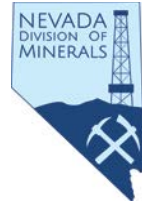




BRIAN SANDOVAL
Governor

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

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

Thursday February 4, 2016

9:00 A.M.

Agenda

CALL TO ORDER

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

ROLL CALL

PLEDGE OF ALLEGIANCE

COMMENTS BY THE GENERAL PUBLIC

Pursuant to N.R.S. 241, this time is devoted to comments by the public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item on the agenda until the matter itself has been specifically included on a successive agenda and identified as an item for possible action. All public comments will be limited to 5 minutes for each person.

ACTION WILL NOT BE TAKEN

I. MINUTES

- A. Approval of the November 5, 2015 meeting minutes

FOR POSSIBLE ACTION

II. NEW BUSINESS

- A. Thorium Energy Presentation

FOR POSSIBLE ACTION

Commissioner Henderson requested investigation of the use and availability of thorium in Nevada at the August 27, 2015 CMR meeting.
Garrett Wake has researched this topic and will present findings.

- B. Status on Regulation changes in NAC 513, including claim fee increase

FOR DISCUSSION ONLY

At the November 5, 2015 CMR meeting, the Commission directed staff to draft language and begin rule-making on changes to Chapter 513, including language clean-up and changes to the abandoned mine lands program and a possible fee increase of \$1.50 per claim to the statutory limit of \$10 per claim.
Rich Perry

- C. Update on Sage Grouse RMP/SFA activity and impacts.

FOR POSSIBLE ACTION

At the November 5, 2015 CMR meeting the Chairman formed a task force to evaluate the impacts of the Sage Grouse LUPA/RMP and proposed mineral withdrawal. With the assistance of the Nevada Bureau of Mines and Geology, the Division developed maps of high mineral potential which were utilized in the Governor's comments on the mineral withdrawal to the BLM. The Commission may discuss and consider recommendations to the Governor.

III. OLD BUSINESS

- A. NDOM Fiscal Year 2016 forecast, Reserve Balance and Claim Fees for 2015 vs prior year. Mike Visher **FOR DISCUSSION ONLY**
- B. Update of Activities by the Nevada Bureau of Mines and Geology and proposal to update the Nevada Mineral and Energy Resource Exploration Survey with 2015 data, and cost to update Major Mines and Energy Producer maps - Jim Faulds **FOR POSSIBLE ACTION**
- C. 2015 AML Program re-cap and 2016 planning Activities, accomplishments trends and metrics for calendar 2105 will be presented and plans for 2016 outlined. Rob Ghiglieri **FOR DISCUSSION ONLY**
- D. Education Activities and Outreach Bill Durbin will present the accomplishments, challenges and metrics of the Division's educational outreach program for calendar 2015. **FOR DISCUSSION ONLY**
- E. MSM annual \$2 per claim consideration **FOR POSSIBLE ACTION**
The Commission signed an inter-local contract with the University in 2008 to collect \$2 per claim annually to assist with funding the Mackay School of Earth Science and Engineering education activities. The amount is based on mining claim filings for the previous year, or 2015. The current five-year agreement, which was renewed in early 2013, expires in 2018.

IV. STAFF REPORTS

- 1) Mining/Reclamation Bond Pool – Mike Visher
- 2) Oil, Gas, and Geothermal – Rich Perry (Oil and geothermal drilling update)
- 3) Administrator's report- Rich Perry
- 4) Correspondence –

COMMISSION BUSINESS

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

COMMENTS BY THE GENERAL PUBLIC

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

ADJOURNMENT

NOTICE TO PERSONS WITH DISABILITIES

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

The Commission will be attending a field trip on Wednesday, February 3, 2016, to visit the Simplot Silica operation in Overton, Nevada, arriving at the Simplot site at 1 PM. Members of the public may attend but must provide their own transportation and safety equipment. Advanced notification is required. Please call Valerie Kneefel at (775) 684-7043.

I. MINUTES



BRIAN SANDOVAL
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STATE OF NEVADA
COMMISSION ON MINERAL RESOURCES

Thursday, November 5, 2015 – 1:00 p.m.
Bishop Manogue High School
110 Bishop Manogue Dr. Reno, NV 89511

MINUTES-DRAFT

COMMISSIONERS IN ATTENDANCE:

Richard DeLong-Chairman
Fred Gibson
Dennis Bryan
Arthur Henderson
John Mudge
David Parker
John Snow

STAFF IN ATTENDANCE:

Rich Perry - Administrator (NDOM)
Valerie Kneefel (NDOM)
Lowell Price (NDOM)
Nick Potter (NDOM)
Mike Visher (NDOM)
Bill Durbin (NDOM)
Bryan Stockton (AG)
Lucia Patterson (NDOM)

PUBLIC IN ATTENDANCE:

Paul Enos
Jaron Hildebrand
Alan Coyner
Russ Fields
Jim Faulds
Allen Biaggi
Tori Sundheim

CALL TO ORDER

Richard DeLong called the meeting to order at 1:00 PM

ROLL CALL

All commissioners in attendance.

PLEDGE OF ALLEGIANCE

Flag presentation by Bishop Manogue

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

Richard DeLong: asked for any public comments.

John Snow: Mentioned that this is the 30 year anniversary of geothermal production. Brass ingots were made to commemorate the anniversary. The dies were passed around. Ingots are available to purchase from the NBMG website.

I. MINUTES

- A. Approval of the August 27, 2015 meeting minutes

ACTION TAKEN: Dennis Bryan moved to approve the August 27, 2015 meeting minutes. Arthur Henderson seconded the Motion. Motion carried unanimously.

II. NEW BUSINESS

- A. Update on Sage Grouse issues in Nevada as they pertain to mining.
Allan Biaggi

Allen Biaggi: from NvMA provided a PowerPoint presentation.

He gave an overview of the sage grouse. Largest of the six grouse species are in North America. They eat primarily sagebrush, but also insects and other plants. Department of Wildlife gives tours during mating season. The sage grouse is present in 11 western states, with Nevada and Wyoming having the most. He mentioned that habitat mapping is a big issue associated with the sage grouse. Northern 2/3 of Nevada has the most habitat. The ideal habitat would be only sagebrush and little to no juniper or pinyon or other elevated perches. Need very little disturbance during mating. Sage grouse numbers were quite large in 1930's, then declined significantly, but recently numbers are up in 2015. Threats to the population in NV are wildfire, invasive species, and juniper and pinyon encroachment. In Nevada, mining's footprint is less than 170,000 acres... out of 71,000,000 acres. We've had afternoons where that many acres were destroyed by wildfire. Major threat in all states is regulatory control. Amend land use plans and can develop through the NEPA process. Governor Sandoval established the Sagebrush Ecosystem Council which worked to develop the Nevada Greater Sage Grouse Conservation Plan. They are working on a conservation plan to include no exclusion zones. Use economic drivers to protect critical habitat, use the credit mitigation system. Improper grazing, predators, and wild horse/burro are a problem. Final LUPA/EIS for Nevada and Eastern California. The federal government did not include the Nevada Conservation Credit System in the LUPA. Also, certain daily and seasonal time restrictions were put in place. Withdrawal from mineral entry was included for 2.7 million acres along the northern border. A 3% anthropogenic disturbance cap was put into place. Wildfires are considered anthropogenic.

Richard DeLong: will you touch on the travel restrictions?

Allen Biaggi: not a lot, because they're still up in the air.

Richard DeLong: it looks like for areas without a travel management plan, then those roads will actually be closed to OHV use, which affects exploration.

Allen Biaggi: Mining exploration is taking the biggest hit in the LUPA decision. There is a 2 year segregation period with the option for a 2 year extension. This does not impact valid existing rights. The purpose is to gather

information on the area for a final withdrawal decision (20 year period). The largest segregation areas are along the Oregon and Idaho borders.

What is a valid mining claim? Defined in FSM2800, Chapter 2810- Mining Claims.

SEE POWERPOINT FOR DESCRIPTION

Litigation- In Nevada suits filed by AEMA, NACO, Nevada Mineral Resource Alliance and FIM Corp., and in a separate action Elko and Eureka Counties, Western Exploration and Quantum Minerals.

Richard DeLong: AEMA has not entered the Nevada lawsuit.

Dennis Bryan: Nye, Humboldt and Washoe counties have joined.

Allen Biaggi: Litigation outcome: may result in a stay, remand the decision back to USFWS, reconsider the LUPA/EIS, or overturn the listing decision. If it was overturned then it affects all 11 states.

Dave Parker: Asked how does it affect the control if it goes to USFWS?

Allen Biaggi: Stated it would be huge. You would have to have all approval through the USFWS. With the listing, the travel restriction and caps will probably not go away.

Art Henderson: Asked what is Canada doing in the area of sage grouse

Allen Biaggi: Responded that Canada has extracted themselves from the process. Laws are less stringent.

Art Henderson: Stated, where the mining laws are more favorable.

Allen Biaggi: Stated that the bird is still being hunted, which from a perspective standpoint is odd.

Art Henderson: Asked if the American Indians are exempt.

Allen Biaggi: Responded that they are not. PJ encroachment is an acknowledged concern for sage grouse habitat but they have tribal and historical interest in the pinyon pines. They have a conflict in land use.

John Snow: Stated that geothermal as well as mining is being affected. They will allow leasing but you can't get to it. Valid existing rights? How does the exchange work?

Allen Biaggi: Regarding the credit mitigation system that was put in place. If you're going to disturb one acre of habitat, then you have to evaluate that acre and mitigate it. The system, tells you how much land you need to mitigate for that disturbance. Ranging from 1:1 all the way up to 756:1. For example: if you remove pinyon juniper on the land, then you can receive a credit for improvement. It's a banking system. An effort is being made to bring federal lands into the banking system. There is no long term improvement plan with restrictions because of multiple use concepts. Mitigation takes a long time to come up with good sage grouse habitat, 15-20 years.

John Mudge: Asked if they list it will LUPA go away? We heard about improved fire management. Is firefighting in either plan?

Allen Biaggi: Answered yes. But they can take components out to use if they want. Firefighting is in the Nevada plan. The Division of Forestry is putting helicopters in Elko area, which is a great improvement. Federal agencies, in the past, when there is a sage brush fire and timber fires, the timber fires would get priority. Now, they are starting to realize the sage brush is just as important.

Dennis Bryan: Asked for some clarification on the credit system. He gave a personal example from his company.

Allen Biaggi: Stated, that your project is definitely a worst case scenario. The credit mitigation system is a complex/complicated process. Right now there is no mitigation system, so you are at the whim of the Federal agency.

Richard DeLong: Asked how he would feel if it was overturned.

Allen Biaggi: Nevada will have to consider the other 11 states.

Dennis Bryan: Asked what is the position of NvMA?

Allen Biaggi: Stated that they are still trying to understand the LUPA and still evaluating.

B. Nevada Land Withdrawals from Mineral Entry
Presentation of historical land withdrawals by Dennis Bryan

Dennis Bryan: Provided a Power Point presentation.

Nevada Statistics were given: Became Territory of the United States in 1848 as part of the Treaty with Mexico following the Mexican-American War. Part of Utah Territory originally then became Nevada Territory in 1860. Established as the 36th state of the Union October 31, 1864 – Population @ 50,000. Total Area: 70,264,000 acres, 7th largest state. The federal government (includes Indian Reservations) manages the vast majority of land (85%) in the state of Nevada. County and city lands were included in “Private Land”.

Mineral withdrawals since 2012: Basin & Range National Monument -700,000 acres
Yerington Wilderness Area – 45,000 acres, Pine Forest Wilderness-23,000 acres
Pending Mineral Withdrawals: Carson District RMP proposed withdrawals - 470,000 acres
Gold Butte proposed withdrawal- 350,000 acres (includes some previous withdrawals)
Sagebrush Focal Area/Priority Habitat- 2,800,000 acres + additional acres of de-facto restrictions
Southern Nevada Renewable Energy Withdrawal

He presented a chart that depicts the decrease in available federal/state lands by decade. Since 1930, approximately 1,650,000 acres of land are withdrawn every 10 years from mining use. By 2060, at the current trend, almost half of the state will be withdrawn from mining use leaving less than 40 million acres available.

If this continues, the ability to explore and mine on public land will dramatically diminish. No longer going to be a mineral friendly state.

Arthur Henderson: Asked what can be done? Can it be reversed?

Dennis Bryan: Answered that this is just for presentation of this information.

Jim Faulds: Said we are happy to update maps. BLM has been in touch with state geologist in Utah and in the background there is a possibility they will be funded to study mineral potential of proposed land withdrawal. We will receive funding maybe next year. Study would occur next year and be in time to make recommendations. We are already mapping the mineral deposits, but we can do a much more detailed job in the near future.

C. Discussion of the Nevada and NE California Greater Sage Grouse Land Use
Plan Amendment and the 2014 Nevada Greater Sage Grouse Conservation
Plan (State Plan).

Richard DeLong: Stated that this is on the agenda to possibly pass on our recommendation to the Governor. What should we do, if anything, and what form should they take?

Bryan Stockton: Mentioned that this is not a voting item. For discussion only.

Dennis Bryan: This has serious negative economic implications to the state, particularly in the rural counties. Asked how can we cohabitate with the sage grouse?

John Snow: Stated, the only budget item stated by BLM/FS is for fighting fire, they seem very understaffed. I don't think they have the people and resources to study and develop and put forward best science and practices.

Richard DeLong: Stated that Allen Biaggi made some good points. I always thought the land use plans was very restrictive and wonder if listing isn't more workable.

John Mudge: Mentioned that many of us have gone through the endangered species process. It's a long process but, you can work through it.

Richard DeLong: Stated that the desert tortoise is a good example.

David Parker: Mentioned that the spotted owl as an example of how listing doesn't work as well.

Richard DeLong: Stated that he didn't think there is much to negotiate on a land use decision.

David Parker: Suggested that a law suit stops the negotiations.

Richard Perry: He said that currently we are working with NBMG with an updated set of maps. They will have all the mining districts. So there is potential for comments for the withdrawal. Governor's office had a number of us in on Tuesday, and we put together of a list where this is not working. One of them being Ormat at Tungsten Mountain, which has an existing EA. There is confusion within the BLM and what appears lacking is a logical path forward, like you would have if it were listed

Dennis Bryan: Mentioned that our job is to advise the Governor. We should formulate something to back the mining community.

Richard Perry: Stated that you did that with your letter in July.

Richard DeLong: Asked, what is the regulatory environment after LUPA is stayed? Is there a way to provide recommendations on what that might look like?

John Mudge: Asked, has anyone taken the approach that the maps need to be drawn differently to really focus on what true habitat there really is?

Richard Perry: Stated, yes, our Department of Wildlife. They have developed detailed lek maps. You could gather more birds in just 25% of all the land in the habitat management areas if you just focused on where the birds are.

Richard DeLong: Stated, at one of the SEC meetings Amy Lueders alluded to the fact that the maps are essentially cast in stone and while there may be some potential minor administrative changes, only changing the LUPA could change the boundaries.

Richard DeLong suggested a task group: Dennis Bryan, John Snow, Richard DeLong and Richard Perry. Bring back findings to commission.

III. OLD BUSINESS

A. Education, Public Awareness and Eagle Scout Service Project Presentation
Bill Durbin and Lucia Patterson

Bill Durbin and Lucia Patterson: provided a PowerPoint presentation.

