

I. AGENDA



STEVE SISOLAK
Governor

STATE OF NEVADA
COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
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MICHAEL VISHER
Administrator

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COMMISSION ON MINERAL RESOURCES

Nevada Division of Minerals

Virtual meeting via Zoom

Join from a PC, Mac, iPad, iPhone or Android device: Please click this URL to join:

<https://us02web.zoom.us/j/9712825638>

Meeting ID: 971 282 5638

Pursuant to Governor Sisolak's Declaration of Emergency Directives 026 and 029, the requirement contained in NRS 241.023(1)(b) that there be a physical location is suspended in order to mitigate the possible exposure or transmission of COVID-19 (Coronavirus). Accordingly, anyone planning to participate in the meeting must participate by using the teleconference number.

Thursday, January 14, 2021

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

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. Public comments may be limited to 5 minutes for each person.

ACTION WILL NOT BE TAKEN

I. AGENDA

A. Approval of the Agenda

FOR POSSIBLE ACTION

II. MINUTES

A. Approval of the September 17 and November 16, 2020 meeting minutes.

FOR POSSIBLE ACTION

III. NEW BUSINESS

A. NMBG Project Updates

FOR DISCUSSION ONLY

An update will be provided on the Geothermal Database Special Report, Mineral Industry Report and Exploration Survey by the Nevada Bureau of Mines and Geology.
– NBMG Director Jim Faulds

- B. New NBMG Special Project Proposals **FOR POSSIBLE ACTION**
The Nevada Bureau of Mines and Geology (NBMG) will present several proposals for a Special Project. The Commission will discuss and may approve which project, if any, will constitute the Special Project funded by prior and pending agreement between the Commission and NBMG. Material information for each project has been posted online along with this meeting's notice and agenda. – NBMG Director Jim Faulds
- C. New "Stay Out, Stay Alive" public safety AML video **FOR DISCUSSION ONLY**
A summary of the contracted project, deliverables and distribution plans will be provided. – Garrett Wake/Sean Derby
- D. New LVNHM Rock and Minerals Exhibit **FOR DISCUSSION ONLY**
The Commission approved funding for the creation of a new rocks and minerals exhibit at the Las Vegas Natural History Museum. A summary of the contracted project and deliverables will be provided. – Garrett Wake
- E. CMR letter to the Governor and Legislature **FOR POSSIBLE ACTION**
Three joint resolutions passed in the 32nd Second Special Session of the Nevada Legislature which propose amendments to the Nevada Constitution revising provisions governing taxation of mines, mining claims and the proceeds of minerals extracted. A draft letter will be presented for review by the Commission in consideration of advisement to the Governor and Legislature, pursuant to NRS 513.063 (3).
- Mike Visher

IV. **OLD BUSINESS**

- A. Update of FY21 AML Enhancements. **FOR DISCUSSION ONLY**
The Commission approved five AML enhancements at its July 9, 2020 meeting. A review and update on the status of the two purchases and three contracts will be provided. – Rob Ghiglieri
- B. Recent Reclamation Bond Pool activity. **FOR DISCUSSION ONLY**
An overview of recent significant actions including two forfeitures to the BLM for funding of reclamation efforts will be provided. – Rob Ghiglieri

COMMISSION BUSINESS

- A. Review of staff monthly activity reports. **FOR DISCUSSION ONLY**
B. Set date for next Commission meeting. **FOR DISCUSSION ONLY**

COMMENTS BY THE GENERAL PUBLIC

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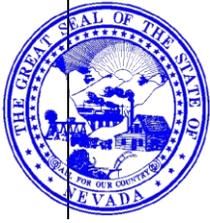
ACTION WILL NOT BE TAKEN

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 89703 or contact Sherrie Nuckolls at (775) 684-7043 or Email SNuckolls@minerals.nv.gov

II. MINUTES



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MICHAEL VISHER
 Administrator

Thursday, September 17, 2020

1:00 P.M.

MINUTES

CALL TO ORDER

1:00 PM by Richard DeLong

Richard DeLong: Reminded everyone if they're going to be speaking to please remove their mask so the recording can capture their articulation.

Commission	Staff	Public
Richard DeLong	Mike Visher	Nora Stefu, Fourth Ward School
Art Henderson	Sherrie Nuckolls	Kemba Anderson, BLM via Teleconference
Josh Nordquist	Sean Derby	Jennifer Atlas, Griffin Company via Teleconference
Bob Felder (absent)	Rob Ghiglieri	
Randy Griffin via Teleconference	Valerie Kneefel	
Nigel Bain	Lowell Price	
Mary Korpi	Courtney Brailo via Teleconference	
	Garrett Wake via Teleconference	
	Rebecca Ely via Teleconference	
	Debbie Selig via Teleconference	
	Anthony Walsh, DAG via Teleconference	

COMMENTS BY THE GENERAL PUBLIC

Nora Stefu, Executive Director, with the Fourth Ward School Museum spoke about the museum's mission statement, goals and continued partnership with the Division of Minerals in developing activities as well as exhibits; she thanked the Commission for their consideration and support.

Rich DeLong: Thanked Nora for hosting the meeting.

PLEDGE OF ALLEGIANCE

Led by Richard DeLong

I. AGENDA

A. Approval of the Agenda

Motion to approve the amended agenda made by: Josh Nordquist

Seconded by: Mary Korpi

Unanimously approved

II. MINUTES

A. Approval of the July 9, 2020 quarterly meeting minutes

Mary Korpi: Under Section III. D. the Impact of Monthly Oil Assessment Fees, the highlighted portion of motion proceed with rulemaking, it says reducing administrative fee from .15 cents to 0.5 cents, it should be .05 cents per barrel.

Motion to approve the agenda as edited made by: Nigel Bain

Seconded by: Josh Nordquist

Unanimously approved

III. NEW BUSINESS

A. **2019 Nevada Mineral, Oil, and Geothermal Production**

Mike Visher reviewed a handout of the 2019 Major Mines of Nevada publication that was published this week; he thanked Lucia Patterson who took the lead this year on this publication. Mike then provided a PowerPoint presentation that included production by operators, new operations for 2019, gold, silver, and copper productions, industrial minerals produced including barite, limestone, other industrial minerals produced in 2019, oil production, and geothermal production.

Rich DeLong: I have one comment about the graph, it's in black and white and really hard to see, doesn't communicate much.

Mike Visher: There's only one color page and that's in the center of the map, it's a significant cost increase for that color part, we can look at alternate ways to display the information.

Rich DeLong: You might consider not doing the graph or do it some other way because it doesn't really present well.

Mike Visher: Ok.

B. **Nevada Legislature Special Sessions I and II**

Mike Visher gave the Commission a summary overview of the three Joint Resolutions that were passed at the recent second special session of the Legislature:

These happened really quickly without much discussion or input because of how they managed the Legislative session due to the pandemic. There was not much opportunity for the public to interject especially when so much of it occurred after hours, in the evenings or early morning hours. Three joint resolutions, to change the Nevada Constitution, that passed along more or less party lines. I included the language, as well as, who voted so you could see the breakdown. In summary, AJR1 and SJR1 replaced the 5% cap rate on net proceeds and with a rate of 7.75% on gross proceeds and removes all County appropriations. For the counties this is bad news, for the industry it's even worse news. The fund distributions between the two differ a little bit in that AJR1 allows for a 25% of the revenue be reserved for educational purposes. Under SJR1 50% would be reserved for payments to certain Nevada residents, similar to the Alaska Oil Revenue distributed to residents, but the details are not provided. These are pretty broad resolutions and in order for these to move forward, they have to be voted on again at the next session. If one or more of these proceeds on and moves forward, they are changes to the State's Constitution so they have to be approved by the vote of the public which would occur in 2022 and would take effect in 2023. Both of those resolutions also eliminate the constitution language of how patented mines and unpatented mining claims may be taxed, thereby potentially opening the door for taxes on either or both patented mines or unpatented mining claims. This is really problematic for the industry. From the agency's perspective, this is going to be really difficult because this is the bulk of our revenue. That's where we get our fees that allow us to operate. Something like this may be akin to what occurred when the maintenance payments were initiated, resulting in a 40% reduction of the number of mining claims in the state. That will have a detrimental effect on the state but also our agency.

Assembly Joint Resolution Two (AJR2) maintains the current net proceeds calculations but increases the cap from 5% to 12%. Listening in on the discussions with the Nevada Mining Association at their policy meetings, they've had some discussions with legislators and they're looking at potentially a tiered tax structure. Such that, operations that produce less than 10 or 20 million dollars gross would not be effected by this change but those that produce more, the larger operations, would be taxed at a higher rate, not necessarily all the way up to the 12%. Again this is the constitution, and the Legislature could increase that rate and does not require that 2/3rd majority to change that, only to bring it down.

The way the language reads right now is a simple majority could increase the cap but 2/3rd majority are required to lower it. I think there are certainly some legislators that just don't have any interest in hearing what the industry has to say and don't really understand the impacts. It's going to be very important for all of us that are impacted by the industry to get the message out to the legislators and make sure they're informed about potential impacts. Lucia took it upon herself one weekend, when this was occurring, to sift through the Department of Employment, Training, and Rehabilitation database to look at the wages generated by the mining industry by county and display that in a graphical sense so that you can see which counties are impacted the most. The employment numbers, I think that's going to be the key. Dollars mean one thing but people and employment mean another regardless of which side you're on. I think the employment side of things is going to be important to educate people about. We have been working on that but, there are some nuances in their database making it challenging to get the correct information generated out of it. What I'm anticipating is putting more information like this on our website so that stakeholders could take that information and modify it to generate the message that they as individual stakeholders want to portray. Again, as we've done in the past, we are kind of an information store and I want to make that information available through our various programs. I think it's important we get started getting that message out. The only reason I left this as a possible action item is whether the Commission would like us to pursue a certain path? Whether the Commission wants to take a different tact or submit something in writing to the Legislature? It can be something we continue to discuss but I think it's something that's very important; it has a big impact to our agency, the industry, and the state, especially the rural communities that count on mining. They'll be doing their part but we need to continue to do our part. We have a vested interest obviously with this being our single largest revenue source, mining claim fees. Any increase on the tax will have a negative connotation to the industry and how we compete with other jurisdictions around the world. I don't see this increasing our Fraser survey ranking, this will only make it go down. It's going to be a challenge especially in this year where everything is being done remotely, presentations, and conferences are all virtual. PDAC still hasn't committed if it will be a hybrid or all virtual, it's not going to be in all in person like it's been. That makes it that much more challenging to get to get to people to communicate with them. We're going to have to think of additional ways to communicate to get the message out, a little out of the box. Akin to all the things we've been doing since March, how people communicate now how to get the message out, the use of digital platforms and continue to provide information that our stakeholders can use. I'm interested in hearing the Commissioners thoughts.

Rich DeLong: Question about the process to amend the constitution, my understanding is same resolution needs to be voted on twice by the legislature in consecutive sessions then by the public and all three languages have to be the same, is that correct?

Mike Visser: I thought the same thing at first but it doesn't make any sense as why there would be discussions about adding language to the resolution. Maybe Tony would be able to answer that question in regards to the process.

Anthony Walsh: Actually a little hesitant to get us off on a footing that an actual action is taken on this item today because we would basically want to have that fleshed out as to what the Commission would like to take and have that agendized. So leaning forward recommending that this be restricted to discussion just for this meeting, and then we can flesh out an agendized item for the next meeting and what specific action the Commission would like to take for a vote.

Rich DeLong: Depending on what we can "discuss now" having the Division work on and have at the next meeting, not making a decision now could be problematic given the timing of our next meeting relative to when the Legislature is meeting and the need to do some education up there. Our next meeting is tentatively planned for the middle of January and the session starts early February. Tony, if we can however have a discussion today and allow the Division to pull together information that may still work. What I'm thinking of is maybe at the next meeting we approve the Commission to prepare a letter on behalf of the Commission because it's our job to promote the industry to the legislators. How we deliver that message and letter we can then discuss. I would also think that that letter could and should and would include information that the Division could compile to help demonstrate or illustrate the potential effects on the industry and thus on the state. I would love to hear from other Commissioners.

Nigel Bain: The Commission was created to encourage and promote mineral development in the State of Nevada. We should put out some kind of statement; I think the people on the Commission have some understanding for their jobs. What's the best way to proceed with a letter or a meeting with some of the legislators, I'm not sure. I would like to have a discussion about that.

Mary Korpi: We're more of a standalone organization, Commission vs. Nevada Mining Association vs. AEMA or whatever I'm sure they're all having intense discussions on this and putting together a strategy on how to handle it. I think we are

perceived to be more neutral than they would be since their members are typically members of the mining companies so we've got to keep separation, but at the same time we don't want to be counter to what their efforts are. Plus I think we can get good information from them so I think staying in sync with them is important not necessarily always partner to partner. We need to have our own position. As far as meeting with individuals we need to have information and data because that's about the only ways it's going to be driven to the people that don't understand the business. If there's any way to relate it to another business that they're familiar with and what this could mean to those businesses it might be a good comparison. Heavy gaming counties we impact them like that and what it would be, maybe that's one way to inform a legislator. We need to have a statement, absolutely. Whether it's a letter or something for the record. With a letter you can send it to all of the legislators. Again I think we need to make sure with Tony involved and with Mike and your association with the Governor's Office I think we need to keep those communications channels open too so they know what we're doing and not blindsided, I think that would be important.

Nigel Bain: There is a petition going around in Reno for funding education and basically that the Gaming industry should have to pay their fair share. It's another thing that's going on. It's just one step behind these bills.

Josh Nordquist: I would agree it's very good to have both, a statement from the Commission because our job is to inform the Governor and Legislature on the impact of legislative changes. As well as, providing data we have, whether it's an economic impact report or some other work that could put the factual information out there for both legislators and other organizations to use. It behooves us to put the facts out there, so the right conclusions could be made, making our recommendation or our informative stance for the Governor and Legislature.

Rich DeLong: Reading NRS 513.063.3, the Commission shall advise and make recommendations to the Governor, the Mining Oversight and Accountability Commission and the Legislature concerning the policy of this State relating to minerals. So us informing the Legislature about what we believe is in the best interest of the State related to minerals we've been charged with that by the Legislature. I certainly view this as absolutely in our duties. Tony, does taking an approach of working with the Division between now and the next meeting on putting together information and text that could be used by the Commission by the next meeting to formulate a letter or position paper do you view that as proper?

Anthony Walsh: Yes, if the Commission actually decides to move forward with a letter, that should be a specifically agendized item for a potential special meeting.

Rich DeLong: If the rest of the Commission are inclined, my suggestion is we have staff, the Division, work on that documentation text and then I'll work with Mike on deciding if we have a special meeting before the end of the year, and have that agendized discussion decision or if it can wait until our next regular schedule meeting.

Anthony Walsh: I believe that would be the most protective pathway for the Commission on this approach.

Art Henderson: I think the key to this should be based on the results of the November 3rd general election. Then we'll know which direction we really have to go. I think we should be prepared, if we do need a special meeting a week or so after the election we need to do that.

Rich DeLong: Mike, that puts us on track in early November with pulling things together.

Art Henderson: So we don't need an action item?

Rich DeLong: No, if there is an action item it would be at our next meeting whether it's our regular one or a special one and then it would specifically be agendized.

Anthony Walsh: I believe also that any draft the letter language we want to present is added as a supporting document for that meeting so it can be reviewed in the open.

Rich DeLong: Yes.

Art Henderson: I'd like to ask Mike a question about the letter from Kirkwood Oil & Gas, they said they sent this by email but I didn't see it, did that email come to you or to the Division?

Mike Visher: It came to the Division.

Art Henderson: We should reply to Mr. Degenfelder, you and I can discuss it next week.

Mike Visher: I'll draft up a letter.

Art Henderson: He sent a lot of letters to us during the fracking.

Rich DeLong: I'm sorry what are you referring to?

Art Henderson: The letter from Kirkwood Oil & Gas.

Mike Visher: It's the very last document in New Business III. B.

Art Henderson: Sherrie probably sent it to me but I never saw it until the binder came in the mail. I think we should reply to them because they've been very active during our hydraulic fracking regulation development and we always did reply to them when they wrote us. So I don't think it's so late now to reply to them in September. Together Mike and I can reply because we don't want them to think that they're not heard. They did copy the Governor on the letter and some County Commissioners so we should reply and copy them.

Rich DeLong: And I'm assuming the letter would come from the Administrator.

Art Henderson: Yes, I think so; he wrote it to me but we can probably co-author it together, if that's acceptable to you?

Rich DeLong: Yes.

Nigel Bain: That letter has the same illustrative arguments that the gold companies have depending on which bill ultimately succeeds to being passed; you could put gold mines out of business.

C. Agency Education and Outreach in the New Normal

Rebecca Ely provided a PowerPoint presentation of how the agency's outreach efforts are adapting during the pandemic which included modified digital Lessons in Support of Distance Education; Connecting Hands Offering Lifelong Learning Adventure (CHOLLA); Classroom Cast, Vegas PBS; Clark County School District (CCSD) Learns – Summer Connection; Virtual Teachers Workshop; and moving forward.

Mary Korpi: Great work; this is such a challenge for kids, parents, teachers, and all kinds of educators. I saw in the paper where in Elko County their enrollment dropped by up to 17%, because there's so many parents who are now homeschooling. I don't know enough about how homeschools get their curriculum but is there a network of homeschoolers that we could outreach to?

Rebecca Ely: I've actually thought about the same thing, I don't know if there's a network of homeschoolers. I am aware of some social media pages for families to go an alternative route for the traditional schooling for the year. That might be a good page to join as a parent myself and share our resources on the social media.

Mary Korpi: Just a thought, thank you.

Rebecca Ely: That was a great question, thank you.

Rich DeLong: Just a follow-up on the homeschooling issue, from my experience I know there are a number of homeschool networks that provide curriculum to parents that are conducting homeschooling so they are out there.

Nigel Bain: Clark County School District is still out and I think it's going to force more parents into that homeschooling network where the kids are going to fall behind. Can we supply outreach to some of those networks?

Art Henderson: Homeschooling and home learning is a really important subject, at least to me from an engineer's standpoint; if you miss the basics you can go to 12th grade and not know a thing. I would like to friendly challenge everyone here to try and make a difference. Every day at 2:00 pm I tutor second graders by Zoom to help them know their multiplication tables and every day I take that time for one hour. I promise you, these second graders go to third grade and 4th grade and if they don't know, no one is going to take the time to teach them. If you have the time, we're a small group that maybe could help ten people, those ten people really need it, I teach with Wooster students. Please try to reach out, it's not an easy task for the teachers either and I know they mean well and try to corral the kids but it's difficult.

Mike Visher: Garrett and Becky have started using a scheduling software to allow them to invite teachers to sign up when they want them to virtually present to their classes. Within a day they'd gotten almost 20 requests, in one day. They're already booked for the first month. Part of the innovation is trying to figure out how to do this, or how do we get them to say we want you to do something, but it can't be by email. This is an online scheduling platform that allows you to do that, you pick the day and can restrict the dates. They're only making it available Tuesday through Thursday so they have Monday and Friday to get caught up on other things but the demand is there. My hat's off to the staff in figuring out how to actually do this when we can't see the kids in person. These virtual presentations in the manner they're presented are not going to be much different from in-classroom presentations. Yes, you're not going to know what they're seeing on the other end but I guarantee just like any classroom when a visitor shows up that visitor gets more attention than the teacher because they're new. This is another way we can still do that, and thank you to Garrett and Becky for finding another way to get the outreach information out there.

IV. OLD BUSINESS

A. Presentation of agency submitted budget for Fiscal Years 2022/2023

Valerie Kneefel went over a PowerPoint presentation of the budget process which included timelines for FY 22/23 budget; biennial budget cycle; major budget elements with revenues, expenditures and reserves; FY base year information; general budget rules. Valerie included the budget checklist with the certification letter signed by the Commission Chairman and discussed the budget process outside the agency's control.

Mike Visser: Valerie spent a lot of time juggling because we hadn't closed the budget yet. We start the process but we still have three months to receive money and fulfill obligations. When it gets down towards the end of July we are trying to close but there's still stuff coming in that we know of. This could be monies from the counties for the prior fiscal year or the unanticipated expenditures from the programs that all of sudden pop up out of nowhere that you can't plan for. She's constantly trying to keep track of each of the categories for the money coming in, and the money going out, so there aren't any surprises. For the budget submission, we have to document and justify every single thing and now it gets looked by two different agencies. They get to review it to ask where in your statute does it say you should be doing this, and how did you come up with this number? Some of the things we submitted as action items to the Commission so we had the justification for the expenditure that we were planning would occur in 2022 and 2023 like the AML enhancements. The documentation and justification of why that's in our budget as an M-150 came from the CMR minutes. We'll still get questions, without a doubt, and they'll be questions from individuals and Legislators that LCB will push forward, that maybe don't understand our program. Were fortunate again that we are fee funded, and that our total account isn't all that much. It's not going to rescue anybody. We go through the same process as all the other agencies. Mike thanked Valerie for all the work and extra hours she put in and knows she's thankful it only happens every other year.

Rich DeLong: Mike, can you give us an update with EITS, where that's going regards to our connectivity?

Mike Visser: Regarding the network transition and costs going forward, we submitted an RFP for the contracting for the desktop and internal network support that EITS cannot provide us in this fiscal year. They may be able to next biennium, but not this one. We had to put out an RFP for a contract and we are finalizing the signatures on that contract with CTS which is a statewide vendor and EITS is familiar with them. We have the quotes for the equipment, so once we have the contract signed and submitted to the clerk of the board we'll put in our request for the equipment purchases and it will take up to 120 days to receive and install those. Some of the installation will have to be done by these contractors and some will be done by EITS. EITS has a number of branches within it; they're a large organization with silos of very specific tasks. We have to communicate with each of them, there isn't one person managing everything we want. It could be around the end of the year before we transition off of the Division of Industrial Relations' network. They are still providing support as needed. I contact their Deputy Administrator and then he will contact their IT staff, we can't contact them directly. That happened today when Lucia could not access her VPN and it took all day until she was able to get the needed support from Industrial Relations' IT staff to assist her. There are things we don't have any control over that we need to get help on but the plan is that sometime early next year there will be a standalone network that we'll be maintaining or paying for either through EITS or contractors. It definitely increases the cost and it's unfortunate but that's the way it is. Maybe it's a good thing that were in charge of our own destiny and we'll find efficiencies going forward to add on to the way we communicate and exchange data that we wouldn't be able to if we were piggybacked on other agencies networks.

Rich DeLong: Are we also switching from a microwave connection to a T1 line?

Mike Visser: Yes, so the building is already equipped with fiber optic so we'll be moving off the microwave so that should help with some of our Zoom issues we're having in the office.

B. Fluid Minerals Activity Update

Lowell Price went over a PowerPoint presentation regarding an update on oil, geothermal, and dissolved mineral resources exploration permitting, production and well inspections in Fiscal Year 2020, a review on current activities and an update on the NAC 522 rulemaking status.

Rich DeLong: Are we moving the hearing to the mid-January meeting?

