of the Arden Mine
- Review Past NDOM Securing Efforts
- Wildlife Recommendations
- Budget & Timeline
- BLM Closures
- Questions

A Brief History of the Arden Mine



A Brief History: The Arden Mine

- Began mining in 1909 for gypsum (Whitely, p.29), tapered off by 1931 (Papke, p.16).
- District was named after a small train station established two-years prior (Whitely, p.29).
- Original owner was the “Arden Plaster Company”, who sold to the “United States Gypsum Company” in 1919. (Reid, p.17)
- The Nevada Office of State Inspector of Mines: Annual report of the State Inspector of Mines (Carson City, Nev. : State Printing Office, 1911-1913) wrote that 52 workers were employed in 1911. (Ryan, p.16)
- Site had a crusher, and a rail tram which carried crushed ore to a loading site at the bottom of the hill. There, the ore was loaded onto a train and was transported 8-miles South for shipment to California.



A Brief History: Land Status & AML

- Currently 8 active claims in and around the Arden area (on BLM land; T22S R59E, sections 12 & 13. (2016)) – all placer claims held by the “Nevada Outdoor School”.
- Previous claimants have been sent AML notifications annually since 1992, but no action was ever taken.
- 41 hazards remain open on Clark County land, 6 on BLM land
- Access to the Arden Complex is immediate and easy – well-travelled paths allow locals to reach openings within minutes of leaving paved road, either by foot or civilian vehicles.
- During every securing project NDOM has encountered groups of public entering the workings – the public sees these openings as safe, since they are easily accessible and heavily visited but in reality they are very dangerous!



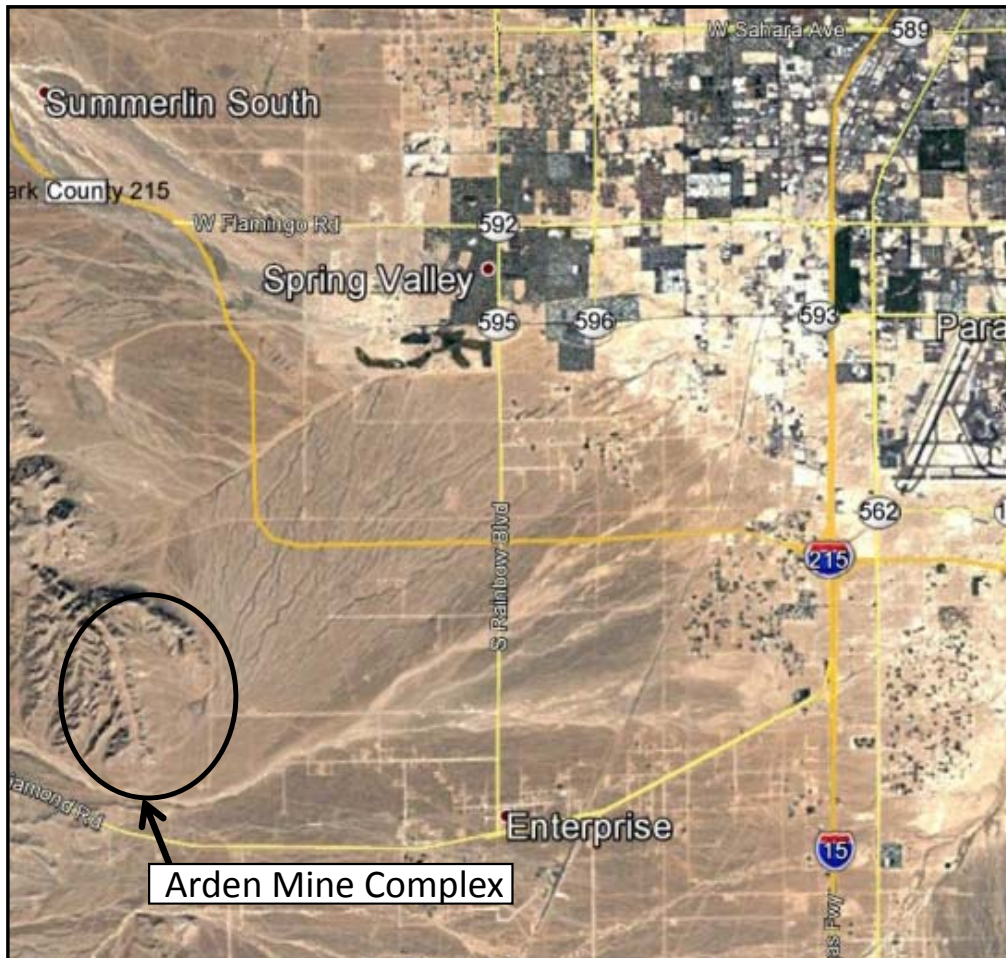
Location and Proximity to Population



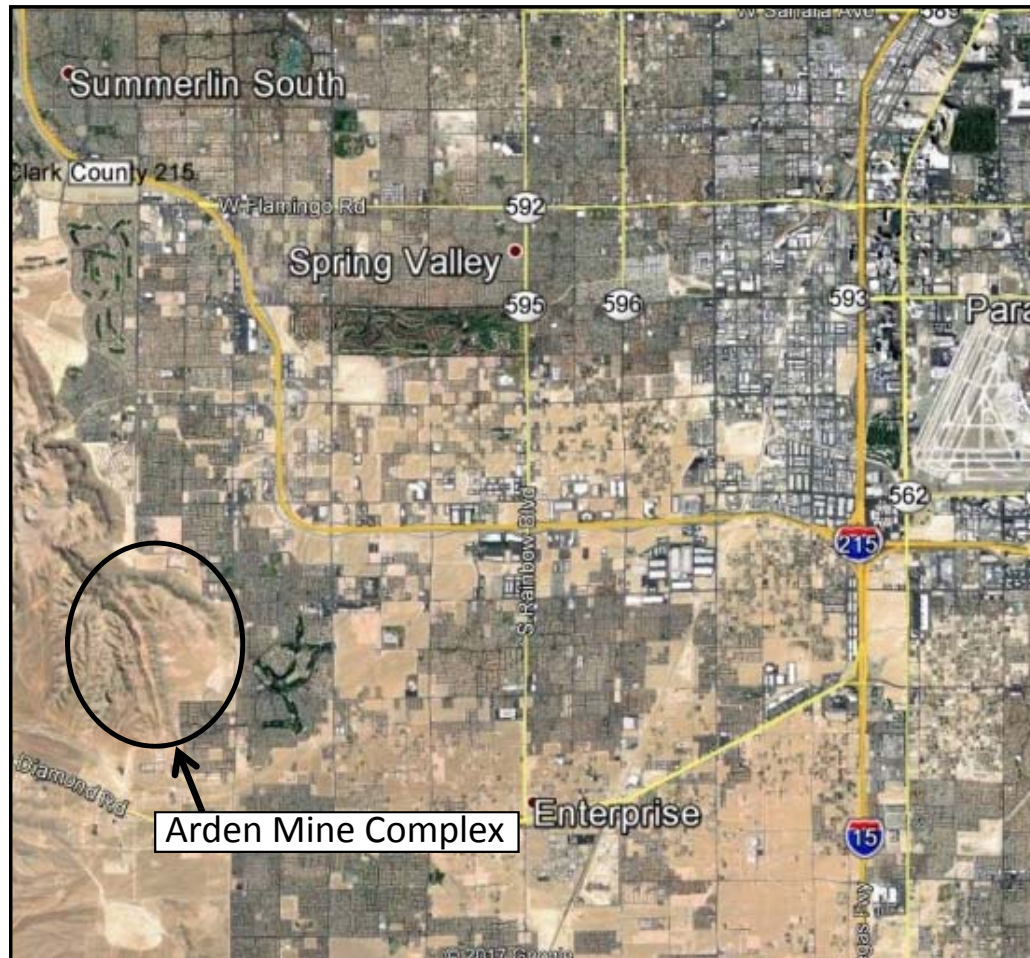
ARDEN MINE COMPLEX CLOSURE PROJECT Clark County, Nevada



