



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

**COMMISSION ON MINERAL RESOURCES**  
 Legislative Counsel Bureau  
 401 South Carson St. Room #4100 Carson City, NV 89701

Thursday, November 30, 2017

1:00 P.M.

**MINUTES**

**CALL TO ORDER**

1:00 PM by Rich DeLong-Chairman

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**

<b>Commission</b>	<b>NDOM Staff</b>
Rich DeLong	Rich Perry
Dave Parker	Mike Visher
John Snow	Bryan Stockton
Art Henderson	Rob Ghiglieri
Nigel Bain	Courtney Brailo
Mary Korpi	Lowell Price
	Valerie Kneefel
Dennis Bryan is not present	Lucia Patterson

**PLEDGE OF ALLEGIANCE**

**COMMENTS BY THE GENERAL PUBLIC**

No comments at this time by the public

**I. MINUTES**

A. Approval of the August 24, 2017 meeting minutes

**Minutes approved by Nigel Bain**

**Seconded by Mary Korpi**

**Unanimously passed**

Rich DeLong: Stated that the agenda may be taken out of order to accommodate NDOM staff.

**II. NEW BUSINESS**

A. Updating of Geothermal regulations

The Division is seeking direction from the Commission to begin the process of updating parts of the geothermal regulations contained in NAC 534A. Portions of regulations of the State Engineer which are

contained in NAC are obsolete and other parts of the geothermal regulations need updating to reflect current technology and practices.

Lowell Price: Proposed update to Geothermal chapter regulations, NAC 534A:

Most of NAC 534A, except for fee portion, has not been updated since 1992. The original chapter was adopted in 1985. Some parts that need updating are:

1. Regulations of State Engineer requiring licensed water well drillers for all geothermal well drilling. Was valid then, but industrial and commercial wells drilled now utilize large rigs that operate 24/7 with skilled professionals on-site.
2. Domestic geothermal wells still need licensed water well drillers.
3. Require drilling rig License to Operate through State Contractor's Board (currently in NAC 534A.110).
4. Five year confidentiality in NDOM regulations (currently in State Engineer)
5. Provide the Administrator the ability to provide a Waiver of Provisions. Specific 'exception' (waiver) authority in NDOM regulations

Administrator enforcement authority needed in certain circumstances, such as the ability to order an operator to plug and abandon a well, terminating the drilling of a well due to unsafe conditions or danger to the environment, and monetary penalties for failure to adequately satisfy an order issued by the Administrator.

Proposed changes and additions to geothermal regulations:

Eliminate provision in NAC 534A.300 that 'all' geothermal wells 'must' be logged with an electrical well log or neutron-gamma ray or similar log below surface casing. Temperature gradient, and possibly some observation wells, should not be required to run electric logs, for the expense of logging could be cost prohibitive during initial exploration drilling. Request usage of well names based on the Kettleman numbering system for all geothermal wells, except domestic and commercial (NAC 534A.330.1) Provide five years of confidential status for data submitted through NAC 534A.350, NAC 534A.360, and NAC 534A.400.

An operator must file logs with the Division within 60 days of a well's completion according to NAC 534A.350. However, NAC 534A.550 requires the operator to file logs within 30 days of the well's completion. It is recommended that NAC 534A.550 be changed to 60 days.

An issue that should be resolved in the regulations:

Are geothermal permits to be issued by the Administrator for wells proposed to be drilled in a non-geothermal resource, such as cold fresh water aquifers (commonly 55 to 65° F) where the fluid is being utilized by a heat exchanger for supplemental cooling and heating? Should a minimum proposed temperature be established for the issuance of geothermal permits? Other language will be updated as necessary.

Procedure to begin updating NAC 534A:

Form a regulation update team and prepare a draft for public workshops.

Nigel Bain: Regarding the low temperature wells, is the water returned to the aquifer? If so, then it would seem you would want to keep that in your records that someone has reinjected.

Lowell Price: Yes. We have been permitting them but not sure if they truly fall under geothermal.

Rich DeLong: on the same topic is the licensed water well driller required?

Lowell Price: Yes.

John Snow: ground source heat pumps and the domestic wells, the current policy of the Commission that has been set by resolution for domestic wells that are associated with an anomalous heat source to be within the scope of the division for permitting and those non-anomalous would not be. We definitely need to address the space heating wells that result from use of colder wells.

Lowell Price: we've interpreted that to mean that if they are using a closed loop or a trombone type system then we do not permit that type of drilling.

John Snow: we have a resolution and the closed loop ground source heat pumps default back to the county building department and or the State Engineer if they are truly going to consume any water or they are truly closed. The trombone systems are for anomalous heat systems. The other point to make a note of is the pump and dump systems in Southwest Reno. That needs to be taken a look at.