Lucia Patterson: Mentioned that she had asked teachers at the workshop why specifically those in Douglas County were not calling for presentations? She was told that each activity that is presented needed to have a core standard education description along with the activity. She stated that all the activities needed to be updated to include the core standards. She went through an example for 3rd and 4th grade that goes along with the core standards.

Bill Durbin: Did an update on McCaw classroom, Spring Mountain Ranch State Park presentations. Eagle Scouts Service Projects- to date 160 projects have been completed – 725 hazards have been secured, 143 previously secured hazards have been re-secured.

Dennis Bryan: Asked if Bill did Scout projects in the North?

Bill Durbin: Answered that Rob Ghiglieri does them in the North.

Nick Potter: Introduced himself to the commission. He stated that he worked at Hycroft for a short time. He is looking forward to working with everyone in the department.

Richard Perry: Mentioned that he is being trained for Lowell's back up as well.

B. NDOM Forecast and Reserve balance - Mike Visher

Mike Visher: He presented spreadsheets and graphs of the Forecast and Reserve.

John Snow: Stated that you based the budget on a 5% decline, now it's 7%.

Mike Visher: Stated that's correct. This is a more realistic number. And I don't see the decrease in number of mining claims stabilizing, based on what we've seen today.

Arthur Henderson: Asked that the fee's we approved today will be an extra \$70,000 or so if we do?

Mike Visher: Stated yes and Rich will be going through that.

C. Findings of task force to review NDOM budget and forecast.
At the August 27th CMR meeting, Chairman DeLong assigned a task force to review the budget and forecast. The task force will present findings.

Richard Perry: Stated that the task force met just last week on the 28th here in Reno for fee increases and operating costs. They did a forecast assumptions based on a 7% decrease. He wanted to note that AML contracted work has declined significantly to \$60,000/year for FY16-17. We went from 8 interns to 6 interns. There was also one vehicle replacement in 2017.

He went on to discuss Findings, stating that further cuts in activity/staffing/program activities will jeopardize the Division's ability to fulfill its statutory requirements and remain in compliance with the last Legislative audit. Options for raising revenues are: OGG fee increase, increase mining claim fee to \$10/claim (currently \$8.50) and increase the surface disturbance fee for new or amended P.O.O. to \$30 per acre statutory cap (currently at \$20).

Richard DeLong: Stated that as I see it at the end of this FY we should be right at the \$750,000 reserve guidance mark. At the end of next FY it is significantly less. We need some discussion and then agreement on a path forward.

Dennis Bryan: Stated that we need to seriously consider raising the claim fee.

Arthur Henderson: Mentioned that the \$1.50 increase is less than 1% increase.

Richard DeLong: Said he talked to Dana Bennett at the NvMA about this increase and she was not surprised. Half the claims are mining operators. I've not spoken to the exploration community.

Dennis Bryan: Stated that he spoke with Dave Shaddrick at NMEC and he's not for it as exploration is down.

John Mudge: Stated that a 7% drop in claims might not happen, but we need to be prudent. But, we have to do something. I'm more supportive of \$1.50 as opposed to the surface disturbance increase. I think we need to demonstrate to the industry that we've taken a hard look at cuts. How hard did we look at the spending side?

Richard Perry: Responded that we have looked at mostly at donations and special projects and the sagebrush ecosystem council funding. We have scaled that back and that's how we have managed these past 2 years. We scaled back on AML contract work and vehicle replacement. What we have here is salary and overhead. In addition, furloughs were lifted just this past July which then increases our personnel costs.

Arthur Henderson: Stated that we took a hard look at head count and salary and NDOM is already at the bare minimum we can have to function. Personnel is 50% of all costs, operating costs have already been reduced. Not much left to cut.

John Snow: Mentioned that the 2 commodities (oil and geothermal) have been out of whack for a while and is now down as with gold and silver prices. The mining claim fee could be reduced if necessary in the future.

Fred Gibson: Had mentioned, yes we have the ability to reduce the claim fee as needed.

Richard Perry: Stated that if need be we can show the reduction in fees. Most of the extra cost was in special projects and donations, and AML contracting.

John Snow: Mentioned that when you look at senior status, and retirement, there should be a lowering of costs when bringing on new people at a lower cost. There should be some savings there, a thin line.

David Parker: Asked, last time we raised claim fees was in 2008?

Richard Perry: Stated, yes that was for the Mackay payment. Prior to that the last fee increase was 1999.

John Snow: Asked realistically when will the increase in claim fees be seen in revenue?

Richard Perry: Answered Fiscal 2017. By January 2016 we should have a true picture of claim fee revenue for fiscal 2016..

Richard DeLong: Stated that we need to start this very soon if we are going to increase this fee in time to affect fiscal 2017.

David Parker: Stated that 16 years to increase the fees is far too long. We should increase the claim fees.

Art Henderson: Stated, we should increase the surface disturbance fee to \$30, and then we can look at truck when the time comes and approve the findings of the task force.

John Mudge: Asked if will there be further discussion in section D?

Richard DeLong: Answered yes, and this is only to approve the task force findings.

ACTION TAKEN: Arthur Henderson moved to approve all the findings of the task force. David Parker seconded the Motion. Motion carried unanimously.

- D. Mining Claim Fees and Surface Disturbance Fee.
The mining claim fee task force presented findings to the Commission at the December 11, 2014 meeting. At that meeting, the Commission chose to delay any action on increasing claim fees until after oil/gas and geothermal regulation changes and fees were completed, or early 2016. The current Dangerous Condition in Non-Operating mine fee was last set by the Commission in May, 2008, at \$2.50 per claim, with a statutory cap of \$4.00 per claim (NRS 513.094). The claim filing fee, per NAC 517.200, is currently at \$6 per claim filing, last set by the Commission in May, 2008, with a statutory cap of \$6 per claim (NRS 517.185). The Commission can direct the Division to begin rule-making to increase the Dangerous Condition in Non-Operating Mines fee. The fee for approved surface disturbance on public lands is currently \$20 per acre (NAC 519A.634) with a statutory cap of \$30 per acre (NRS 519A.250). This fee was last adjusted by the Commission in 1999. The Commission can direct the Division to begin rule-making to increase the Surface Disturbance fee. By statute, this fee must be used for AML hazard securing and education of the general public concerning the dangers of AML hazards.

Richard Perry: He read the action item into record. The commission previously directed the Division to complete regulations for oil/gas and geothermal before discussing the mining claim fees.

Arthur Henderson: Said if we were to raise the surface disturbance fee from \$20 to \$30, it would be a \$45,000 increase to the base in FY 2017. And a \$1.50 increase would give us an extra \$242,000.

John Snow: Asked, how do you model the surface disturbance fee?

Mike Visher: State that the surface disturbance fee is hard to forecast. We look at the permits that are going to be approved or ones that are in the queue. Once the P.O.O. is approved they have to pay. The staged expansions are also tough to project. About \$190,000 coming in FY16 and 17, based on what's in the queue.

John Mudge: Asked how much did Mt. Hope/General Moly pay?

Mike Visher: Answered \$160,000. They can get a refund if they do a plan amendment. But they only get a small fraction of the \$20 back.

John Mudge: Stated that he didn't feel good about increase funding on the back of other programs.

Mike Visher: Mentioned that the initial AML program was just an inventory effort. This fee provides dedicated revenue to do securing work. And fund contractor work. That's what it's tied to.

Dennis Bryan: Asked if this includes all P.O.O., what about notice level?

Mike Visher: Explained no, this is just for a plan on public land, regardless of size. It does not touch notice

level on BLM. It's approved disturbance on public land. NDEP does a great job tracking it to the 1/10th of an acre. We maintain a database to track this acreage.

Dennis Bryan: Stated that this will be a double whammy to the exploration people if you raise claim fees and surface disturbance fees.

Arthur Henderson: Stated that Richard DeLong made a good point. The \$1.50 fee increase alone gets us to where we need to be. He said they should only consider the one.

John Mudge: Said he agreed. Let's just go after the one that gets us to where we want to be.

Richard Perry: Said that we can make some talking points to provide industry. This next year we will be in good shape, but for FY-17 we will have a decision to make, raise fees or let go of the Mackay payment.

David Parker: Asked if we raise it this year, then we have to raise it again the year after?

Richard Perry: Answered no. You can direct staff to begin rulemaking on the fee increase, with the goal of getting it done by June next year. The \$1.50 fee increase impacts FY-17.

ACTION TAKEN: John Mudge moved to approve the claim fee increase by \$1.50 and direct staff to begin rulemaking. Fred Gibson seconded the Motion. Motion carried unanimously.

- E. Findings of task force to evaluate regulations changes to NAC 513.
At the August 27th CMR meeting, a task force was formed by Commissioner DeLong to review possible changes to NAC 513 that relate to definitions of abandoned mine lands (AML) securing fences, AML rankings, AML warning signs and periods of notification of AML hazards. The task force will present findings to the CMR, which may choose to direct the Division to move forward with developing language to begin rule-making.

Bill Durbin: Said he was filling in for Rob Ghiglieri. The regulations have not been changed since 1988. As the program has evolved the language needs to be updated. The task force found definitions 513.260 of fences and enclosures. 5A excludes barbed wire fences, yet we use barbed wire fences for all our enclosures. We suggest striking 513.260. See the added blue italic on 5A.

Dennis Bryan: Asked if the ranking can be lowered as well?

Bill Durbin: Answered that it has to be a ranking between 1-5, at the discretion of the person doing the ranking. There should be a description of the location on the sheet when in the field.

John Mudge: Asked if you have a rating based on location and danger? You are just adding that same language to location?

Bill Durbin: Stated that there have been concerns by a number of people in remote areas. We now have a lot of ATV trails and motorbikes, and have a potential due to location for a higher hazard.

In 513.370, we would like to change language for posting warning signs. "Mounted on an orange post" we struck that from the regulation. Changed to, "in a prominent location near the hazard".

In 513.390, the period after notification to secure dangerous condition. Language has been struck though 1-4. Re-written in blue.

David Parker: Mentioned that administrator has a small “a”. in the previous lines it is a capital “A”.

Richard Perry: Said that LCB legal will take care of the correct usage.

Dennis Bryan: Stated that this is very simplified. From a legal point of view, if someone gets hurt, couldn’t we be in trouble with signage? Should there be minimums that we put on this?

Bryan Stockton: Stated that there will always be an argument. Someone is always going to sue and these will not protect you from everything. But these are adequate and cover all the necessary needs. Requiring a minimum distance for sign location may be very difficult due to the terrain.

John Mudge: Stated minimal, low and high hazard. In all of these we post a sign within 30 days. In 513.380 it states 180 days. And then in 513.390 all it indicates is that you have to do is post a sign.

Mike Visher: Clarified that the practice we have been doing is now matching the standards for our securing with the new language. Minimals were never specifically addressed before. It does not currently say that posting of a minimal is a securing. Posting of a sign has since 1989 been considered to be sufficient, but it wasn’t addressed in current regulations.

John Mudge: Asked where does the notification come from?

Richard DeLong: Stated that the Division of Minerals sends the notifications out.

Arthur Henderson: Stated that the orange sign tells me “danger”. I would hate to change the color when people are already used to seeing it.

ACTION TAKEN: Dennis Bryan moved to approve the task force recommendations on the language changes to NAC 513 and direct staff to begin rulemaking. David Parker seconded the Motion. Motion carried unanimously.

IV. STAFF REPORTS

Mining/Reclamation Bond Pool – Mike Visher

Mike Visher: Bond pool is healthy, with a little more activity in the bond pool but largely due to reductions in bond amounts.

Oil, Gas, and Geothermal – Lowell Price (Oil and geothermal drilling update)

Lowell Price: Stated that this year we have permitted 10 geothermal industrial wells. Last year we had 10 observation permits. Only 2 geothermal companies are active- USG Nevada and Ormat. Oil permits issued are running 75% lower than last year. Once Noble slowed their activity, this affected our permit application volume. Bright Sky Energy currently drilling in White River valley. Well inspections are at about 67% of total wells to be inspected in fiscal 2016.

Administrator’s report- Rich

Richard Perry: Went over budget, reserve balance right now is \$1.3M. Discussed completion of MOU with NDEP for oil, gas, and geothermal.

Correspondence –

Richard Perry: discussed a Bill which Congressman Hardy asked him to comment on. December 14th meeting to

be held at Colorado School of Mines.

COMMISSION BUSINESS

A. Determination of time and place of next CMR meeting

Las Vegas - Possible tour at Blue Diamond gypsum mine or Simplot silica mine.

CMR -Wednesday, February 3rd 1-5, tour on Thursday, February 4th.

COMMENTS BY THE GENERAL PUBLIC

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

Alan Coyner- Stated that the funds going to Mackay are not considered donations. Mining claimants are transferring money from the mining community. That \$2 is not really Division money. Russ is not here to say it but, that has moved \$3.2 million to Mackay in 7 years and for that Mackay has received \$4.5 million from the Marigold royalty. We had to increase the claim fee 2 times within 2 years when I was administrator with NDOM. The \$1.50 shouldn't be a hard sell. He suggested several meetings with the mining community by the commission. The exploration people should be receptive if the approach is good. The fee increase is overdue.

John Snow: Mentioned past geothermal commissioners that contributed to the success of the geothermal program. Under the leadership of Commissioner Gibson, public servants Ross de Lipkau, Frank Yeamans, and Patrick Fagan donated their time to the Commission. Just wanted to acknowledge them.

ADJOURNMENT

MEETING ADJOURNED AT 4:33 PM.

II. NEW BUSINESS

II. A. Thorium Energy Presentation

The Use of Thorium (Th-232) as a Suitable Replacement for Uranium (U-235) in the Production of Electrical Energy

Quick Statistics

relating to nuclear-electricity production

- As of 2014, the U.S. generated nearly 800b kWh of electricity by means of nuclear fission (NEI, 2015).
 - This is almost double the production of the world's second largest producer (France; 418b kWh), and more than one third of the world's total nuclear-electricity generation (NEI, 2015).
 - The estimated amount of electricity generated in the U.S. (from all sources) in 2013 was just above four-trillion kWh, of which 19% was produced from nuclear sources (Conti et al, p.24).
 - **Nearly one fifth of the U.S. electrical-energy production comes from nuclear sources.**

How Most Nuclear Reactors Work

And the Two Main Types

- Fissile uranium fuel rods, filled with enriched uranium (increased U-235 vs 238) pellets, are placed into a controlled environment.
 - A catalyst (neutron source) is used to begin a sustained chain reaction in the fissile uranium rods.
 - The chain reaction is maintained at a **critical** level (a net balance of neutron gain and loss).
 - A by product of nuclear fission is heat, which is used to boil a fluid (water) into steam. The steam is routed through a system of turbines, which generate electrical energy.
- In the U.S. there are two common types of nuclear reactors:
 1. Pressure Water Reactors (PWAs) and,
 2. Boiling Water Reactors
 - Basically the same concept (steam rotates turbines for electrical generation). Both have advantages and disadvantages when compared.

The Uranium-Plutonium Fuel Cycle

Nuclear Fission, By Products

Fission of the ^{235}U atom results in two unequal pieces, called fission products, at the same time throwing off 3 neutrons and a large amount of energy. The neutrons then go on to split other ^{235}U atoms or get captured by a ^{238}U atom.