Mike Visser: No, I would prefer to do a meeting, if we can, in October. We can do that virtually, we just need a quorum. We could schedule the workshop and post notice for that and the hearing. The hearing requires a 30 day notice so we

could notice those at the same time with the workshop in early October and the hearing in the end of October or early November.

Rich DeLong: What's the lead time on the workshop, it is 10 days?

Mike Visher: 15 days. Regardless of when it's approved at the CMR hearing we have to wait 35 days from that date before it goes to the Secretary of State. Then it's effective unless it's stated as earlier in the temporary regulations it expires November 1 of the following year, so close to a year. If the production was similar to 2019, it would be about \$26,000 savings to the operators, but it will likely be less than that due to the production decreases we're currently seeing. It will certainly still be appreciated.

C. AML Program Update

Sean Derby and Rob Ghiglieri gave a PowerPoint presentation including Intern Statistics, AML contracts, Annual AML Mail Out, and Software Developments.

Mike Visher: One question for Sean, do you have a general idea the number of the notifications that came back as undeliverable?

Sean Derby: There are about 35 that came back.

Mike Visher: I bring it up because it's one of the challenges we've always had in notifying claimants, the records are what they are and what's available at the BLM or the County, they could be up to a year old. A lot of junior companies and entities change their addresses every six months or less. It's a cost incurred by the program and requires an additional amount of research which is not something that can be automated. There's always going to be that 5, 10 or 15% that were constantly trying to track down. We've had some discussions about: do we continue to try and find these and research them or if they're higher priorities just go to secure them as proactive securings? And follow up with a notification down the road. It's a cost-benefit analysis thing.

Sean Derby: Just under 10% at this point.

Randy Griffin: Mike, regarding AML, when I first joined the Nevada Mining Association (NvMA) they used to announce a program in the spring, we had people like Cashman Equipment and Lhoist, who used to do it although I don't think they'll do it anymore, where they would donate peoples' time such as dozers and operators or something like that with equipment, they could close mines, is that still going on now with you guys?

Mike Visher: I think the question you're asking is do you still have the opportunity to help out with closures. The NvMA used to do that, it was quite a while ago, where the NvMA would pick up the tab for fuel for the dozer, the dozer was donated by Cashman Equipment, a transport company provided transport free of charge, a mining operation donated the dozer operator, and we'd work as a team performing hard closure backfills on public land that BLM authorized. That fell away with the concern about inheriting some of the liability and some of the members of the Association, as well as its President at that time, did not want to increase any liability to the Association by being part of that program. It would be nice if we could get back doing something like that because it was really beneficial, and a good project that showed what could be accomplished with multiple agencies and multiple industry partners. We've just got to get to that comfort level with regards to Good Samaritan. How we can get there, I'm not quite sure. I welcome the opportunity to have a discussion to further that along.

Randy Griffin: Just about everyone has turned over at the NvMA except for Mary Kay Cashman and myself. I'm going to be, as you know, leaving pretty shortly. It might be good if you touch base with Tyre Gray and see if he would bring it up in a meeting to see if anyone is interested in this. Like Nevada Gold Mines or some of the bigger companies up there, I can't believe you can't get anyone to donate a dozer or an operator or both for a few trips out to somewhere.

Mike Visher: I think that's a good idea especially when, for some of these projects, the cost is getting the equipment out to the site if we could use a nearby mining operation that would offer their equipment would be awesome. It would cut down on some of the costs and demonstrate environmental stewardship, helping in their neighborhood, working on projects that benefit the community. I think there is a story that could be told and we can reach out and see if there's a capacity or interest within the Association to move forward with that again.

Randy Griffin: One other thing, not just the Association, Steve Cochran with Cyanco, I think he's still the Vendor Committee Chair, there's a lot of companies there, 250 or 300 vendors, they're not directly involved with mining, trucking companies and equipment companies and things like that, kind of corner him and see if those guys would be willing to help out a little bit with it, just a couple of ideas there.

Mike Visher: Thanks Randy.

D. Las Vegas Natural History Museum Exhibit Update

Garrett Wake provided a PowerPoint presentation showing a progress report on the exhibit since the last CMR meeting which included Design & Fabrication, and production timelines. The exhibit should be finished and delivered to the museum by the end of December 2020.

Art Henderson: Is the museum open?

Garrett Wake: Yes, they are open.

COMMISSION BUSINESS

Mike Visher stated the staff reports are included in the Commission binders for review.

A. Review of staff monthly activity reports

Mike Visher stated he provides an Executive Summary to the Commission but the staff prepares monthly reports and only some of the information is included in the executive summaries. He is trying to provide a better representation of what the staff actually does month by month so the Commission has the opportunity to review them and see what everyone's doing, maybe there'll be something that piques the Commission's interest that is not part of the executive summary, they'll have the opportunity to ask questions of the staff or Mike.

Rich DeLong: The idea is to keep doing this on a continuing basis?

Mike Visher: Yes.

Art Henderson: Mike, this is all public record, correct?

Mike Visher: Yes, it's already sent out to our distribution list, and includes anyone who has expressed interested, gets it by email, including the Governor's Office. I felt a little remiss in not providing it to the Commission, I try to get the executive summary down to a few pages rather than a long summary.

Art Henderson: Maybe it's better to add the Commission to the distribution list and not distribute this so widely, but I don't know and I am asking you that question.

Mike Visher: It shows the work staff does on a daily or weekly basis that doesn't necessarily manifest at the Commission meeting; it's a chance for the Commission to see how busy they are..

Art Henderson: It's just so much information.

Mike Visher: It is but this is how much gets done, we have a very productive group and I want you to see that. You can choose to look at it or not but that's for you guys to decide.

Art Henderson: I think there's more communication to the Commissioners now, I think it's good and I like it.

B. Next Commission Meeting will be Thursday, January 14, 2021 with the location to be determined.

COMMENTS BY THE GENERAL PUBLIC

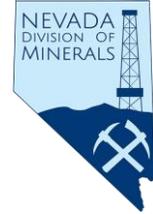
Rich DeLong: The UNR Board of Regents voting today and Brian Sandoval is the new UNR president.

ADJOURNMENT

3:44pm



STATE OF NEVADA
 COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
 400 W. King Street, Suite 106
 Carson City, Nevada 89703
 (775) 684-7040 • Fax (775) 684-7052
<http://minerals.nv.gov/>



STEVE SISOLAK
 Governor

Las Vegas Office: 375 E. Warm Springs Rd. #205, Las Vegas, NV 89119
 Phone: (702) 486-4343; Fax: (702) 486-4345

MICHAEL VISHER
 Administrator

Commission on Mineral Resources
 Special Hearing
 Monday, November 16, 2020
 1:00 P.M.

MINUTES

Commissioners via Zoom Conference	Staff via Zoom Conference	Public via Zoom Conference
Rich DeLong	Mike Visher	Edith Duarte, Strategies 360
Mary Korpi	Rob Ghiglieri	William Horne, Strategies 360
Art Henderson	Lowell Price	
Josh Nordquist	Courtney Brailo	
Nigel Bain	Sherrie Nuckolls	
	Anthony Walsh, DAG	

CALL TO ORDER

1:00 PM by Richard DeLong

COMMENTS BY THE GENERAL PUBLIC

None

Rich DeLong: Gave a description of the proposed NAC 522.342 temporary change.

Mike Visher: Provided a PowerPoint presentation that included the background of the NAC 522 regulation change, he reviewed the 2019 Nevada oil production in the state and gave a summary of the workshop that was held on October 27th.

Art Henderson: We held the fee workshop and we received a very favorable response from industry; I believe they are very pleased that we support them. I think this temporary relief can only benefit the oil and gas industry, they must be suffering tremendously and I'm very much in favor of adopting this temporary measure.

Rich DeLong: Any other input from the other Commissioner members?

Mike Visher: Commissioner DeLong, we did have two people join the meeting while I was giving my presentation, you might want to provide them the opportunity if they wanted to comment on the regulations during the hearing.

Rich DeLong: Do either members of the public have any public comment regarding these specific regulation changes?

William Horne: I don't have any questions at this time.

Edith Duarte: I do not, thank you.

Josh Nordquist: Just a point of clarity, the only change in the regulations would be in NAC 522.342 and just changing from 15 cents to 5 cents, no other changes at this time, correct?

Rich DeLong: That is my understanding.

Mike Visher: That is correct

Anthony Walsh: Yes, I concur with that.

Art Henderson: I'd like to make a motion that we approve the emergency regulation to lower the fee on the oil and gas from the 15 cents a barrel or 50,000 cubic meters to from 15 cents to 5 cents.

Rich DeLong: I would like to add a clarification, Art Henderson said 50,000 cubic meters but I believe its 50,000 cubic feet.

Art Henderson: Yes, cubic feet. Thank you.

Mike Visher: One additional clarification, Chairman, it's a temporary regulation not an emergency regulation; there is a distinction between the two.

Mary Korpi: I second the clarified motion.

Rich DeLong: Any additional discussion? Hearing none, all those in favor of the temporary regulation approval signify by saying aye.

Art Henderson, Josh Nordquist, Mary Korpi, Nigel Bain, Rich DeLong: Aye.

Rich DeLong: All those opposed say nay. (Zero nay votes were cast)

Rich DeLong: The temporary regulation change passes unanimously.

COMMENTS BY THE GENERAL PUBLIC

None

ADJOURNMENT

1:12 P.M.

III. NEW BUSINESS

III. A NMBG PROJECT UPDATES

INVENTORY OF STRUCTURAL SETTINGS FOR ACTIVE GEOTHERMAL SYSTEMS AND LATE MIOCENE (~8 Ma) TO QUATERNARY EPITHERMAL MINERAL DEPOSITS IN THE EXTENSIONAL TO TRANSTENSIONAL BASIN AND RANGE PROVINCE OF NEVADA

James E. Faulds¹, Mark F. Coolbaugh¹, and Nicholas H. Hinz¹

¹Nevada Bureau of Mines and Geology, University of Nevada, Reno, NV 89557

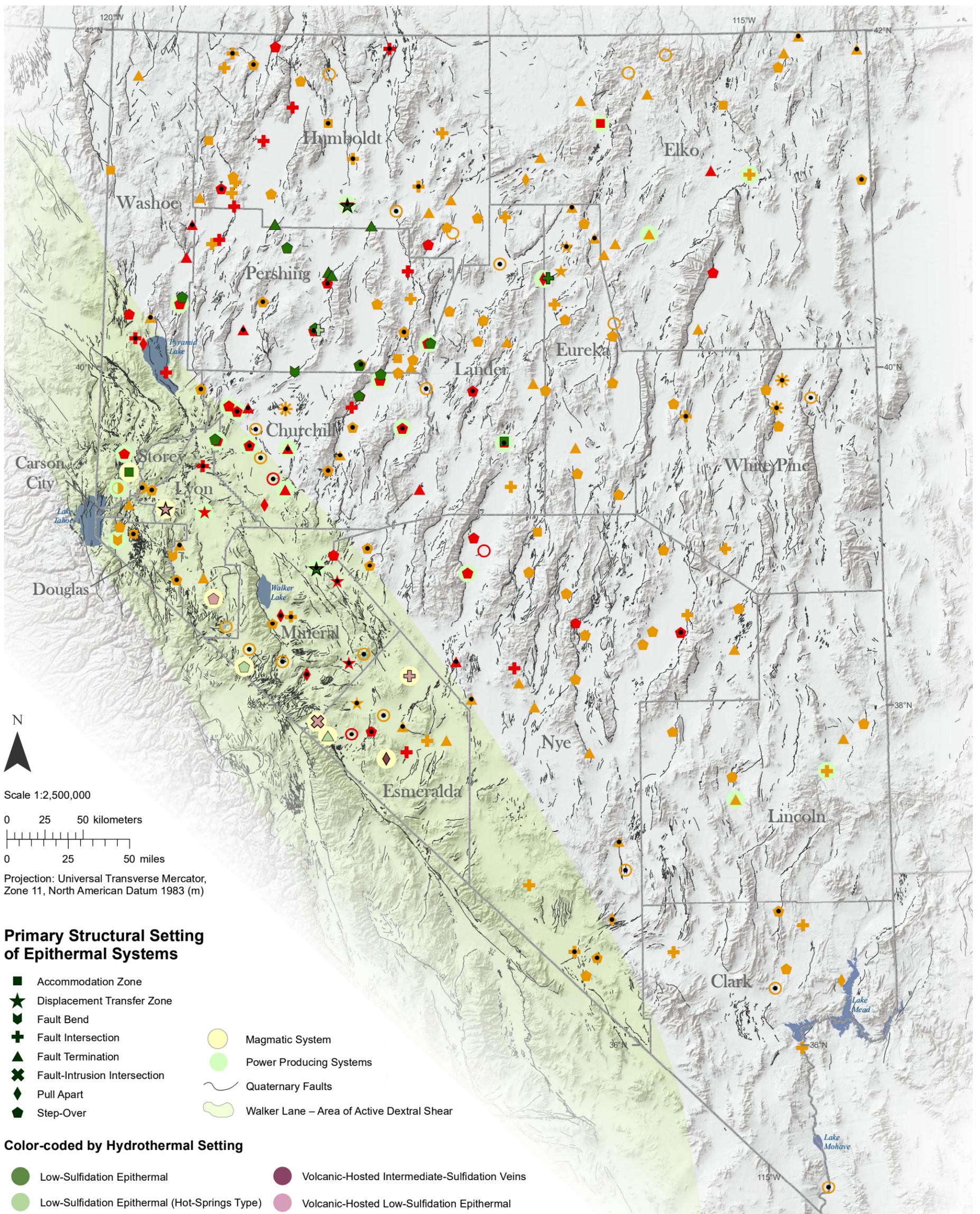
ABSTRACT

We have completed a comprehensive inventory of the structural settings of known geothermal systems (>200 total; $\geq 37^{\circ}\text{C}$) and late Miocene (~8 Ma) to Quaternary epithermal mineral deposits in the extensional to transtensional region of Nevada. The structural settings are important to characterize because many geothermal systems and epithermal mineral deposits are hidden beneath the surface, and thus these settings can be used as an exploration tool to find new systems or deposits. Of the known geothermal systems in Nevada, for example, ~37% are blind or hidden (no surface hot springs or fumaroles).

We catalogued geothermal systems into eight major groups, based on the dominant pattern of faulting. Of the ~213 known systems in Nevada, we found that step-overs or relay ramps in normal fault zones are the most common setting, hosting ~39% of the systems. Step-overs are characterized by multiple, commonly overlapping fault strands, increased fracture density, and thus enhanced permeability. Other common settings include a) normal fault terminations (~24%), where horse-tailing generates a myriad of closely-spaced faults and thus increased fracture permeability; and b) fault intersections between normal faults or between normal faults and transverse oblique-slip faults (~20%), where multiple minor faults typically connect major structures and fluids can flow readily through highly fractured, dilational quadrants. Less common settings include: a) accommodation zones (~5%); b) displacement transfer zones (~4%) at the ends of strike-slip faults; c) pull-aparts in strike-slip faults (~4%); d) bends in normal faults (~1%); and e) major range-front normal faults (~1%). Pull-aparts and displacement transfer zones are more abundant in the transtensional western part of the region within and near the dextral shear zone of the Walker Lane. Quaternary faults typically lie within or near most of the geothermal systems. Controlling faults in the systems most commonly strike north-northeast (~55% of systems) approximately orthogonal to the regional extension direction. Northerly striking faults (~N10°W to N10°E) are also relatively common and serve as the primary controlling structure in ~33% of the systems.

Most late Miocene to recent epithermal mineral deposits in Nevada occupy similar structural settings. Step-overs are the most common type of setting, followed by fault terminations, accommodation zones, and displacement transfer zones. Similar to active geothermal systems, the formation of epithermal deposits is favored by complex structural settings. These data can be used to guide exploration strategies, because economic concentrations of precious metals typically occupy only a small percentage of their respective districts.

The favorable structural settings for geothermal systems and epithermal mineral deposits (e.g., step-overs, fault terminations, and accommodation zone) correspond to long-term, critically stressed areas, where fluid pathways more likely remain open in networks of closely spaced, breccia-dominated fractures. Hydrothermal systems are rare along the main segments of normal faults due to reduced permeability in zones of clay gouge and periodic release of stress in major earthquakes. Accommodation zones, displacement transfer zones, and pull-aparts are disproportionately associated with higher temperature and/or power-producing geothermal systems. These settings appear to be especially favorable for enabling fluids to circulate to and from relatively great depths (up to 5+ km). Notably, many higher temperature systems are hybrids containing more than one type of favorable setting.



Primary Structural Settings of Active Geothermal Systems and Late Miocene (~8 Ma) to Quaternary Epithermal Mineral Deposits in Nevada

2020

ATTACHMENT A

Scope of work for contract between the Nevada Division of Minerals and Nevada Bureau of Mines and Geology (NBMG)

NBMG agrees to complete the following work in fiscal years 2020 and 2021 in cooperation with the Nevada Division of Minerals and Commission on Mineral Resources. NBMG serves as the state geological survey and is a public service unit of the University of Nevada, Reno. State statutes require that NBMG “serve as a bureau of information and exchange on Nevada’s mineral industry, mineral resources, and geology”. The projects will produce reports or make available data on Nevada’s mineral and energy resources, which help to stimulate exploration and development in Nevada. The total request is for **\$180,000** (\$90,000 per fiscal year). Four primary continuing projects are proposed. Table 1 provides itemized budgets for the projects in each fiscal year.

Project 1 – Sample Curation (\$20,000 per year): The GBSSRL serves as a repository for oil, gas and geothermal (OGG) well cuttings and well logs. Specific deliverables include:

- Cataloguing and curation of all new OGG well cuttings and core.
- Digitizing oil, gas, and geothermal well logs into a searchable database
- One annual report listing the cuttings and well logs that have been archived and digitized, including any back-log.

Project 2 – Publication of the annual Nevada Mineral Industry Report (\$35,000 per year): NBMG produces an annual report on activities of the mining and energy industries in Nevada. Specific deliverables:

- Nevada Mineral Industry Report in each fiscal year by December 1 each year.
- Update the Active Mines and Energy Producer Maps by November 15, 2020 (every other year).

Project 3 – Exploration Survey (\$35,000 in FY 2021): This project involves preparing a fourth edition in FY21 of exploration activities conducted in Nevada. Funds will be allocated toward a survey of mineral and geothermal exploration completed by companies in 2019/2020. Periodic assessments are critical for defining industry trends, which will provide insights into future economic impacts on the State. In addition to a traditional survey being distributed to mining and exploration companies, information on exploration activities and expenditures will be compiled from company websites and stock exchange filings. Specific deliverable:

- Report will be completed prior to the 2021 legislative session (by February 1, 2021) and thus available for consideration for any resource-related legislation.

Project 4 – Geothermal Database – Special Report Requested by CMR (\$35,000 in FY 2020): NBMG will organize, review for quality assurance, and publish a dataset on the structural settings of both active geothermal systems and late Miocene to recent epithermal mineral deposits in Nevada. The data will be released through the NBMG open data site as an interactive web map and relational database. Specific deliverable:

- NBMG map and report on the structural settings of geothermal systems and late Miocene to recent epithermal mineral deposits by June 30, 2020.

Table 1. Budgets for Proposed Projects

Fiscal Year	Project 1 Sample Curation and Well log Scanning/ Database	Project 2 MI Reports	Project 3 Exploration Survey	Project 4 Geothermal Database	Total
2020	\$20,000	\$35,000	--	\$35,000	\$90,000
2021	\$20,000	\$35,000	\$35,000	-	\$90,000
Total – Each Project	\$40,000	\$70,000	\$35,000	\$35,000	\$180,000

III. B NEW NBMG SPECIAL PROJECT
PROPOSALS

Commission Study-Report(s) by Nevada Bureau of Mines & Geology FOR POSSIBLE ACTION

NBMG has prepared three topics as options for the Commission to consider, as presented by NBMG Director Jim Faulds:

1. Geologic Map and Report of Railroad Valley, Nye County (Total Cost: \$35,000).
2. Report on the 3D Stratigraphy, Structure, and Fluid Flow Regime of the Soda Lake Geothermal Field, Fallon, Nevada (Total Cost: \$30,000).
3. General Interest Report on Lithium in Nevada (Total Cost: \$35,000).

Project 1: Publish Geologic Map and Report of Railroad Valley, Nye County (Total Cost: \$35,000)

State of Existing Information: A geologic map and associated cross sections of the Railroad Valley area have been compiled by Don French and Jerry Walker, geologists who have worked in the area for several decades. The map has a nominal scale of 1:63,360, and was constructed in Illustrator with a GIS plug-in. It is somewhat patchwork in that various parts were added or modified over many years. Cross sections were also prepared as needed and have various scales and orientations. Several sets of subsurface data were concurrently generated to support the associated map and cross sections.

The map includes several layers with public-domain components: 1) geology compiled from numerous geologic maps; 2) gravity data and interpretation; 3) oil and gas wells; 4) a few seismic reflection lines; 5) soil-gas surveys; 6) interpretation of the geology at the end of Oligocene time, ~25 Ma; and 7) isopach map of Neogene basalt layer in the valley fill.

These map components are supported by a database of information for about 300 wells in the map area. The database includes: 1) location data; 2) formation tops; 3) formation-test data; 4) selected well-log data; 5) source-rock analyses; 6) core descriptions; 7) paleontology reports; and 8) monthly production statistics.

In addition to the cross sections, the map is supplemented with a stratigraphic column, selected well-log evaluations of reservoir quality, and several graphs showing the geothermal regime of the basin. The map was used to develop oil-gas prospects in the Railroad Valley area. It was also used to develop a model for the habitat of hydrocarbons, which served as an analog for exploration in other parts of eastern Nevada. The associated database is the most comprehensive set of subsurface information for any basin in Nevada.

Proposal: The objective is to publish a geologic map of Railroad Valley with selected cross sections and a report using the documents described above. The map can be prepared as an interactive document for use on a web site. A web document can also be used to access components of the database. The compilers will prepare cross sections and assemble other components and write the report. They will also obtain permissions for publication, should that be necessary. Technical support provided by NBMG will check internal consistency of the map and cross sections, as well as update selected datasets. They will also prepare the final document(s) for publication. The project will be completed by June 30, 2022. This project will be completed by Don French, Jerry Walker, and NBMG GIS/Cartographic staff.

Benefit: The map and associated documents will be useful in several broad categories. Oil and gas exploration in the Great Basin region will be aided by documentation of an analog for areas with less data. The extensive subsurface dataset will also improve basic geologic understanding of similar basins in the region. In addition, the map and report will provide a basis for assessing the potential of analogous areas in Nevada when land-use policy is under consideration. Finally, the project provides an archival function for some data that would otherwise be lost.