Location and Proximity to Population Las Vegas 1984



Las Vegas 2017



Review of NDOM Securing Efforts



Review of NDOM Securing Efforts



Review of NDOM Securing Efforts

SiteID	Tot Fld Visit w/Log	Tot Sec w/2018
CL-0026	9	3
CL-0027	9	3
CL-0028	9	3
CL-0029	9	3
CL-0710	7	3
CL-0711	9	4
CL-0712	9	3
CL-0716	9	3
CL-0717	9	3
CL-0718	8	2
CL-0719	8	2
CL-0720	7	3
CL-0721	7	3
CL-0722	7	3
CL-0723	6	2
CL-0724	7	3
CL-0725	7	3
CL-0726	7	3
CL-0727	7	3
CL-0728	7	3
CL-0729	7	3
CL-0730	2	2
CL-0731	5	2
CL-0732	7	3

average	6.70	2.67
max	9	4
min	2	1

CL-0733	8	2
CL-0734	7	2
CL-0735	4	1
CL-2120	7	3
CL-2121	4	2
CL-2122	7	3
CL-2133	7	2
CL-2146	5	2
CL-2147	6	3
CL-2148	7	3
CL-2176	7	3
CL-2177	7	3
CL-2178	7	4
CL-2179	7	3
CL-2180	6	3
CL-2181	6	3
CL-2182	6	3
CL-2183	6	2
CL-2184	6	3
CL-2185	6	3
CL-2271	2	1
CL-2272	2	1
46	308	123
# of sites	Tot Fld Visit w/Log	Tot Sec w/2018

Review of NDOM Securing Efforts

ARDEN MINE EAGLE SCOUT SECURING PROJECTS

PROJECT	SCOUT	RECON DATE	PROJECT DATE	# SECURED
CL-26-29	K. HORLACHER	3/11/2014	4/26/2014	4
CL-710, 2122	M. BOWLER	4/25/2014	11/15/2014	6
CL-711-712, 720-721	G. COLEMAN	4/25/2014	5/14/2014	4
CL-716-719, 2133	E. FRANCIS	10/27/2014	11/22/2014	5
CL-722-723, 2120	Z. WEAVER	10/16/2014	5/28/2015	9
CL-724-726, 2121	D. MORRIS	10/31/2014	1/31/2015	4
CL-727-729	C. HORLACHER	3/12/2015	11/14/2015	3
CL-731-732, REPAIRS TO CL-711	M. FREHNER	10/25/2014	5/9/2015	5
			TOTAL SECURED	40
RE-SECURING PROJECTS	SCOUT	RECON DATE	PROJECT DATE	# RE-SECURED
CL-26-29	J. FRIZELL	10/9/2015	TBD	
CL-711	M. FREHNER	10/25/2014	5/9/2015	1
CL-710 (5 OPENINGS), 2122	R. PEARCE	1/9/2016	3/5/2016	2 (7 openings)
CL-711, 712, 716, 717, 718, 719, 2133, 2148	D. MARSHALL	2/10/2016	3/12/16	8
			TOTAL RE-SECURED	11

Review of NDOM Securing Efforts

Recent vandalism,
visitation and rock failures



NDOW Closure Recommendations

- Most closure recommendations remained unchanged from 2012 survey
 - No bat gates needed; CBAM all sites
 - Handful needed 72-hour exclusion netting
 - Christy Klinger/NDOW Biologist able to assist on site when needed
 - Conducted surveys when needed during the project
 - Also conducted tortoise surveys in the project area prior to project start
- Assisted in confirming human vacancy as well



Arden Closure Budget and Timeline

- Project budgeted for \$290,000
 - \$250,000 for earth work, \$40,000 for soil stabilization process
 - Estimated 3-4 week project timeline
- CMR / Division approved funding for project in August, 2017
 - \$100,000 initially, \$140,000 after soil-stabilization quote
 - Division would use existing State AML contract
 - Division would manage the project with County input
- Clark County partnered with Division to close mine
 - County Commission approved \$150,000 for closure
 - Signed inter-local agreement with Division in March, 2018
- Project completed on-time at an approximate total cost of \$293,000
 - \$13,000 over budget, 4.6%
 - Several very windy days required shutting down equipment early
 - Dust permit was more than expected – about \$10,000













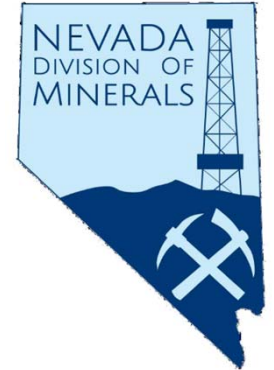
Additional BLM Closures North of County Closures

- 6 additional AML hazards closed
 - Two newly logged hazards on BLM land
 - 3 bat gates
 - 2 previously vandalized, one currently compromised
 - 1 bat culvert gate
 - Vandalized and compromised
- All hazards recommended CBAM by NDOW due to vandalism and certainty of recurrence
 - Additional cost of \$8,800 to NDOM for hard closure of additional sites
 - Significant cost savings in equipment and personnel already on site
 - Permanently seals access to all identified mine workings in area



Arden Mine AML Closure Project

Commission on Mineral Resources Meeting
17 May, 2018



Questions

Rob Ghiglieri and Garrett Wake
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gwake@minerals.nv.gov
Minerals.nv.gov



References:

- Papke, Keith G. *Gypsum Deposits In Nevada*. Nevada Bureau of Mines and Geology: Bulletin 103. Reno, 1987. Print.
- Reid, John A. *Preliminary Report on the Building Stones of Nevada*. University of Nevada: Bulletin of the Department of Geology and Mining, Vol.1, No. 1. 1904. Scanned print.
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- Whitely, Joan B. *Young Las Vegas: 1905-1931: Before the Future Found Us*. Las Vegas: Joan Burkhart Whitely and Stephens Press, LLC, 2005. Scanned print.

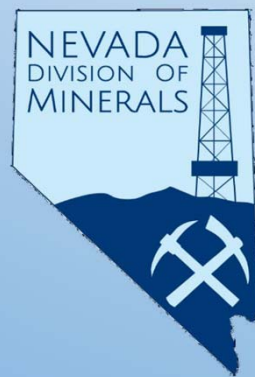
1. All photos of abandoned mines taken from the NDOM AML archive.
2. Permanent closure cost estimate completed by Brian Breiter, Environmental Protection Services (EPS), an approved NDOM contractor.

**III. B Report on the Prospector's and
Developers Association of Canada (PDAC)
meeting, March 4-7 in Toronto**

Report on the Prospector's and Developers Association of Canada Conference 4-7 March, 2018

Commission on Mineral Resources Meeting
17 May, 2018

Garrett Wake
Nevada Division of Minerals
gwake@minerals.nv.gov
Minerals.nv.gov



Overview

- 2017-18 Planning & Design
- 2018 Budget, Actual Expenditures, 2019 Budget
- 2018 Conference Highlights (4-7 March)
- 2018 Nevada Impact
- 2019 Planning
- Questions