Lowell Price: most of those wells that are using pump and dump systems aren't even permitted through NDOM, they preceded the Division by some time and have never been brought into our system.

Art Henderson: on your idea of not making an electric log in the wells; I think it would be good to have electric logs on any well that's drilled. You would have a point of reference.

Lowell Price: My only concern on that is on temperature gradient wells. A lot of them might even be drilled by a small track mounted rig, just so they aren't impacting the environment on a federal lease. To bring in a logging truck and all would be quite difficult and BLM might even prohibit it. The other aspect of that is the electric logs aren't cheap and it might actually deter exploration if they have to go through that expense per well. I can see why the logging would be beneficial but I'm concerned that it would cut down on exploration activity if we enforce that.

Art Henderson: instead of eliminating, is it possible to keep the electric log and make a clause that allows people not to have to do it under mitigating circumstances. I think what information we have to gain is potentially very valuable

Lowell Price: we can operate under that, assuming that the Administrator would have the authority to waive the requirement. We could incorporate that into the revisions.

## **Motion to move forward with modifying the Geothermal regulations by John Snow**

**Seconded by Art Henderson**

**Unanimously Approved**

### **B. NDOM AML drone**

The Division purchased a DJI Phantom 4 Pro drone in August, 2017, and has been testing it to survey AML features in both northern and southern Nevada.

Rob Ghiglieri- presented a PowerPoint presentation:

Background

- USACE demonstration project in 2016
  - Flown using fixed wing UAV
  - Great results for NDEP, not cost affective for NDOM
  - Did not have live view
- NDOM purchased a DJI Phantom 4 pro+ August, 2017
  - Has live view and is affordable
- Anticipated to reduce time in inventory efforts, mainly non-hazards.

– Helps in ability to completely inventory an area

He played a video from drone use in the the Hazen area, and showed the before and after shots to demonstrate the un-inventoried AML.

He also reviewed the new Walker River State Park and the current state of AML hazards:

- Areas surrounding SP includes inventoried and undiscovered hazards
- Backfilled, Bat-compatible closures, fenced & unsecured hazards

Future Projects-

- Drone use for public relations photos and videos of closure work
- Already identified nearly 50 topo quads in 13 separate projects that need drone investigations
- Drone use to help with intern work

Next Steps

- NDOM AML staff need to receive Remote Pilot Certification
  - Certificate is good for 2 years
  - Study guide and sample test
  - Take exam January or February
- Develop drone SOP for staff
  - Incorporate drone use while staff is working with interns
- Possibly purchase second drone for LV office

Rich DeLong: My recollection is that for the non-hazard sites not inventoried currently, that using these drones has the potential to survey a remote area to be able to keep that non-hazard inventory up.

Rob Ghiglieri: yes. As we are going through and surveying, one person is using the Mesa unit and entering the information as we are going. The drone will be taking photos which are geotagged as well. We can now get photos of every site. This is the next step in inventorying an entire area instead of having it partially done.

Rich DeLong: I just want to make sure we aren't compromising any of the past work we have already done.

Rob Ghiglieri: no, not at all.

Dave Parker: how do you save the video information when you get it?

Rob Ghiglieri: Because of the large files size generated by the video, we aren't planning to take many videos

out in the field. We will mostly use the photo capability. The video's we have now will be stored on our work drive.

Nigel Bain: how much will a second drone cost for Las Vegas?

Rob Ghiglieri: with the extra batteries and all about \$2,200.

Rich DeLong: the agenda will be taken out of order at this time to accommodate 2 staff members. We ask Lowell Price and then Courtney Brailo for their staff reports.

### III. OLD BUSINESS

- A. Task Force recommendations for a possible \$1 claim fee decrease or alternative to do additional AML hard closure activities in 2018 and 2019. At the August CMR meeting, Chairman DeLong formed a task force to solicit comments from industry.

Rich Perry: went through his PowerPoint presentation:

Task force formed at August 24th CMR meeting

– Dave Parker, Nigel Bain, Rich Perry

• Task force had two conference calls to discuss reaching out to industry and claim holders for input

• Options discussed were:

– Reduce claim fee from \$10 to \$9 per claim for 2019 assessment year (Sept 2018 – Aug 2019)

– Do not reduce claim fees, leave at \$10/claim, and use funds above what is needed in budget to accomplish additional AML hard-closure work. \$1 = appx \$180,000/yr.

• Nigel Bain queried major producers and NVMA

• Rich Perry queried NMEC president Dave Shaddrick

• Dennis Bryan discussed at NMEC board meeting on 11/20.