Project 2: Publish Report on the 3D Stratigraphy, Structure, and Fluid Flow at the Soda Lake Geothermal Field, Fallon, Nevada (Total Cost: \$30,000)

Introduction: From ~2010 to 2018, NBMG supported an in-depth analysis of the stratigraphic setting and structural controls by Ph.D. student Holly McLachlan on geothermal fluid flow at the Soda Lake geothermal field (McLachlan, 2018), a currently producing ‘blind’ geothermal system near Fallon. Main objectives were to: 1) define the stratigraphic setting and structural framework, 2) generate a detailed 3D geologic model of the field area, and 3) model fluid flow in context with the geologic model. This study was undertaken to improve our understanding of basin-hosted, blind geothermal systems with the intent of facilitating development of similar systems throughout the region. Blind systems likely comprise the majority of geothermal resources throughout the Basin and Range province, and many lie buried under thick accumulations of sediments in the broad basins that make up >50% of the province. The Soda Lake field is one of the more deeply buried known systems in this region and – as is common – the structural controls on fluid flow cannot be discerned at the surface. However, the Soda Lake field has produced electricity for 30+ years, and a wealth of subsurface data has been acquired in the area. These rich datasets provided a foundation for a detailed model of the geologic setting of the Soda Lake system.

The study: Initially, the stratigraphic framework was defined from analysis of cuttings, borehole logs, and dating of key igneous units. Three major divisions were identified: 1) ~900-1100 m of basin-fill sediments; 2) ~1 km of Miocene bedrock, dominantly mafic lavas interbedded with subordinate tuff and sedimentary rock; and 3) a basement assemblage of Triassic-Jurassic metamorphic rocks and Jurassic-Cretaceous granite. Pursuant to this, a comprehensive 3D geologic model of the field was constructed from: 1) the new stratigraphic model, 2) bedding attitude estimates from seismic surveys and borehole logs, and 3) a fault framework derived from well data and geophysical surveys. The fault framework had been modeled in previous studies of seismic reflection and borehole data. A well-constrained set of fault picks was chosen as the initial input to the 3D model. A stratigraphic model derived from lithologic intercepts and bedding attitude data was then built around the fault framework to generate a complete geologic block model. In the final phase of the study, borehole temperature data were integrated with the block model and flow data to identify the main upwelling and outflow conduits.

Modelling results: The Soda Lake field is dominated by a series of E-dipping (65° - 75° E), \sim N 5° - 10° E-striking normal faults that bound a series of W-tilted (\sim 35 $^{\circ}$ W) half-grabens. Tilt-fanning of strata suggests that extension began \sim 13 Ma and slowed significantly after \sim 5 Ma. However, the largest faults appear to have accommodated minor extension into the late Pleistocene. Three to five closely spaced E-dipping, northerly-striking faults define the west side of a central half-graben, which hosts all producing wells at the field. The likely primary conduit for upwelling at Soda Lake is proximal to a small step-over in the most well-defined and easternmost of these faults, which forms the inner boundary of the central graben.

Proposal: This work was funded by a DOE ARRA grant awarded to Magma Energy in 2010. The original grant did not allow for full review and publication. NBMG proposes to organize, fully review for quality assurance, and publish a consolidated version of the dissertation on the structural settings and fluid flow at the Soda Lake field. A peer-reviewed NBMG report will be produced, and the data will be released through the NBMG open data site. This work will facilitate new geothermal exploration and development in Nevada. This project will be completed by Holly McLachlan, NBMG cartographic staff, and the NBMG geothermal data manager under the supervision of NBMG Director Dr. Jim Faults.

Project 3: Publish General Interest Report on “Lithium in Nevada” (Total Cost: \$35,000)

Lithium (Li) is one of the 35 critical minerals identified by the USGS, which are partly defined as “*non-fuel minerals or mineral material essential to the economic and national security of the U.S.*”. Lithium is on the list because of its use in 1) rechargeable batteries for electric vehicles and independent power, and 2) aluminum-lithium alloys for aerospace applications.

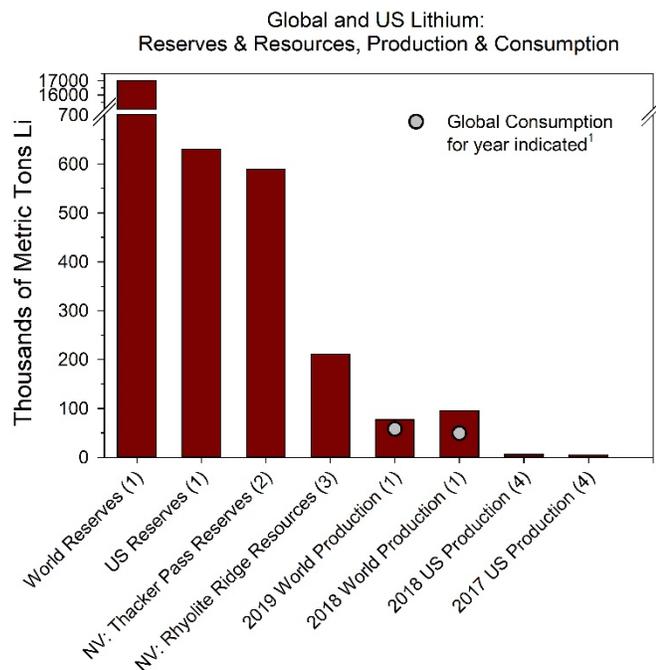
Nevada plays an important role in providing Li for the U.S. Figure 1 shows that while global reserves contain 17,000,000 metric tons of Li, the U.S. reserves are 630,000 metric tons. Lithium clay at two deposits in Nevada (Thacker Pass and Rhyolite Ridge) will more than double U.S. reserves when they come on-line. Currently, the only U.S. production is from Albermarle’s Li brine operation in Clayton Valley, NV (5855 and 4642 metric tons Li in 2018 and 2017, respectively). Global production has increased 142% since 2014 and tends to track consumption. The Tesla Li Battery Gigafactory in Nevada expects to require 24,500 metric tons Li annually, almost 5 times current U.S. production. While Tesla would prefer to source Li in North America, it presently relies on imports.

Fig 1. Comparison of Global and U.S. reserves and resources, production, and consumption.

The increasing demand for Li has led to increased exploration in Nevada, mostly focused on brine and clay deposits in Clayton Valley and other nearby basins. In response to the growing interest in lithium exploration and production in Nevada, we propose to research and produce an NBMG report on “Lithium in Nevada”. This will be a science-based document aimed at the general public. The objectives for this work are:

- 1) Describe global geochemical cycle of Li and its geological occurrences, in Nevada and the Great Basin. Maps of known Li distribution in rocks, sediments and soils, and surface and groundwaters will be included.
- 2) Describe geological models for mechanism(s) of Li introduction to the crust and its transport through the surface, via mineral weathering and groundwater flow.
- 3) Describe the types of mineral resources that host Li globally, with a focus on deposits found in NV and the Great Basin (i.e., Li brines and clays).
- 4) Compare and contrast characteristics of Nevada Li resources to others in the U.S. and globally.

Intent of report: This report aims to present a Nevada-centric scientific understanding of Li geochemistry and mineral resources, while also engaging the general-science reader by offering interesting photos and graphics, as well as field trip suggestions to publicly-accessible locations, which might host Li sources (e.g. hot springs, outcrops) and/or scenic views of basins with potential for Li brines and clays. The intent is to provide objective information on Li occurrences in Nevada. USGS research scientists will lead this project in collaboration with NBMG faculty; their time will be contributed ‘in-kind’. Primary budget items include support for the NBMG publications group to produce the document and travel for the USGS authors to take photographs and locate potential field trip sites.



FOR REFERENCE ONLY

The following scope of work applies only to fiscal years 2020 and 2021

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Table 1. Budgets for Proposed Projects

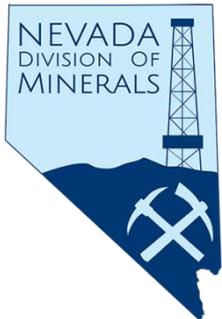
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Total – Each Project	\$40,000	\$70,000	\$35,000	\$35,000	\$180,000

III. C NEW “STAY OUT, STAY ALIVE” PUBLIC SAFETY AML VIDEO

Stay Out Stay Alive

2020

Video Update



SOSA VIDEO 2020

■ THS Contract Details

❖ Duration 11/12/2019 – 12/28/2020

❖ Cost - \$39,850

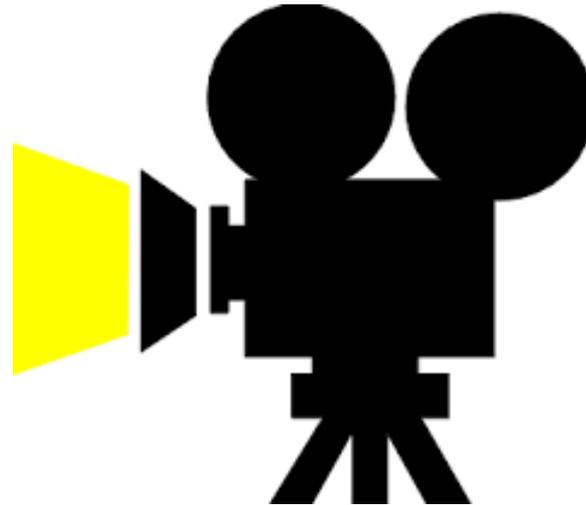


❖ Shooting Locations – Tonopah, Goldfield, Nelson, Virginia City, Yerington

❖ Deliverables – 30 second Public Service Announcement, 5.5 minute classroom cut, 9.5 minute full length, 17 high resolution photo stills of production

SOSA VIDEO 2020

VIDEO PREMIERE JANUARY 14th during Virtual CMR MEETING



ENJOY VIP PRESCREENING

<https://www.youtube.com/watch?v=524kW3jG5-8>

Sosa Video 2020

■ Outreach Strategy

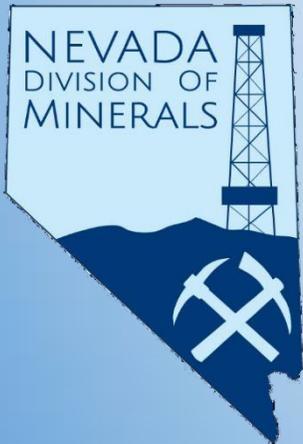
- ❖ Billboards
- ❖ Local Media PSA and follow up
- ❖ Partner Agency Web presence
- ❖ YouTube and Facebook Paid Advertising
- ❖ Rural Chamber of Commerce Web and Brochure Presence
- ❖ Outdoor Retail Web and Brochure Presence
- ❖ School Visits and Public Presentations as Communicable Disease Policy Allows



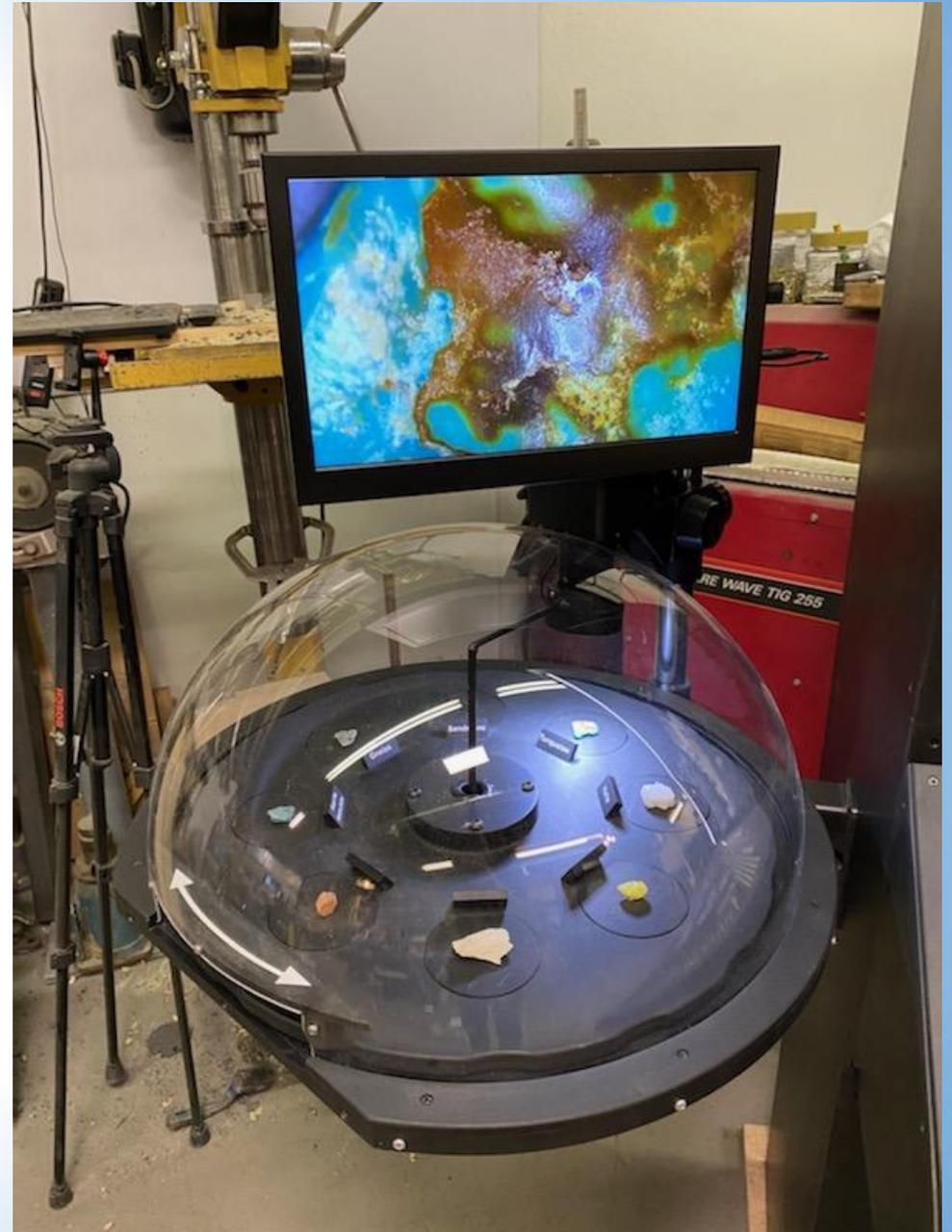
III. D NEW LVNHM ROCK AND MINERALS
EXHIBIT

Las Vegas Natural History Museum Exhibit - Closeout

**Commission on Mineral
Resources Meeting
14 January, 2021**



Garrett Wake
Nevada Division of Minerals
702-486-4344
gwake@minerals.nv.gov
minerals.nv.gov



Overview

1. Timeline of events
2. Evolution of design
3. Fabrication
4. Imagery of completed exhibit
5. Questions

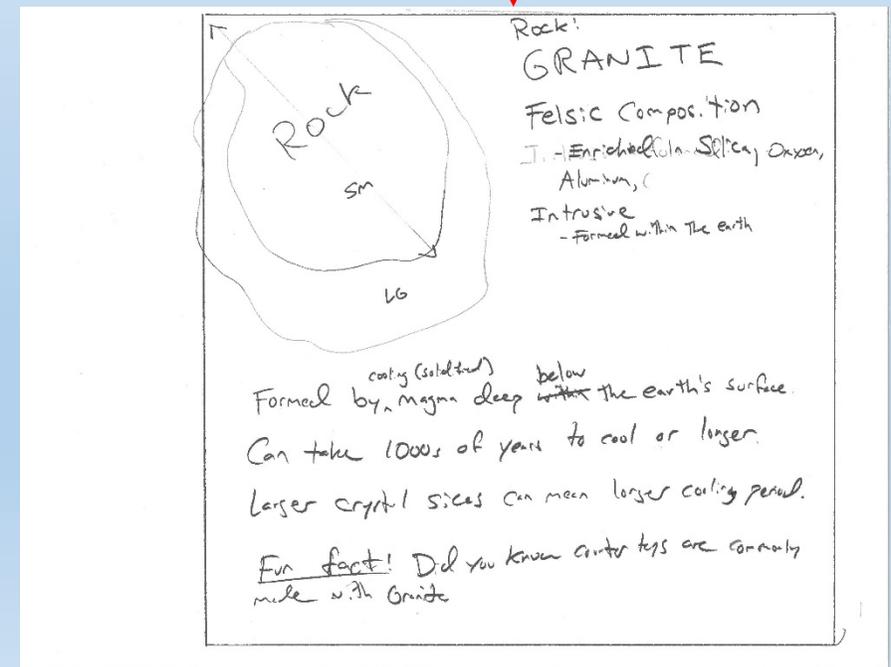
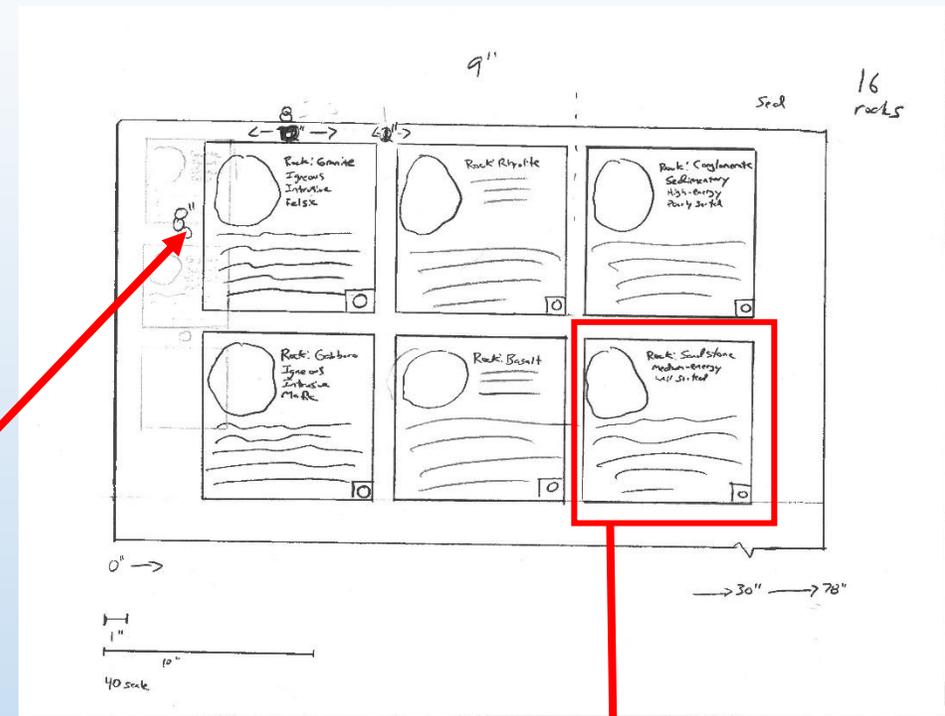
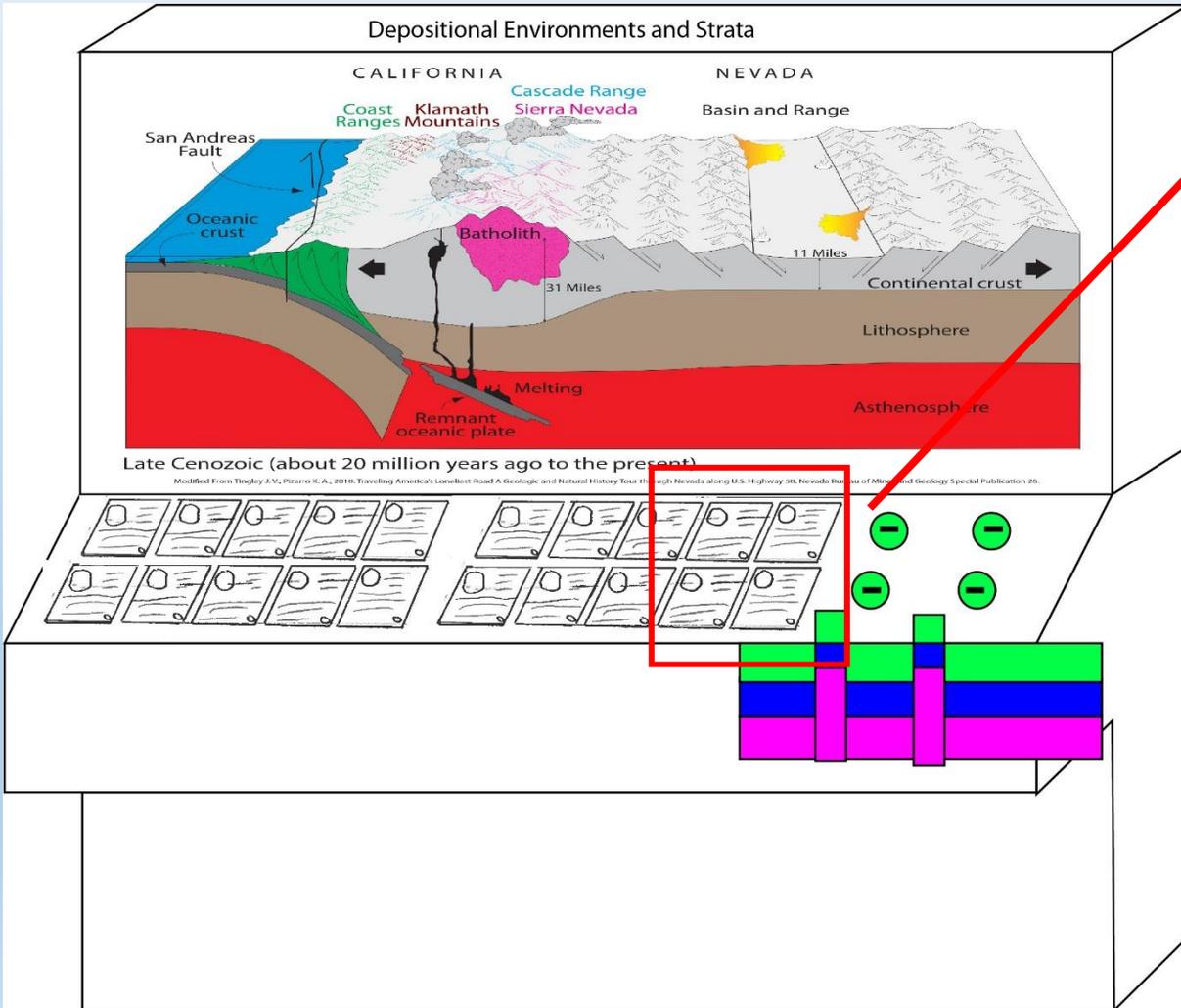
1. Timeline of Events

- **Aug, 2018:** CMR Approved \$49,999 for construction of a rock & mineral exhibit for the new museum space
- **March, 2019:** RFP #1 was released
- **April 26, 2019:** RFP #1 bid period ended, no bids for contract RFP #1
- **Nov 8, 2019:** RFP solicitation opened on NV E-Pro
- **Jan 28, 2020:** RFP Evaluation Committee awarded vendor **3saurus**
- **May, 2020:** BoE approval
- **June 30, 2020:** Phase I – Design work and renderings completed (\$6,000) RFP #2
- **Dec 31, 2020:** Phase II – Fabrication of exhibit completed (\$37,500)
- **Jan 7, 2021:** Phase III – Delivery and installation completed (\$6,000) – **Total: \$49,500**

2a. RFP #1 – Design (late 2018 – early 2019)