Planning – FY 2018

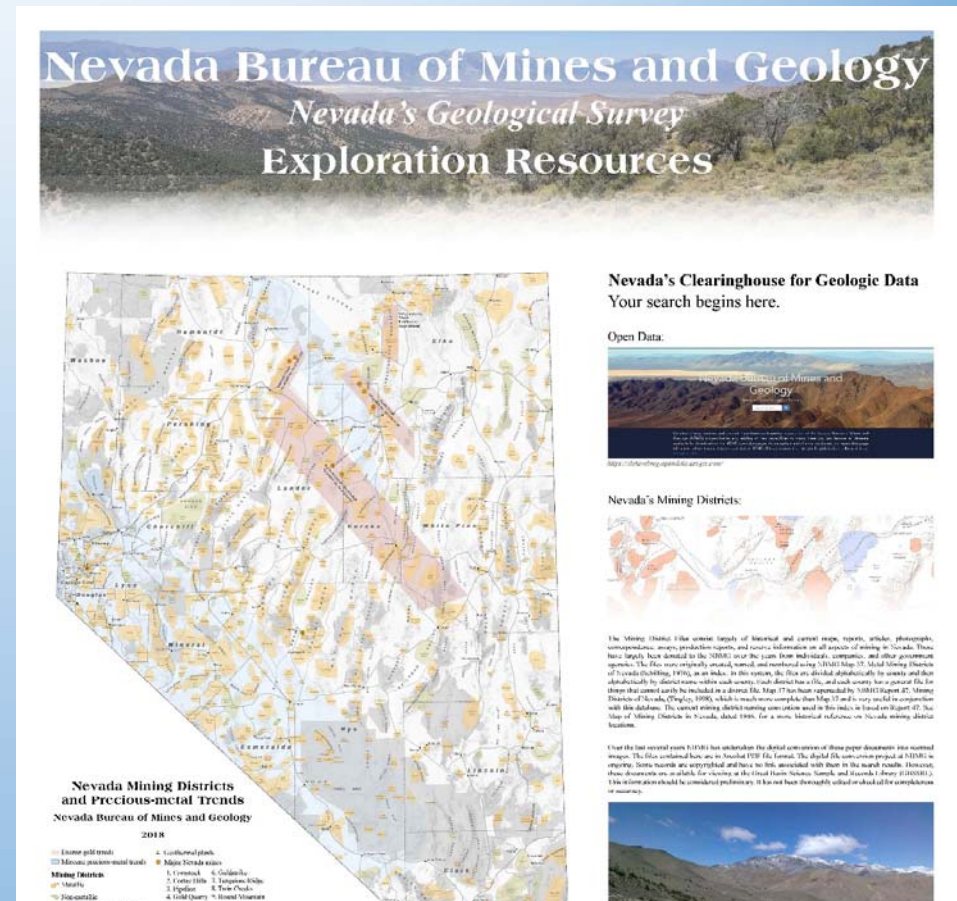
- Regular meetings with working group
 - Began July, 2017 (first meeting)
 - Quarterly, monthly, weekly for few weeks leading up
 - Done by teleconference mostly
- Booth design & fabrication
 - Design done by NDOM & NBMG, with regular input from partner agencies
 - Global Experience Specialists (GES) fabricated booth and provided feedback on design
 - Booth designed from the ground up over a 9-month period
 - Outsourcing graphics design ~\$100/hr. Significant cost savings in self design
- Web design for local server
 - Joe Riney with NMA created an excellent product

Planning - Partnering Agencies

- Nevada Division of Minerals
 - Rich Perry, Mike Visher, Garrett Wake
- Nevada Bureau of Mines and Geology
 - Mike Ressel, Jennifer Vican, Rachael Micander
- Nevada Mining Association
 - Joe Riney, Dylan Shaver
- Geological Society of Nevada
 - Laura Ruud, Steve Green, Elisabeth Zbinden
- Nevada Mineral Exploration Coalition
 - Dave Shaddrick
- Bureau of Land Management – NV State Office
 - Brian Amme
- Governor's Office of Economic Development
 - Sheldon Mudd (now with Elko County)

NBMG & NMA Contributions

- NBMG Created an exploration-related panel
 - Covered Open-Data site, exploration resources, precious-metal trends, and aesthetic imagery.
 - One of the center pieces of the booth, and was viewed and well-liked by many visitors



NBMG & NMA Contributions

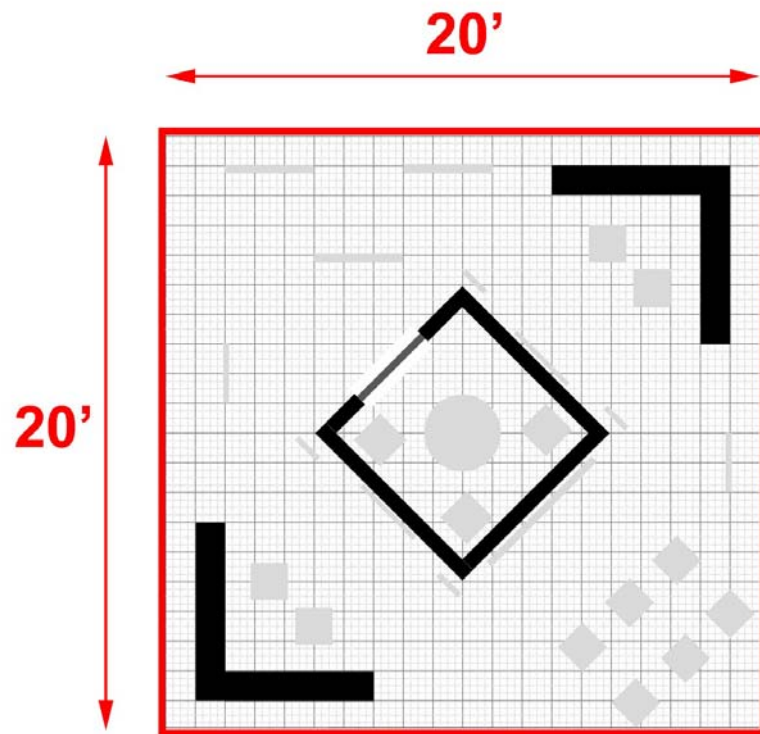
- NMA Created a local-hosted website
 - Allowed partner agencies to host and call data from a local server when needed
 - Very professional looking, instantly accessible data, well-liked and heavily used by all

WEB SERVER IMAGE PLACEHOLDER

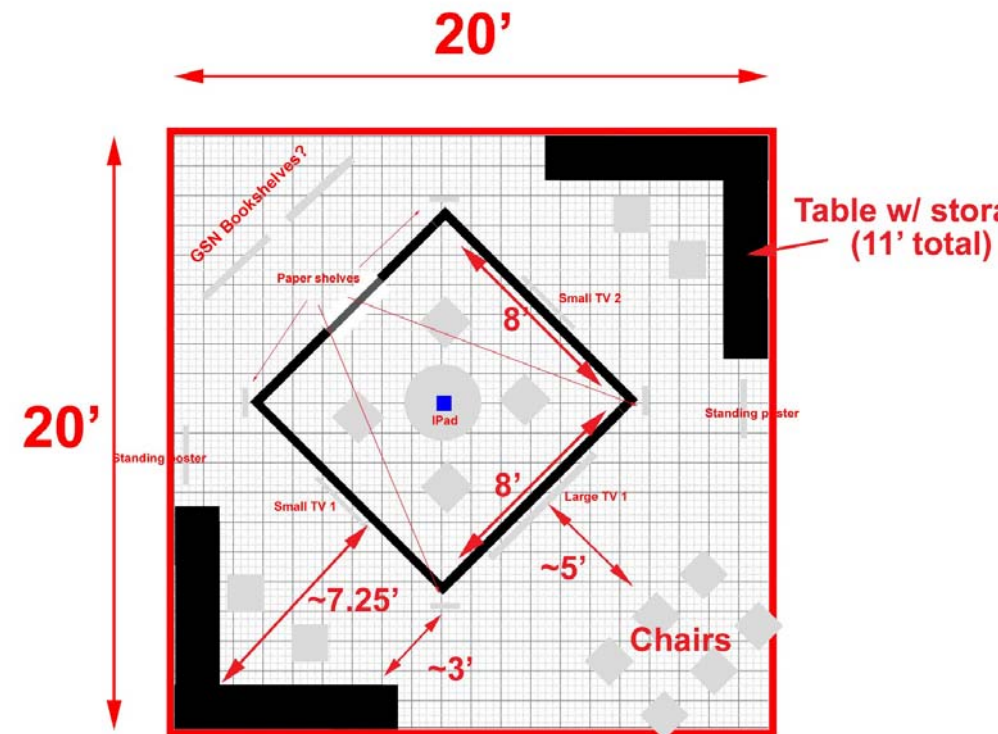
Planning

Initial Concept – July, 2017

To scale: each major line denotes one foot,
and each minor line one-quarter foot.