Nigel Bain: The large scale companies support leaving the claim fee as is and take that money and put it toward the Abandoned Mine Lands program.

Dave Shaddrick (NMEC): My initial reaction was to support reducing the claim fee. Not too long ago, the Division was asking to increase the fee. I think it would be a good idea to give some of that money back for the next year. Claim fees impact explorers. Part of my job at NMEC is to promote exploration of Nevada, and it can be the hardest to do because of the costs. If in fact, there is a cost to the Division of Minerals to reduce the fee for only a year, then we shouldn't do it. But, if it can be done at a reasonable price, then it would be a good thing for exploration in Nevada.

Art Henderson: How long will it take to enact this dollar reduction to move forward with workshops and regulation changes?

Rich Perry: This is relatively simple to change the number, however it would require a public workshop, hearing and regulation change. About a 6 month process.

Art Henderson: what kind of time do we have before we see diminishing returns?

Rich Perry: Mike Visher has done a spreadsheet to show the reduction impact.

Nigel Bain: for the record the large scale mining community recognized that we infuriated the small scale miners when we raised those claim fees during hard times. We are happy to make a compromise.

Richard DeLong: Appreciates what Dave had to say about the PR portion of trying to say that Nevada has lower land costs, however the reality is that the largest portion is the holding costs from BLM fees. The \$1 dollar reduction is ½ of 1% per claim, it might actually get lost in the rounding. I do appreciate where you are coming from.

Mike Visher: presented the details of the options for additional AML hard closure work. He went through a spreadsheet. Explained forecasting, these are best guess and predictions. We showing stability of mining claim numbers for a year, then a slight decline and then we are stable again. If we decrease the \$1 claim fee, we will be looking at increasing the fee again in 2020-2025 timeframe. In the scenario 3, we show increased AML hard closures only. These are closure projects that have been priced out and are ready to go.

Rich DeLong: opened up the floor to the public.

Elizabeth Zbinden: had a question regarding the projection of the claim fees going up again in 2020-2025 timeframe.

Mike Visher: yes, that is the estimate if we reduce the fee in FY19 then we should have enough for a year.

Elizabeth Zbinden: if we did not reduce it then will you need an increase later.

Mike Visher: no, we don't think so. We don't want to have more than what our budgeted reserve is set for.

Dave Parker: the problem I'm seeing in reducing the fee, is that we will be going back and forth to the legislation time and time again. It doesn't show much credibility. We should wait until we know more.

Art Henderson: in Tonopah at our last meeting, we talked about this at length, we discussed giving this some time to see where we are at in a couple of years. I think we should increase the guidance. I'm in favor of keeping the fee and putting it toward AML hard closures. We should think of public safety, I think of the hard closures as saving lives.

Mary Korpi: I agree with Commissioner Henderson and the uncertainty of the future. This industry can fluctuate a lot. In regards to the AML side, I think we are discovering more areas that need closures and we will need more funds to do this. It's important to the safety of individuals and to the State.

Mike Visher: there has already been a Commission-approved closure recommendation for Arden that is not included in the spreadsheet costs. We are looking at high recreation areas, such as Sand Mountain and the close proximity to camping sites 10 minutes down the road. These hard closures require a full NEPA assessment, during which you have to have the biological assessment. We are fortunate to have contracts in place and we have the Department of Wildlife doing these without any additional cost to the program. And the cultural has to be done as well. Only after these assessments are done will you know how you are going to do these closures. These have already been done, and we now know what exactly need to be done to close, we are just waiting for funding.

Rob Ghiglieri: I was with the BLM yesterday and this past week and they are planning for a 56% cut to the entire BLM/AML program nationwide. We have relied on the BLM for the past 4 to 5 years for additional AML funding and also from the Forest Service. The Forest Service is looking at cuts up to 60% of their AML program funding.

John Snow: would like to see the fee money be used for AML hard closures.

Rich DeLong: I would like to echo Henderson and Korpi's comments on public safety and saving lives, this is the Division's social license for AML and we don't want to lose sight of that.

Nigel Bain: The Nevada Mining Association would support public safety and putting the fee toward AML hard closures.

Elizabeth Zbinden: is there an end in sight for AML closures?

Mike Visher: 60 years to inventory all the features. Fencing is only a temporary fix and I don't think you can project how long it would take to permanently close all the estimated 50,000 features out there.

Rich DeLong: looking at high hazards and hard closures, is there a possibility to project a shorter timeframe on that?

Mike Visher: we could project that and it would be shorter. However, it's not an efficient way to do it because if you just close the high hazard features then you are returning to that site at a later time and closing the other features next to it.