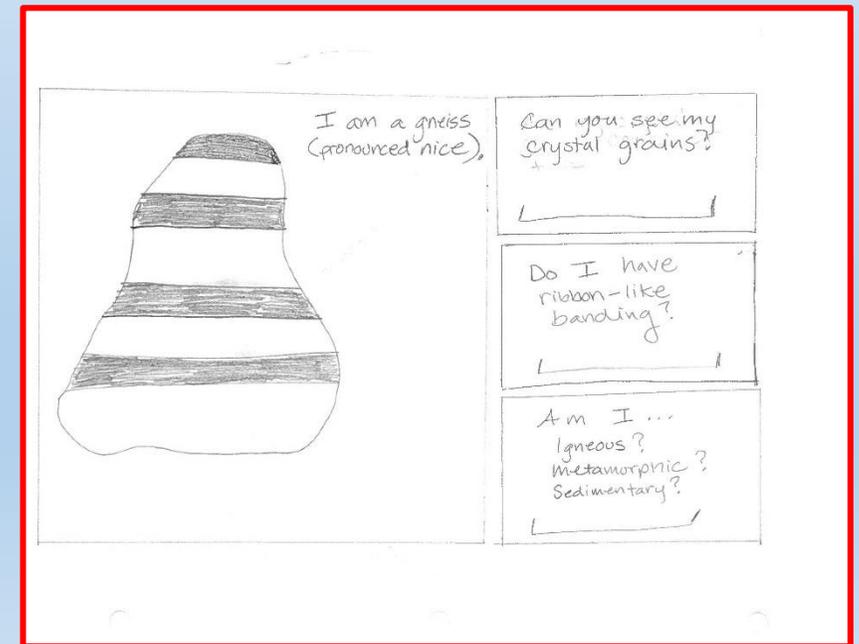
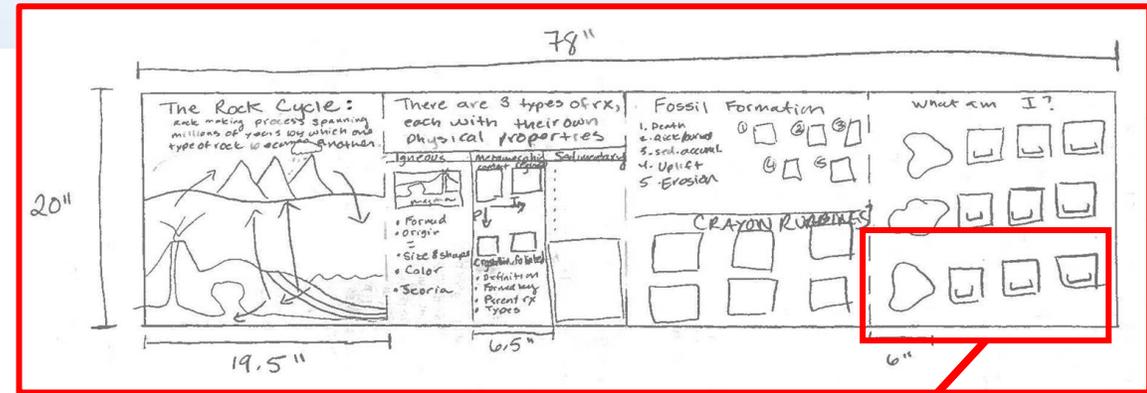
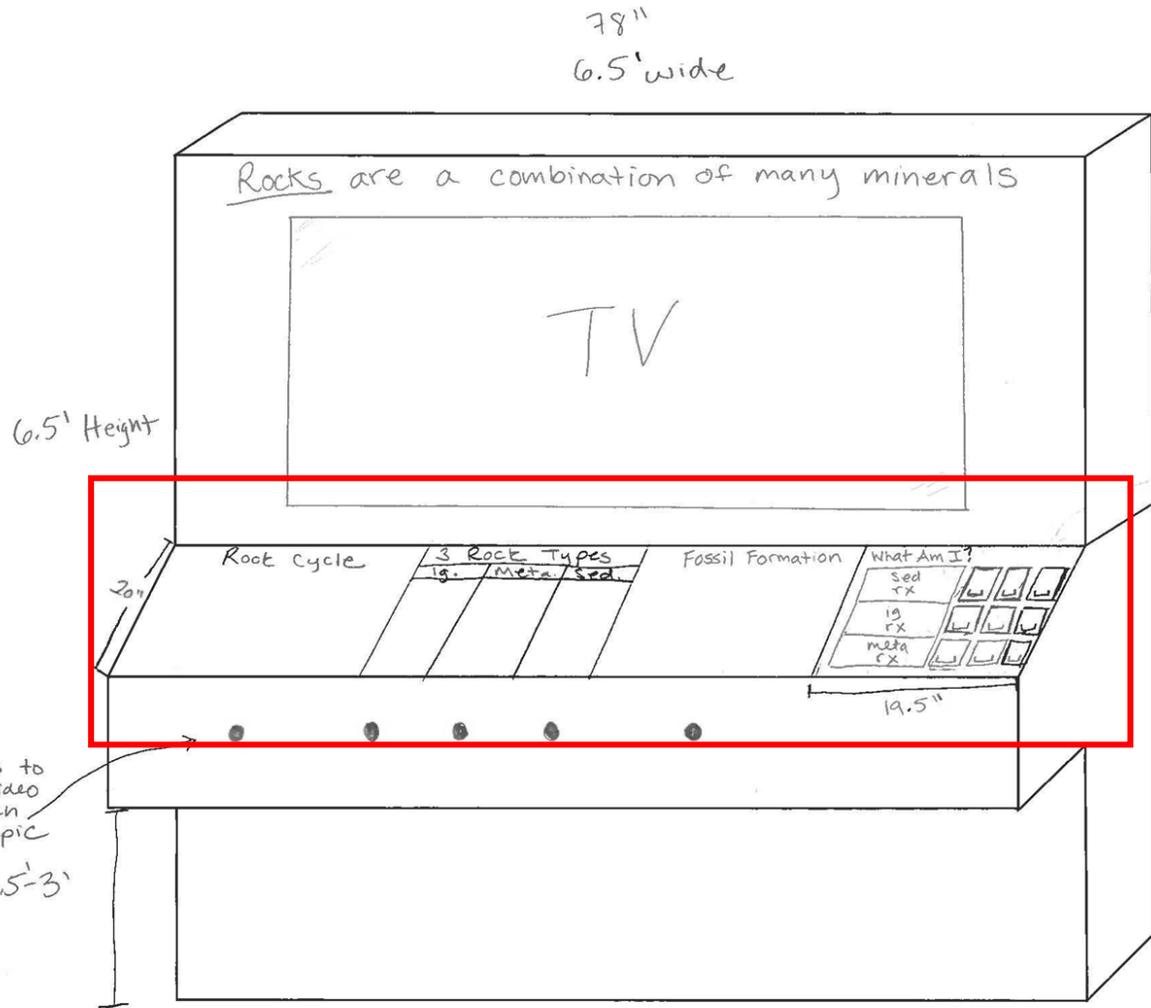
Final Sketches – Activity 1

Rock Forming Environments



Final Sketches – Activity 2

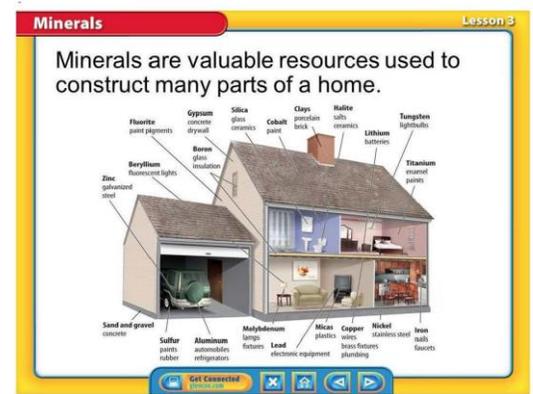
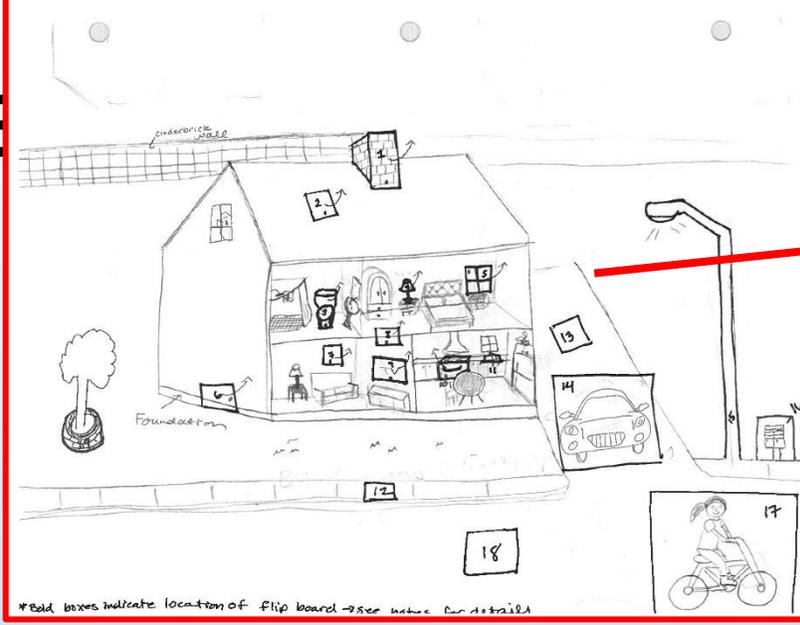
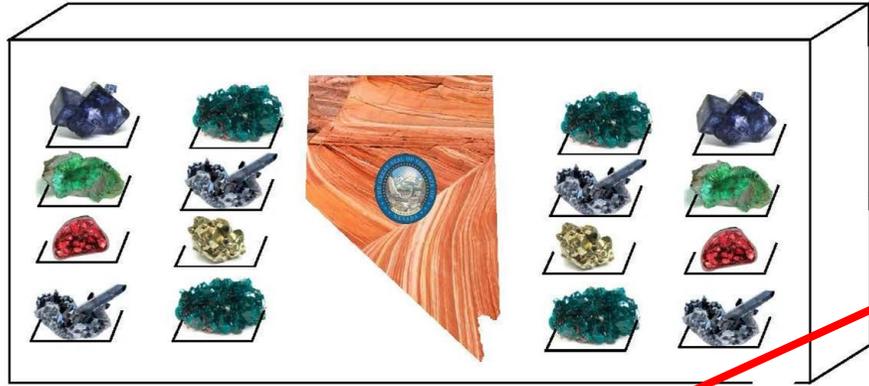
Rock Identification



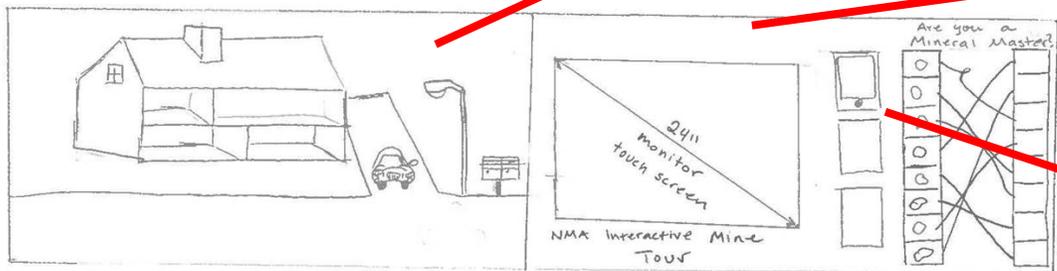
Final Sketches – Activity 3

Mineral Uses

A3. Top portion of activity station



- Car
 - Similar to the house, parts of the car will have flip boards on it that tell what each part is made of
 - #14 on picture lift car and labels for different resources
- Street Light/Road/Mailboxes/bicycle with flip boards too
 - 12. Sidewalk
 - 13. Driveway



Streetscape w/ house; car; mailbox; streetlight; bicycle
 Ball w/ flip boxes stating what mineral resource used to make obj.
 ↳ When flip box open, light goes on the NV map showing where resources mined.

Nail
 Penny
 Muteup
 glass
 pencil lead
 Salt
 wall board
 Airplane (filling tooth)
 welding
 car seat

Mix of pictures & actual objects



- Cell Phone
 - 3 views
 - Front normal view of phone
 - Remaining two expose all the internal components

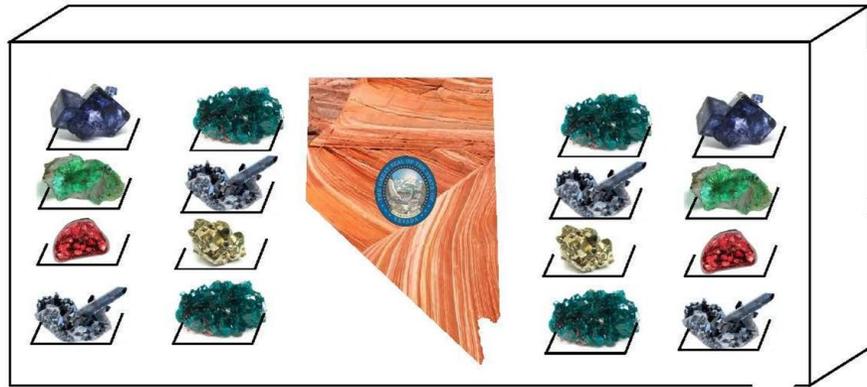


NvMA Virtual Mine Tour

Final Sketches – Activity 4

Mineral Properties

A 4 Top portion of activity station



<http://wentzscope.com/Welcome.html>



5. Rotating Cubes
 - a. 9 cubes each 4 inches
 - i. Side one: Picture of mineral
 - ii. Side two: Crystal/atomic structure
 - iii. Side three: Physical properties
 - iv. Side four: A unique property of that mineral

Quartz

SiO₂

Physical Properties

Color	Colorless to various colors
Luster	Vitreous to pearly
Hardness	7
Cleavage	None
Fracture	Conchoidal
Streak	White
Texture	Crystalline

Unique Properties of the Mineral

Quartz is the most common mineral found on Earth's surface. It is highly resistant to physical and chemical weathering. Quartz can form at all temperatures and is found in igneous, metamorphic, and sedimentary rocks.

Mineral Properties tabletop
version 3

Black list minerals	Mohs Hardness Scale	Physical Properties		Observation following Daily activity Properties • Color • Luster • Hardness • Streak • Cleavage	Please Touch.		cubes
	1 0	Hardness	Cleavage				
	2 0	Luster	Color				
	3 0						
4 0	Streak	Texture	Testing station				
5 0			Streak plate				
6 0							
7 0							
8 0							
9 0							
10 0							

Vinegar for acid test on calcite



2b. RFP #2 – Design (mid 2019 – completion)

Design

BASALT IGNEOUS ROCK

Did you know... that the active volcanoes of Mauna Loa and Kilauea in the Hawaiian islands erupt basaltic lavas?



Basalt is a dark-colored igneous rock with few to no crystals visible by the unaided eye. It forms from the relatively quick cooling of low-silica magma at or near the Earth's surface.

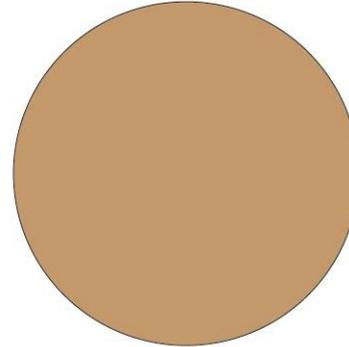
Basalt is composed mainly of pyroxene minerals and plagioclase feldspar. It is commonly crushed and used in construction and as landscape rock.

Type: VOLCANIC
Composition: MAFIC



What Am I?

Identify these mystery rocks by comparing them with those to the left. Is the rock **igneous**, **metamorphic** or **sedimentary**?
What is the rock's name?

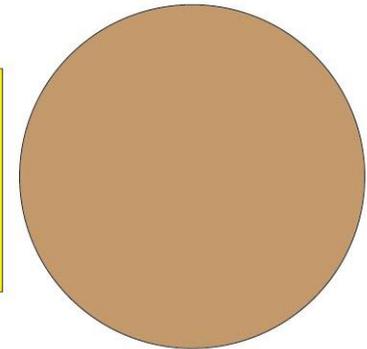


- I am made from sand and sediment cemented together;
- I typically form in a beach or desert environment;
- I form at or near the Earth's surface.

Am I **igneous**, **metamorphic** or **sedimentary**?
What rock am I?

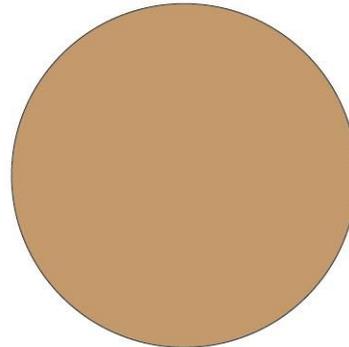
- I am made from melted rock that cooled into solid rock;
- I do not have visible crystals because I cooled too quickly;
- I formed at or near the surface of the Earth.

Am I **igneous**, **metamorphic** or **sedimentary**?
What rock am I?

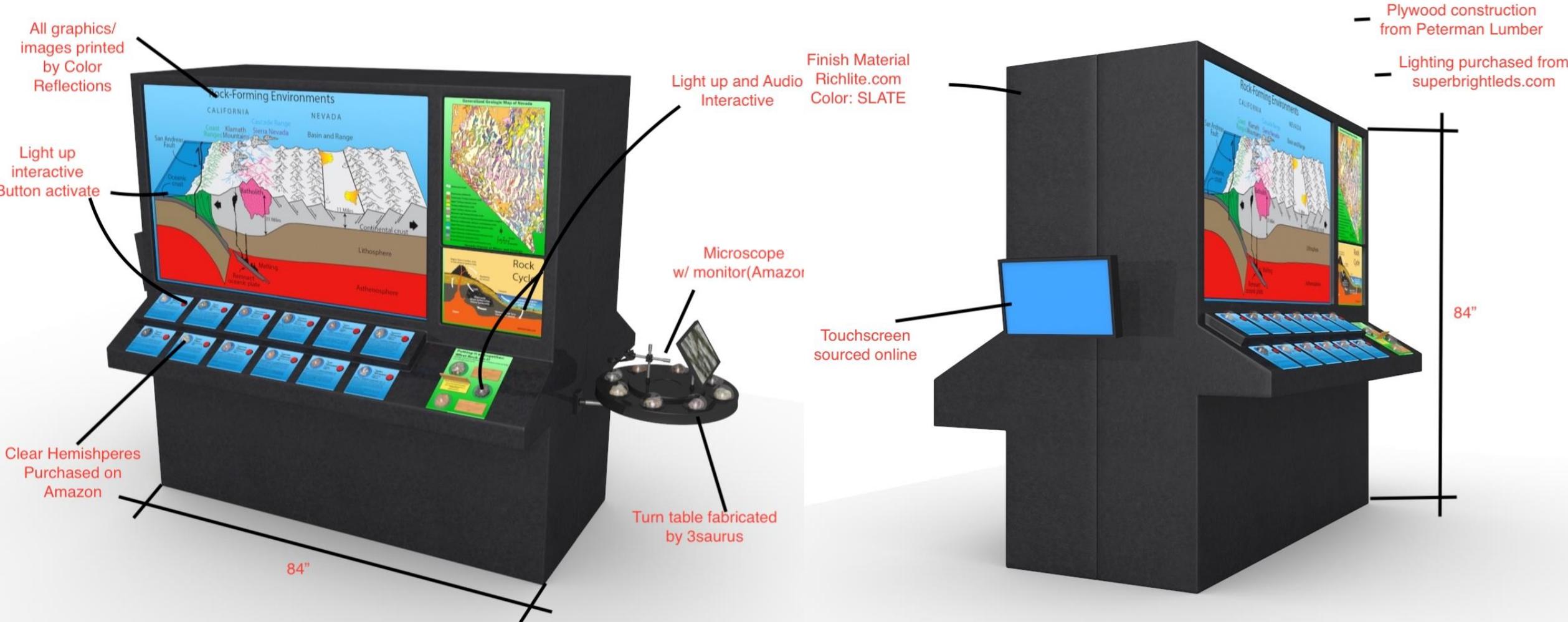


- Heat and pressure changed me from different rock to what I am now;
- I have ribbon-like bands of minerals called *foliations*;
- I form deep beneath the Earth's surface.

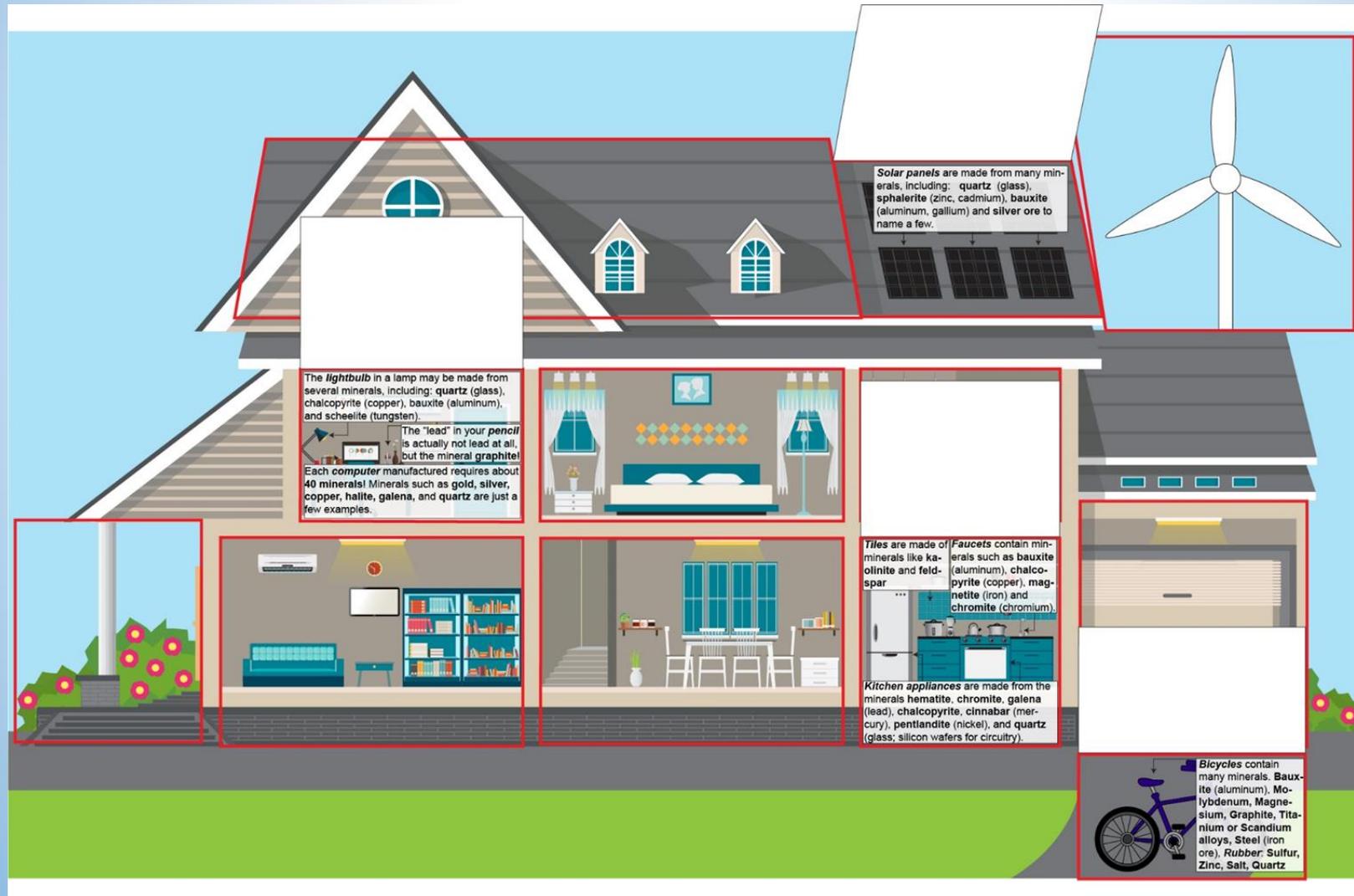
Am I **igneous**, **metamorphic** or **sedimentary**?
What rock am I?