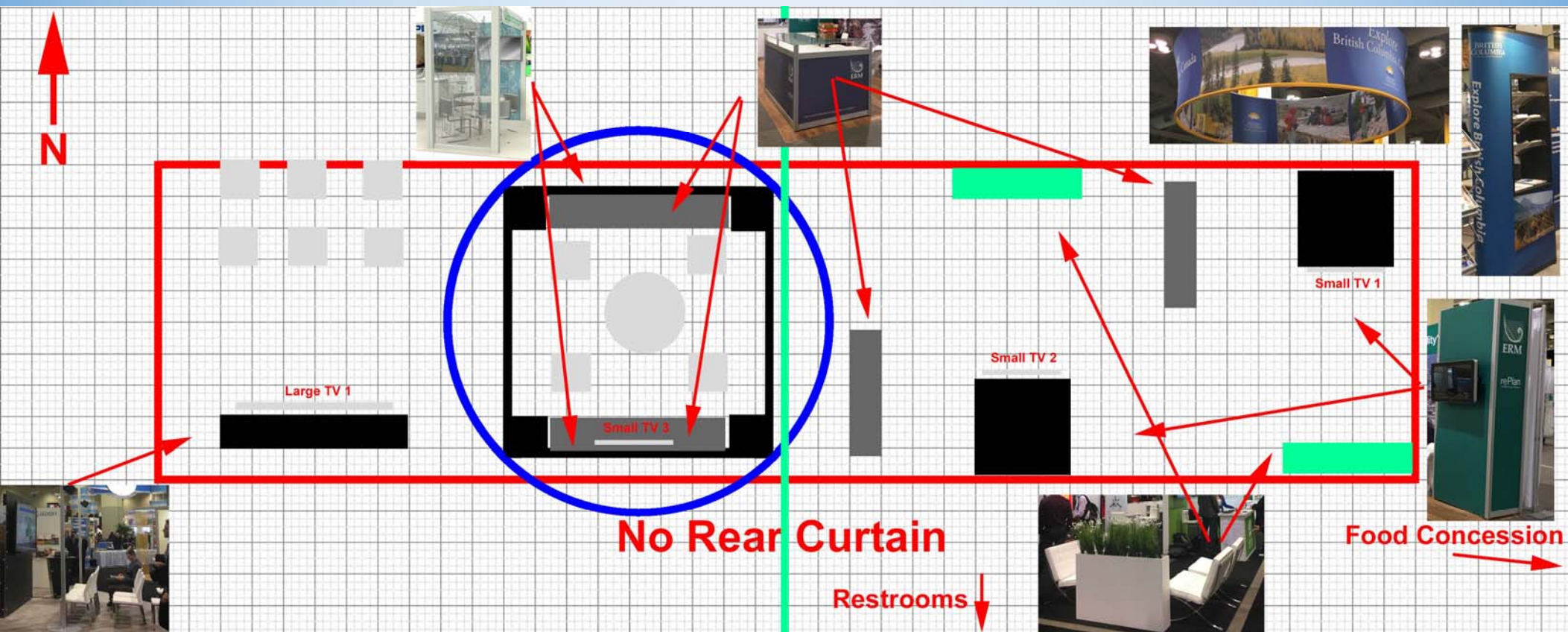


To scale: each major line denotes one foot,
and each minor line one-quarter foot.



Planning

Second Concept – November, 2017



Planning

Initial Rendering – January, 2018



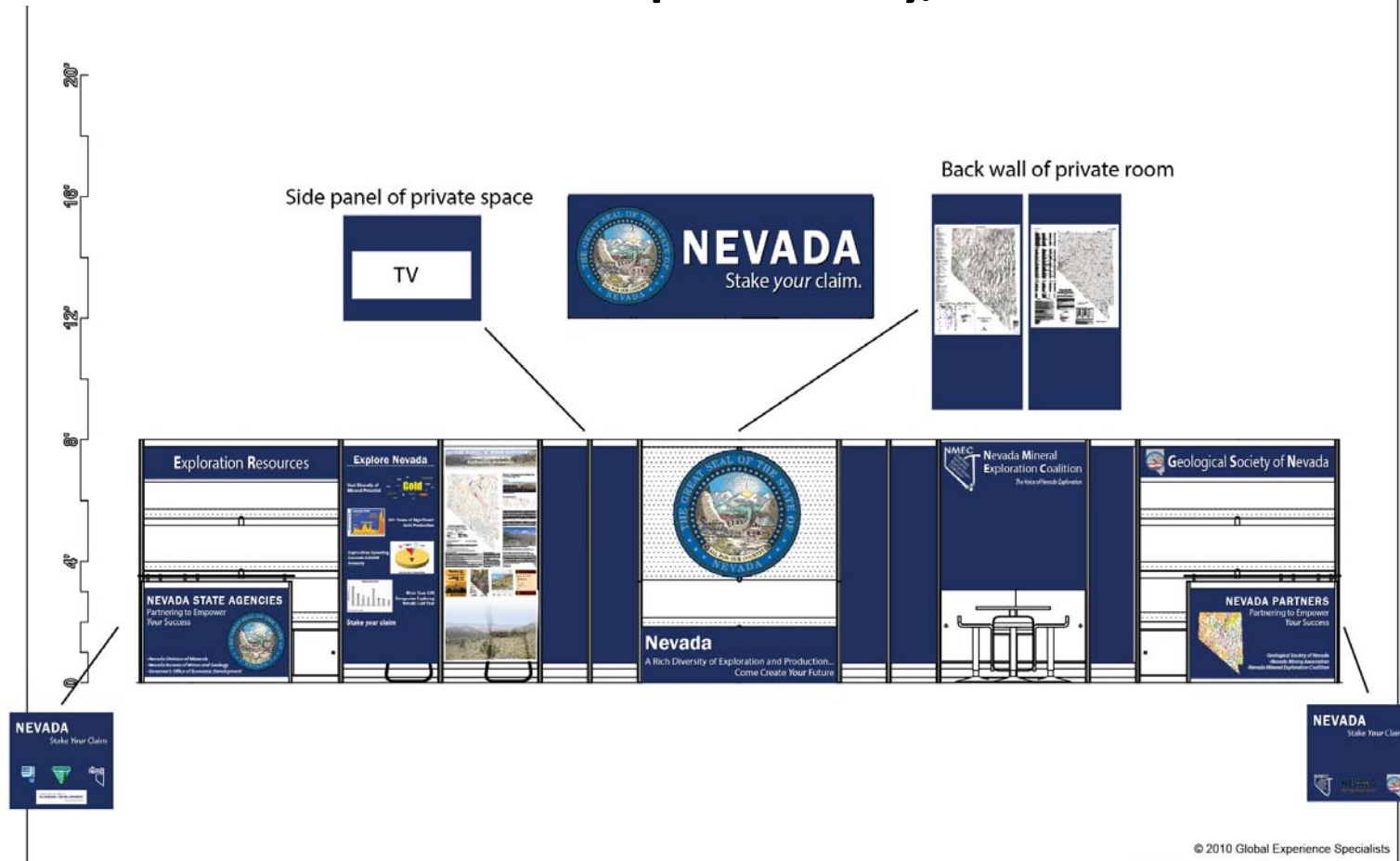
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Planning

Final Concept– January, 2018



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Client: Geological Society of Nevada
Booth Size: 10 x 40
Booth No.: 6634N

Show: PDAC 2018
Dates: March 4-7, 2018
Location: MTCC N

Requester: Rachel Ottenbrite
Designer: ---
Detailer: Van Niekerk, Todd
Job No.: 50083

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K:\Creative Services\2018\EX\PDAC\Geological Society of Nevada\Geological society of Nevada 10 x 40 PDAC18 MTCC N V4.dwg, Elevation, 12/4/2017 4:08:28 PM

Planning

Actual Booth
Day before conference
March 3rd, 2018



Planning

- 8 Gb USB Key
 - Pre loaded with data from all agencies
 - Used to follow up conversation with data



PRINTING: Process CMYK

FRONT



BACK



Budget – FY 2018, 2019

- CMR approved budget of \$29,717 each year of the biennium
 - \$4,033 CAT 02 (Travel)
 - \$350 CAT 04 (Membership Dues)
 - \$25,335 CAT 09 (Special Projects)
- Actual cost of the project was \$32,918.52, 10.7% over budget
 - \$5,799.26 CAT 02 (\$1,766.26 over budget)
 - CAT 04 Lumped into CAT 09 (unused)
 - \$28,514.14 CAT 09 (\$3,179.14 over budget)
 - Booth space quoted incorrectly by venue. Ended up being \$2,500 CAD more than expected.