Art Henderson: I think we should keep an eye on the reserve and keep everything the way it is. My recommendation is to do nothing to change the current claim fee amounts.

**Motion made to keep the \$1 claim fee as is and put any additional revenue toward AML closures By David Parker**

**Seconded by Mary Korpi**

**Unanimously approved**

**B. Update on Mineral Withdrawal and Land bills**

Mike Visher: Went through page from Amodei website. HR1107 presented early this year but no action has been taken yet. This is the template for Washoe County. When this was first put forth Harry Reid was still in office and he said no lands bill would move forward unless there was a wilderness component to it. That still seems to be the case. He showed a few detailed maps. Wilderness Inventory Units were only supposed to be used for the Ruby Pipeline EIS to assist management decisions during actual pipeline construction not as potential wilderness areas as intimated by Friends of Nevada Wilderness. They have a map that shows these but there are no shapefiles available. Pershing County will become the template for further land bills. Getting these boundaries is really important and is the best way to communicate this issue to the legislature and county commissioners.

Rich DeLong: there is a red boundary noted on the maps, is the brown colored area within the red boundary BLM land proposed to be transferred?

Mike Visher: yes.

John Snow: on those transfers, I've heard the BLM would have the right to retain the mineral estate and sell the surface estate.

Mike Visher: this has been problematic with the BLM before and how they got into the problem with Arden.

- C. Update on Dissolved Mineral Resource Exploration regulations, including Task Force review of draft regulations. At the August CMR meeting, Chairman DeLong formed a task force to review the draft of the dissolved mineral resource exploration regulations for comment and input.

Rich Perry: CMR formed task force at August 24th meeting

– John Snow, Art Henderson, Dave Parker, Rich Perry

• Task Force met on Sept 7<sup>th</sup>, 2016.

– Reviewed the draft and made edits to produce next draft

• Successive drafts were sent to Task Force members for comments.

• June 9, 2017: A.B. 52 signed by Governor

• July 7, 2017: Regulation working group from NDWR, NDEP, NDOM began meeting weekly

• July 14, 2017: site visit to Silver Peak to witness and discuss exploration drilling.

• Aug 23, 2017: Stakeholder meeting to discuss first draft and collect input. *Stakeholders = those who testified during legislative session*

• Aug 25, 2017: Site visit to see and discuss exploration drilling in Columbus Salt Marsh

• Sep 5, 2017: 2nd draft completed

• Sep 8, 2017: 2nd stakeholder meeting for input

• Sept 27, 2017: 3rd draft completed by regulation working group and submitted to LCB for legal review

• Nov 22, 2017: LCB returns draft

• Nov 27, 2017: Request to operators and explorers sent via email to assist with small business impact study

• Public Workshop: planned for Dec. 21st 9 – noon in Carson City

Additional edits to LCB draft may be made after public workshop

• Regulation hearing for adoption of regulations before CMR tentatively planned for Feb, 2018. 30-day notice required for hearing

• Final step is adoption by Interim Legislative Commission (March, 2018?)

Note: NDOM will begin to regulate dissolved mineral resource exploration on 1/1/2018 by statute. Forms and database will be in place, web site set up.

Bryan Stockton: Spoke to how the regulations will be administered before they are done with the adoption process. January 1 NDOM has the responsibility to regulate the dissolved mineral exploration in Nevada. The Division will have to regulate based on the Statue until the regulations are adopted.

Rich Perry: The State Engineer has ceased issuing mining and milling waivers several weeks ago. So, there is already some backed up demand. We have inquiries about the new process. We will meet with Water Resources. All the mining and milling exploration waivers for wells that were being issued will expire as of about midyear next year, we will be in a transition period for about 6 months. Then we will bring our new process into action. We do have the forms already developed.

Rich DeLong: are the forms on the website?

Rich Perry: there is a draft on the website. In the next week the web-fillable forms will be available.

- D. Toll Processing and Smelting study update. At the CMR meeting in August, the Commission chose this topic for a special report in Fiscal year 2018. The Division discussed this with the NBMG and will present the plan to complete this study.

Rich Perry: Went through the scope of work.