Design



Design



Design



3. Fabrication

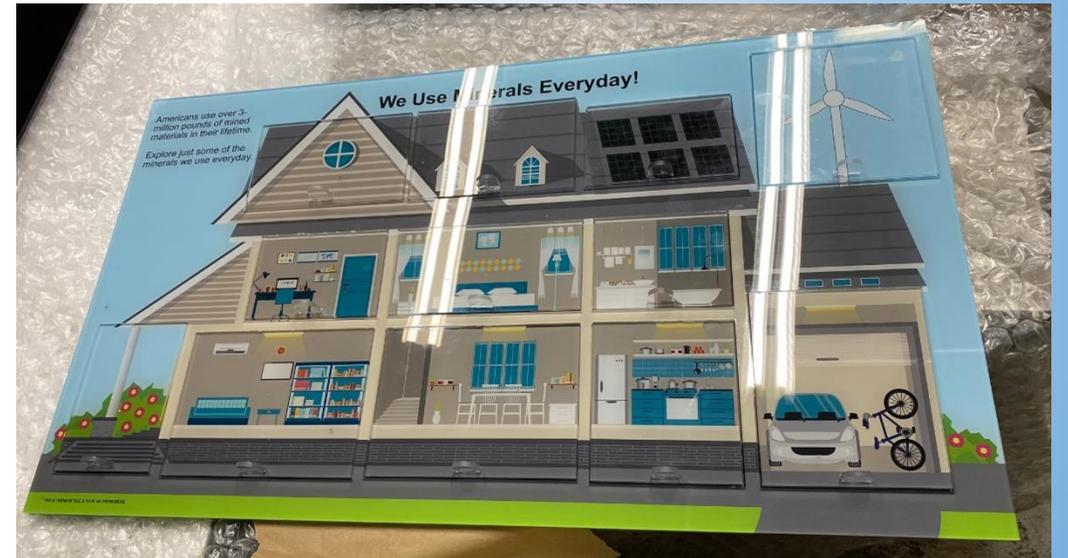
Fabrication



Fabrication

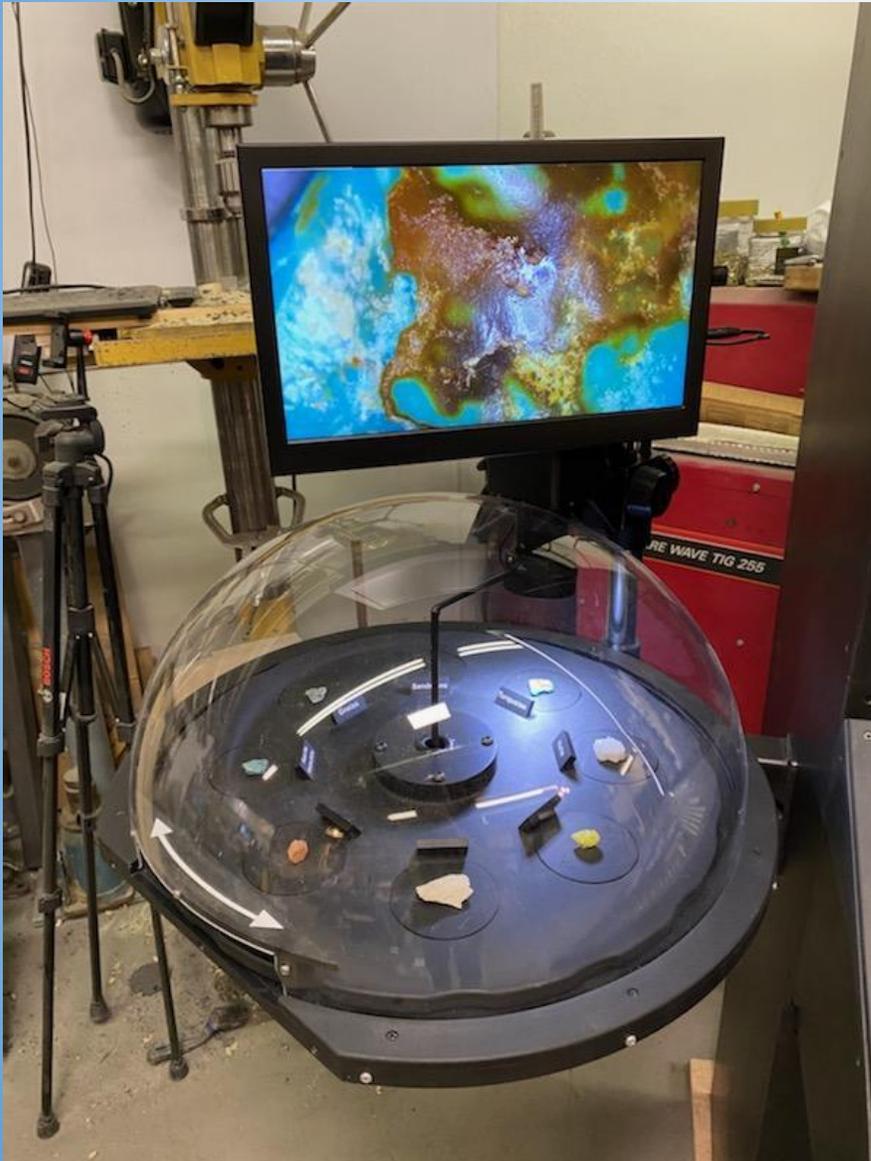


Fabrication



4. Imagery of Completed Exhibit

Imagery of Completed Exhibit



Mineralogy

Geologists examine the properties of minerals to help identify them.

Hardness

Testing a mineral's hardness can help identify it. Geologists scratch a mineral using common objects or other minerals. The Moh's hardness scale is then used to determine a mineral's hardness – the higher the number, the harder the mineral.

Mohs Hardness Scale	
1	Talc
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Feldspar
7	Quartz
8	Topaz
9	Corundum
10	Diamond

Fingernail
Copper Penny
Masonry Drill Bit

Color

A mineral's color can be helpful in identifying it; however, a mineral's color may vary. Geologists must use color along with other tests to identify a mineral.



Luster

Luster is a description of how a mineral interacts with light. When light shines on a mineral it may appear as shiny, dull, greasy, transparent, or in other ways.



Streak

A mineral's "streak" is the color of its powder when scraped across a porcelain plate. The streak may yield a different color than simply observing a mineral.



Cleavage and Fracture

How a mineral breaks apart can help geologists identify it. A break along a flat plane is called cleavage, whereas an uneven or jagged crack is called fracture.

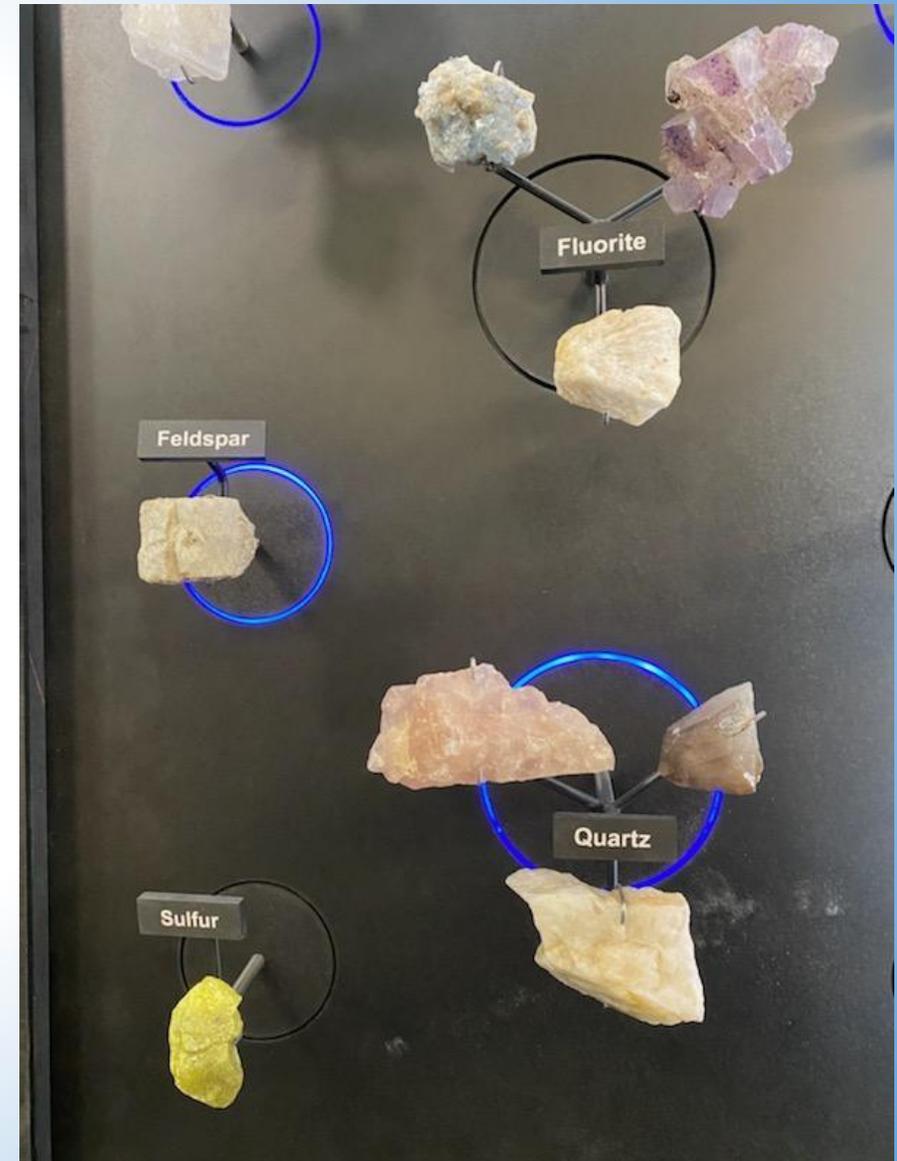


Magnetism

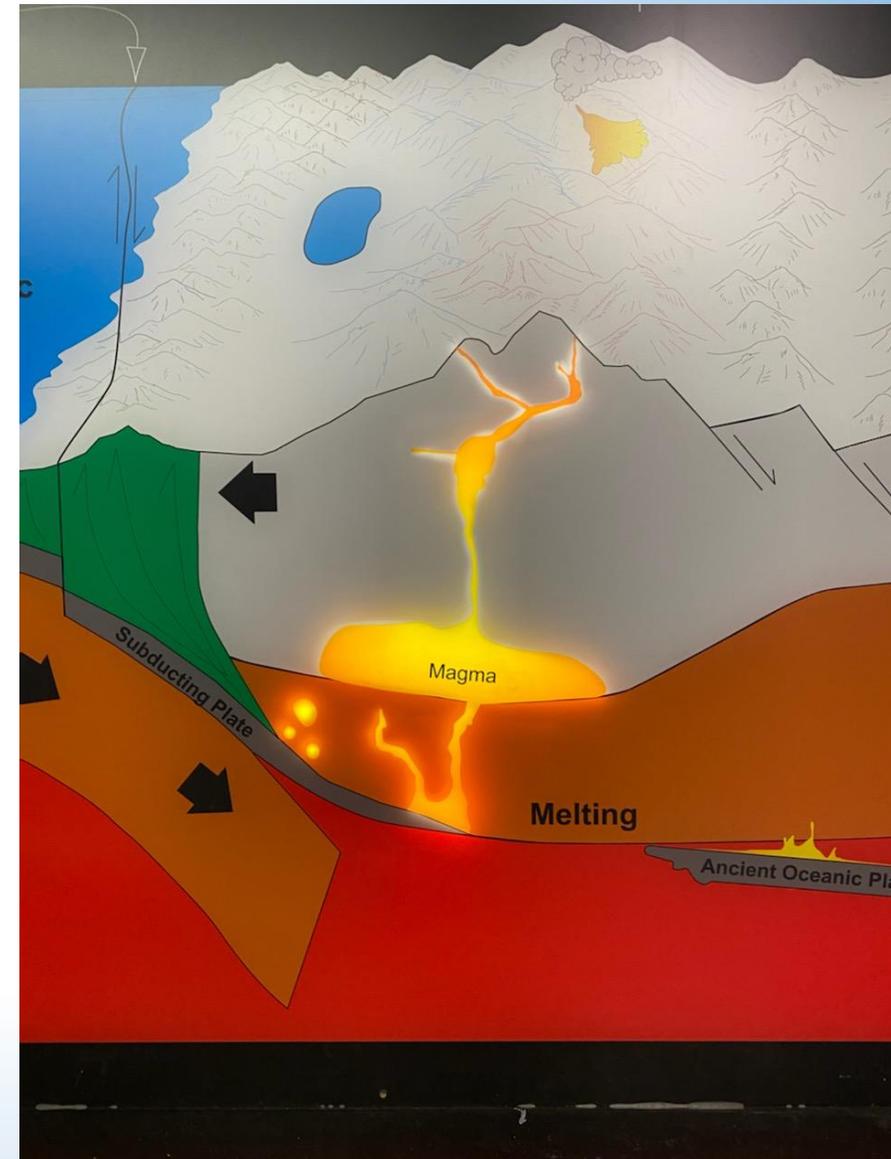
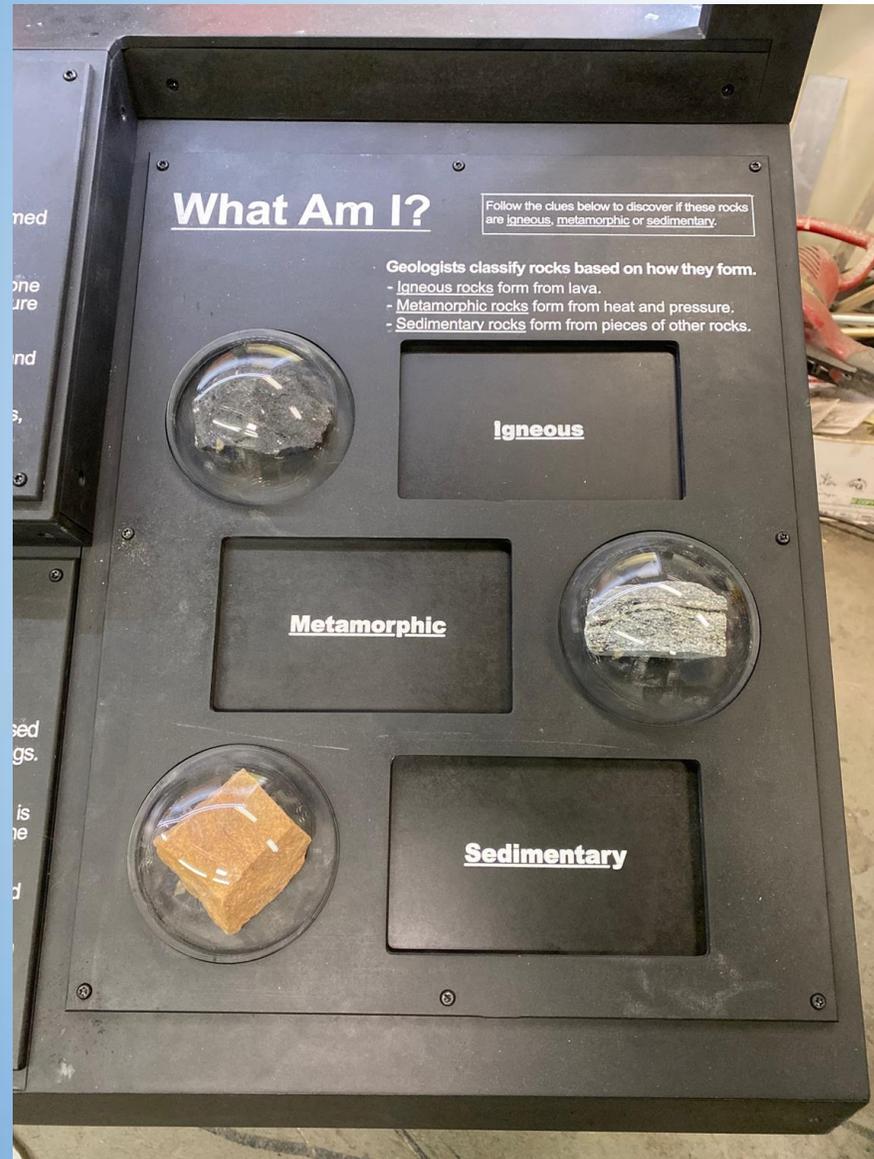
If a mineral contains iron it may be attracted to a magnet. Some iron minerals are strongly magnetic while others are only weakly magnetic.



Imagery of Completed Exhibit



Imagery of Completed Exhibit



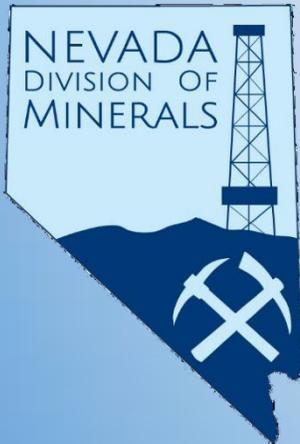
Imagery of Completed Exhibit



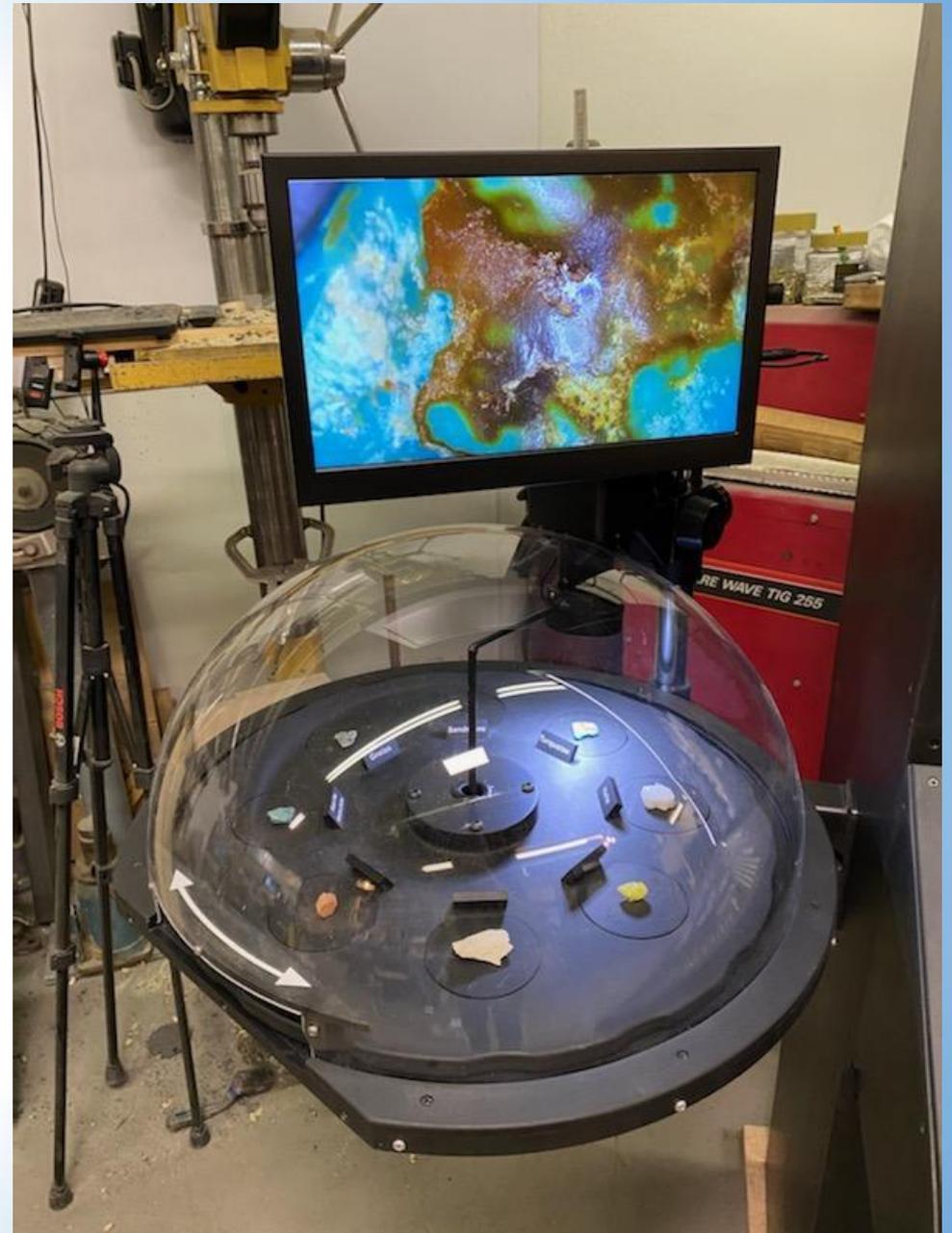
Las Vegas Natural History Museum Exhibit - Closeout

**Commission on Mineral
Resources Meeting
14 January, 2021**

Questions



Garrett Wake
Nevada Division of Minerals
702-486-4344
gwake@minerals.nv.gov
minerals.nv.gov



**III. E CMR LETTER TO GOVERNOR AND
LEGISLATURE**



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 COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
 400 W. King Street, Suite 106
 Carson City, Nevada 89703
 (775) 684-7040 • Fax (775) 684-7052
<http://minerals.nv.gov/>



STEVE SISOLAK
 Governor

Las Vegas Office: 375 E. Warm Springs Rd., Ste. 205, Las Vegas, NV 89119
 Phone: (702) 486-4343; Fax: (702) 486-4345

MICHAEL VISHER
 Administrator

January X, 2021

Governor Steve Sisolak
 State Capitol Building
 101 N. Carson St.
 Carson City, Nevada 89701

Senate Majority Leader Nicole Cannizzaro
 Senate Minority Leader James Settelmeyer
 Assembly Speaker Jason Frierson
 Assembly Minority Floor Leader Robin Titus
 401 South Carson St.
 Carson City, Nevada 89701

Pursuant to Nevada Revised Statute 513.063 (Duties), the Commission on Mineral Resources “*shall...advise and make recommendations to the Governor...and Legislature concerning the policies of the State relating to minerals.*” Prior to the start of the 81st Regular Session of the Nevada Legislature, the Commission respectfully wishes to submit the following discussion and recommendations regarding certain legislation, passed during the 32nd Second Special Session of the Nevada Legislature proposing to amend the State Constitution, which we believe will be detrimental to the mining industry in the State of Nevada and thus detrimental to the economy of this State.