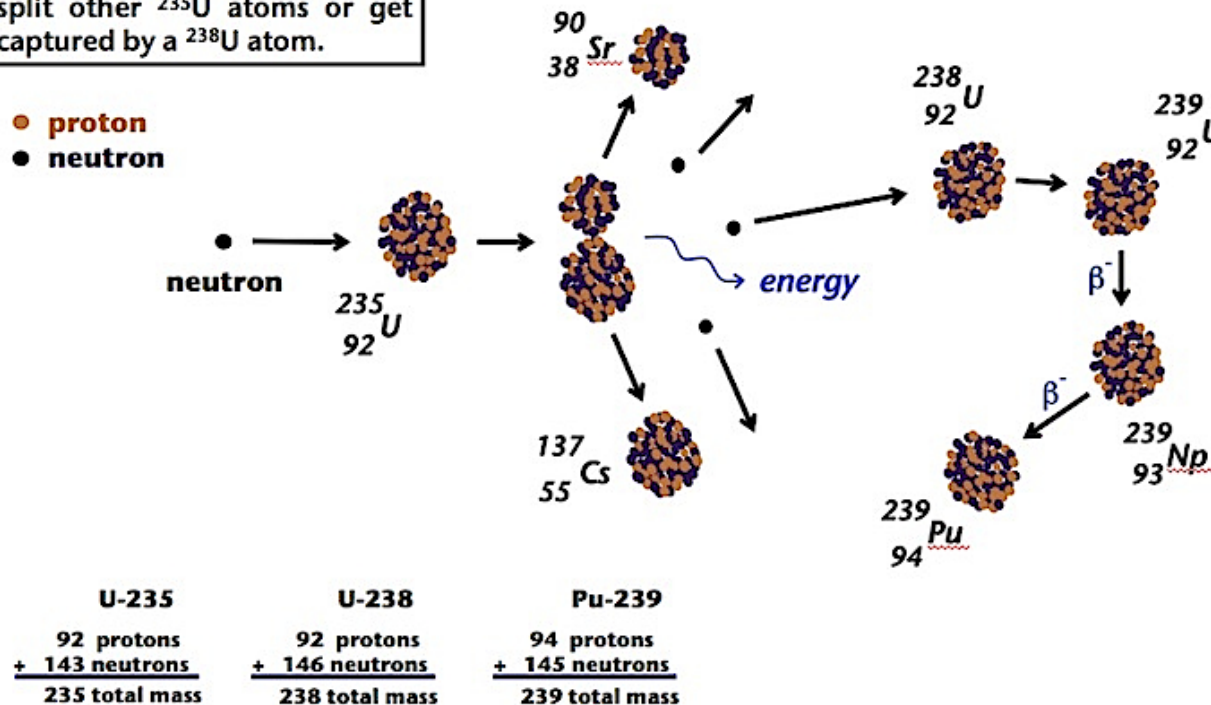
Bombs are mostly this:

1) Fission of ^{235}U by neutrons

Fuel is mostly this:

2) Neutron Capture by $^{238}\text{U} \rightarrow ^{239}\text{Pu}$

● proton
● neutron



What is Thorium?

and how is it different?

B = Solids										Hg = Liquids		Kr = Gases		Pm = Not found in nature																	
1 H 1.00794																							18 He 4.002602								
3 Li 6.941	4 Be 9.012182											5 B 10.811	6 C 12.0107	7 N 14.00674	8 O 15.9994	9 F 18.9984032	10 Ne 20.1797														
11 Na 22.989770	12 Mg 24.3050	3	4	5	6	7	8	9	10	11	12	13 Al 26.581538	14 Si 28.0855	15 P 30.973761	16 S 32.066	17 Cl 35.4527	18 Ar 39.948														
19 K 39.0983	20 Ca 40.078	21 Sc 44.955910	22 Ti 47.867	23 V 50.9415	24 Cr 51.9961	25 Mn 54.938049	26 Fe 55.845	27 Co 58.933200	28 Ni 58.6534	29 Cu 63.545	30 Zn 65.39	31 Ga 69.723	32 Ge 72.61	33 As 74.92160	34 Se 78.96	35 Br 79.504	36 Kr 83.80														
37 Rb 85.4678	38 Sr 87.62	39 Y 88.90585	40 Zr 91.224	41 Nb 92.90638	42 Mo 95.94	43 Tc (98)	44 Ru 101.07	45 Rh 102.90550	46 Pd 106.42	47 Ag 196.56655	48 Cd 112.411	49 In 114.818	50 Sn 118.710	51 Sb 121.760	52 Te 127.60	53 I 126.90447	54 Xe 131.29														
55 Cs 132.90545	56 Ba 137.327	71 Lu 174.967	72 Hf 178.49	73 Ta 180.94.79	74 W 183.84	75 Re 186.207	76 Os 190.23	77 Ir 192.217	78 Pt 195.078	79 Au 196.56655	80 Hg 200.59	81 Tl 204.3833	82 Pb 207.2	83 Bi 208.58038	84 Po (209)	85 At (210)	86 Rn (222)														
87 Fr (223)	88 Ra (226)	103 Lr (262)	104 Rf (261)	105 Db (262)	106 Sg (263)	107 Bh (262)	108 Hs (265)	109 Mt (266)	110 Ds (269)	111 Rg (272)	112 Cn (277)	113 Uut (277)	114 Uuq (277)	115 Uup (277)	116 Uuh (277)	118 Uuo (277)															
																		57 La 138.9055	58 Ce 140.116	59 Pr 140.50765	60 Nd 144.24	61 Pm (145)	62 Sm 150.36	63 Eu 151.964	64 Gd 157.25	65 Tb 158.92534	66 Dy 162.50	67 Ho 164.93032	68 Er 167.26	69 Tm 168.93421	70 Yb 173.04
																		89 Ac 232.0381	90 Th 232.0381	91 Pa 231.035888	92 U 238.0289	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)

<http://genius.com/1894437>

What is Thorium

and how is it different? (cont.)

Thorite – (Th,U)SiO₄



<http://cen.acs.org/articles/87/i46/Reintroducing-Thorium.html>

Melting point	2023 K (1750 °C, 3182 °F)
Boiling point	5061 K (4788 °C, 8650 °F)
Density near r.t.	11.724 g/cm ³
Heat of fusion	13.81 kJ/mol

²³² Th	100%	1.405×10 ¹⁰ y
-------------------	------	--------------------------

Crustal Abundance: 0.0006%

Uraninite (pitchblende) - UO₂



https://en.wikipedia.org/wiki/Uranium_ore

Melting point	1405.3 K (1132.2 °C, 2070 °F)
Boiling point	4404 K (4131 °C, 7468 °F)
Density near r.t.	19.1 g/cm ³
Heat of fusion	9.14 kJ/mol

²³⁵U	0.720%	7.04×10 ⁸ y
²³⁶U	trace	2.342×10⁷ y
²³⁸U	99.274%	4.468×10⁹ y

0.00018%

3:1

<http://www.periodictable.com/Properties/A/CrustAbundance.al.log.html>

U.S. Thorium Deposits

Data From 1988 in a 2009 Publication

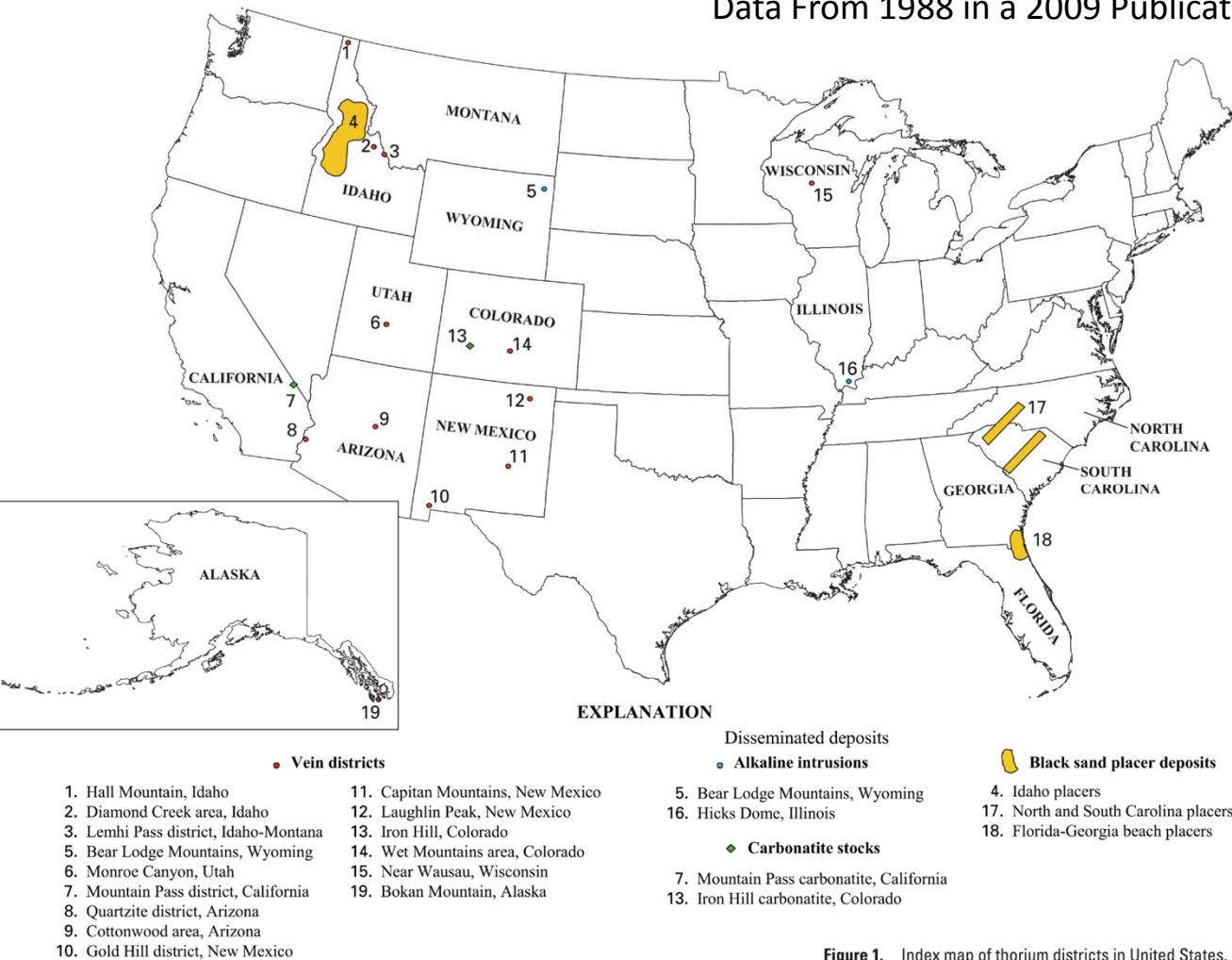


Figure 1. Index map of thorium districts in United States.

Mineral	Ideal composition or range of composition
Monazite	(Ce,La,Y,Th)PO ₄
Thorite	(Th,U)SiO ₄
Brockite	(Ca,Th,Ce)(PO ₄)·H ₂ O
Xenotime	(Y,Th)PO ₄
Euxenite	(Y,Ca,Ce,U,Th)(Nb,Ta,Ti) ₂ O ₆

District	Total ThO ₂ reserves, metric tons (t)
Vein deposits	
Lemhi Pass district, Montana-Idaho	64,000
Wet Mountains area, Colorado	58,200
Hall Mountain, Idaho	4,150
Iron Hill, Colorado	1,700 ("thorium veins") 690 (carbonatite dikes)
Massive carbonatites	
Iron Hill, Colorado	28,200
Mountain Pass, California	8,850
Placer deposits	
North and South Carolina stream placers	4,800
Idaho stream placers	9,130
Florida beach placers	14,700

[Estimates from Armbrustmacher (1988) for the Wet Mountains area, Colorado, and from Staatz and others (1979, 1980) for the other deposits]

World Thorium Reserves

Data From 2015

Country	Tonnes
India	846,000
Brazil	632,000
Australia	595,000
USA	595,000
Egypt	380,000
Turkey	374,000
Venezuela	300,000
Canada	172,000
Russia	155,000
South Africa	148,000
China	100,000
Norway	87,000
Greenland	86,000
Finland	60,000
Sweden	50,000
Kazakhstan	50,000
Other countries	1,725,000
World total	6,355,000

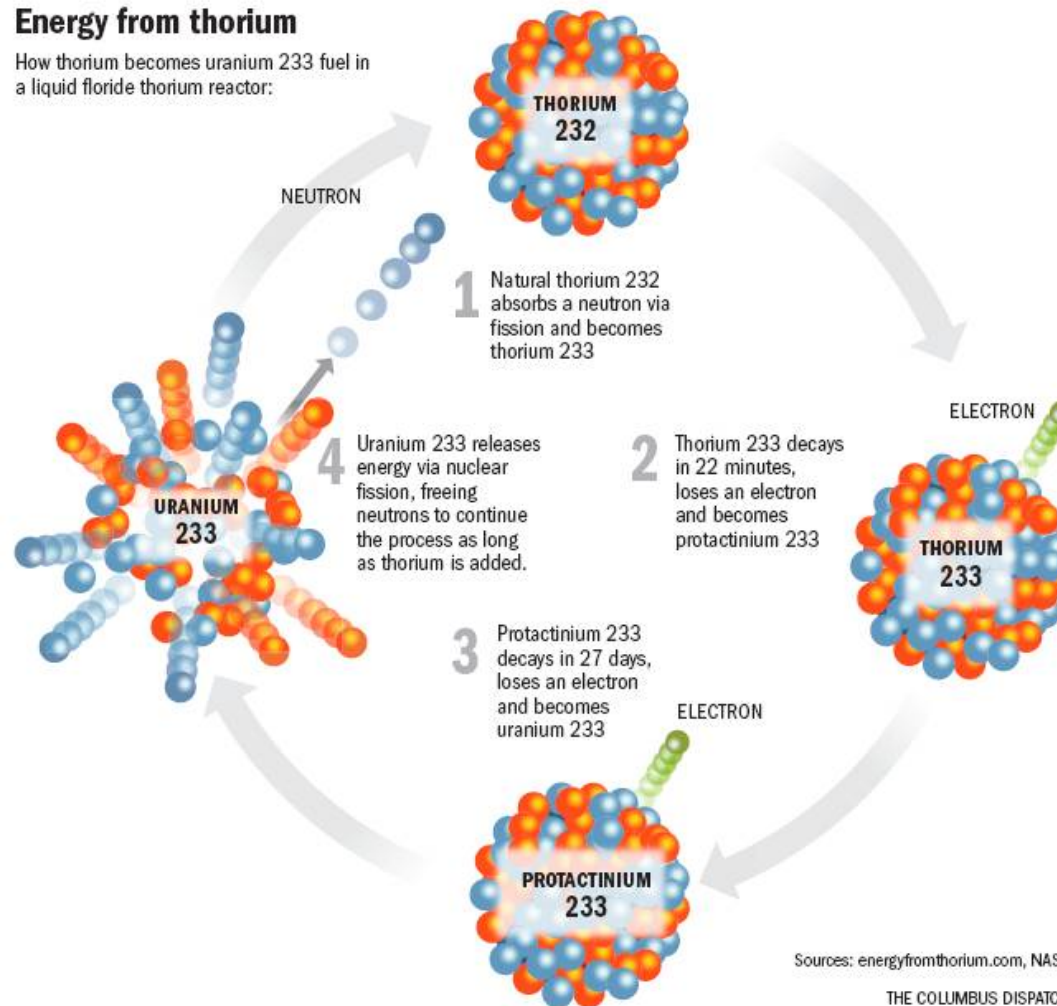
<http://www.world-nuclear.org/info/Current-and-Future-Generation/Thorium/>