Budget – 2019 Changes (09 Special Projects)

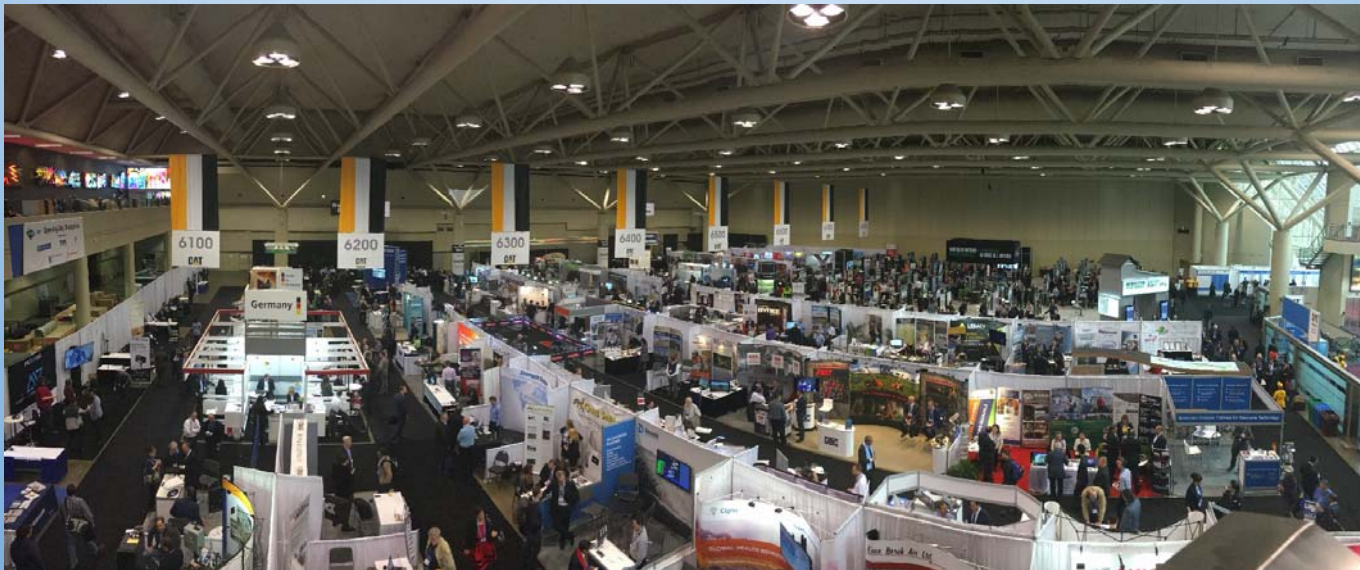
- GES Discount for Returning Customer
 - 5% discount applied to total cost in 2019 and beyond
 - ~\$700 in savings excluding banner and graphics
- Will not have to purchase graphics already printed
 - Estimated \$1,000+ savings depending on graphics panel reuse
- Purchase of \$3,870 spiral banner for booth – will reuse.
- Estimated total savings of ~\$5,500+, putting us under budget in FY 19 and slightly under or even on budget for the biennium

Budget – 2019 Changes (02 Travel)

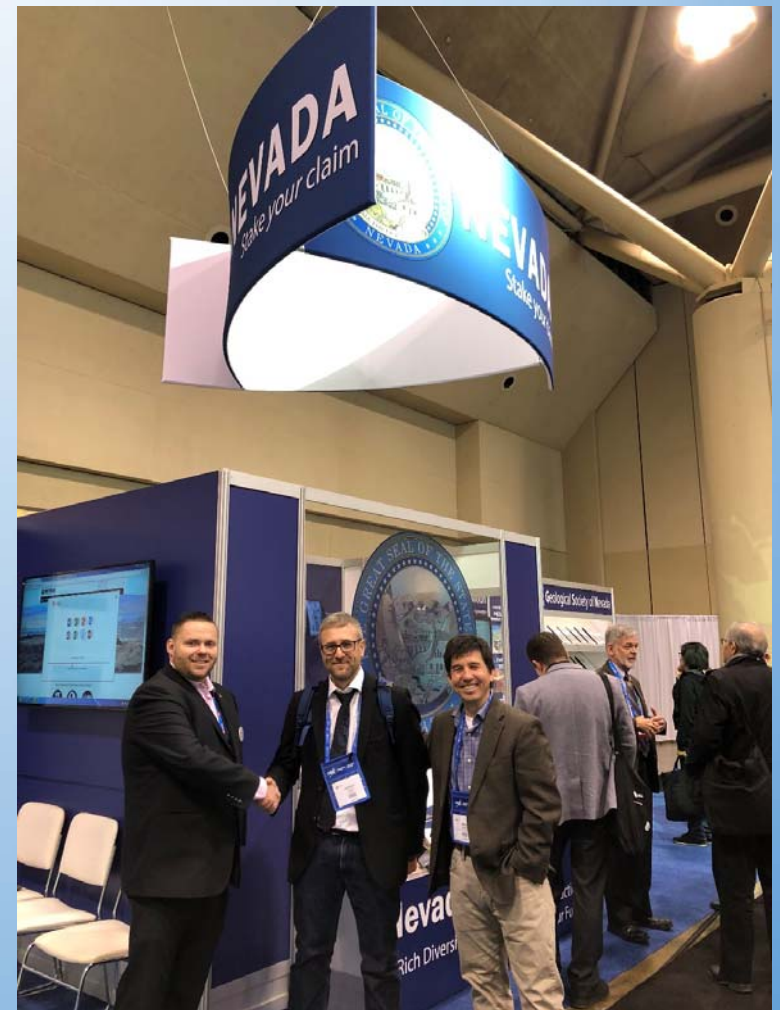
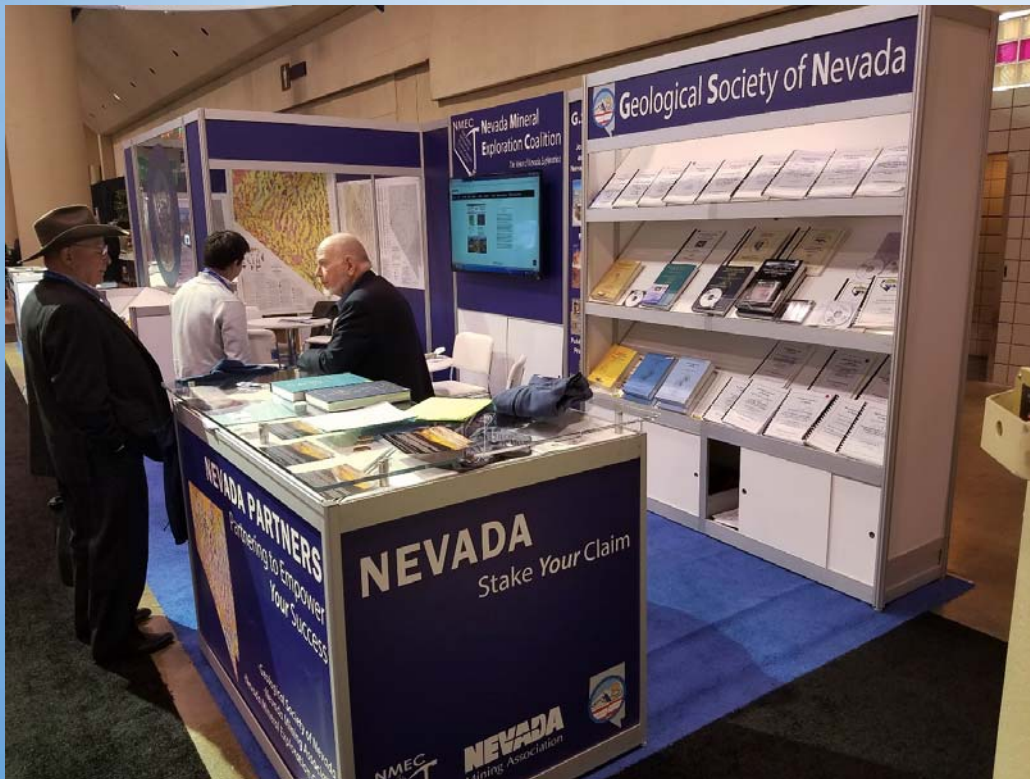
- Reduce travel days by 1-2 in 2019, either on back end or both front and back (depending on shipping)
 - Average full-day cost with lodging & per diem ~\$335 USD at ~0.81 CAD conversion
 - Approximate savings of \$670 - \$1,340.
- Alternative to hotels in the area
 - Average cost ~\$222 per night at ~0.81 CAD conversion (relatively low price for area)
 - Significantly up-charged due to event
 - Air BnB or other platform may offer a better alternative