As a preface to this discussion, the Nevada mineral industry, which includes the production of metals, non-metals, oil, gas, and geothermal energy, is a significant contributor to the State’s economy, and which according to DETR directly employed more than 14,600 Nevadans in 2019 at an average wage of more than \$106,000. In fiscal year 2020, the mineral industry paid \$28.9M in Sales/Use tax and \$22.9M in Modified Business tax. In addition to these taxes, the mining industry pays an industry-specific tax. Under the Nevada Constitution, the Legislature must impose a tax upon the net proceeds of all minerals extracted in this State at a rate not to exceed 5 percent of the net proceeds, and the net proceeds are not subject to any other tax. (Nev. Const. Art. 10, Section 5) The Nevada Constitution also exempts mines and mining claims from the property tax. (Nev. Const. Art. 10 Section 1)

Assembly Joint Resolution No. 1 (AJR1) and Senate Joint Resolution No. 1 (SJR1) **both** propose to amend the Nevada Constitution to **eliminate**: (1) the requirement for the Legislature to impose a tax upon the net proceeds of minerals at a rate not to exceed 5 percent of the net proceeds; and (2) the appropriation of a portion of those proceeds to each county in this State. Instead these resolutions would amend the Nevada Constitution to **impose a tax on the gross proceeds** of all minerals extracted in this State during a Calendar year at a rate of 7.75 percent of the gross proceeds and authorize the Legislature to provide by law for the **taxation of mines and mining claims** and the proceeds of all minerals extracted in this State.

Assembly Joint Resolution No. 2 (AJR2) proposes to amend the Nevada Constitution to: (1) **increase from 5 to 12 percent** the maximum rate of the tax on net proceeds of minerals extracted in this State; and (2) establish the minimum rate of the tax on the net proceeds of minerals extracted in this State as the property tax rate imposed in the taxing district in which the extractive operation is located.

The Nevada Commission on Mineral Resources believes that the amendments proposed by these three joint resolutions do not reflect responsible tax policy in Nevada and, if one results in a Constitutional change, it will be extremely detrimental to the economic health and potential viability of the mineral industry in this State.

A Tax on Gross Proceeds

The change from a net to gross proceeds of minerals tax as proposed in AJR1 and SJR1 represents a tax increase of approximately 382% for operators. A tax increase of this magnitude would upend, if not render uneconomic, most business models. This proposal aims to change the tax rules mid-stream for one industry. Total net proceeds of minerals for Nevada's operations totaled \$118.4M for 2019, with \$57.2M to the State General Fund and \$61.2M distributed to the counties. The use of net proceeds as a reasonable basis for taxation allows operations to account for the various integral operating costs which are necessary for mines to produce their product. Essentially all mineral commodities produced in the State have their price set in an open market, therefore, the operators have no control on the price they can charge for their product; they can only control operational costs.

When a commodity's price increases significantly, then net proceeds tax revenue of those operations will also increase, as is forecast in the most recent Economic Forum. With sights set on gross proceeds instead, which totaled \$7,831M in 2019, such a tax appears intended to target high-priced commodities, such as gold, but fails to consider the inherent costs of production, the profitability, or the fact that the sales price is not determined by the operator. As stated above, the proposed gross proceeds tax results in a significant increase in the cost of doing business on an industry that has no ability to change the price of their product to reflect those changes in costs.

Mines are reliant on an asset (the commodity) which is not altogether fixed and known; rather it must be extensively studied and explored, to gain an understanding as to its distribution and concentration. Years, or even decades, of exploration may transpire before a base understanding of the resource can be used to analyze its economics. First and foremost in determining the viability of an operation is the commodity price forecast. Typically, a resource is modeled at a variety of prices to ascertain its sensitivity to expected fluctuations. Only when confidence from those who will be making the investments is sufficiently high will a project move forward into its most capital intensive stage of development. The decision to proceed requires a long-term (8+ years), sustainable operation and even then, the internal rate of return is typically only 15-25%.

Many expenditures to a mining operation are well-established, based on past experience and jurisdiction, these include: permitting, equipment, personnel, energy, consumables, and the various taxes. While rarely static they usually fall within a narrow range amounting to a small multiple of the rate of inflation. However, any drastic increase in cost, or reduction in commodity price, will reduce one or more of the following: resource size, mining rate, employment, mine-life, profitability of the operation. A tax based solely on the value of a commodity sold, without consideration of the profitability of the operation and costs associated with its production does not promote a sustainable economic model for the mineral industry in the State. Without a corresponding increase in commodity price, a mine simply cannot absorb a tax increase amounting to 382%. Such a transformative change to the tax structure in the State sends a clear message to the industry; mining is not welcome in Nevada. This message is in direct contrast to the State's well-established mining heritage, its large and diverse mineral endowment, its importance to the nation's overall mineral production, the role it continues to play in diversifying the State's economy, its ranking in 2019 by the Fraser Institute as the number one mining jurisdiction in the world, and its impacts on employment and wages in rural Nevada.

The unintended consequences to a tax on gross proceeds will be an immediate and long-term reduction in exploration, the advancement of new mines, investment, mining employment, and economic diversity. While there may be a short-term increase to tax revenue, the aforementioned decreases will only cause that same tax revenue to shrink.

Increase to Cap of Net Proceeds

As proposed by AJR2, increasing the cap on net proceeds from 5% to 12% and affecting a rate increase will reduce the profitability of all mining operations. A 12% rate represents a 140% tax increase. Depending on the economics at each operation, and the actual rate implemented by law, this may cause the reduction in resource size, mining rate, employment, mine-life or worse, the closure of an operation. Based on 2019 net proceeds taxes paid, a change from 5% to just 7% would create an additional cost of approximately \$47M to the industry. Again, mineral industry operators cannot simply pass along an increased cost of business to their consumers. The commodity price is set the open market, not by them, and they must adapt by adjusting those factors they do control in their business plan. Any increase in the tax rate which does not account for the many variables within the Nevada minerals industry, from commodity (be it gold, copper,

limestone, oil, salt, lithium, magnesium, or geothermal), to size, employment, or longevity may arbitrarily necessitate the closure of an operation.

Taxing of Patented Mines and Mining Claims

AJR1 and SJR1 both propose to eliminate the current exemption of any value attributable to minerals underlying a patented mine or mining claims from property tax. Prior to the current patent moratorium, the land embraced within a mining claim could be purchased from the federal government through a patent conveyance. Through the submission of a patent application, the claimant had to document a mineral discovery on each claim in an amount and concentration sufficient to be profitably extracted at the time of the application. If verified by a federal mineral surveyor, a cost born by the claimant, the claim(s) could be conveyed and become private property. Whether the patent was subsequently mined or not, the now private parcel was subject to property tax based on Section 5 of Article 10 of the Nevada Constitution, *“Each patented mine or mining claim must be assessed and taxed as other real property is assessed and taxed, except that no value may be attributed to any mineral known or believed to underlie it, and no value may be attributed to the surface of a mine or claim if one hundred dollars’ worth of labor has been actually performed on the mine or claim during the year preceding the assessment.”* This exemption is important as it lays the fundamental groundwork that the minerals have no taxable value until they are extracted and subsequently sold, or shipped out of the State. It is this sale of extracted minerals which forms the basis for net proceeds of minerals tax. Prior to extraction, the mineral has no realized value. There is no proper and sound basis for applying a value to a mineral which has not yet been extracted. Any value placed on the mineral would be arbitrary and the as yet unextracted mineral would create an unnecessarily and prematurely burden for the owner or claimant. Any proposal to do so will result in an immediate and long-term decrease in the number of mining claims maintained in Nevada and thus reduce filing fee revenue received at both the county and federal level.

Impacts to County Distributions

While the proposed amendment in AJR2 does not change the appropriation amount of net proceeds distributed to the counties, AJR1 and SJR1 both propose to eliminate the appropriation of a portion of the proceeds to each county. For 2019, the appropriation amount to counties totaled \$61.2M with distribution dependent on the location of operating mines which paid the net proceeds of mines tax. Five counties received zero appropriation (Carson City, Douglas, Lincoln, Mineral and Washoe) while three counties, with the largest number of operating mines (Eureka, Humboldt, and Lander), received 80% of the appropriation. The distribution of net proceeds tax for these three counties represents from 10% to 27% of all county revenue. The potential elimination of this county revenue source will severely hinder county operations and, if coupled with the potential impacts to mining operations and investments resulting from a change to gross proceeds proposed in AJR1 and SJR1, have the capacity to forever negatively alter the economic vitality of rural Nevada.

Closing

The Commission on Mineral Resources requests the Governor and Legislature of the State recognize that these three proposed changes to the Nevada Constitution are not in the best interest of the State as a whole, or the businesses and citizens that would be negatively impacted them.

IV. OLD BUISNESS

IV. A UPDATE OF FY21 AML
ENHANCEMENTS



Update of FY21 AML Enhancements

Commission on Mineral Resource

January 14, 2021

AML Enhancements

Budget Enhancements for Consideration

Optional AML Program Enhancements				
	Title	Initial or Fixed Cost	Annual Cost	Benefits Realized
A	Utility Terrain Vehicle (UTV) and trailer	\$19,270	\$1,600	Field inventory and securing efficiencies due to increased ease of access to more remote hazards
B	Contract for Clark County Revisit/Repairs	\$0	\$50,000	Approximately 800 features revisited/repaired per year
C	Enhance ArcGIS Capabilities	\$23,900	\$4,500	Upgrade licenses for all GIS users (3) plus Spatial Analysis Toolbar (2)
D	Contract Hard Closure Site Geologic Analysis	\$0	\$50,000	Approximately 150 sites/yr will receive characterization and analytical assessment prior to hard closure to mitigate loss of exploration-related point values
E	Contract Archaeological Surveys	\$0	\$50,000	Shorten the current 2-3 year lead time needed for cultural review component of NEPA for hard closure projects. \$50,000 contract would fund cultural surveys of approximately 200-300 sites.



AML Enhancements

- UTV
 - Purchased UTV December 2020
 - Delivery estimated 4-8 weeks
 - Purchased Trailer
 - Identified storage
 - Working with Risk Management and DMV for all documentation
- ESRI
 - Purchased Spatial analyst toolbar
 - Looking into new FieldMaps application
 - Purchased second Standard license



AML Enhancements

- Contracts
 - Clark County Revisit RFP
 - Vendor awarded (EPS)
 - Waiting on BOE Approval in February 2021
 - Cultural Survey RFP
 - RFP released 12/4/2020
 - Opening date 1/12/2021
 - Evaluation date 1/26/2021
 - Tentative BOE date March/April 2021
 - Geological Analysis RFP
 - In draft
 - Submit RFP request to Purchasing by late January
 - Tentative release February/March
 - BOE May/June

IV. B RECENT RECLAMATION BOND POOL
ACTIVITY



Recent Reclamation Bond Pool Activity

Commission on Mineral Resource

January 14, 2021



Bond Pool Activity in 2020

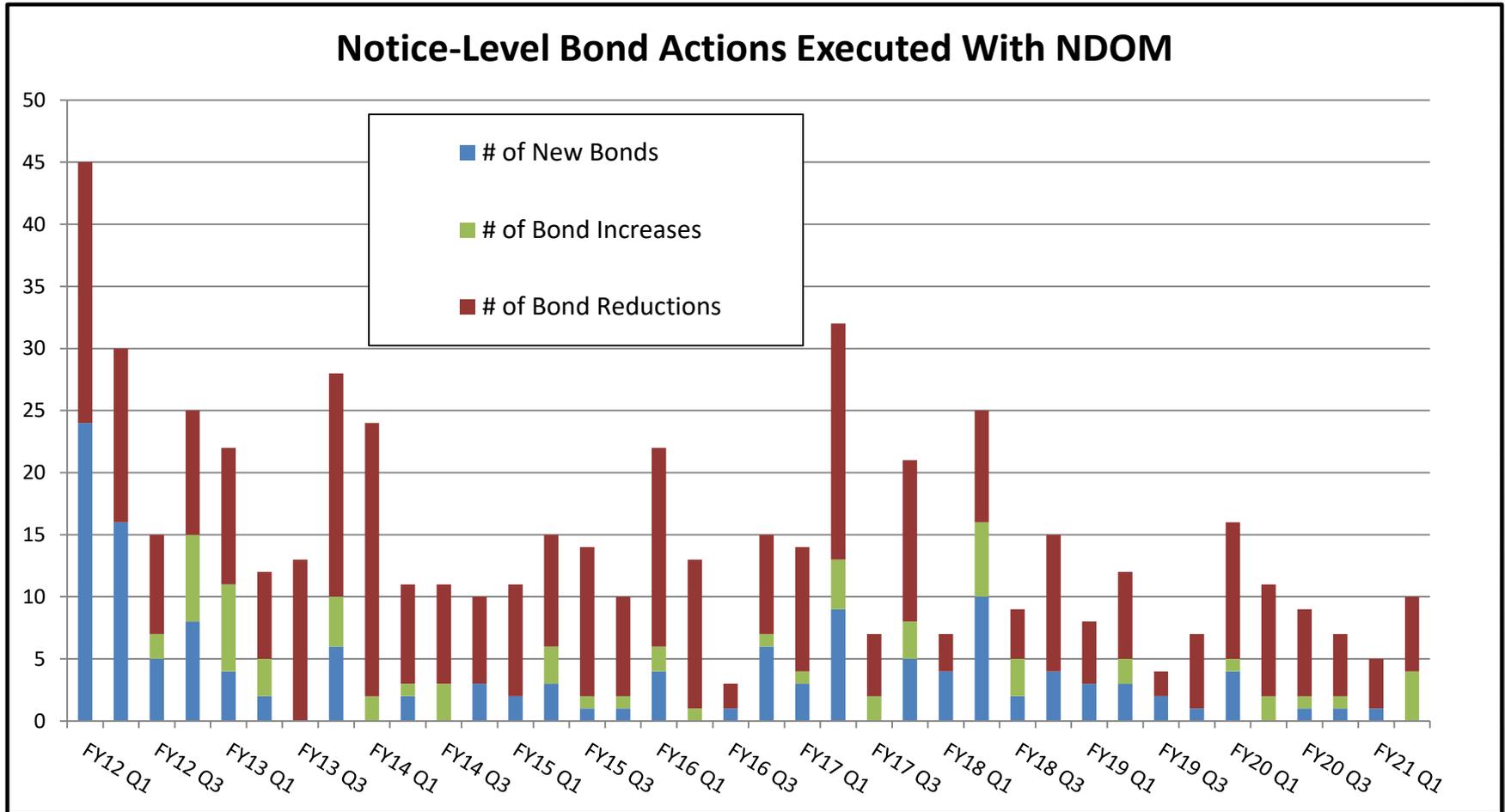
Notice Level

- 2 new bonds
- 6 increases
- 9 reductions
- 12 releases
- 1 forfeitures request from BLM
- 53 currently in bond pool for a total of \$571,858

Plan Level

- 0 new bonds
- 1 increase
- 1 reduction
- 1 forfeitures request from BLM
- 8 currently in bond pool for a total of \$1,796,639
 - 6 active
 - 2 terminated

FY12-FY21 Bond Pool Activity



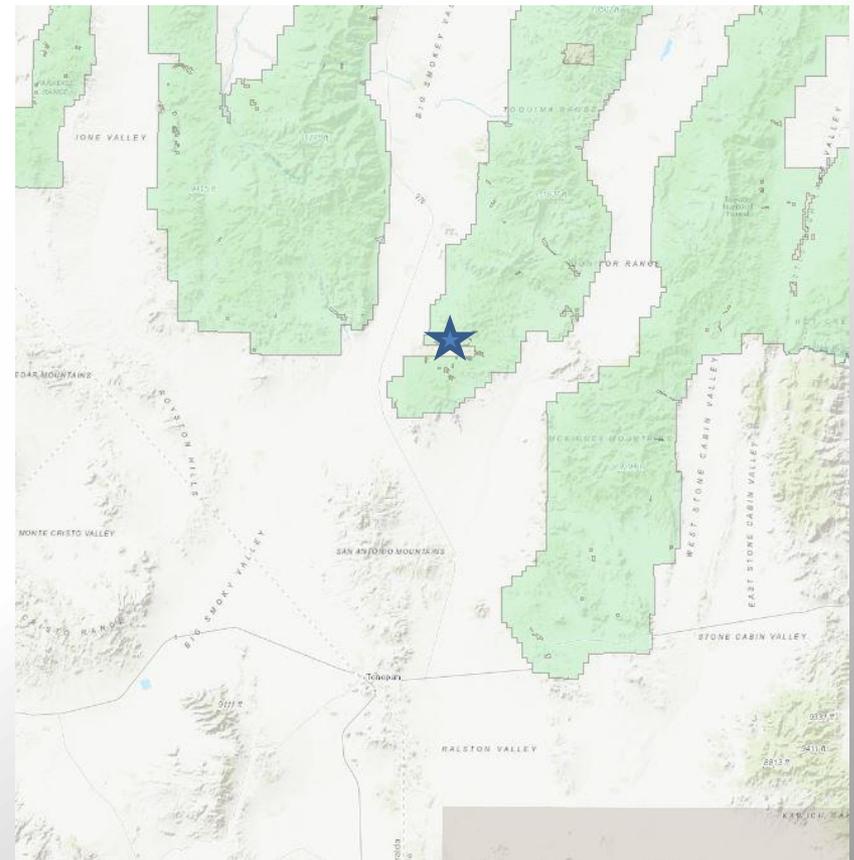
Notice Forfeiture

- Nevada Gold Holdings Inc.
 - Tempo Project
 - Notice level
- \$29,086 bond amount
 - 2.1 acres
- Terminated from bond pool 9/21/2012
- \$31,546 funding received by NDOM
- BLM forfeiture request date 12/04/2020
- Mount Lewis Field Office



Plan Forfeiture

- Western Mine Development
 - Manhattan Mill (Nye County)
 - Plan level
- \$114,288 bond
- Terminated from bond pool 1/08/2002
- \$53,922.93 funding received by NDOM
- BLM forfeiture request date 12/23/2020
- Tonopah Field Office



Manhattan Mill Video



COMMISSION BUSINESS

STAFF REPORTS



STEVE SISOLAK
Governor

STATE OF NEVADA
COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
400 W. King Street, Suite 106
Carson City, Nevada 89703
(775) 684-7040 • Fax (775) 684-7052
<http://minerals.nv.gov/>



MICHAEL VISHER
Administrator

Las Vegas Office: 375 E. Warm Springs Rd. #205, Las Vegas, NV 89119
Phone: (702) 486-4343; Fax: (702) 486-4345

MONTHLY ACTIVITY REPORTS
September 2020

Administrator

1. Attended the virtual meeting of the Legislative Committee on Public Lands and gave a PowerPoint presentation on 2019 mineral production in Nevada, industry and exploration activity, critical minerals, and potential impacts from land withdrawals.
2. Hosted the 2020 Excellence in Mine Reclamation Awards virtual ceremony and presented a PowerPoint summarizing the reclamation work for award winners KGHM Robinson Mine and Hudbay Minerals/Mason Resources along with a subsequent press release and Governor's tweet.
3. Attended weekly multi-agency meetings regarding impacts from, and status of, Western Oil Exploration's activity in Newark Valley, White Pine County.
4. Coordinated meetings with NDEP Bureau of Water Pollution Control to review and update current Fluid Minerals MOU.
5. Attended virtual meetings of the Nevada Mining Association, White Pine County Commission, statewide agency PIOs.
6. The regular meeting of the Commission on Mineral Resources was held on September 17th in Virginia City and virtually via Zoom.
7. Responded to assorted inquiries regarding mining claim procedures, mineral estates, and mineral occurrences.

Deputy Administrator

1. Bond pool activity in September was limited to decreases in one notice-level and one plan-level bond.
2. Finalized the Scope of Work for the Cultural AML Survey contract and handed off to the Purchasing Office to handle the RFP procedures.
3. Attended the quarterly Commission on Mineral Resource meeting at the 4th Ward School in Virginia City. Led a tour to a few commissioners and NDOM staff to the Forman Shaft where EPS was able to give a presentation on the proposed AML closure method.
4. Fenced two shafts north of Reno with Sean that were reported by the Washoe County Sheriff's Department.
5. Attended the virtual NAAML annual meeting, which included updates from IMCC, BLM, USFS, NPS, and various states on AML projects, budgets, and proposed legislation.
6. Finalized a contract with Computer Technical Services (CTS) for the Division's computer IT and LAN support. CTS will coordinate with EITS and the Division on the steps forward on the transition of IT support.
7. Coordinated with the BLM and the past exploration company to confirm that there are no explosives in an adit on the Pine Tree Mine closure project. The exploration geologist was able to confirm that the boxes marked explosives were reused for sample storage.
8. Assisted with AML program updates and responses to the July owner notification mail-out.
9. End-of-September financial summary of bond pool:

Reclamation Bond Pool Status Report		Current to: 10/1/2020						
Plan-level Bonds -Company	Project	Entry Date	Bond Amount	% of Pool	Comments	Deposit	Premiums Paid	% Bond Whole
Custom Details	Bovie-Lew	11/17/2006	\$14,643.00	0.59%	Reduced 5/20	\$ 7,328.32	\$18,272.21	174.8%
New Gold Nevada (NV Rae)	Black Rock Canyon	4/15/2005	\$611,204.00	24.56%		\$342,470.72	\$340,165.04	111.7%
SNL Sand LLC	Money Pit	5/21/2004	\$430,088.00	17.28%		\$233,171.91	\$284,584.28	120.4%
Western Mine Dev.	Victorine Mine	5/24/2000	\$45,875.39	1.84%	terminated	\$ -	\$0.00	
Western Mine Dev.	Kingston Mill	5/24/2000	\$100,450.00	4.04%	terminated	\$ -	\$0.00	
Western Mine Dev.	Manhattan Mill	5/24/2000	\$114,288.77	4.59%	terminated	\$ -	\$0.00	
TNT Venture	Big Canyon	1/27/2010	\$78,161.00	3.14%		\$ 39,615.03	\$48,741.14	113.0%
Dun Glen Mining	Dun Glen	8/11/2014	\$439,240.00	17.65%	Increase 8/20	\$238,536.99	\$189,820.64	97.5%
Statewide Notice-Level	Various	various	\$654,821.00	26.31%	58 Notice-level bonds			
Total Bond Amount			\$2,488,771.16					
Cash in Pool's Account (From BSR - 9/30/20)			\$3,630,364.69					
Unfunded Amount			-\$1,141,593.53					
Percent funded			145.9%					

Chief, Abandoned Mine Lands Program

AML work in September was focused on responding to information requests from claimants involved in the July 2020 AML mail-out. Project work by EPS included project work at semi-local closures and revisits to vandalized sites in Nye County. We also provided EPS staff with a technical training session focusing on site characterization. Filming of the new "Stay Out, Stay Alive" video continues with production support from AML staff.