The Thorium-Uranium Fuel Cycle

Nuclear Fission, By Products

Energy from thorium

How thorium becomes uranium 233 fuel in a liquid fluoride thorium reactor:



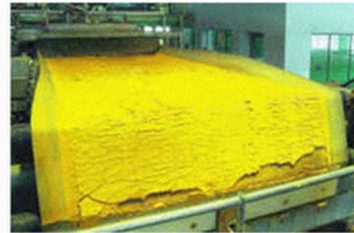
Mining waste generation comparison

1 GW*yr of electricity from a uranium-fueled light-water reactor



Mining 800,000 MT of ore containing 0.2% uranium (260 MT U)

Generates ~600,000 MT of waste rock



Milling and processing to yellowcake—natural U_3O_8 (248 MT U)

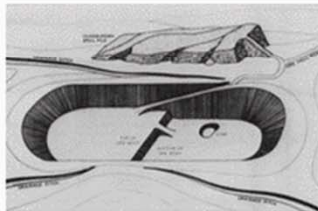
Generates 130,000 MT of mill tailings



Conversion to natural UF_6 (247 MT U)

Generates 170 MT of solid waste and 1600 m³ of liquid waste

1 GW*yr of electricity from a thorium-fueled liquid-fluoride reactor



Mining 200 MT of ore containing 0.5% thorium (1 MT Th)

Generates ~199 MT of waste rock



Milling and processing to thorium nitrate $ThNO_3$ (1 MT Th)

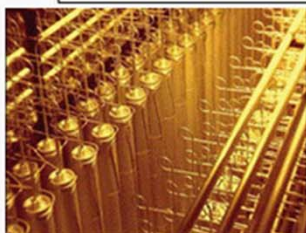
Generates 0.1 MT of mill tailings and 50 kg of aqueous wastes

Uranium fuel cycle calculations done using WISE nuclear fuel material calculator: <http://www.wise-uranium.org/nfcm.html>

Cont.

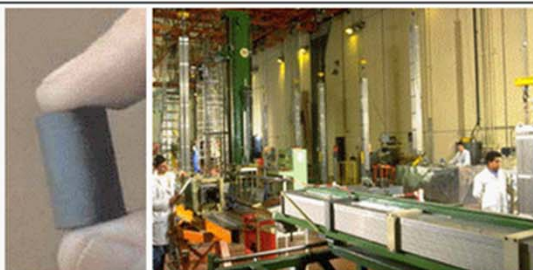
Operation waste generation comparison

1 GW*yr of electricity from a uranium-fueled light-water reactor



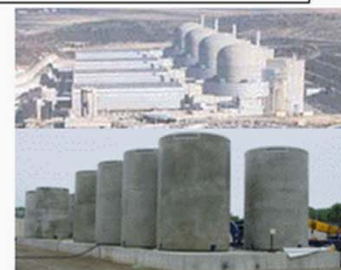
Enrichment of 52 MT of (3.2%) UF_6 (35 MT U)

Generates 314 MT of DUF_6 ;
consumes 300 GW*hr of electricity



Fabrication of 39 MT of enriched (3.2%) UO_2 (35 MT U)

Generates 17 m³ of solid waste and 310 m³ of liquid waste

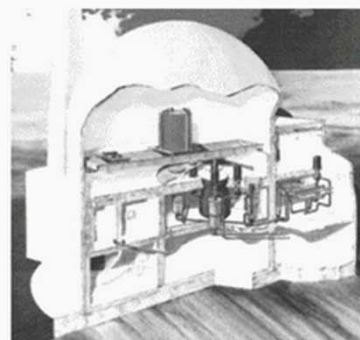
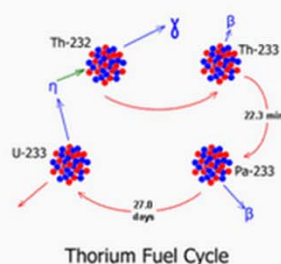


Irradiation and disposal of 39 MT of spent fuel consisting of unburned uranium, transuranics, and fission products.

1 GW*yr of electricity from a thorium-fueled liquid-fluoride reactor



Conversion to metal and introduction into reactor blanket



Breeding to U233 and complete fission



Disposal of 0.8 MT of spent fuel consisting only of fission product fluorides

Uranium fuel cycle calculations done using WISE nuclear fuel material calculator: <http://www.wise-uranium.org/nfcm.html>

Pros:

- Possibly 3-4x more crustal abundance, though skeptics argue U-238 is significantly abundant in seawater.
- No Enrichment
- Since Th-232 is fertile, a chain reaction could be stopped quickly (unlike traditional fissile U-235 reactions).
- Few Th-fueled reactors exist today, but the technology has been tested and is viable.
- The time could be near for a shift – nearly all U.S. reactors will be >60 years old by 2050 at the end of their 20 year license renewal.
- Countries like China and India are already building/have built Th-based reactors.
- Possibility of using spent-U/Pu waste in Th reactors, essentially reusing the waste over-and-over again, eliminating the need to store it.

Cons:

- Start-up costs will be high.
- It may be difficult to retrofit current U.S. reactors to accept Th (to be viable) – methods have been proposed.
- Many models require separation of U-233 from Th-232, which could be costly and hazardous to human health (robotics technology could eliminate health hazard).

Unknowns:

- Better/worse for proliferation?
 - U-233 just as weaponizable than Pu-239, possibly harder to separate.
- Radiotoxicity and storage?
 - Th byproducts typically non-transuranic, but produce more gamma radiation. Less safe to work with.
- Radioactive decay?
 - Th waste <500yr half-life (vs 10,000yr U-Pu) and there is 1,000 to 10,000x less waste.

Thorium is becoming a “buzzword” in the media and on the internet, and it does have merit. Th-232 has qualities that surpass U-235/238, but it has some pitfalls as well. Remember, the design of the reactor can make as much of a difference in safety and production as the fuel used.

- Nuclear Energy Institute (NEI): World Statistics. <http://www.nei.org/Knowledge-Center/Nuclear-Statistics/World-Statistics> (accessed September 2015).
- Conti, J. et al, 2015. Annual Energy Outlook 2015 with projections to 2040. [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf) (accessed September 2015).
- Sorensen, K., Uranium vs. Thorium: Mining, Processing, Waste Generation. <http://energyfromthorium.com/2007/01/09/uranium-vs-thorium-mining-processing-waste-generation/> (accessed September 2015).
- Mathers, D., The Thorium Fuel Cycle. https://indico.cern.ch/event/222140/session/7/contribution/27/attachments/363090/505441/Daniel_Mathers_v2_ThEC13.pdf (accessed October 2015)
- U.S. Energy Information Administration (EIA): Today In Energy. <http://www.eia.gov/todayinenergy/detail.cfm?id=19091> (accessed October 2015)
- Van Gosen, B. et al, 2009 (USGS). Thorium Deposits of the United States – Energy Resources for the Future? <http://pubs.usgs.gov/circ/1336/pdf/C1336.pdf> (accessed October 2015)

Questions?

II. B. Status on Regulation changes in NAC
513, including claim fee increase



STATUS OF REGULATION CHANGES NAC 513

- **CMR Instructed Division to begin rule-making process for NAC 513 at 11/5/2015**
 - **Increase claim fee by \$1.50 to statutory limit of \$10 per claim (NRS 513.094 and NRS 517.185)**
 - **Update regulations on AML hazard ratings, warning signs, methods of securing and eliminates obsolete language**
- **LCB legal review complete, language attached as R127-15**



REGULATION CHANGES NAC 513

- Public workshops scheduled for
 - Feb. 16 in Carson (Legislature Rm 2134 2-4 PM w/link to LCB room 4412 in Las Vegas)
 - Feb. 18 in Elko (County Courthouse 10 AM-12 PM)
- Small business impact evaluation
 - Overall increase of \$1.50 per claim holding fee is a 0.9% annual increase ($\$1.50 / (\$155 \text{ BLM} + \$8.50 \text{ NDOM} + \$2 \text{ County Recorder})$)
 - 1,882 small business claim owners in Nevada would see average increase of \$73.67 per year.
 - 86 operating companies would see average increase of \$1,240.24 per year.



BRIAN SANDOVAL
Governor

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BACKGROUND, NEED, PROPOSED ACTION, AND IMPACTS

PROPOSED REGULATION CHANGES RELATING TO THE DIVISION OF MINERALS' ABANDONED MINE LANDS PROGRAM (NAC 513.260 TO 513.390)

Background

The proposed regulation changes affect the program created by Nevada Revised Statute (NRS) 513.094 to discover, rank, determine ownership, educate the public, and establish standards for the securing, of dangerous physical safety conditions resulting from historic mining practices. In addition, the proposed regulation increases the fee which funds this program. The regulations for the administration of the abandoned mine lands (AML) program were approved by the Commission on Mineral Resources (CMR) in 1988 and funded by a \$0.50 fee (initially set by NRS 513.094) for each mining claim filed at the county recorder. This fee was increased by the Nevada legislature to \$1.00 in 1993. In 1999, the Nevada legislature approved the fee to be established by the CMR not to exceed \$4.00 per claim. Through public rulemaking, the CMR approved an increase to \$1.50 in 1999. Under NAC 513, the AML program has not received a per-claim funding increase since 1999 and there have been no other changes to these regulations since 1988.

Need

Existing regulations do not adequately address some of the facets of the AML program and need to be updated to reflect current practices of the agency and clarify methods for securing of dangerous conditions. General housekeeping of the regulatory language is also desired to clarify that a dangerous condition's **rank** (rather than rating) is the sum of the **ratings** for location and degree of danger. The ability to modify the rating for location based on certain accessibility factors (such as topography, proximity to hiking or OHV trails, signs of visitation, etc.) reflect a similar ability when rating the degree of danger already in existing regulations. Clarification of the requirement for when a **warning sign** is to be posted is necessary to eliminate the confusion resulting from existing language. Broader language for **methods of securing** is needed to reflect the many acceptable methods and materials available and commonly used currently, and which may be used in the future, which meet the intent of preventing "a person or animal from accidentally exposing himself or herself to the dangerous condition." Lastly, the **cost** to administer the AML program has increased significantly since 1999, due to inflation and increased travel costs. The latter is a result of normal prioritization of work towards those features closest and most easily accessible to the public rendering the remainder of features to be inventoried further afield. Claim filings have steadily decreased since 2012, negatively impacting this important public safety program.

Proposed Action

At the November 5, 2015 quarterly meeting of the Commission on Mineral Resources (CMR), the agency presented the need for regulation updates and language recommendations. At that meeting, the CMR recommended the agency move forward with rulemaking and submit to the Legislative Counsel Bureau (LCB) proposed regulation changes including the per claim increase. NDOM submitted the proposed regulation changes (R127-15I) to LCB on November 11, 2015. After legal review resulting in some minor changes, LCB released their draft of the regulations (R127-15RP1), dated January 7, 2016.

In summary, the proposed regulation changes include:

\$1.50 fee increase per mining claim (NAC 513.315)

The \$1.50 increase will bring the total amount of the “additional fee imposed on filings pursuant to subsection 1 of NRS 513.094” to \$4.00 per claim, which is the statutory cap approved by the Nevada legislature under subsection 4 of NRS 513.094.

Clarification of inventory, notification and securing processes

1. Clarification that the Administrator or his or her representative may assign a different rating to the location of a dangerous condition based on accessibility factors, but that the rating cannot exceed 5 points. (NAC 513.330)
2. Language clarification for the dangerous condition to be ranked, rather than rated. (NAC 513.360 through 513.390)
3. Clarification that the Commission on Mineral Resources is providing the official notification of the existence of a dangerous condition to an owner or responsible person.
4. Clarification that upon notification, a warning sign is to be posted within 180 days for a dangerous condition ranked as a minimal hazard (2 or 3 points). (NAC 513.380)
5. Clarification for methods of securing, and the maintenance thereof, for dangerous conditions ranked as a low, moderate, or high hazard. (NAC 513.390)
6. Addition of language addressing approval by the Administrator or his or her representative for the modification of securing method specific to a dangerous condition. (NAC 513.390)

Repealed sections (obsolete language)

1. NAC 513.260 - “Fence” has the meaning ascribed to it under subsection 5 of NRS 207.200.
2. NAC 513.370 – A dangerous condition regardless of its ranking must be posted with a warning sign mounted on an orange post. The sign must be posted within 30 days after the responsible person is notified by the county sheriff of the existence of the condition.

Impacts

In order to determine the impacts on claimants resulting from the per claim fee increase, a list of active (2016 Assessment Year) claims and claimants in Nevada was downloaded on October 19, 2015 from the Bureau of Land Management's Legacy Rehost (LR2000) website. An analysis of the 163,542 active 2016 claims found that 63% of the 1,968 entities are claimants with 10 or fewer claims, which would have an average impact resulting from the proposed fee increase of \$5.39 per claimant. Approximately 86 of the listed claimants are current mine operators, or their subsidiaries, which would see an average impact of \$1,240.24. Current claim fees paid to the BLM annually are \$155.00 per claim and those to NDOM, upon filing at the county, are \$8.50 per claim. The proposed \$1.50 per claim fee increase would then represent 0.9% of the current total fee per claim paid by claimants. While this is a direct impact, it is not considered significant. Based on county mining claim filing projections, increasing the per-claim fee by \$1.50 is expected to generate approximately \$240,000 in State Fiscal Year 2017.

The language changes as proposed are intended to clarify facets of a more mature AML program and reflect the need for periodic "housekeeping" of regulations to ensure they reflect the intent of the program as set forth by statute, are internally sound from a legal perspective, and adequately address and incorporate changes due to current best practices and technology. Impacts, from the proposed changes, to owners and responsible persons notified by NDOM are expected to be minimal, and should provide for better understanding and communication of the public safety issues regarding AML hazards.

**REVISED PROPOSED REGULATION OF
THE COMMISSION ON MINERAL RESOURCES**

LCB File No. R127-15

January 7, 2016

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

AUTHORITY: §§1-6, NRS 513.063 and 513.094.

A REGULATION relating to mines; increasing the fee for certain filings; revising provisions related to rating and ranking dangerous conditions; revising requirements for posting warning signs of and securing dangerous conditions; and providing other matters properly relating thereto.

Legislative Counsel's Digest:

Existing law authorizes the Administrator of the Division of Minerals of the Commission on Mineral Resources to establish by regulation a fee, not to exceed \$4 per claim, to establish a program to: (1) discover dangerous conditions related to mines no longer in operation; (2) rank the danger of the conditions; and (3) identify the owners or other persons responsible for the conditions. (NRS 513.094) **Section 1** of this regulation increases the amount of that fee from \$2.50 to \$4 per claim.

Existing regulations establish a schedule for rating the location of a dangerous condition related to a mine which is no longer in operation. (NAC 513.330) **Section 2** of this regulation provides that the Administrator or his or her representative may under certain circumstances assign a different rating.