2018 Conference

- Conference attendance (from PDAC website)
 - 1,000+ exhibitors
 - 3,495 investors
 - 25,606 attendees from 135 countries



2018 Conference – cont.



2018 Conference – cont.



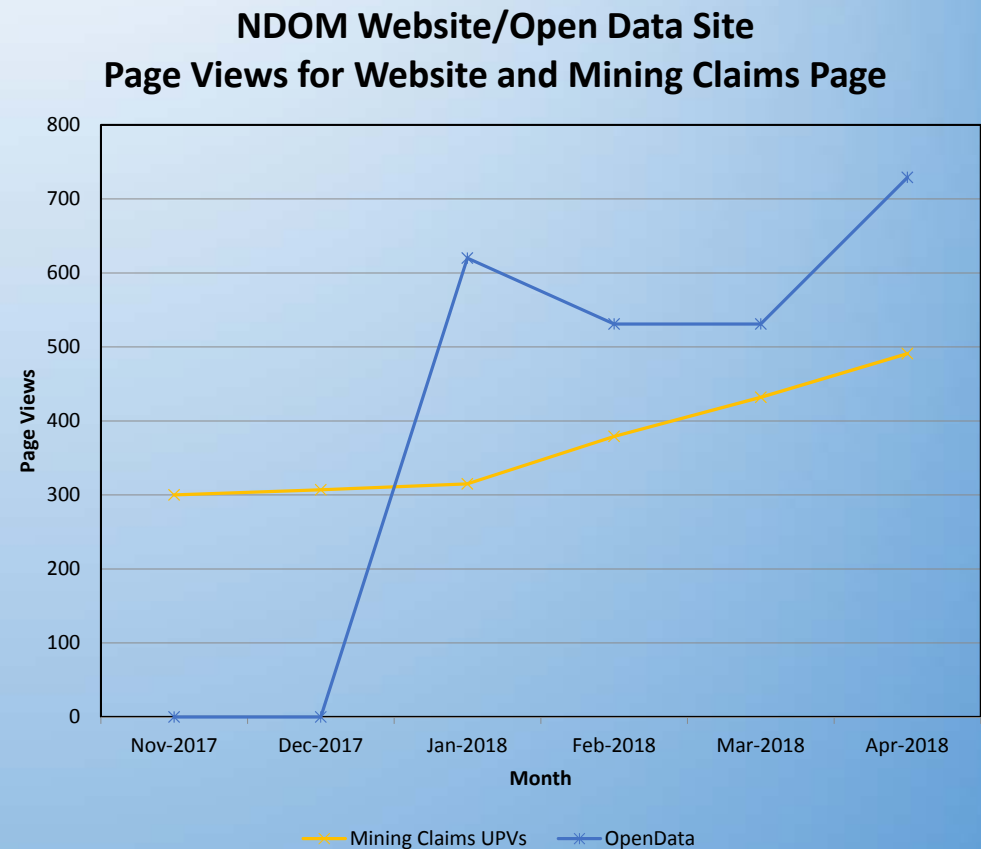
2018 Conference – cont.

Video Placeholder

A large rectangular placeholder box with a thin black border, intended for a video. It occupies the lower two-thirds of the slide.

2018 Nevada Impact

- Significant spike in Open-Data web hits in April.
- Steady increase in unique hits to Mining Claims page beginning in February
- Difficult to tell if jump was related to conference, since data from this time period is not available last year



2018 Nevada Impact

All Areas	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018
Mining Claims UPVs	300	307	315	379	432	491
OpenData	n/a	n/a	620	531	531	729

Countries	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018
(not set)					5	
Australia	1		5	9	3	16
Brazil						2
Canada	55	39	27	40	63	50
China	3	3	2	1	3	
France					3	3
Germany	3			1	2	3
Guyana	1					
Hong Kong					3	
India				1		
Italy						5
Japan	1		2			
Kyrgyzstan				1		
Mexico	3		10	9		
Mongolia				1		
Netherlands		1				

Norway					2	
Pakistan			1			
Peru	1					
Puerto Rico					2	
Romania					2	
Singapore						2
South Africa		1			2	
Spain	3					
Sri Lanka		1				
Sweden						2
Switzerland	3		2			
Turkey	1					
United Kingdom	3	12	12	1	8	
United States	411	395	435	539	635	665
Zimbabwe				3		

2018 Nevada Impact

NBMG Data Placeholder

2019 Planning

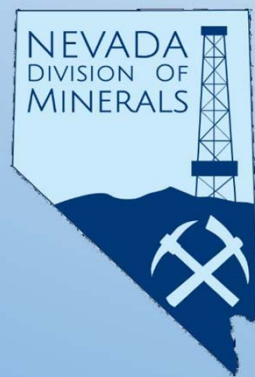
- Planning for the 2019 conference has already begun
 - First meeting held in April, 2018
 - Would like to move to South Hall if possible
 - More traffic; most other states, provinces and countries in South Hall
 - Won't know if this is possible until early Fall, 2018
 - Will meet quarterly until we know where our booth will be in 2019
 - If booth dimensions stay the same, planning will be to:
 - Make booth more open to foot traffic
 - Update & enhance graphics
 - Enhance web server
 - If we're offered a 20x20 space in the South Hall, may consider accepting
 - Will need to redesign booth. Will still be able to reuse several graphics
 - We pay GES to "rent" booth every year, so designing new booth is about the same cost
 - Still offered 5% discount

Report on the Prospector's and Developers Association of Canada Conference 4-7 March, 2018

Commission on Mineral Resources Meeting
17 May, 2018

Questions

Garrett Wake
Nevada Division of Minerals
gwake@minerals.nv.gov
Minerals.nv.gov



III.C NDOM Administrator evaluation by Commission

THIS SECTION IS INTENTIONALLY LEFT BLANK.
HAND OUTS AND PRESENTATION WILL BE GIVEN AT THE
MEETING.