1. EPS secured 10 and revisited 9 AML sites.
2. NDOM AML staff performed 6 securings, including two shafts north of Reno reported by the Washoe County Sheriff's Department.
3. Continued daily outreach and correspondence to claimants identified by July AML Notification mail-out.
4. Attended the virtual NAAML annual meeting which included updates from IMCC, BLM, USFS, NPS, and various states on AML projects, budgets, and proposed legislation. End-of-September summary of AML hazards:

	SITES INVENTORIED	SITES SECURED	% Secured
Since 1987	23,561	18,960	80%
2020 To Date	213	480	225%

GIS/ Field Specialist

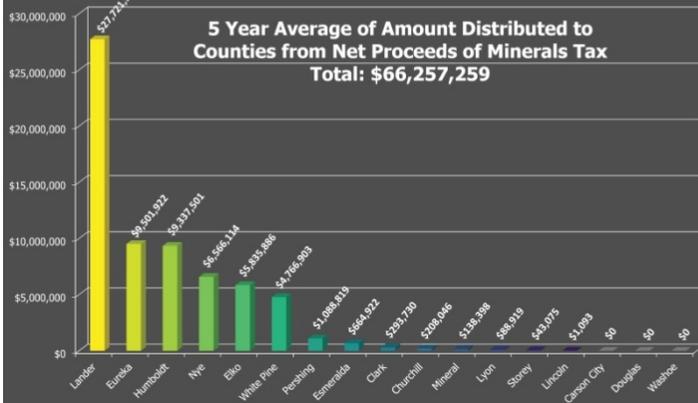
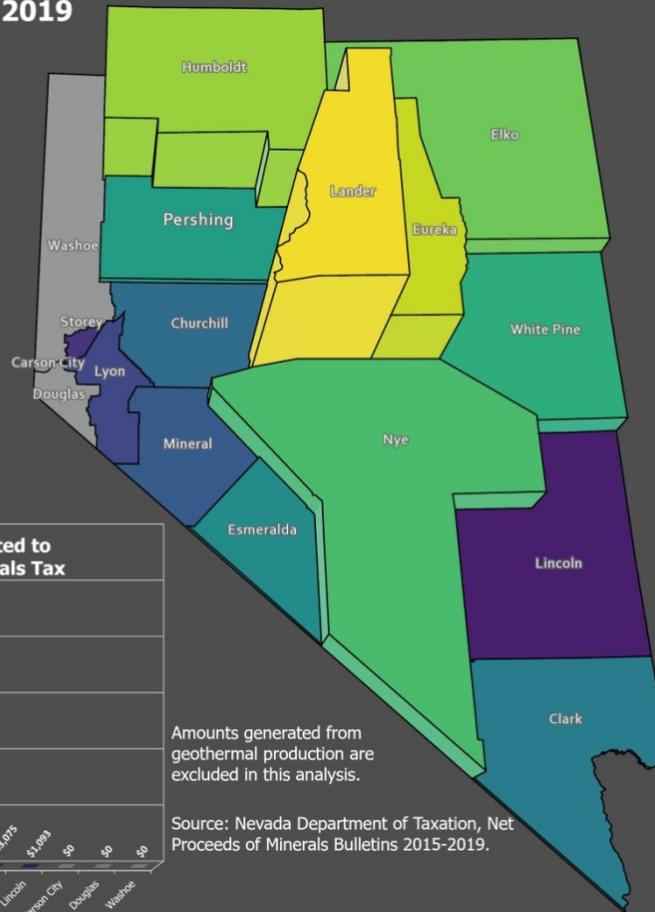
1. Worked on historic land withdrawal research to update data.
2. Researched and attributed Mineral Survey numbers to AML hazards located on patented mining claims that didn't already have one.
3. Compiled data to generate the Mining Employment in Nevada – 2019 diagram shown below.

Net Proceeds of Minerals Tax 2015 - 2019

Lucia M. Patterson, Nevada Division of Minerals

5 Year Average of Net Proceeds of Minerals Tax
Paid Per County Totaling: \$126,617,148

\$0 - Carson City, Douglas, Washoe
 \$1,175 - Lincoln
 \$55,506 - Storey
 \$131,960 - Lyon
 \$188,814 - Mineral
 \$373,160 - Churchill
 \$584,700 - Clark
 \$1,153,538 - Esmeralda
 \$1,842,335 - Pershing
 \$6,829,374 - White Pine
 \$9,385,630 - Nye
 \$11,840,638 - Elko
 \$22,605,364 - Humboldt
 \$28,189,640 - Eureka
 \$43,435,314 - Lander



Amounts generated from geothermal production are excluded in this analysis.

Source: Nevada Department of Taxation, Net Proceeds of Minerals Bulletins 2015-2019.

5. Worked on beta testing Collector and Field Maps for the AML program.
6. Made the Mining in Nevada Video for Lyon County Fall Festival and for our distance learning video collection.
7. Compiled an outline of some videos the Division will be putting together for the Keck Museum. It is planned to have a video highlighting the history and current uses of the Virginia and Gold Butte areas emphasizing AML and wildlife usage of wildlife-compatible closures. There will be an additional video highlighting a reclamation project somewhere in Nevada.
8. Participated in an interview with the Elko Daily Free Press on the Major Mines Publication which can be found at the following link. https://elkodaily.com/mining/major-mines-of-nevada-2019-now-available/article_e3c760-fe12-5903-a09a-aac5917669f0.html

AML/Fluid Minerals Field Specialist

1. Updated the USGS concerning NDOM's recent AML work using Lidar Imagery to identify hazardous features in the field, also created and shared a NV AML topo ranking map to help with prioritization of Lidar for the state for future acquisitions. Conducted analysis of AML work down using this method for efficiency and success. Started trial of automatic identification of safety hazards using Lidar and various ArcGIS toolboxes, but no method has proven successful yet.
2. Updated AML 'NV Point' Layer to include all extra points identified by staff (using aerial imagery or Lidar) for use in future fieldwork.
3. Updated all Topographic Quadrangle maps for the State of Nevada using an updated Python Script with previous map in ArcGIS software. Created new script that identifies topo quads where data has changed over the previous year, to use when updating data or map repository. Re-exported state-wide AML map and kmz files used for UAS software in AML work.

4. Attended NDOM AML meeting and made changes/additions to AML data check-in script as discussed by team. Researched sites where Priority Revisits have been identified by NDOM AML team, cleaned up data and refined criteria for future use.
5. Participated in discussions concerning updates to the NDOM/NDEP MOU.
6. Responded to data requests concerning: AML hazards on claimant's patented lands, NV lithium claims, and geothermal wells.
7. Created preliminary analysis of Newark Valley disturbance calculations from previously collected UAS imagery and fieldwork, for NDEP.
8. Geothermal Resource Council (GRC) annual conference preparation: creation of a virtual booth, including graphics, booth attendant log-in assignments, mini-session scheduling and trouble shooting.
9. Attended monthly State Information Security Committee Meeting, reviewed and reported on Information Security issues affecting the Division to Division staff. Continued talks concerning the configuration of KnowBe4 information security training, rewrite and review of the Division's Information Security Program, with help from Department of Administration. Recruited NDOM staff for help with program review process.

AML/Public Outreach – Southern Nevada Programs Manager

1. Participated in three conference calls between CCSD staff, Las Vegas PBS, and NvMA on including the Nevada Mining industry as part of the PBS American Graduate Program.
2. Participated in several conference calls with TerraSpectra and NDOM staff on improvements to the SOSA platform. Worked closely with TerraSpectra staff on a proposed overhaul to our letter notification tables and workflow.
3. Drafted, revised and finalized an RFP-development form to solicit bids for an AML revisit project in southern Nevada. The bidding process opened on October 1, and should conclude in November to make the December BoE meeting; the anticipated contract start date is early January, 2021.
4. Edited a cultural assessment RFP-development form to solicit bids for a licensed-archeologist-lead AML cultural assessment contract to expedite the CX process for AML hard closure projects.
5. Drafted, revised and finalized the 2020 reclamation awards flyer.
6. Continued to revise content for, and oversee the fabrication of the Las Vegas Natural History Museum, Minerals Education exhibit. Presented to the Commission on Mineral Resources on the current state of the exhibit.
7. Continued to plan for and oversee the updated Stay Out, Stay Alive abandoned mine lands public safety video.
8. Researched and obtained quotes and approvals for COVID-related NDOM equipment purchases – specifically, laptops for distance learning, once approved for budget authority by GFO.
9. Renewed a Licensed Provider Agreement with the American Red Cross to continue to provide first aid, CPR and AED training to NDOM staff and AML interns.
10. Researched and obtained quotes for AML field tablets to be purchased in this budget cycle. Participated in several discussions with AML staff on the path forward for our field hardware (Win10/Android).
11. Conducted three virtual school presentations covering minerals, OGG and AML topics in Elementary School classrooms; approximately 70 students reached. More than 15 presentations have already been booked for October (over 30 for NDOM as a whole).
12. Continued to respond to mining claimants regarding the July, 2020 AML letter notification mail out.

AML/Public Outreach and Education – Southern Nevada Field Specialist

1. Participated in two meetings with Nevada Mining Association, Colorado Mining Association Education Foundation, and members of NDOM team in planning a virtual mining course for teachers.
2. Attended the Commission on Mineral Resources meeting and presented an update on education and outreach programs during the pandemic.
3. Continued work on Las Vegas Natural History Museum exhibit. Applied museum suggested edits to the exhibit text.
4. Attended and participated in two AML meetings.
5. Submitted a proposal and received acceptance to present at CCSD's New Teacher Symposium.
6. Began work on presentation and gathering resources for CCSD's New Teacher Symposium.
7. Attended three meetings with the Nevada Mining Association, CCSD, and Vegas PBS American Graduate Initiative on production of a virtual field trip highlighting entry-level careers in mining.

8. Attended regularly scheduled CHOLLA meeting continuing discussions on the New Teacher Symposium virtual conference and instructions for using Nevada’s new Social Studies Standards.
9. Worked on adapting classroom presentations that support Next Generation Science Standards to be presented live in virtual classrooms.
10. Continued work on modifying classroom activity on erosion into a multipart video series with accompanying worksheets to be used for distance learning. Part 3 was shared on YouTube and NDOM’s open data site. Also, began work on final video of the series.
11. Delivered live virtual presentation, “Ask a Geologist,” to four 8th grade classes at Mannion Middle School. Presentation answered questions about geology and Earth Science careers.
12. Delivered presentations about the rock cycle and minerals education to three kindergarten classes at Rowe Elementary School.

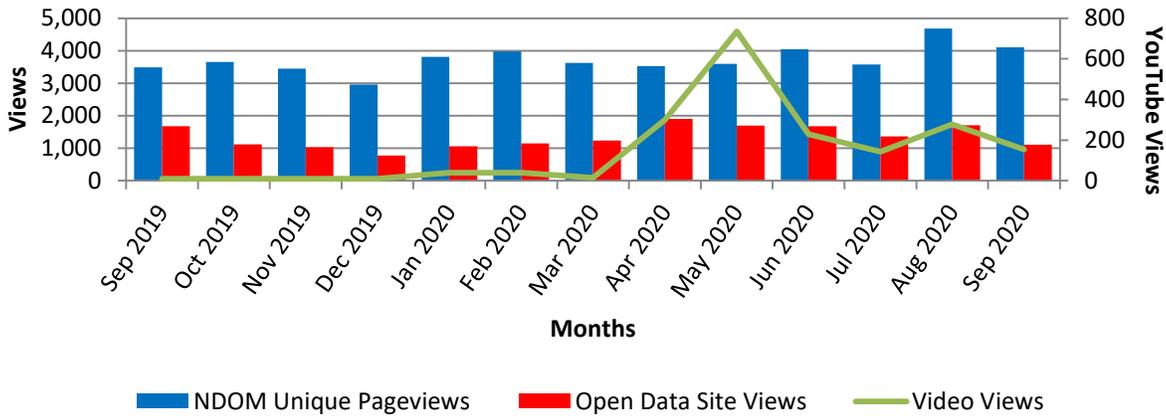
Fluid Minerals Program Manager:

1. No geothermal permits were issued in September. Ormat Nevada spudded the New York Canyon 68A(82-11)-2 production well utilizing the Kenai 17 drilling rig on September 1st.
2. No oil related permits were issued in September. SAM Oil received approval to re-enter the White River Valley 1-9 for logging and testing, as well as possibly deepening the well to the originally approved 2,300 foot total depth.
3. The Western Oil Exploration 35-1 spudded on July 17th. The BLM issued a drilling shut down order to Western Oil Exploration on July 24th due to excessive damage to access road and drill pad, as well as having too many living quarters on the drill pad. The order went into effect on July 27th after plug-back operations were completed. Western Oil Exploration graveled the access road and drill pad in an attempt to have the shut-down order lifted. The repair work of the access road and drilling pad did not meet BLM requirements. Western Oil Exploration is currently working with the SETT and NDEP to establish required sage grouse mitigation and disturbance permits. It is not known if Western Oil Exploration has paid the remaining \$400,000 in bonding to White Pine County for the repair of county roads.
4. Involved in weekly teleconferences with all agencies involved in the Western Oil Exploration shut-down.
5. One oil and one geothermal sundry notices were approved during September.
6. Waiting on bonding for the Whitegrass 1 (Wabuska) temperature gradient well applications.
7. Terra-Gen's sundry notice to plug and abandon the Dixie Valley 45-14 observation well, Permit 9, was approved.
8. Reviewed the Star Peak Rye Patch 72-28 work-over sundry notice to repair a pressure leak in the surface casing. Waiting on BLM approval.
9. Initial review of ORNI 43 Tungsten Mountain 86(85)-21 injection well application and drilling program.
10. Waiting on BLM notification of approval for the ORNI 32 Dixie Meadows 14A-8 injection well.
11. 3PL Operating received a temporary water right in Railroad Valley, Basin 173B. The LD 1-32 well is now under DWR regulatory authority.
12. No wells were inspected during September, but Courtney and I are scheduled to inspect Soda Lake on October 2nd. Courtney will also fly a drone over the new Soda Lake 3 plant and various wells.

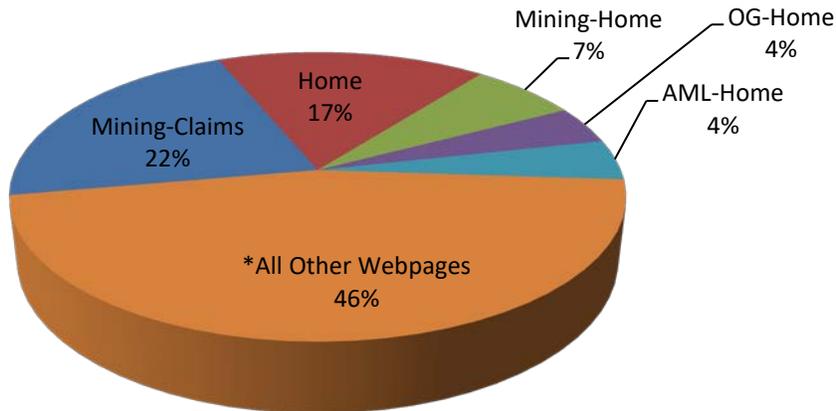
Website Activity

Period	NDOM Website Pageviews	NDOM Website Unique Pageviews	NDOM Website Top 5 Pageviews	NDOM Open Data Site Views	NDOM Video Views
Sep 2020	5,832	4,104	Mining Claims, Home, Mining-Home, OG-Home, AML-Home	1,106	154
Sept 2019- Sept 2020	68,721	48,515		17,495	1,971

NDOM Web/Open Data/Video Sites 13 Month Rolling Chart



NDOM Website - Top 5 Unique Page Views for September 2020



*All Other Webpages - Site pages including Home Pages, Current Information, About Us, Commission, Programs, News, FAQs, and Contact Us pages.

Top Visitors

Sep-2020	Country	United States, Canada, India, (unknown) and United Kingdom
	State	Nevada, California, Texas, Colorado, and Utah
	City	Las Vegas, Reno, (unknown), Carson City, and Sacramento

Number of Video Views in September 2020

Top 5 Video Views

154

Building a Web Mapping Platform, Stay Out and Stay Alive, Nevada Mineral Explorer Web Application Demo, and Minerals Education 1/Talking with Fossils (tied)



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COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
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MICHAEL VISHER
Administrator

MONTHLY ACTIVITY REPORTS
October 2020

Administrator

1. Virtual meetings attended: the NMBG Advisory Board, Mackay Executive Advisory Board, NvMA Environmental Committee, NvMA Public Policy Committee, IMCC, weekly BLM conference calls regarding Western Oil, Governor's Cabinet, and Statewide PIOs.
2. Attended virtual workshops from IOGCC on CO2, from USGS on GeoDAWN, and SMART 21 State financial system transition.
3. Attended and provided a presentation at NMEC's annual business meeting.
4. Responded to claimants' questions regarding status of FRTC and potential for compensation.
5. Conducted workshop on temporary regulations for reduction of oil production fee.
6. Answered questions from RGJ reporter regarding oil exploration and production in Nevada, unfortunately the published article contained several errors and inaccuracies, unsurprisingly casting the oil industry in a negative light.

Deputy Administrator

1. Bond pool activity in October consisted of one increase to a notice-level bond and four releases.
2. The RFP for the Clark County AML Revisit contract closed and evaluations will take place in November with a potential BOE date of January 12, 2021.
3. Held a meeting with the National Park Service AML program for potential future AML work. Multiple positions changed within the NPS AML Program and we reengaged previous discussions.
4. Attended the virtual IMCC mid-year meeting. Received updates from IMCC on various Office of Surface Management changes and on proposed legislation.
5. Continued the transition of DIR IT support to EITS and IT support contractor CTS. Held an in-person office meeting with CTS to start the coordination with EITS and the Division on the steps forward on the transition. Broadband providers (Cox-LV and AT&T-CC) were contacted to provision the offices for service. Another office visit by EITS and CTS will be held in November.
6. Continued to assist with AML program on owner notifications, wintern planning efforts and SOSA database updates.
7. Continued to work with Valerie on various budgeting items and any questions from the Governor's Finance Office on work programs and the FY22-23 budget.
8. End-of-October financial summary of bond pool:

Reclamation Bond Pool Status Report		Current to:	10/29/2020					
Plan-level Bonds -Company	Project	Entry Date	Bond Amount	% of Pool	Comments	Deposit	Premiums Paid	% Bond Whole
Custom Details	Bovie-Lew	11/17/2006	\$14,643.00	0.60%	Reduced 5/20	\$ 7,328.32	\$18,272.21	174.8%
New Gold Nevada (NV Rae)	Black Rock Canyon	4/15/2005	\$611,204.00	25.00%		\$ 342,470.72	\$343,221.06	112.2%
SNL Sand LLC	Money Pit	5/21/2004	\$430,088.00	17.59%		\$ 233,171.91	\$284,584.28	120.4%
Western Mine Dev.	Victorine Mine	5/24/2000	\$45,875.39	1.88%	terminated	\$ -	\$0.00	
Western Mine Dev.	Kingston Mill	5/24/2000	\$100,450.00	4.11%	terminated	\$ -	\$0.00	
Western Mine Dev.	Manhattan Mill	5/24/2000	\$114,288.77	4.68%	terminated	\$ -	\$0.00	
TNT Venture	Big Canyon	1/27/2010	\$78,161.00	3.20%		\$ 39,615.03	\$48,741.14	113.0%
Dun Glen Mining	Dun Glen	8/11/2014	\$439,240.00	17.97%	Increase 8/20	\$ 238,536.99	\$189,820.64	97.5%
Statewide Notice-Level	Various	various	\$610,660.00	24.98%	54 Notice-level bonds			
Total Bond Amount			\$2,444,548.16					
Cash in Pool's Account (From BSR - 10/29/20)			\$3,536,936.85					
Unfunded Amount			-\$1,092,388.69					
Percent funded			144.7%					

Chief, Abandoned Mine Lands Program

1. AML work in October focused on finalizing data entry from various hard closure projects and delivering project reports to the BLM.
2. Staff responded to an unsecured hazard reported by the public in Churchill County.
3. Contractor EPS completed 38 securings and repaired one vandalized bat gate at Wonder Mountain in Churchill County and repaired four vandalized bat gates in White Pine County.
4. Filming of the highly anticipated "Stay Out, Stay Alive" production by contractor THS Visuals was completed on October 15. We expect final products in late November.
5. October status of AML program:

	SITES INVENTORIED	SITES SECURED	% Secured
Since 1987	23,515	18,947	80%
2020 To Date	214	462	255%

GIS/ Field Specialist

1. Completed the Mining in Nevada video for our outreach library and for the Lyon County Fall Festival.
2. Prepared for and presented "Some Rocks" at Western Nevada College for their pre-k program.
3. The Mining in Nevada video was presented at the Lyon County Fall Festival which had over 1,000 attendees.
4. Completed a new video covering the basics of mineral identification.
5. Started work creating a video which reviews the basics of ore deposits.
6. Attended NMEC, virtually of course.
7. Worked on the historic land withdrawals research project.
8. Assisted in the field securing a hazard reported by the public in the Sand Springs area, Churchill County.

AML/Fluid Minerals Field Specialist

1. Conducted a review of AML inventory results using Lidar Imagery to identify hazardous features.
2. Evaluated AML sites that have an unreachable owner listed in AML database, for prioritization of advanced research to find appropriate responsible party. Created and tested script to update AML owners in the database and note sections quickly and efficiently. Downloaded new claim point listings (compiled by GIS Specialist), added quarter section count, reviewed for non-claimed sites visited during 2020 field work. Updated resources used for land research and reviewed land research procedures, to be discussed at upcoming meeting with AML team.
3. Responded to data requests for known AML hazards located on claimant's patented lands.
4. Reviewed AML sites on Wilderness or Wilderness Study Areas in Nevada (BLM/FS) for review for future projects, sent list of sites to USFS, as requested.
5. Transferred 2017 NAIP imagery to local storage (from USGS) for future AML and other use, still needs processing to meet file size restrictions on field tablets.
6. Helped with NAAMPLP 2021 planning, review of exhibition area and meal/break planning.

7. Adapted previous script for reviewing geothermal temperatures of production wells over time, now for use by any python-ready computer (no software required). Will be part of geothermal field analysis review in coming months.
8. Conducted UAS survey during well inspection field work of Soda Lake Geothermal Field and Soda Lake Binary Plant 3.
9. Created informative PowerPoint video presentation highlighting Nevada Geothermal, with collaboration from the Governor's Office of Energy and Bureau of Mines and Geology (available on the NDOM YouTube Page). Created new Nevada Geothermal Plant Timeline graph, and summary of wells drilled vs permitted graph.
10. Attended Geothermal Resource Council (GRC) annual conference: finalized and attended virtual booth and attended professional talks.
11. Met with Division Administrator for training on geothermal well stimulation chemical approval list for proposed geothermal well.
12. Attended: 4th Quarter Safety Committee Meeting, USGS/GeoDawn Nevada Lidar and Geophysics project summary and data acquisition meeting, CMR Oil Fee reduction workshop, NDOM-CTS contract meeting, BLM-NDOM meeting on current state well topics.
13. Attended monthly State Information Security Committee Meeting, reviewed and reported on Information Security issues affecting the Division to Division staff. Worked on revisions and updates to agency's Information Security Program.