Existing regulations establish a schedule of deadlines by which a person responsible for a dangerous condition is required to secure the condition upon notification of the condition. (NAC 513.380) **Section 4** of this regulation extends the duty to secure a dangerous condition to the owner of the real property on which the condition is located. **Section 4** also adds minimal hazards to the schedule, requiring the posting of a warning sign near dangerous conditions ranked as such within 180 days after the owner or responsible person was notified of the condition by the Commission on Mineral Resources.

Existing regulations set forth certain methods by which a dangerous condition must be secured. (NAC 513.390) **Section 5** of this regulation revises the list of methods which are acceptable and requires the owner or responsible person to maintain the structure used to secure the condition. **Section 5** also provides that the Administrator or his or her representative may approve the modification of the method of securing a dangerous condition to accommodate site-specific features or characteristics.

Section 1. NAC 513.315 is hereby amended to read as follows:

513.315 The amount of the additional fee that is imposed on filings pursuant to subsection 1 of NRS 513.094 is ~~1\$2.501~~ *\$4* per claim.

Sec. 2. NAC 513.330 is hereby amended to read as follows:

513.330 The location of a dangerous condition must be rated in the following manner:

1. One point must be assigned to a dangerous condition located at least 5 miles from an occupied structure or a public road maintained by some governmental entity.
2. Two points must be assigned to a dangerous condition located between 1 and 5 miles from an occupied structure or a public road maintained by some governmental entity.
3. Three points must be assigned to a dangerous condition located 1/2 to 1 mile, inclusive, from a town.
4. Four points must be assigned to a dangerous condition located not more than 1/2 mile from a town or not more than 1 mile from an occupied structure or a public road maintained by some governmental entity.
5. Five points must be assigned to a dangerous condition located within a town or within 100 feet of an occupied structure or a public road maintained by some governmental entity.

↪ The Administrator or his or her representative may assign a different rating to a dangerous condition in a location if other factors affecting accessibility warrant the modification, but the rating for a dangerous condition in a single location may not be scored higher than five points.

Sec. 3. NAC 513.360 is hereby amended to read as follows:

513.360 Dangerous conditions must be ~~rated~~ *ranked* as follows:

1. A dangerous condition with a total number of 2 or 3 points is a minimal hazard;

2. A dangerous condition with a total number of 4 or 5 points is a low hazard;
3. A dangerous condition with a total number of 6 or 7 points is a moderate hazard; and
4. A dangerous condition with a total number of at least 8 points is a high hazard.

Sec. 4. NAC 513.380 is hereby amended to read as follows:

513.380 ~~{Upon notification}~~ *If notified by the Commission* of the existence of a dangerous condition, the *owner or* responsible person shall:

1. *Post within 180 days a warning sign in a prominent location near a dangerous condition ranked as a minimal hazard; and*

2. *In the manner prescribed in NAC 513.390:*

(a) Secure within 180 days a dangerous condition ~~{rated}~~ *ranked* as a low hazard;

~~{2.}~~ (b) Secure within 120 days a dangerous condition ~~{rated}~~ *ranked* as a moderate hazard; and

~~{3.}~~ (c) Secure within 60 days a dangerous condition ~~{rated}~~ *ranked* as a high hazard. ~~{~~
~~→ in the manner prescribed in NAC 513.390. }~~

Sec. 5. NAC 513.390 is hereby amended to read as follows:

513.390 ~~{A}~~

1. *Except as otherwise provided in subsection 4, a dangerous condition ranked as a low, moderate or high hazard* must be secured by one or more of the following:

~~{1.}~~ (a) A barricade ~~{made of wood, metal or plastic, set in place in a solid manner with an orange warning sign attached.~~

~~—2.—A fence}~~ *or other structure, including, without limitation, a structure consisting of metal posts and four strands of barbed wire, or other durable materials,* constructed to prevent a person or animal from accidentally exposing himself or herself to the dangerous condition.

~~13.1~~ (b) Permanently anchored seals constructed of material not subject to rapid decomposition and, if used to secure a vertical opening, strong enough to support the weight of any person or animal.

~~14.1~~ (c) Backfilling so that no void spaces remain.

2. In addition to securing a dangerous condition pursuant to subsection 1, if the dangerous condition ranked as a low, moderate or high hazard is secured only by the method set forth in paragraph (a) of subsection 1, the owner or responsible person must post a warning sign in a prominent location near the dangerous condition. The warning sign must be posted within the period set forth in subsection 2 of NAC 513.380 for securing the dangerous condition.

3. Regardless of the method used pursuant to subsection 1 to secure a dangerous condition, the owner or responsible person shall maintain the integrity of that structure.

4. The Administrator or his or her representative may approve the modification of a method of securing a dangerous condition to accommodate features or characteristics that are specific to the location of the dangerous condition.

Sec. 6. NAC 513.260 and 513.370 are hereby repealed.

TEXT OF REPEALED SECTIONS

513.260 “Fence” defined. (NRS 513.094) “Fence” has the meaning ascribed to it in subsection 5 of NRS 207.200.

513.370 Posting warning sign. (NRS 513.094) A dangerous condition regardless of its ranking must be posted with a warning sign mounted on an orange post. The sign must be posted within 30 days after the responsible person is notified by the county sheriff of the existence of the condition.

II. C. Update on Sage Grouse
RMP/SFA activity and impacts.

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Office of the Governor

January 15, 2016

Neil Kornze, Director
Bureau of Land Management
U.S. Department of Interior
1849 C Street NW (WO-200)
Washington, D.C. 20240

Submitted electronically to:
sagebrush_withdrawals@blm.gov

Re: Federal Register Notice September 24, 2015: BLM and U.S. Forest Service Proposed Withdrawal and Segregation of 2.7 million acres within Sagebrush Focal Areas in Nevada from location and entry under the 1872 Mining Law

Dear Director Kornze:

This letter formally transmits the State of Nevada's scoping comments for the proposed mineral withdrawal Environmental Impact Statement (EIS) published in the Federal Register on September 24, 2015.

Let me start by saying excluding any lands from mining and exploration, or from any other authorized multiple use, is inconsistent with the Nevada Greater Sage-Grouse Conservation Plan (Plan) and the Conservation Credit System (CCS), which I believe is the best conservation plan for Nevada. Nevada's Plan and CCS create meaningful disincentives for mining and exploration in priority sage-grouse management areas through compensatory mitigation requirements that achieve and quantify a *net conservation gain* for greater sage-grouse. The CCS is also consistent with President Obama's recent Mitigation Policy. I believe the proposed land withdrawal will not be able to show any measurable results except for the demise of the mineral exploration industry in Nevada. The urgency to implement the withdrawal proposal prior to conducting the proper analysis needed to evaluate the efficacy of the action and the socio-economic impact of the action is unclear.

The attachments to this transmittal letter provide details of Nevada's comments on the proposed withdrawal application as well as our scoping comments on the Environmental Impact Statement. A summary of our comments follow.

1. As I stated before, Nevada proposes a No Action Alternative and prefers our state Plan and CCS as the proper management and conservation plan for Nevada.

2. We disagree with the urgency of the mineral withdrawal when there are other threats to greater sage-grouse and habitat that have not been adequately addressed. For instance, the out-of-control wild horse population in Nevada has resulted in significant loss of habitat and will continue until the horses are managed at the appropriate management levels. The loss of habitat in Nevada from wildfire is staggering and there are thousands of acres in need of rehabilitation, which directly affects greater sage-grouse habitat. Devoting time and resources to these two management issues would be of greater benefit to the habitat than mineral withdrawal when it is known that disturbance from mining operations and exploration has a minimal effect on habitat. I also propose that if there is a withdrawal, it should only be for a five year period during which time the greater sage-grouse populations are intensively monitored to evaluate the efficacy of the withdrawal treatment on habitat and population threats.

3. If the withdrawal application is approved, Nevada has developed maps that propose better boundaries that take into account existing mining operations and exploration activities that are crucial to the economy of Nevada and the nation. I directed the Department of Wildlife, Department of Conservation and Natural Resources and the Nevada Division of Minerals to work cooperatively to analyze the Sagebrush Focal Area (SFA) for its mineral potential and activity and to identify high value, priority greater sage-grouse habitat to better inform the BLM as decisions are made. As a result of this exercise by my state agencies, attached are maps whose boundaries achieve the stated goal of protecting priority habitat for the greater sage-grouse.

4. There is much confusion and there has been considerable discussion about protecting existing rights in the SFA. It is essential that all valid existing rights, plans of operation, notices of intent, and all claims where claim maintenance fees have been paid pursuant to the General Mining Law and the Federal Land Policy and Management Act be considered valid existing rights and excluded from mineral withdrawal. My staff and state resource departments stand ready to work with the BLM to properly define and identify these rights and claims.

5. There is an area in the SFA identified for withdrawal that has outstanding greater sage-grouse habitat and is also a world class lithium deposit, where there are hundreds of claims and a robust exploration operation underway. This area needs to be able to provide the lithium needed to continue our goal of clean energy as well as protect some of the best sagebrush habitat for the greater sage-grouse. It is also an area that was badly burned by the Holloway Fire and is in desperate need of rehabilitation. We propose using this area as a pilot project in order to demonstrate an alternative, adaptive management approach that constrains mineral exploration while avoiding the loss of critical sage-grouse habitat and rehabilitating a wildfire burn area. We believe this can be done with cooperation between agencies, state and federal, and the private company working to develop a management plan that achieves all the stated goals.

6. We propose a thorough, comprehensive socio-economic analysis of the direct, indirect and cumulative impacts to geology, mining and exploration from mineral withdrawal in the SFA. We do not believe these complex impacts were adequately analyzed in the Land Use Planning

Amendment, the Final Environmental Impact Statement or the Record of Decision and that they will have far reaching consequences to the local and state economies. In consultation with Dr. Thomas R. Harris, University of Nevada, Reno, College of Business, Center for Economic Development, several components were developed that must be included in such an analysis.

Again, I believe the final decision of the proposed withdrawal should be a **No Action Alternative** and that the Nevada Plan and CCS be fully implemented. If you choose not to accept the recommendations proposed by the State of Nevada, which are the best for managing and enhancing habitat, I ask that serious consideration be given to the attached scoping comments, maps and details attached to this letter.

Sincere regards,



BRIAN SANDOVAL
Governor

**Scoping Comments to the
Federal Register Notice of September 24, 2015:
Bureau of Land Management and the U.S. Forest Service
Proposed Withdrawal and Segregation of 2.7 Million Acres within
Sagebrush Focal Areas in Nevada from Location and Entry
Under the 1872 General Mining Law
Submitted by
Governor Brian Sandoval on Behalf of the State of Nevada**

Governor Brian Sandoval, on behalf of the State of Nevada is responding to the public scoping process by providing specific information on six key elements that must be analyzed in detail and disclosed in the Environmental Impact Statement to meet compliance with the National Environmental Policy Act (NEPA) and assure that a thorough evaluation is conducted of the relevant issues and impacts associated with the proposed mineral withdrawal from the General Mining Act of 1872.

1. No Action Alternative

Nevada believes that areas with high mineral potential should absolutely not be withdrawn from mining and mineral exploration. In that regard, the No Action Alternative is the preferred alternative for the State of Nevada. The No Action Alternative is consistent with the Nevada Sage-Grouse Conservation Plan (the Nevada Plan) which incentivizes avoidance of habitat disturbance in priority sage-grouse management areas, minimizes direct impacts of habitat disturbance based on applied Required Design Features (RDFs), and requires mitigation for direct and indirect impacts through the Conservation Credit System (CCS) that assures and quantifies net benefits to greater sage-grouse (GRSG).

- The No Action Alternative must include an accurate description of the existing sage-grouse populations, habitat conditions, and threats and must quantify these existing baseline conditions for comparison with the proposed action alternative(s) and their resulting net benefit for GRSG.

The Bureau of Land Management/U.S. Forest Service (BLM/FS) Land Use Planning Amendment (LUPA) Final Environmental Impact Statement (FEIS) provided no science or analysis at any level to support the rationale that exclusion of mining and mineral exploration will maintain the key attributes of GRSG habitat that are needed to realize a net benefit for GRSG.

- The Mineral Withdrawal Environmental Impact Statement (EIS) must *include quantitative analysis and comparisons* of key habitat attributes (sagebrush cover, sagebrush height, and perennial grass and forb cover and composition) between the No Action Alternative and the proposed action alternatives and disclose how mineral withdrawal will result in changes to these key attributes that are needed to realize a net benefit for the GRSG populations in the Sagebrush Focal Areas (SFA).

- The No Action Alternative must be analyzed for the positive impacts that the mineral industry provides such as participation in landscape scale efforts that require a broad range of partnerships and opportunities for reclamation and to further reclamation technology through restoration research.

2. Timeframe

The State of Nevada adamantly rejects the premise that mineral withdrawal should be the initial conservation action implemented under the Approved Resource Management Plan Amendment (ARMPA) when other existing threats to habitat have a far greater urgency and detrimental impact on GRSG in terms of habitat loss. The need for wild horses to be managed at appropriate management levels and the occurrence of thousands of acres in need of wildfire rehabilitation have resulted in thousands of acres of habitat loss that could be restored through proper management and treatment if resources and time were directed to these objectives as opposed to preparing an EIS for the mining and exploration withdrawal action.

The mining withdrawal on more than 2.7 million acres in Nevada is grossly disproportionate to the mining risks in Nevada identified in the *Greater Sage-Grouse Conservation Objectives Final Report* (2013) (COT Report):

Northern Great Basin. Threats to this population were identified as wildfire and invasive species. At least part of this large population was described as stable to increasing from 2007-2010 and was predicted to have virtually no chance of declining below 50 birds in 30-100 years. Portions of this population are well connected with Idaho, Oregon, and Utah.

Western Great Basin. The threats to these population management units are variable and site-specific, however, continuous, year-round use by wild horses, wildfires, and invasive species are prevalent. Resiliency needs to be improved with increased habitat suitability in terms of shrub densities and native grasses and forbs.

- The EIS must analyze the anticipated results from mineral withdrawal in terms of ameliorating the specific and most pervasive threats to GRSG in the SFA -- wildfire, invasive species, and wild horses -- and demonstrate how mineral withdrawal improves landscape resiliency.
- The ARMPA requires that conservation actions be implemented in accordance with the principles of adaptive management. The EIS must analyze a shorter withdrawal interval to allow for adaptive management processes to occur. If the BLM is compelled to follow through with mineral withdrawal at any level, Nevada recommends a five-year withdrawal period, during which time the GRSG populations are intensively monitored, at the expense of the Department of Interior, to evaluate the efficacy of the withdrawal treatment in terms of ameliorating population and habitat threats. Management actions can subsequently be modified if needed to achieve desired results, and the adaptive management process continued.

3. Withdrawal Area Boundary

Neither the BLM, the U.S. Fish and Wildlife Service, the U.S. Forest Service, nor any of our State agencies can provide a description or definition of the process used to delineate the SFA. There is no information regarding the data or analyses that justifies promoting these particular designated acres of priority habitat to a higher level of management infringement than the remainder of the priority habitat throughout the State.

The direct, indirect, economic, and cumulative impacts of SFA designation and the associated management actions were inadequately analyzed in the LUPA NEPA process and ROD. What we do know about the genesis of the SFA is that the State was not consulted for its expertise and input prior to the area delineation.