IV. STAFF REPORTS

Reclamation Bond Pool Status Report		Current to:	4/30/2018							
Plan-level Bonds -Company	Project	Entry Date	Bond Amount	% of Pool	Comments	Deposit	Premiums Paid	% Bond Whole	Premium Schedule	Current thru
Custom Details	Bovie-Lew	11/17/2006	\$24,364.00	0.74%		\$ 12,217.11	\$20,436.05	134.0%	\$182.73 quarterly	6/30/2018
New Gold Nevada (formerly NV Rae)	Black Rock Canyon	4/15/2005	\$727,087.00	22.22%		\$ 415,856.34	\$326,760.84	102.1%	\$5,453.15 quarterly	6/30/2018
So. NV Liteweight	Money Pit	5/21/2004	\$430,088.00	13.14%		\$ 233,171.91	\$256,628.56	113.9%	\$3,225.66 quarterly	6/30/2018
Western Pacific Clay	Fallon Bentonite	12/11/1997	\$209,900.00	6.41%	terminated	\$ 31,485.00	\$185,648.94	103.4%		
Western Mine Dev.	Victorine Mine	5/24/2000	\$45,875.39	1.40%	terminated	\$ -				
Western Mine Dev.	Kingston Mill	5/24/2000	\$100,450.00	3.07%	terminated	\$ -				
Western Mine Dev.	Manhattan Mill	5/24/2000	\$114,288.77	3.49%	terminated	\$ -				
TNT Venture	Big Canyon	1/27/2010	\$78,161.00	2.39%		\$ 39,615.03	\$43,289.38	106.1%	\$586.21 quarterly	3/31/2018
Dun Glen Mining	Dun Glen	8/11/2014	\$373,981.00	11.43%		\$ 200,648.22	\$126,239.74	87.4%	\$8,780.45 quarterly	3/31/2018
Statewide Notice-Level	Various	various	\$1,168,213.00	35.70%	84 Notice-level bonds				Premiums due	
Total Bonded Amount			\$3,272,408.16	100.00						
Cash in Pool's Account			\$4,197,842.16							
Unfunded Amount			-\$925,434.00							
Percent funded			128.3%							
Date	# of New Bonds	# of Bond Increases	# of Bond Reductions	<div> <div>Notice-Level Bond Actions Executed With NDOM</div> </div>						
FY12 Q1	24	0	21							
FY12 Q2	16	0	14							
FY12 Q3	5	2	8							
FY12 Q4	8	7	10							
FY13 Q1	4	7	11							
FY13 Q2	2	3	7							
FY13 Q3	0	0	13							
FY13 Q4	6	4	18							
FY14 Q1	0	2	22							
FY14 Q2	2	1	8							
FY14 Q3	0	3	8							
FY14 Q4	3	0	7							
FY15 Q1	2	0	9							
FY15 Q2	3	3	9							
FY15 Q3	1	1	12							
FY15 Q4	1	1	8							
FY16 Q1	4	2	16							
FY16 Q2	0	1	12							
FY16 Q3	1	0	2							
FY16 Q4	6	1	8							
FY17 Q1	3	1	10							
FY17 Q2	9	4	19							
FY17 Q3	0	2	5							
FY17 Q4	5	3	13							
FY18 Q1	4	0	3							
FY18 Q2	10	6	9							
FY18 Q3	2	3	4							

NEVADA

Mining Association

The Champion of the 21st Century Mining Industry

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Tel: 775 829 2121 www.NevadaMining.org

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Duane Peck
Silver Standard
Robby Ruesch
KGHM International
Tony Sanchez
NV Energy
Robert Stepper
Coeur Rochester Mine
Jeff Thompson
University of Nevada
Stefan Wenger
Royal Gold

November 22, 2016

Mr. John Slaughter
Washoe County Manager
1001 E. Ninth Street
Reno, Nevada 89512

Dear Mr. Slaughter:

The Nevada Mining Association (NvMA) would like to express its appreciation for the November 2, 2016 public forum concerning the proposed Washoe County Land Bill. It is refreshing to participate in a meaningful discussion on the important topic of public lands. As Washoe County moves forward with the development of this congressional legislation, the NvMA has some recommendations to ensure it is reflective of the interests of all parties, including those of exploration and mining.

For background, the NvMA has been in existence for more than 100 years and represents its members in federal, state, and local policy matters, public relations, workforce development, and community support. NvMA has a diverse membership of more than 420 individuals and companies, many of which are small businesses, and include mine operators, explorers and vendors who serve the industry.

The Nevada Mining Association has maintained its main office in Reno since 1913, and many of our members live, work, and have businesses in Washoe County. A recent study found that, in 2015, over 2,000 jobs in this county can be attributed to the mining industry. With some of the highest salaries and best benefits among Nevada economic sectors, these mining jobs represent about \$120 million in payroll. The economic output from Washoe County-based mining-related companies is nearly \$380 million.

Mining's products – metals and minerals – are the raw materials required by advanced manufacturing and renewable energy production; consequently, the success of Nevada's new and growing economic sectors require a healthy mining industry. Washoe County is uniquely positioned – geographically and economically – to participate in this important supply chain.

The exploration for, and discovery of, deposits of metals or minerals is the foundation of Nevada's mining industry. As a general statement, the NvMA is opposed to any action that limits or eliminates the ability to explore or mine on public lands that contain fluid mineral leasing, non-energy leasable minerals, locatable minerals, or mineral materials. While much is known of the mineral resource potential within the "disposal area," and to some degree in the proposed wilderness areas, a great deal is not yet known. With increasing worldwide demand, fluctuating markets, and ongoing research and development for new minerals in new markets, it is short-sighted to restrict or withdraw lands that have, or may have, present or future mineral values.

We respectfully request that Washoe County thoroughly evaluate and identify to the public the known mineral potential of all lands subject to sale, transfer, or withdrawal as wilderness.

Second, we believe that a more inclusive process for identifying areas subject to wilderness withdrawal is needed. Wilderness areas are certainly an asset for Nevada's tourism industry, but once designated, activities in those areas are greatly restricted. A robust discussion now among all stakeholders is important for the future vibrancy of Washoe County. The strength of other successful lands bills in Nevada has been transparency, inclusion, and collaboration. A Washoe County process that involves all interested parties will ensure a stronger bill and reduce the potential for opposition in Congress.

Thank you for your consideration of these comments. I would be pleased to provide any additional information you might find helpful, and NvMA and its members look forward to working with Washoe County on the drafting of this legislation.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dana R. Bennett", is written over a background of small, scattered dots.

Dana R. Bennett, Ph.D.
President
Nevada Mining Association

GBSSRL Activities for Oil, Gas, and Geothermal Well Samples October 1 to December 31, 2017

New Permits Documented and Entered into System

Oil and Gas Wells: 1 permits

Geothermal Wells: 7 permits

Cuttings Received and into Confidentiality Sequestration

Oil and Gas Wells: none

Geothermal Wells: 1 set of cuttings from Homestreach Geothermal (permit 1441).

Cuttings Released from Sequestration

Oil and Gas Wells: none

Geothermal Wells: received a partial set of cuttings from Ormat (permit 807) to complete a set submitted in 2009.

Accessioned into Library

Oil and Gas Wells: none

Geothermal Wells: none

Warehouse Activities

We have consolidated and moved materials clearing out enough space for 1500 10-foot boxes of geothermal core from Ormat. This was a major effort in the Warehouse that involved all staff to complete.

As part of this consolidation and as a quality control we conducted a box count of the oil and gas, and geothermal core and cuttings in the warehouse, and compared these with the counts in the spreadsheets.

Other Activities

These included working on the Industrial Minerals Report and participating in the smelter project. We hired two students that will start in January 2018 working in the Warehouse.