Ore and Concentrate Tolling study for Nevada

Working draft updated 11/30/17

Final product: A publication through the NBMG

Purpose: To determine if there is a need for toll ore and concentrate smelting in Nevada

1. Research and prepare a list of the processing facilities in Nevada and their capacities if applicable and if capacities are available. (For example, capacity of a dump leach may not be applicable.) This would be the “as is”, or current case.
  - a. Precious metals
    - i. Refractory – whole ore roasters, autoclaves, thiosulfate circuits
    - ii. Non-refractory or oxide – Merrill-Crowe, oxide milling, oxide heap leach

- b. Base metals
  - i. Concentrates
    - 1. Where are they being shipped to now, at what transportation cost?
    - 2. Where are the smelters that accept toll concentrates located now?
      - a. Arizona/NM, Canada, Mexico, Asia
  - ii. SX-EW circuits
- 2. Prepare a list of the known resources within the State that might benefit from ore or concentrate tolling and production.
  - a. Precious metals
    - i. Example: higher grade resources that can pay for shipping by truck or rail
  - b. Base metals
    - i. Example: copper, Mo deposits that might be economic if they could ship to an in-state processing facility by truck or rail
- 3. Evaluate the potential for a toll ore or concentrate facility in Nevada based on #2 above. Address at a high level the following:
  - a. Is there a need for toll precious metals processing?
  - b. Is there a need for a concentrate processing in NV?
    - i. Would this be a smelter, or some other type of circuit such as autoclaving following by SX-EW?
    - ii. Is there a type of circuit that might process both precious metals and base metal concentrates and ores?
- 4. Summary and Conclusions
  - a. If a base metal concentrate processing facility is feasible, what types of downstream industries might locate near it?
  - b. What infrastructure would be required for
    - i. Precious metals ore tolling
    - ii. Base metals processing
    - iii. These would include such things as power, water, rail, natural gas, etc.
  - c. Conclusions – should ore tolling or smelting be pursued further?
    - i. What entities might be interested in pursuing this further?

Deliverables:

Task 1 – List of processing facilities.

Task 2 – List of resources.

Task 3 – Evaluation of potential for toll milling and concentrate processing.

Task 4 – Summary and Conclusions.

Mary Korpi: Knows Tom DeMull and he is absolutely qualified to do this job. Also, with this survey coming out, it would be good to get out in front of the Nevada Mining Association Board and let them know what's behind it so they are looking for it and willing to see and provide the information to everybody.

Rich Perry: I will get with Tom and meet with NvMA.

John Snow: does the PE Exclusion for the RFP also negate having to go to interim finance? It's over \$25,000.

Mike Visser: No we don't have to go to IFC, it's already an approved budget item.

- E. Update on information available and public use of open-data website
  - Lucia Patterson: Went through a PowerPoint and then brought up the internet to show the open-data web site. NDOM has been gathering active claim data from LR2000 at the end of October for the last four years. The purpose of this graph is to show claims data and statistics from the same snapshot in time. There have been a few changes to the website to accommodate topics and data sets available on the open-data site. These include lithium claims, public land withdrawals, FRTC, and sage grouse habitat. We're seeing increasing interest and use of this site.

#### IV. STAFF REPORTS

1) Oil, Gas and Geothermal drilling Permitting and Activity – Lowell Price

Lowell reviewed general OGG permitting and activities. Oil exploration activity is slow but we are seeing some renewed interest in Nevada. Geothermal exploration activity is stable with some permitting by USG at San Emidio and Ormat's McGinness Hills is expanding with a Phase 3 addition with 4 new production wells.

John Snow: on the McGinness Hills Phase 3 is that incremental 74 megawatts from 4 wells?

Lowell Price: that's correct. They permitted 4 wells that are dedicated to Phase 3.

John Snow: can you verify that?

2) Mining and Reclamation Bond Pool – Mike Visser

3) NDOM at AEMA – activities and new trade show exhibit- Courtney Brailo

Courtney Brailo: Went through the new trade show display and activities planned at AEMA.

## COMMISSION BUSINESS

A. Determination of time and place of next CMR meeting.

February 20, 2018 (Tuesday). Hearing in the morning and CMR meeting in the afternoon. No tour the next day.

B. Next Commission vote on Chairman: Q1 meeting, 2018

Rich DeLong: Wants to initiate a biennial vote on the Chairman. Would like to do the vote next meeting.

C. Biennial evaluation of Administrator by Commission: Q2 meeting, 2018

Rich Perry: Suggested the Administrator be evaluated by the Commission starting at the meeting in May. He will come up with a couple of forms but will need a couple of Commissioners to take a look at them. How I've seen these work in the past is that each form has a few questions on them that are filled out by the Commission before the meeting so there is some sort of framework. Biannual evaluation would be good to make this standard practice.

Art Henderson: volunteered to help with the forms.

Mary Korpi: also volunteered to help with the forms.

Rich DeLong: I think the HR person at the Division should compile the comments.

## COMMENTS BY THE GENERAL PUBLIC

There were no comments made by the public.

## ADJOURNMENT

3:49 pm.