AML/Public Outreach – Southern Nevada Programs Manager

1. Conducted 18 virtual minerals education presentations to K-12 classrooms; approximately 450 students reached.
2. Secured three hazards within the Gold Butte National Monument.
3. Participated in the filming of the NDOM AML “Stay Out, Stay Alive” video remake near Tonopah.
4. Researched and acquired quotes for laptops to be used for distance work for the Division. Quotes entered as an RXQ into Advantage – awaiting approval.
5. Researched and compiled a table comparing rugged tablets for the Division's AML program. Acquired quotes for units that met our specifications and presented findings to the AML staff to decide on our needs moving forward.
6. Continued to advance work on the Las Vegas Natural History Museum exhibit through meetings and modifications to text, design and graphics.
7. Participated in a quarterly NDOM safety meeting and monthly RAMS AML meeting.
8. Chaired a quarterly McCaw School of Mines Board meeting.

AML/Public Outreach and Education – Southern Nevada Field Specialist

1. Participated in three meetings with Nevada Mining Association, Colorado Mining Association Education Foundation, and members of NDOM team in planning a virtual mining course for teachers.
2. Continued work on Las Vegas Natural History Museum exhibit.
3. Completed three 4th grade presentations on Earth and Human Activity at Lummis ES.
4. Completed two 1st grade presentations on the Rock Cycle at Dooley ES.
5. Completed two 4th grade presentations on Earth and Human Activity at Myrtle Tate ES.
6. Presented “What am I made of?” to one 3rd grade class at Cartwright ES.
7. Presented Earth and Human Activity to one 4th grade class at Hayden ES.
8. Delivered two presentations to five 5th grade classes on Minerals Uses in Society at Dean Peterson ES.
9. Prepared and delivered three presentations at CCSD's New Teacher Symposium on educational resources provided by NDOM.
10. Delivered thirteen presentations to K-5 classes at Lowman ES on Minerals Uses in Society.
11. Presented Earth and Human Activity to one 4th grade class at Herr ES.
12. Presented to four 8th grade classes at Mannion MS on Minerals in Society and Mining.
13. Presented Earth and Human Activity to four 4th grade classes at Heckethorn ES.

Fluid Minerals Program Manager:

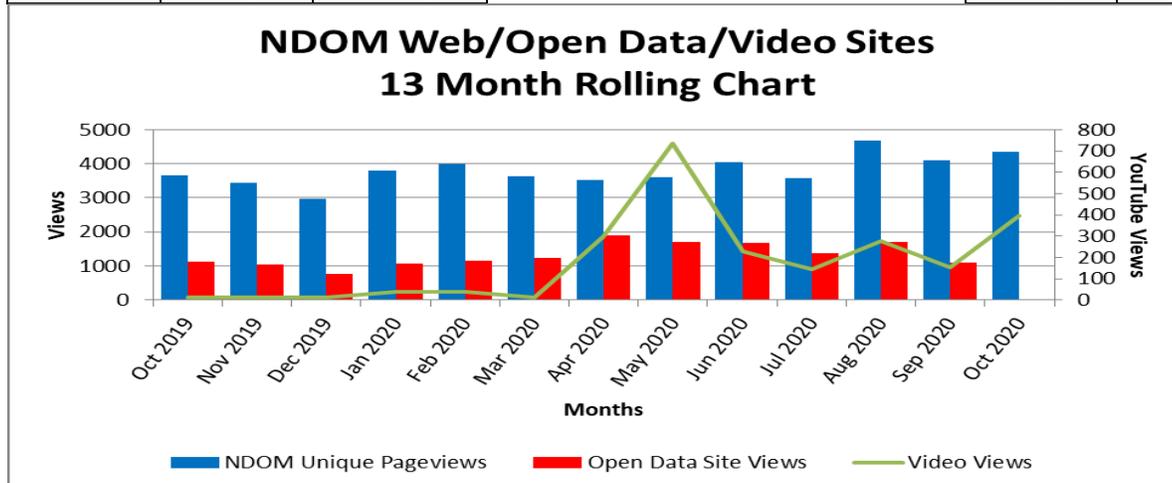
1. Six geothermal permits for TG wells were issued in September to Open Mountain Energy. The wells will be located on federal leases near the Wabuska Field. Two TG well permit applications for wells located on private land at Wabuska are pending, waiting on bonding from Whitegrass 1 (Wabuska). Ormat Nevada completed the drilling of the New York Canyon 68A(82-11)-2 production well on October 12th.

1. No oil related permits were issued in September. Reviewed the revised drilling and cementing programs for the Kebo Ragged Ridge 1 well, to be located in Railroad Valley south-southeast of the Currant Creek Field. SAM Oil re-entered the White River Valley 1-9 for logging and testing. The well was not deepened beyond its original total depth.
2. The Western Oil Exploration 35-1 spudded on July 17th. The BLM issued a drilling shut down order to Western Oil Exploration on July 24th due to excessive damage to access road and drill pad, as well as having too many living quarters on the drill pad. The order went into effect on July 27th after plug-back operations were completed. Western Oil Exploration is continuing to address issues with federal, state, and county agencies. Western Oil Exploration may not be able to continue to drill until next spring, due to restrictions related to sage grouse habitat.
3. Continue to be involved in weekly teleconferences with all agencies involved in the Western Oil Exploration 35-1 shut-down.
4. Five oil and two geothermal sundry notices were approved during October.
5. Witnessed the plugging of Terra-Gen's Coyote Canyon (Dixie Valley) 45-14 observation well, Permit 9, October 27th through 31st. The plugging operation was successful.
6. Waiting on BLM approval for the Star Peak Rye Patch 72-28 work-over sundry notice to repair a pressure leak in the surface casing.
7. Reviewed of ORNI 43 Tungsten Mountain 86(85)-21 injection well application and drilling program. Waiting on BLM approval.
8. Waiting on BLM notification of approval for the ORNI 32 Dixie Meadows 14A-8 injection well.
9. Participated in the Geothermal Resource Council virtual exhibit hall during the annual conference, October 18th through 23rd. Courtney put the booth together, and did an outstanding job. Bridget Ayling gave a presentation related to geothermal exploration in Nevada, and did an outstanding job as well. The booth was occupied by three agencies, NDOM, the Governor's Office of Energy, and the Great Basin Center for Geothermal Energy (NBMG).
10. Inspected 86 geothermal wells in six locations. Courtney and I inspected Soda Lake together (18 wells).

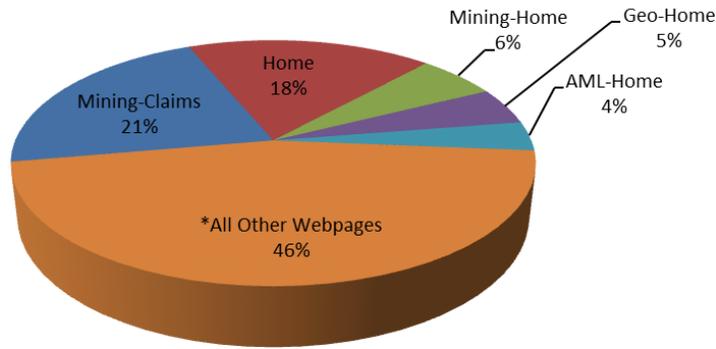
FY 2021 Well Inspections	Total Wells	Wells Needed for FY21	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal (6 Locations)	453	151	86	57.0%	65
Oil	120	40	0	0%	40
Totals	573	191	86	45%	105

Website Activity

Period	NDOM Website Pageviews	NDOM Website Unique Pageviews	NDOM Website Top 5 Pageviews	NDOM Open Data Site Views	NDOM Video Views
Oct 2020	5,965	4,343	Mining Claims, Home, Mining-Home, Geo-Home, AML-Home	0	394
Oct 2019- Oct 2020	69,906	49,373		15,813	2,355



NDOM Website - Top 5 Unique Page Views for October 2020



*All Other Webpages - Site pages including Home Pages, Current Information, About Us, Commission, Programs, News, FAQs, and Contact Us pages.

Top Visitors

Oct-2020	Country	United States, Canada, United Kingdom, India, and Australia
	State	Nevada, California, Texas, Colorado, and Washington
	City	Las Vegas, Reno, (unknown), Carson City, and Sacramento

Number of Video Views in October 2020

394

Top 5 Video Views

Mining in Nevada, Nevada Geothermal State Agency Collaboration, Stay Out and Stay Alive, Building a Web Mapping Platform, and OGG Open Data Page Demo



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COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
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MICHAEL VISHER
Administrator

MONTHLY ACTIVITY REPORTS
November 2020

Administrator

1. Virtual meetings attended: BLM Gold Belt, Nevada Joint Military Advisory Committee (NJMAC), weekly BLM/Western Oil conference calls, NvMA Taxation Working Group and Hard Hat Chat, Governor's Cabinet, and Statewide PIOs.
2. Attended IOGCC business conference virtual meetings.
3. Attended in-person presentation by Resource Cementing LLC on reverse-circulation cementing practices and benefits.
4. Met with representatives from Schlumberger regarding lithium prospects in Nevada.
5. Attended webinars on Mineral Industry Outlook (S&P Global) and Energy Sector Outlook (UT TexTalks).
6. Completed supervisory courses on Work Performance Standards and the State's Drug and Alcohol Testing Program.
7. Presented at the CMR hearing on temporary regulations for reduction of oil production fee.

Deputy Administrator

1. Bond pool activity in November consisted of three increases to notice-level bonds,
2. Visited and documented with photos as well as drone imagery and video the Manhattan Mill Site bonded through the NDOM reclamation bond pool. The imagery will be provided to the BLM to help plan and contract the necessary reclamation of the mill site.
3. Vendor evaluations were conducted for the Clark County AML Revisit contract RFP with a Letter of Intent to award planned for issuance in December and a potential BOE consideration and approval in January.
4. Attended the Nevada Joint Military Affairs Committee meeting. Received updates from multiple military branches as well as from state and federal agencies.
5. Participated in the Mining and Metallurgical Society of America Abandoned Mine Lands update where Tawny Bridgeford (National Mining Association) and Steve Moyer (Trout Unlimited) discussed AML legislative prospects post-election, as well as how both groups worked together to find consensus on the AML pilot project.
6. Attended the CMR hearing and adoption of temporary regulations for NAC 522.
7. Held an office visit with agency IT contractor CTS and Division of Industrial Relations' IT staff regarding coordination with EITS and steps forward and timeline for the transition of network and IT support.
8. Continued to assist Sean with aspects of the AML program.
9. Continued to work with Valerie on various budgeting items and response to questions from the Governor's Finance Office on work programs and the FY22-23 budget.
10. End-of-November financial summary of bond pool:

Reclamation Bond Pool Status Report		Current to: 12/2/2020						
Plan-level Bonds -Company	Project	Entry Date	Bond Amount	% of Pool	Comments	Deposit	Premiums Paid	% Bond Whole
Custom Details	Bovie-Lew	11/17/2006	\$14,643.00	0.60%	Reduced 5/20	\$ 7,328.32	\$18,272.21	174.8%
New Gold Nevada (NV Rae)	Black Rock Canyon	4/15/2005	\$611,204.00	24.90%		\$ 342,470.72	\$343,221.06	112.2%
SNL Sand LLC	Money Pit	5/21/2004	\$430,088.00	17.52%		\$ 233,171.91	\$284,584.28	120.4%
Western Mine Dev.	Victorine Mine	5/24/2000	\$45,875.39	1.87%	terminated	\$ -	\$0.00	
Western Mine Dev.	Kingston Mill	5/24/2000	\$100,450.00	4.09%	terminated	\$ -	\$0.00	
Western Mine Dev.	Manhattan Mill	5/24/2000	\$114,288.77	4.66%	terminated	\$ -	\$0.00	
TNT Venture	Big Canyon	1/27/2010	\$78,161.00	3.18%		\$ 39,615.03	\$49,131.95	113.5%
Dun Glen Mining	Dun Glen	8/11/2014	\$439,240.00	17.89%	Increase 8/20	\$ 238,536.99	\$189,820.64	97.5%
Statewide Notice-Level	Various	various	\$621,032.00	25.30%	54 Notice-level bonds			
Total Bond Amount			\$2,454,982.16					
Cash in Pool's Account (From BSR - 11/30/20)			\$3,559,945.39					
Unfunded Amount			-\$1,104,963.23					
Percent funded			145.0%					

Chief, Abandoned Mine Lands Program

1. AML work in November centered on preparing NDOM's annual AML report to the Forest Service regarding AML fieldwork completed on USFS ground.
2. Completed contractor proposal reviews for the upcoming RFP hazard revisit program in Southern Nevada.
3. A closure plan is being developed for vandalized sites in Clark County and a large scale closure project in Esmeralda County.
4. Planning for the winter intern program was completed in late November. Intern fieldwork is set to begin mid-December with three interns with securing and inventory efforts in Washoe and Nye counties.
5. AML status as of end of November:

	SITES INVENTORIED	SITES SECURED	% Secured
Since 1987	23,577	18,975	80%
2020 To Date	203	525	380%

GIS/ Field Specialist

1. Completed new "The Basics of Ore Deposits" educational video.
2. Completed modifications to the geothermal database to streamline and automate invoicing.
3. Gave five presentations on "Mining in Nevada" to two different Clark County schools.
4. Compiled a new land research "how-to" document, which is nearing completion.
5. Updated the oil database to tabulate and track barrels sold and fees paid to NDOM.

AML/Fluid Minerals Field Specialist

1. Updated topo quads and AML data where work was conducted since last export. Discussed future helicopter survey of historical features in Tonopah area. Tested the new AML hardrock closure database.
2. Researched AML sites that have an unreachable owner listed in AML database. Conducted land research and database clean-up of AML on BLM/private land, sites with incorrect ranking additions, and unsecured sites with unreachable owners listed. Adapted python scripts for AML database to include various input types, check for possible errors in site names and text input fields.
3. Conducted UAS site surveys of Fallon Bentonite Mine Reclamation and Manhattan Pre-Reclamation Site and used UgCS software to create orthomosaics from drone imagery collected.
4. Presented Lidar AML summary to NDOM staff for review, evaluated methods and discussed means to project findings statewide for final analysis. Downloaded InSAR data for future processing.
5. Prepared land research map and presented Land Research resources to NDOM AML staff, including overview of methods to complete.

6. Attended: MSHA refresher 8-hour course, reverse-circulation cementing presentation by Resource Cementing, Education Committee meeting with Nevada Mining Association, TerraSpectra meeting concerning state and progress of SOSA database, CMR Oil Fee Reduction Hearing,
7. Attended monthly State Information Security Committee meeting, reviewed and reported on Information Security issues affecting the Division to staff.

AML/Public Outreach – Southern Nevada Programs Manager

1. Conducted 13 K-12 classroom presentations on minerals education and the dangers of abandoned mines; approximately 365 students and teachers in attendance.
2. Inspected the Tonopah Library for a possible AML-related void beneath the sidewalk adjacent to the building reported by the staff there; found no visible signs of AML-related subsidence.
3. Presented to the Friends of Nevada State Museum, Las Vegas group on Nevada mining; ten members in attendance.
4. Participated in an NvMA Education Committee meeting.
5. Participated in an NDOM Revisit RFP evaluation meeting; decided to award one vendor with a contract to complete AML revisit work in southern Nevada over the next two years.
6. Moved contents of our storage shed to a new location closer to our new office space.
7. Continued to advance the LVNHM minerals education display project.
8. Continued to advance the new “Stay Out, Stay Alive” video project.

AML/Public Outreach and Education – Southern Nevada Field Specialist

1. Participated in two meetings with Nevada Mining Association, Colorado Mining Association Education Foundation, and members of NDOM team in planning a virtual mining course for teachers.
2. Continued finalizing graphics for the Las Vegas Natural History Museum exhibit and participated in meetings.
3. Completed a presentation on Minerals in Society for GATE students at Fong ES.
4. Completed five third-grade “What am I made of?” presentations at Lowman ES.
5. Completed three fourth-grade presentations on Earth and Human Activity at Bailey ES.
6. Attended informational meeting for Nevada CONNECTS Project Subject-Matter-Expert about being paired with a Nevada teacher to create a high-quality lesson to support NGSS.
7. Presented “Ask-a-Geologist”/general mineral education to four seventh-grade classes at Greenspun MS.
8. Delivered three presentations to fourth-grade classes on the Rock Cycle at Gibson ES.
9. Presented Earth and Human Activity to one fourth-grade class at Rogers ES.
10. Delivered four presentations to seventh-grade classes at Burkholder MS on Minerals in Society and Mining.
11. Presented the Rock Cycle to one first-grade class at Steele ES.
12. Attended and participated in AML land research meeting.
13. Presented to one fifth-grade class at Bailey ES on Earth and Human Activity.
14. Presented “What am I made of?” to three classes at Culley ES.
15. Presented the Rock Cycle to one fourth-grade class at Beckley ES.
16. Delivered seven presentations On Minerals in Society and Mining to nine seventh-grade classes at Tarkanian MS.
17. Attended and participated in CHOLLA meeting.

Fluid Minerals Program Manager:

1. Two geothermal permits were issued in November to Ormat Nevada and ORNI 32 (Ormat Nevada). The Crescent Valley 17(48)-3 production well permit was issued to Ormat Nevada, and the Dixie Meadows 14A-8 injection well permit was issued to ORNI 32. Open Mountain Energy began drilling at four TG well permit locations on federal leases at Wabuska.
2. Two oil permits were issued in November. The Ragged Ridge 1 well, to be located in Railroad Valley south-southeast of the Current Creek Field, was permitted to Kebo Oil & Gas. Major Oil International permitted the Eblana 9 in Hot Creek Valley. The Eblana 9 spudded in late November. SAM Oil re-entered the White River Valley 1-9 for logging, testing, and possibly deepening the well to the approved total depth of 2,300 feet. Due to wellbore issues, SAM Oil could not get back into the hole at depth. SAM Oil is currently deciding what actions they would like to take, plug and abandon or sidetrack. The Aztec 777 drilling rig moved off of the Western Oil Exploration 35-1 location.

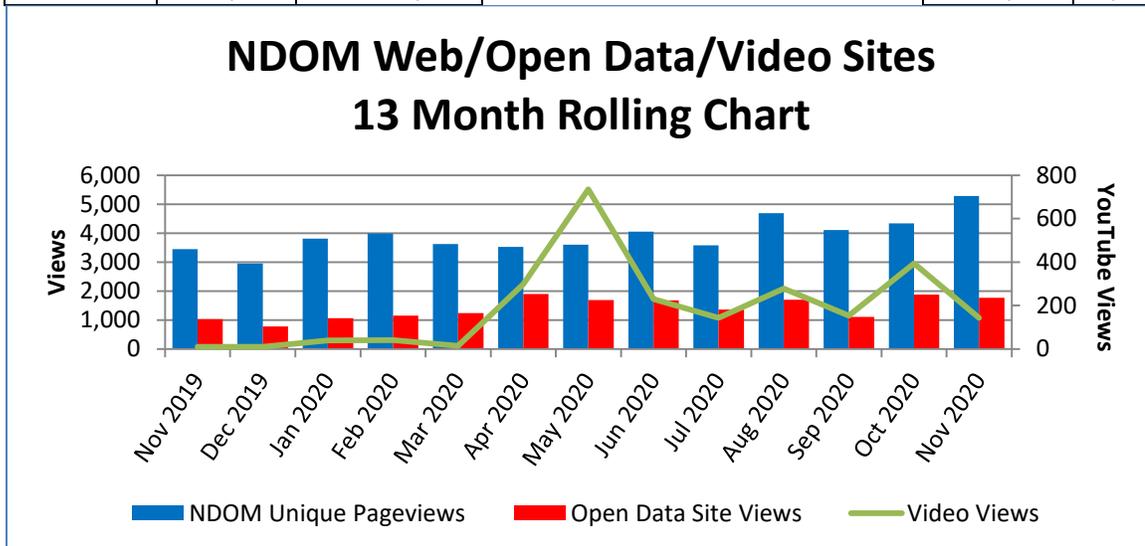
3. Continue to be involved in weekly teleconferences with all agencies involved in the Western Oil Exploration 35-1 shut-down.
4. Fourteen geothermal and one oil sundry notices were approved during November.
5. Have reviewed the ORNI 43 Tungsten Mountain 86(85)-21, San Emidio 84-20 and 25(46)-28 injection well applications and drilling programs. Waiting on BLM approval.
6. Took annual leave during the last week of November.
7. No oil or geothermal wells were inspected during November.

FY 2021 Well Inspections	Total Wells	Wells Needed for FY21	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal (6 Locations)	454	151	86	56.8%	65
Oil	120	40	0	0%	40
Totals	574	191	86	45%	105

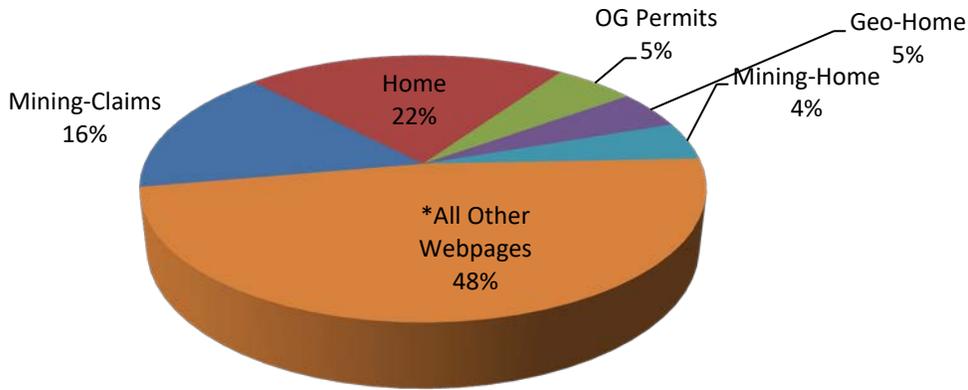
Website Activity:

Website/Open Data Site/Video Views Monthly Report for November 2020

Period	NDOM Website Pageviews	NDOM Website Unique Pageviews	NDOM Website Top 5 Pageviews	NDOM Open Data Site Views	NDOM Video Views
Nov 2020	6,734	5,283	Mining Claims, Home, OG Permits, Geo-Home, Mining-Home	1,764	143
Nov 2019- Nov 2020	71,271	50,997		18,342	2,488



NDOM Website - Top 5 Unique Page Views for November 2020



*All Other Webpages - Site pages including Home Pages, Current Information, About Us,

Top Visitors

Nov-2020	Country	United States, Canada, United Kingdom, Ireland, and France
	State	Nevada, California, Kansas, Texas, and New York
	City	Las Vegas, (unknown), Coffeyville, Reno, and Carson City

Number of Video Views in November 2020

Top 5 Video Views

143

Stay Out and Stay Alive; Weathering & Erosion Part 1; A General Overview... Earth and Nevada Geological History; Nevada Mineral Explorer Web Application Demo; & Weathering & Erosion Part 2.