OIL, GAS, AND GEOTHERMAL ACTIVITY

2018 Permitting and Drilling Activity (Through May 4, 2018)

Permit Type	Issued 2015	Drilled 2015	Issued 2016	Drilled 2016	Issued 2017	Drilled 2017	Issued 2018	Drilled 2018
Geothermal - Ind Production	10	7	9	10	6	4	3	2
Geothermal - Ind Inj	1	2	3	1	4	4	---	---
Geothermal - Observation	1	1	2	4	3	1	2	1
Geothermal - TG	5	5	---	---	19	15	4	4
Geothermal - Com	---	---	---	---	---	---	---	---
Geothermal - Dom	8	5	---	4	2	2	---	---
Geothermal - Project Area	1	---	---	---	1	---	---	---
Geothermal - Total	26	20	14	19	35	26	9	7
Oil & Gas	4	2	3	1	0	1	3	1

Activity	Geothermal	Ormat Nevada	Ormat Nevada has completed drilling four of five production wells permitted for the Phase 3 plant on the 28-10 and 36-10 production pads. A fifth production well was being drilled, but Ormat put the drilling operations on hold for three weeks due to sage grouse restrictions. Drilling operations will resume in mid-May. Ormat Nevada completed the drilling of the Carson Lake 21-31 observation well (for FORGE). The Tungsten Mountain 24(23)-23 production well was permitted on April 30 th .
		US Geothermal	Ormat Nevada officially acquired US Geothermal and its subsidiaries in April. Properties in Nevada include the San Emidio Field and an exploration project in Crescent Valley. It is not known when Ormat will drill the San Emidio 25A-21 production well at San Emidio, permitted by USG in February.
		Homestretch Geothermal – Open Mountain Energy	Open Mountain Energy has entered into a partnership with Homestretch Geothermal, where Open Mountain is building a new power plant, and will own it. Homestretch will supply the plant with geothermal fluid. Construction of the new plant has not been completed.
		Star Peak Geothermal (subsidiary of Open Mountain Energy)	Star Peak Geothermal has completed logging and flow-injection tests at Rye Patch. Star Peak Geothermal is currently evaluating the data obtained, and will construct a binary plant if testing of the wells proves to be successful.
		Nevada Bureau of Mines and Geology	The Nevada Bureau of Mines and Geology (NBMG) is in the process of permitting seven more TG wells (geoprobe) in Granite Springs Valley. NBMG is also in the process of obtaining NOI's with the BLM for southern Gabbs Valley.
	Oil	Major Oil International	Major Oil is currently drilling the Eblana 3 exploration well in Hot Creek Valley, ~ 60 miles east of Tonopah.
		Envy Energy	Envy Energy is permitted the Black Point 1 well in White Pine County, south of Mt. Hamilton, in February. It is not known when this exploration well will be drilled.
		Grant Canyon	Grant Canyon LLC is planning on drilling two wells, one at the Blackburn Field and one in a new federal lease northwest of the Blackburn Field.

Summary of 2018 Dissolved Minerals Activity through May 4, 2018

Type of Activity	Issued 2018	Drilled 2018	Approved 2018	Drilled 2018
Exploration Well Permits	5	3 ¹	---	---
Notice of Intent Approvals	---	---	2	1

¹ One drilled, two drilling

Sierra Lithium LLC has been issued four dissolved mineral exploration well permits, two in Columbus Salt Marsh and two in Clayton Valley. Sierra Lithium LLC drilled one of the permitted locations like a borehole in Columbus Salt Marsh to 3,280 feet. The hole was sampled for fluids, and then plugged and abandoned rather than being completed as a well. Sierra Lithium LLC's second permit in Columbus Salt Marsh has not been utilized to date. Sierra Lithium LLC is currently drilling one of two permitted locations in Clayton Valley, spudding in on April 25th.

3PL Operating Inc. has been issued one dissolved mineral exploration well permit for a location approximately four miles southwest of the Sans Spring Oil Field in Railroad Valley. 3PL Operating is currently mobing in equipment and materials and should spud this well on May 7th. The permitted depth of this well is 2,300 feet.

Mathers Lithium submitted a Notice of Intent (NOI) to drill a borehole in Clayton Valley on February 1st. The Division approved the NOI on February 2nd. Drilling operations started on February 23rd, in which the borehole was drilled to 1,200 feet. The borehole was plugged and abandoned on March 21st.

Bonaventure Nevada submitted an NOI to drill a borehole in Sarcobatus Flat, located between Goldfield and Beatty, on March 27th. The Division approved the NOI on March 27th. The approved total depth of the borehole is 2,000 feet. This borehole has not been drilled to date.

Lithium Ore LLC is working with the BLM to finalize their notice(s) to drill up to three 'deep' dissolved mineral exploration wells in Railroad Valley. At least one of the three proposed wells is expected to be located on an old drill pad utilized for previous oil exploration approximately four miles west-southwest of the Kate Springs Oil Field. Lithium Ore has not permitted with NDOM to date, but has discussed their pending operations with NDOM.

Summary of Geothermal and Oil Well Inspections for Fiscal Year 2018

FY 2018 Well Inspections	Total Wells	Wells Needed for FY18	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal (28 Locations)	454	151.3	180	118.9%	-29
Oil (24 Locations)	119	40	127	320%	-87
Totals	573	191	307	161%	-116

Well inspections performed during April include the all oil related wells, except for the Gabbs area which were inspected in February. Geothermal wells located at Beowawe, Crescent Valley, and Caliente were inspected during the week long April well inspection trip as well. Planned future well inspections include the Dixie Valley, Soda Lake, Stillwater, and Salt Wells Fields. Inspections have also been performed on the Sierra Lithium and Mathers Lithium drilling locations.

Sundry Notice and Transfer of Permit Activity

Four oil and twenty-six geothermal sundry notices have been approved during the 2018 calendar year. Three of the oil sundries were approved during the first quarter, and twenty-two of the geothermal sundries were also approved during the first quarter.

BLM Lease Sales

The BLM Elko, Ely, and Carson City Districts held an oil and gas lease sale on March 13th. A total of 39 parcels were offered. The parcels were protested by The Wilderness Society, Friend of Nevada Wilderness, and WildEarth Guardians NGO's. No parcels were removed from the sale as a result of the protests. The 39 parcels comprised a cumulative total of 67,791.49 acres. The sale had nine bidders. Eleven parcels received bids, putting an additional 19,432.94 acres under lease. Total receipts for the sale were \$152,061.50. The highest bid per acre was \$14.00. The highest bid per parcel was \$34,874.00. The next oil and gas lease sale is scheduled for June 12th, where the Battle District will offer 166 parcels totaling 313,715.31 acres in Nye and Eureka Counties.

2010-2018

Carson City

8/17/2012-Tour in Yerington
12/11/2014
5/19/2016
11/1/2016
11/30/2017-ACG Materials
02/20/2018

Elko

08/29/2014-Newmont LeeVile Mine
08/27/2015-Noble Energy's
Huntington
K1L Well & General Molly Mt. Hope

Reno

5/12/2010
10/19/2010
4/29/2011
7/27/2011 – Tour of Bat Cupola in VC
11/2/2011
5/03/2012- Virginia City
11/09/2012
5/03/2013- Hazen and Olinghouse
10/10/2013
05/09/2014- EP Minerals; Nevada
Cement Plant and Mine.
05/01/2015
11/05/2015-Bishop Manogue H.S.
05/04/2017-Tour of Tesla

Las Vegas

2/11/2010 – Tour of the McCaw
School of Mines - Henderson
2/07/2011 – Tour of Molycorp Mine
2/27/2012 – Searchlight Area
2/21/2013
2/14/2014- Tule Springs Park
2/24/2015
2/03/2016- Simplot Silica
3/02/2017
5/17/2018- Arden Mine

Battle Mountain

July 30, 2010 – Tour of Newmont Phoenix Mine

Tonopah

8/15/2013 - Solar Reserve Plant
8/16/2013 - Tonopah Mining Park
8/25/2017 – Mineral Ridge Mine and Uranium Resources Inc.

Wendover

8/25/2016- Graymont's Pilot Peak, Newmont Long Canyon Mine