At Governor Sandoval's direction, the Nevada Department of Wildlife (NDOW), Nevada Department of Conservation and Natural Resources (DCNR), and the Nevada Division of Minerals (NDOM) worked cooperatively to analyze the SFA region with regard to existing, active exploration claims/mineral potential and priority GRSG habitat to evaluate an Alternative Mineral Withdrawal Area that achieves greater benefits for GRSG by exchanging high value habitat for areas with high mineral potential and existing claims.

Areas with high mineral potential were assessed and mapped by the Nevada Bureau of Mines and Geology (NBMG). Assessments were based on the evaluation of existing data sources including known mining districts, Plans of Operation, Notices of Intent, information from the BLM LR2000, and permitting data from NBMG Annual Nevada Mineral Industry reports. Areas with high mineral potential were further evaluated for proximity to active GRSG leks and habitat and fitted to avoid and minimize impacts to GRSG and avoid or minimize potential for habitat fragmentation. Areas within the SFA characterized as high mineral potential are shown in Attachment A.

Existing GRSG populations and habitat quality within and adjacent to the SFA were reviewed by NDOW to identify areas of lower quality habitat and importance to GRSG where mineral withdrawal would not significantly benefit existing populations. NDOW also identified GRSG populations adjacent to the SFA that would greatly benefit multiple populations of GRSG if they were exchanged for areas that had existing mining claims in the SFA. Areas proposed to be exchanged from the SFA because of lack of habitat and areas proposed to be included in the mineral withdrawal area based on the benefit to GRSG are shown in Attachment B

Collaborative analysis of these two assessments results in an Alternative Mineral Withdrawal Area that must be analyzed as an EIS alternative. The alternative area does not change the SFA boundaries, only the mineral withdrawal area for purposes of minimizing conflict, protecting mineral exploration of known mineral importance, and providing enhanced benefits to GRSG by protecting more leks. Some of the effects the Alternative Mineral Withdrawal Area are described in Table 1.

Table 1. A comparison of the effects of the BLM Mineral Withdrawal Area and the Alternative Withdrawal Area in Nevada.

Area proposed for exclusion from the BLM Mineral Withdrawal Area based on limited quality habitat for GRSG	245,389 acres (approximately 9% of 2,730,045 acre BLM Withdrawal Area)
Area proposed for exclusion from the BLM Mineral Withdrawal Area based on conflicts with existing mining claims	310,003 acres (approximately 10% of 2,730,045 acre BLM Withdrawal Area)
Area proposed in exchange for mineral potential exclusion to the BLM Mineral Withdrawal Area based on high quality habitat, high population importance, and avoidance of conflict with mineral claims	394,082 acres (393,812 acres of which is priority habitat)
Net change in area between the BLM Mineral Withdrawal Area and the Alternative Mineral Withdrawal Area	-161,310 acres
Number of claims in the BLM Mineral Withdrawal Area excluded from conflict with GRSG	3,726 claims (99 percent of the 3,778 total claims in the BLM Mineral Withdrawal Area)
Number of leks excluded in the Alternative Mineral Withdrawal Area for habitat quality and mining claim criteria	5 active leks
Number of leks added in the Alternative Mineral Withdrawal Area	49 active leks
Net change in number of leks included in the Alternative Mineral Withdrawal Area	44 active leks

- The Mineral Withdrawal EIS must analyze the Alternative Mineral Withdrawal Area prepared jointly by NDOW and NDOM that minimizes conflicts with existing claims and results in measurable net benefit to GRSG by protecting more important habitat, leks, and populations.

4. Valid Existing Rights

The purpose of the proposed mineral withdrawal is protection of GRSG and its habitat from adverse effects of locatable mineral exploration and mining “subject to valid existing rights” (VER).

The BLM’s Federal Register Notices do not define VER which has led to much confusion, particularly for exploration projects. The BLM and USFS ARMPA are the basis for the proposed withdrawal broadly defined VER as follows:

Documented legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include fee title ownership, mineral rights, rights-of-way, easements, permits, and licenses.¹

While unpatented mining claims, mill sites and tunnel sites that are properly maintained by annual maintenance fee payments or annual assessment work under the U.S. mining laws would fall within this definition, BLM and USFS state and district offices are in need of additional guidance on the scope of VER to ensure a uniform application of this definition that preserves the substantial capital investments that have been made in reliance on the rights granted by the U.S. mining laws, and protects local economies that are dependent on a sound mineral exploration and mining economy.

Since 1992, pursuant to the General Mining Law, a claimant may hold and maintain an unpatented mining claim, mill site or tunnel site by paying the appropriate annual maintenance fee to the United States, or by conducting the requisite annual assessment work and making an appropriate annual filing with BLM. The holder of a properly maintained mining claim has the exclusive right to use lands within the claim for mineral exploration and mining. In enacting the requirement for annual claim maintenance fees, Congress sought to eliminate uncertainties associated with the historic annual assessment work requirements, and establish a clear line by which claimants can be assured that they have a valid right without the need for lengthy or complex administrative determinations.

Several thousand unpatented mining claims and mill sites have been located by numerous individuals and entities within the proposed Mineral Withdrawal Area. In Nevada alone, more than 3,700 claims exist in the proposed withdrawal area for which significantly more than a half million dollars are paid to the United States yearly in annual maintenance fees. See Attachment A. Many of these areas are highly prospective for economic mineralization and tens of millions of dollars have been expended by the claim owners in conducting exploration activities related to those claims in reliance on the rights granted by the U.S. mining laws. While only a small fraction of those claims might ultimately be mined resulting in limited and localized disturbance, preserving the current rights of those claimants, including reasonable access rights, will promote several sound national policies, including:

- Promoting Congress' intent to establish a clear line by which mining claims can be maintained through payment of annual maintenance fees.
- Recognizing the substantial investment of resources that have been made in reliance on the current claim maintenance requirements.

¹ See, e.g., USFS, Greater Sage-grouse Record of Decision, Idaho and Southwestern Montana, Nevada, Utah, p. 137 (Sept. 2015); BLM, Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment, p. 5-24 (Sept. 2015).

- Avoiding the high costs, administrative burdens and permitting delays that would be associated with a requirement to conduct claim-by-claim validity determinations.
- Supporting local communities and regional economies that rely substantially on a sound mineral exploration and mining economy.

An unpatented mining claim, mill site or tunnel site that has been maintained in accordance with the annual filing and fee requirements of the General Mining Law and Federal Land Policy and Management Act meets the definition of VER as set forth in the BLM and USFS sage-grouse plan amendment documents. The following language is a suggestion for clarifying the definition of VER for mineral exploration projects to provide clear national guidance to agency field personnel that maintains consistency with existing laws and policies:

Documented legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include fee title ownership, mineral rights and associated access rights, rights-of-way, easements, permits, and licenses. For mineral exploration projects, valid existing rights include unpatented mining claims, mill sites and tunnel sites that were located prior to the effective date of the final withdrawal notice and that have been maintained by the timely payment of an annual maintenance fee or the satisfaction of applicable annual assessment work and annual filing requirements pursuant to the U.S. mining laws and the Federal Land Policy and Management Act.

5. Pilot project to Demonstrate Alternative Management Approach to Constrain Mineral Exploration and Avoid Loss of Critical Sage-Grouse Habitat

The SFA area in Humboldt County known as the Lone Willow Population Management Unit (PMU) and also known as the Opalite District-McDermitt and Kings Valley Lithium claim blocks has well documented, vital importance to both the mineral and wildlife resources in Nevada. The Geological Society of America has identified lithium as a critical mineral resource (GSA 2013). Lithium has also been acknowledged by the Department of Interior as a mineral of national importance. The economic importance of the lithium deposits in Humboldt County was analyzed by Applied Analysis (2016) who wrote the following:

The [Western Lithium] project is expected to have a material economic impact on the state of Nevada and the communities in which it operates. Economic impacts sourced directly to the Company's investment are estimated to reach approximately \$2.5 billion over the life of the project. When secondary impacts (indirect and induced) are considered, total economic output is estimated to reach nearly \$3.4 billion. In addition to substantial economic output, the project is estimated to support nearly 9,000 person-years of employment and \$0.5 billion in salaries in wages over the life of the project. Fiscal impacts (public revenues) to state and local governments during the same timeframe are estimated to exceed \$100 million over the life of the project, or approximately \$4.3 million annually over the course of the 24-year life cycle.

The Lone Willow GRSB PMU is among highest priority PMUs within the State of Nevada and harbors one of the most dense sage-grouse populations in Nevada. Lone Willow PMU includes the Bilk Creek, Montana, and Double H Mountain ranges. The bulk of the sage-grouse population resides in the Montana Mountains. Mark-recapture efforts conducted from 2001 through 2005, mainly within the Montana Mountains, calculated population estimates for each of these years using a Lincoln Index model. The population estimates ranged from a low of 7,264 grouse in 2001 to a high of 13,625 grouse in 2004 (NDOW 2006, unpublished report). There are 65 active and pending active leks located within this PMU ranging in size from 2 to 46 males in attendance in 2015. Approximately 50 of these leks are within the Montana Mountains portion of the PMU. This PMU is not only important within the State of Nevada, but is also important to a larger population of sage-grouse that extends into Oregon and occupies the Trout Creek and Oregon Canyon Mountain ranges.

The Holloway Fire, which occurred in 2012, burned 460,842 acres, much of which was in priority habitat in both Nevada and Oregon. The fire burned significant portions of the Bilk Creek Mountains in Nevada and the Trout Creek Mountains in Oregon. Much of the more highly suitable sage-grouse habitat in the Montana Mountains was spared from the fire. In turn, the Montana Mountains likely now serves as a source population that will help repatriate the Trout Creek and Bilk Creek Mountain ranges as they recover from the Holloway Fire.

The dual importance of these resources to the State of Nevada and to the nation has led to consensus opinion that the area should be carefully managed in a collaborative manner between the Federal and State governments. Nevada strongly recommends that approximately 82,250 acres be designated as the Lone Willow Pilot Project which will be excluded from the BLM Mineral Withdrawal Area and managed as a special experimental stewardship project as allowed under the Public Rangelands Improvement Act or similar existing authority. The purpose of the pilot project is to cooperatively manage the mineral and wildlife resources on a case-by-case, site-scale basis that will incorporate valuable mitigation strategies and requirements using the State Conservation Credit System and incorporating a strong local rehabilitation/reclamation component with research opportunities. The Lone Willow Pilot Project will be managed by a collaborative management group of professional geologists, wildlife biologists, range ecologists, and reclamation specialists based on local scientific findings. The Management Group will define and operate under a suite of guidelines which will be approved by the BLM, NDOW, and NDOM, such as:

- Advanced planning, data collection and analyses, and mitigation will occur prior to ground disturbance in the pilot project area to fully incorporate the principles of avoid, minimize, and mitigate the direct and indirect impacts of the proposed exploration and mine projects.
- Mitigation alternatives will prioritize on-the-ground habitat restoration in the Lone Willow PMU.
- Mineral exploration activity within the pilot project area will be limited to existing active claims at the time of the final federal register notice of proposed withdrawal.

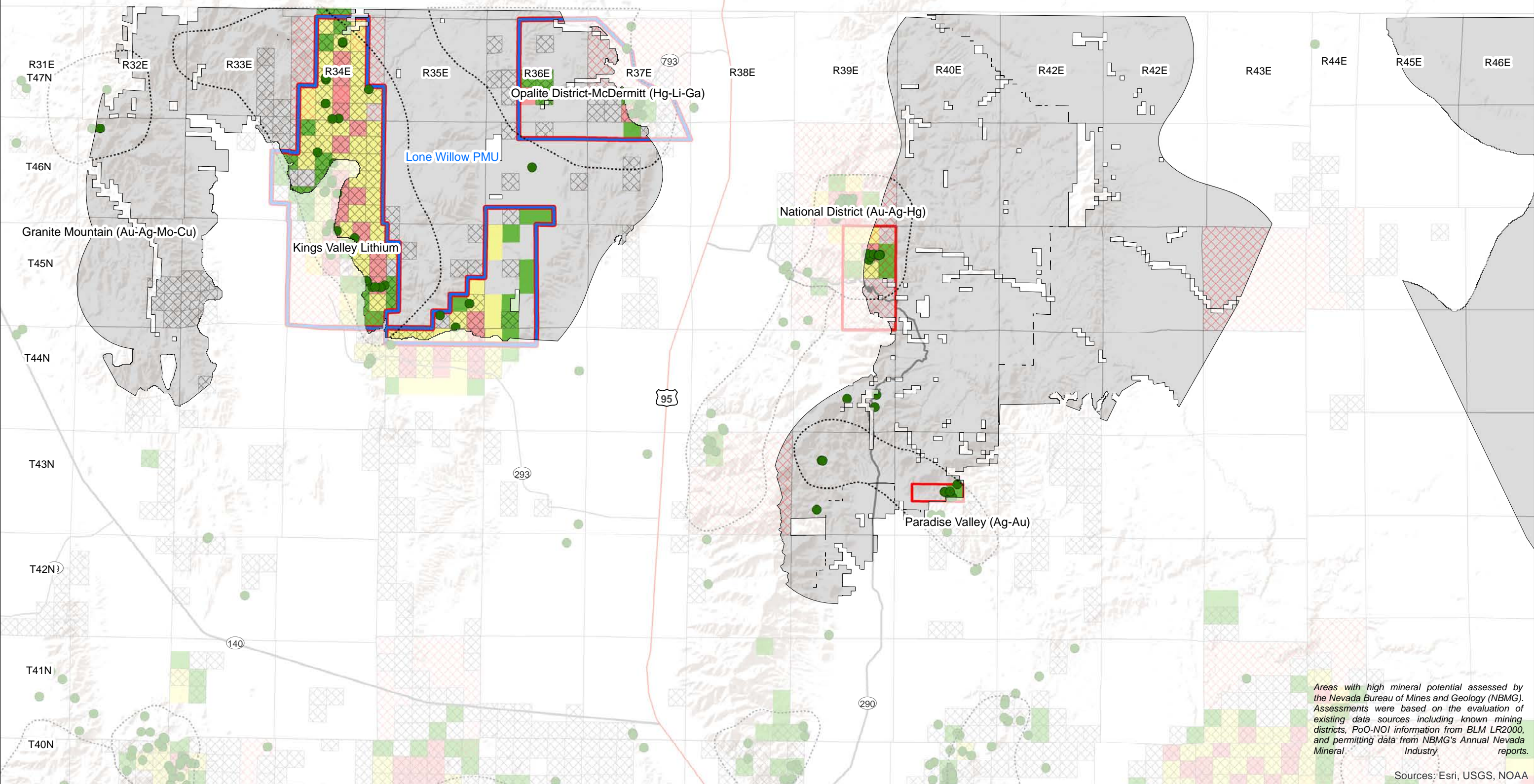
- All exploration projects will be permitted in accordance with existing BLM Plan of Operation procedures, including projects less than 5-acres in size.

6. Socio-Economic Analysis

The direct, indirect, and cumulative impacts to geology, mining, and exploration from mineral withdrawal in the SFA were not analyzed in the LUPA FEIS or ROD. These impacts are complex and far reaching to the local and state economies.

- Socio-economic impact analyses are critical for compliance with NEPA and must be thoroughly analyzed and disclosed in the Mineral Withdrawal EIS following academically approved methods and scope recommended by Dr. Thomas R. Harris, UNR College of Business Center for Economic Development (2015) (detailed in Attachment B) that at a minimum includes the following:
 1. A study area should be developed that is agreed upon by the BLM and the State.
 2. The IMPLAN model data should be validated and verified.
 3. The production function for different mining sectors should be developed to be sure they reflect the mining industry.
 4. A Social Accounting Matrix should be developed and verified and validated.
 5. A computable General Equilibrium model should be developed and scenarios as to land withdrawal for GRSG should be developed and applied.

Area 2: Areas of High Mineral Potential in Nevada's Sage Brush Focal Areas with Outlined Areas Proposed NOT to be Closed to Mineral Entry



Active Mines

- Metal
- Industrial Minerals
- Gemstones

Mineral Deposits

- Metallic, Nonmetallic, & Industrial

BLM Permits, Plans, & Drill Projects (1978-2014)

- Plans of Operation & Notices of Intent Data from BLM LR2000
- Townships with Drill Projects for Metals (2005-2014) Data from NBMG's Nevada Mineral Industry Reports

Active Mining Claims as of 10/16/2015

- 1 - 10 Claims
- 11 - 30 Claims
- >30 Claims

Data from BLM LR2000 Database

Areas of High Mineral Potential Proposed NOT to be Closed to Mineral Entry

- Mineral Potential
- Lone Willow PMU

Mining District Boundary

Areas of Proposed Mineral Withdrawal

Township & Range

Major Highway

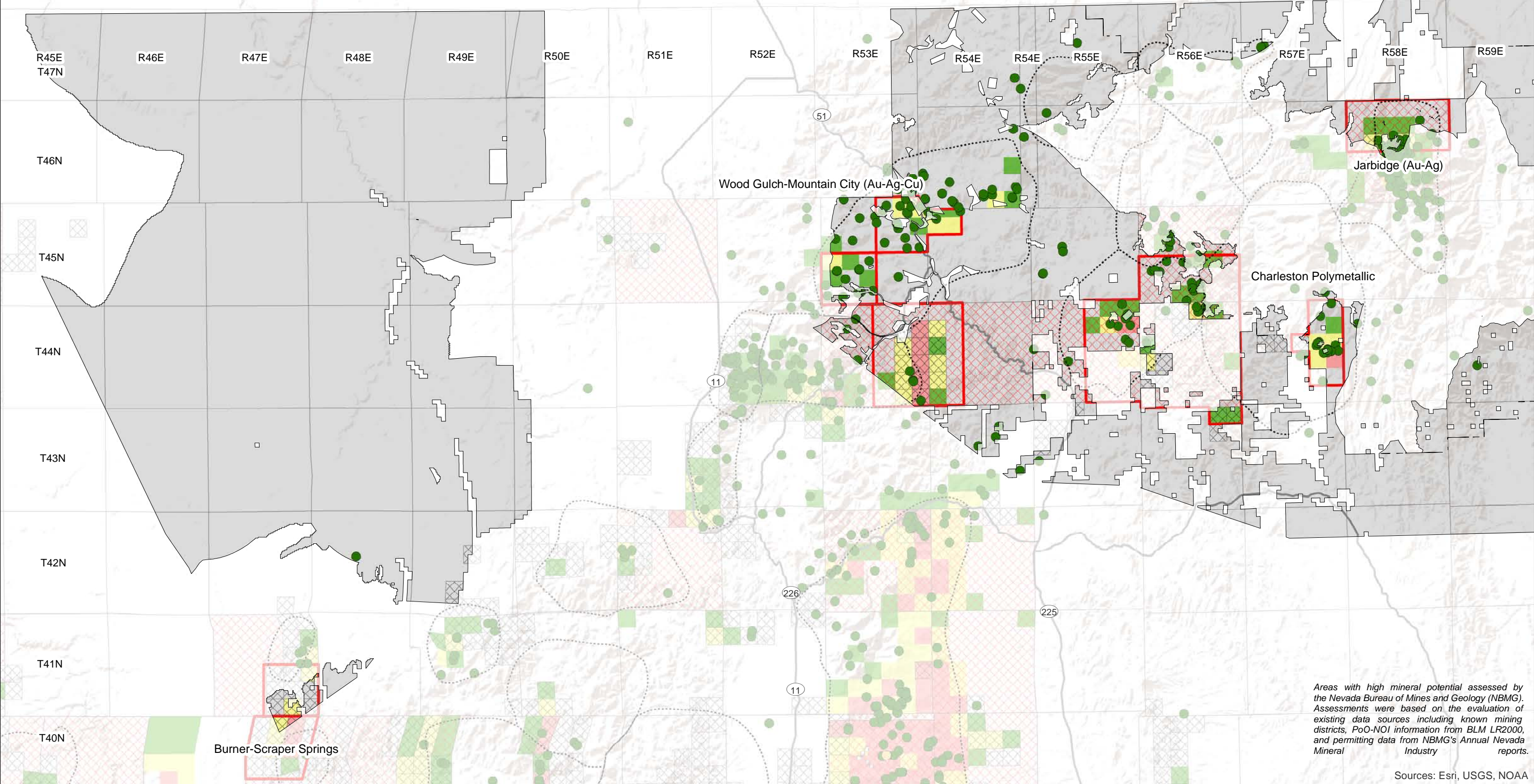
Major Road

0 2.5 5 10 Miles

0 5 10 20 Kilometers

Map Prepared by:
Lucia M. Patterson
Nevada Division of Minerals
NAD 1983 UTM Zone 11
Date: 1/13/2016

Area 3: Areas of High Mineral Potential in Nevada's Sage Brush Focal Areas with Outlined Areas Proposed NOT to be Closed to Mineral Entry



Areas with high mineral potential assessed by the Nevada Bureau of Mines and Geology (NBMG). Assessments were based on the evaluation of existing data sources including known mining districts, PoO-NOI information from BLM LR2000, and permitting data from NBMG's Annual Nevada Mineral Industry reports.

Sources: Esri, USGS, NOAA

Active Mines

- Metal
- Industrial Minerals
- Gemstones

Mineral Deposits

- Metallic, Nonmetallic, & Industrial

BLM Permits, Plans, & Drill Projects (1978-2014)

- Plans of Operation & Notices of Intent Data from BLM LR2000
- Townships with Drill Projects for Metals (2005-2014) Data from NBMG's Nevada Mineral Industry Reports

Active Mining Claims as of 10/16/2015

- 1 - 10 Claims
- 11 - 30 Claims
- >30 Claims

Data from BLM LR2000 Database

Areas of High Mineral Potential Proposed NOT to be Closed to Mineral Entry

- Mineral Potential
- Lone Willow PMU

Mining District Boundary

Areas of Proposed Mineral Withdrawal

Township & Range

Major Highway

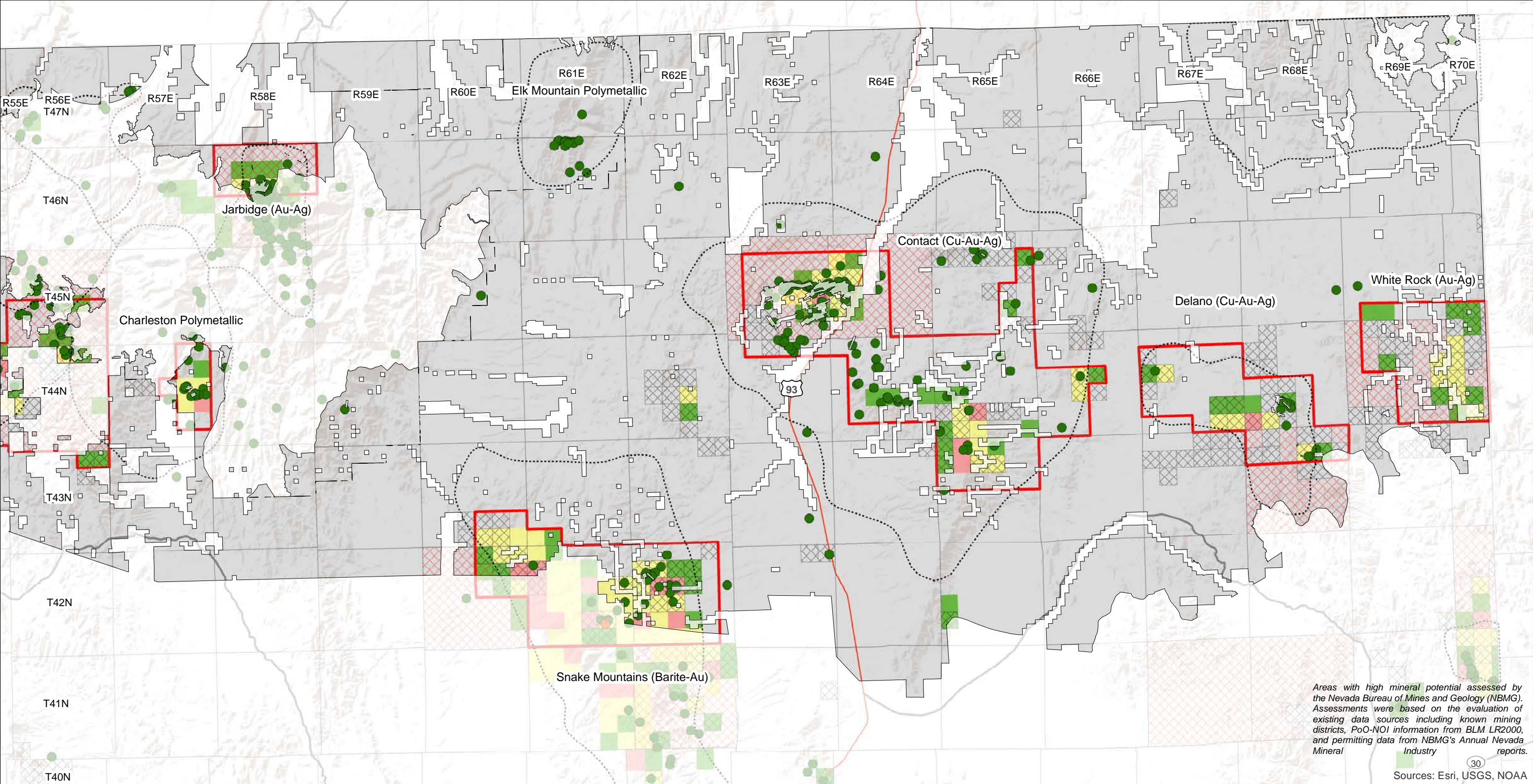
Major Road

0 2.5 5 10 Miles

0 5 10 20 Kilometers

Map Prepared by:
Lucia M. Patterson
Nevada Division of Minerals
NAD 1983 UTM Zone 11
Date: 1/13/2016

Area 4: Areas of High Mineral Potential in Nevada's Sage Brush Focal Areas with Outlined Areas Proposed NOT to be Closed to Mineral Entry



Areas with high mineral potential assessed by the Nevada Bureau of Mines and Geology (NBMG). Assessments were based on the evaluation of existing data sources including known mining districts, PoO-NOI information from BLM LR2000, and permitting data from NBMG's Annual Nevada Mineral Industry reports.

Sources: Esri, USGS, NOAA

Active Mines

- Metal
- Industrial Minerals
- Gemstones

Mineral Deposits

- Metallic, Nonmetallic, & Industrial

BLM Permits, Plans, & Drill Projects (1978-2014)

- Plans of Operation & Notices of Intent Data from BLM LR2000
- Townships with Drill Projects for Metals (2005-2014) Data from NBMG's Nevada Mineral Industry Reports

Active Mining Claims as of 10/16/2015

- 1 - 10 Claims
- 11 - 30 Claims
- >30 Claims Data from BLM LR2000 Database

Areas of High Mineral Potential Proposed NOT to be Closed to Mineral Entry

- Mineral Potential
- Lone Willow PMU

Legend

- Mining District Boundary
- Areas of Proposed Mineral Withdrawal
- Township & Range
- Major Highway
- Major Road

0 2.5 5 10 Miles

0 5 10 20 Kilometers

Map Prepared by:
Lucia M. Patterson
Nevada Division of Minerals
NAD 1983 UTM Zone 11
Date: 1/13/2016

NEVADA DIVISION OF MINERALS

III. OLD BUSINESS

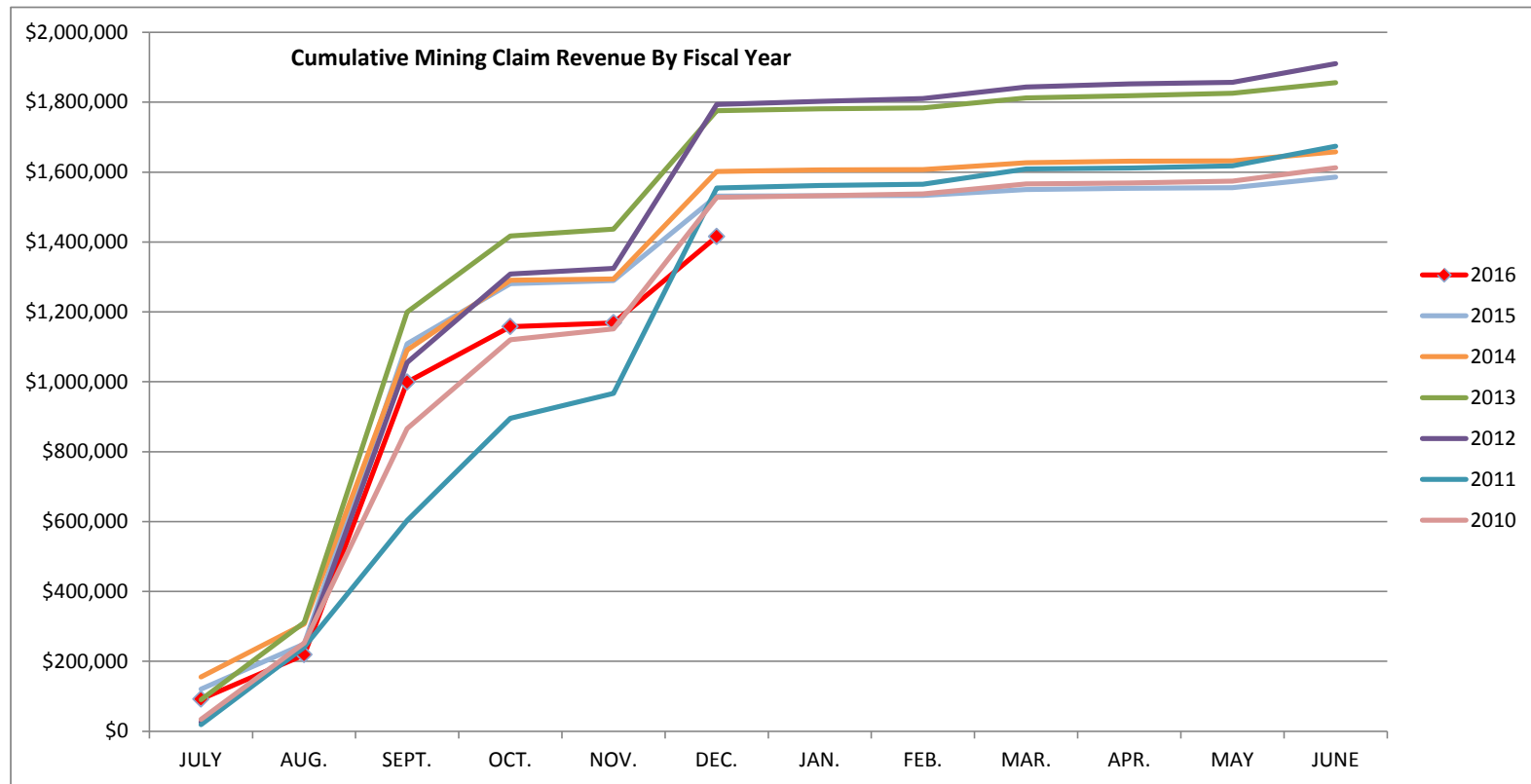
III. A. NDOM Fiscal Year 2016 forecast,
Reserve Balance and Claim Fees

Fiscal Year Cumulative Mining Claim Revenue By Month

Fiscal Year	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	YOY	Total Claims
2016	\$92,072	\$219,020	\$999,082	\$1,158,219	\$1,168,827	\$1,415,369							-7.6%	
2015	\$120,352	\$250,079	\$1,108,417	\$1,280,687	\$1,290,241	\$1,531,683	\$1,532,431	\$1,533,349	\$1,550,247	\$1,553,571	\$1,555,211	\$1,585,539	-4.4%	186,534
2014	\$155,703	\$306,646	\$1,090,754	\$1,290,496	\$1,294,661	\$1,602,233	\$1,606,177	\$1,607,656	\$1,627,283	\$1,631,235	\$1,632,417	\$1,657,789	-10.7%	195,034
2013	\$90,253	\$311,806	\$1,199,622	\$1,417,171	\$1,437,104	\$1,775,803	\$1,781,575	\$1,783,870	\$1,812,217	\$1,818,745	\$1,825,571	\$1,856,460	-2.8%	218,407
2012	\$26,248	\$239,904	\$1,055,539	\$1,309,017	\$1,324,445	\$1,793,687	\$1,802,901	\$1,810,432	\$1,843,795	\$1,852,541	\$1,857,012	\$1,910,562	14.1%	224,772
2011	\$18,504	\$241,374	\$602,803	\$895,475	\$966,603	\$1,554,871	\$1,562,053	\$1,565,649	\$1,609,424	\$1,612,118	\$1,618,145	\$1,674,304	3.8%	196,977
2010	\$34,315	\$252,520	\$866,626	\$1,120,355	\$1,151,704	\$1,527,997	\$1,532,639	\$1,537,911	\$1,566,170	\$1,569,088	\$1,574,207	\$1,613,142		189,781

12 Counties pay quarterly: CC, CH, DO, ES, HU, LA, LI, LY, NY, PE, ST and WP

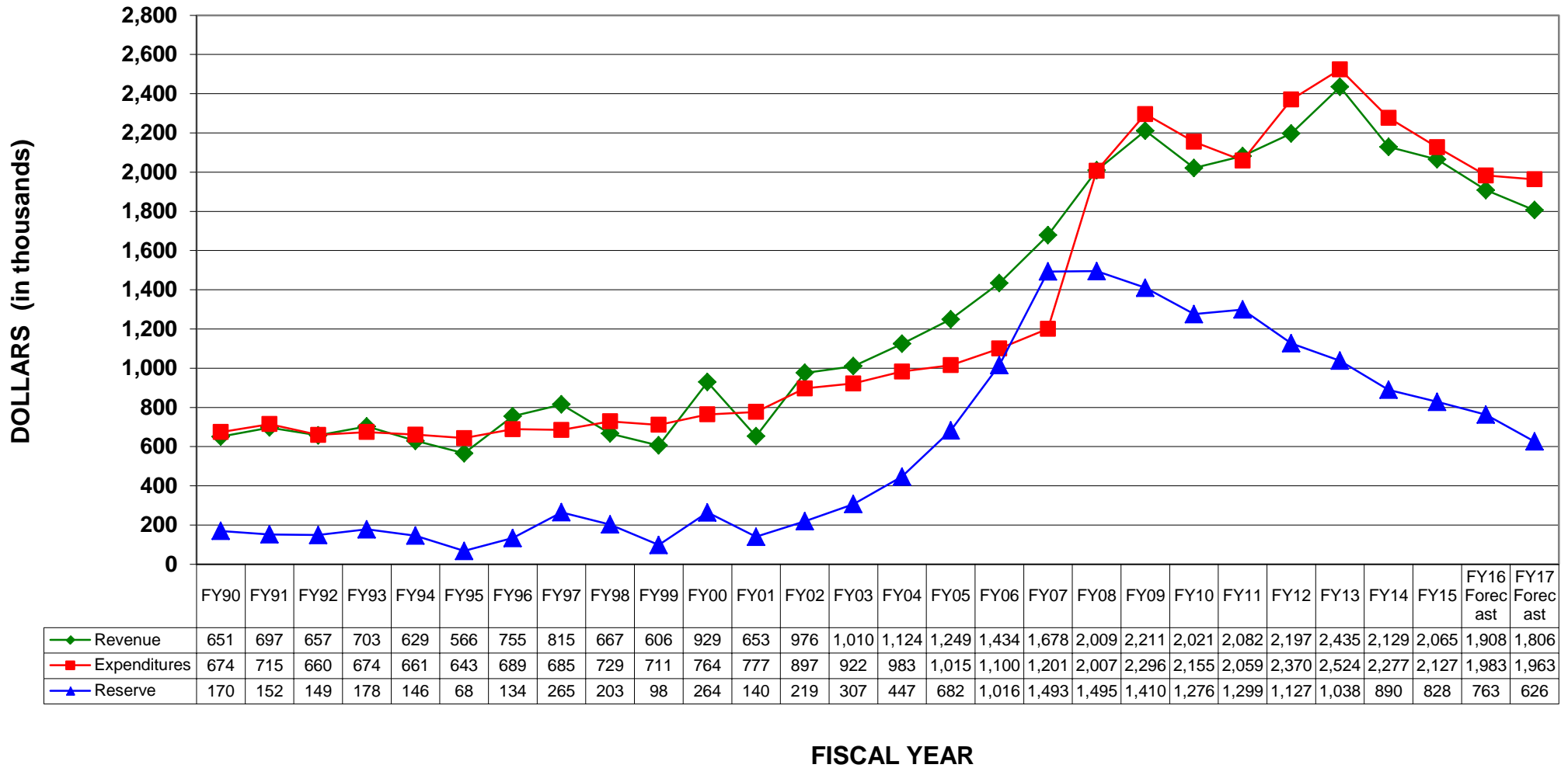
FY16 data as of 1/22/16 (missing CC and CL payments)



DIVISION OF MINERALS - FORECAST OF REVENUE AND EXPENDITURES THROUGH FISCAL YEAR 2017

Division of Minerals - Forecast of Revenue and Expenditures Through Fiscal Year 2017 - as of 1/15/2016							
Scenario: Includes approved OGG fee increases, no mining claim increases, Mackay donation at \$2/claim							
Revenue							
GL #	Description	FY14 Actuals	FY 15 Actuals	FY16 YTD	FY16 Forecast	FY17 Forecast	Remarks
2511	Balance Forward Previous Year	1,037,786	889,917	856,757	856,757	782,127	FY16 Balance Fwd includes \$28,697 returned as unused by DCNR
3578	BLM Cooperative Agreement	50,000	110,000	0	50,000	50,000	Assumes we receive \$50k each year
3580	USFS Assistance Agreement	42,002	21,713	0	17,859	36,000	\$71,000 available for reimbursement through May 2017
3654	Oil Production Fee	32,162	38,640	14,252	44,700	43,950	Assumes \$0.15/bbl x 298k bbls in FY16 and 293k in FY17
3717	Oil Permit Fees	2,800	2,000	400	400	2,000	Assumes no addtl permits in FY16, 2 conv. in FY17
3718 & 3727	Mining Claim Fees	1,657,789	1,585,539	1,305,294	1,474,551	1,371,333	4.4% decline in FY15, and 7% projected decline in FY16 and 17
3736	Geothermal Fees	120,750	107,525	20,600	143,170	146,729	2.5% increase for FY16 +8 additional production wells, 5% increase for FY17, plus new fees
3770	Surface Disturbance Fee (AML)	125,300	106,320	39,940	70,000	75,000	Yearly forecasts based on what's in the pipeline with uncertainties on timing
4011	Copy Machines - Sales to Public	0	104	0	40	40	
4027	Publication Sales (AML signs)	2,757	2,390	598	2,000	2,000	
4252	Excess Property Sales (truck)	0	0	21,604	21,604	0	Insurance payout and salvage of totaled truck
4311	Medallion Royalty Fee	1,550	616	98	200	200	
4326	Treasurer's Interest	3,076	3,947	787	3,000	3,000	
4620	Transfer from Recl. Bond Pool	90,859	86,498	0	80,500	76,000	Steady decline tied to exploration activity
	TOTAL	\$3,166,831	\$2,955,209	\$2,260,328	\$2,764,781	\$2,588,378	
Expenditures							
CAT #	Description	FY14 Actuals	FY15 Actuals	FY16 YTD	FY16 Forecast	FY17 Forecast	Remarks
01	Personnel (Sal.,WC, PERS,OT)	1,033,398	1,009,184	526,586	1,116,496	1,031,777	FY16 - 11 FTE's, 6 interns, 1 PT intern, winter intern (4) program, 1 retirement payout; FY17 - 10 FTE's, 6 interns, 1 PT intern, 1 retirement payout
02	Out-of-State Travel (Staff, CMR)	11,947	7,250	4,693	7,468	7,692	Assumes annual 3% increase
03	In-State Travel (Non-AML)	29,337	13,218	7,642	15,862	16,337	20% increase for FY16 (GW), then 3% annual increase
04	Carson Operating Expenses	105,893	100,628	70,660	103,647	106,756	Assumes 3% annual increase
08	CMR Travel (In-State)	2,911	2,381	164	2,452	2,526	Assumes 3% annual increase
09	Special Projects (Mackay, NBMG)	574,238	516,550	13,586	398,068	371,953	FY16 and FY17 - \$373,068/\$346,953 (Mackay), \$15k (NvMA Ed), \$10k publ/other
14	Las Vegas Operating Expenses	33,541	34,658	22,949	37,698	38,829	Assumes 3% annual increase, +\$2k (GW)
17	Oil, Gas and Geothermal	0	8,943	3,959	9,211	9,488	Travel and equip. costs related to OGG; assumes 3% annual increase
18	AML Support (per diem, trucks, fuel, AML supplies and travel, SOSA supplies)	140,773	134,759	52,675	144,516	179,183	Assumes 6 interns thru FY17; each @ \$1,556/4 weeks; \$10k swag; 10% increase in FY16 (GW); 4 interns for 3 wks in winter (FY16 only); replacement truck in FY17 (\$35,000); 3% annual increase
26	Computer and IT	22,044	6,984	4,494	36,003	31,161	Legislature approved budget
39	AML Enhancements(contracts, equip.)	90,429	105,448	14,001	54,792	54,792	FY16 and FY17 -Assumes \$50k contracted annually, plus \$5.5k materials
69	Sagebrush Ecosystem Transfer	141,364	131,572	0	0	0	FY15 transfer was last one
87 & 88 & 89	Cost Allocations (State, Purchasing, AG)	91,040	55,575	42,044	56,442	112,160	Actuals per Leg. approved budget
	Total	\$2,276,915	\$2,127,150	\$763,452	\$1,982,654	\$1,962,654	
86	Reserve - Balance Forward to Next Year	\$889,916	\$828,060	\$1,496,876	\$782,127	\$625,724	

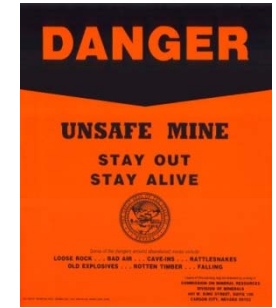
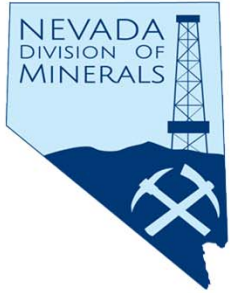
NEVADA COMMISSION ON MINERAL RESOURCES
Division of Minerals - Revenue, Expenditures, Reserve as of 1/15/2016
(FY90 to FY15 Actuals, FY16 and F17 Forecasts)



III. B. Update of Activities by the Nevada Bureau of Mines and Geology

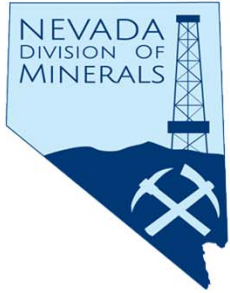
THIS SECTION IS INTENTIONALLY LEFT BLANK.
HAND OUTS AND PRESENTATION WILL BE GIVEN AT THE
MEETING.

III. C. 2015 AML Program re-cap and 2016 planning

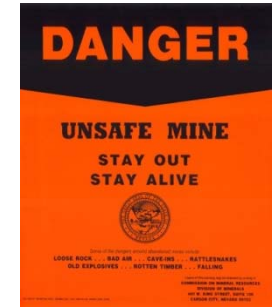


NDOM AML Program 2015 Review and 2016 Projections

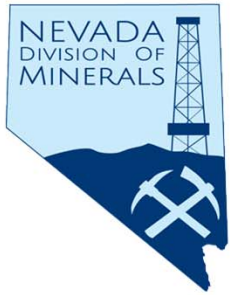
Rob Ghiglieri
CMR Meeting
February 4, 2015



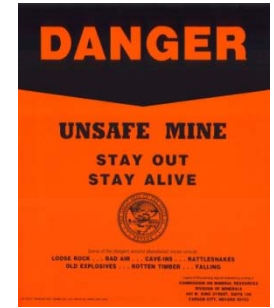
AML Review



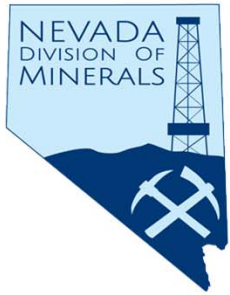
- The program completed its 29th year
- 19,500 Hazards inventoried
 - 15,800 Secured at a 81% securing rate
- 56,000 non-hazards inventoried
- One contractor, EPS



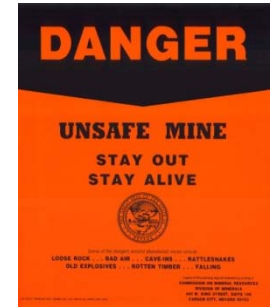
2015 Review



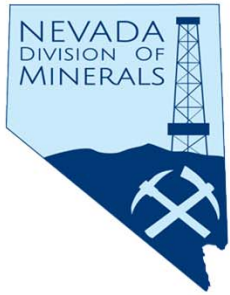
- There were NO reported injuries or fatality reported in 2015!
 - This is the second year in a row without an incident.
- The summer internship was 6 students for 13 weeks.
- Performed field work with 4 UNR students and 4 NDOM staff in Churchill, Clark, Lyon, Pershing, and Storey counties in December and January.
- Performed permanent closures in Churchill, Esmeralda, & Nye Counties.
- Converted to a SQL database from the Access.
- Performed the first digital field investigations



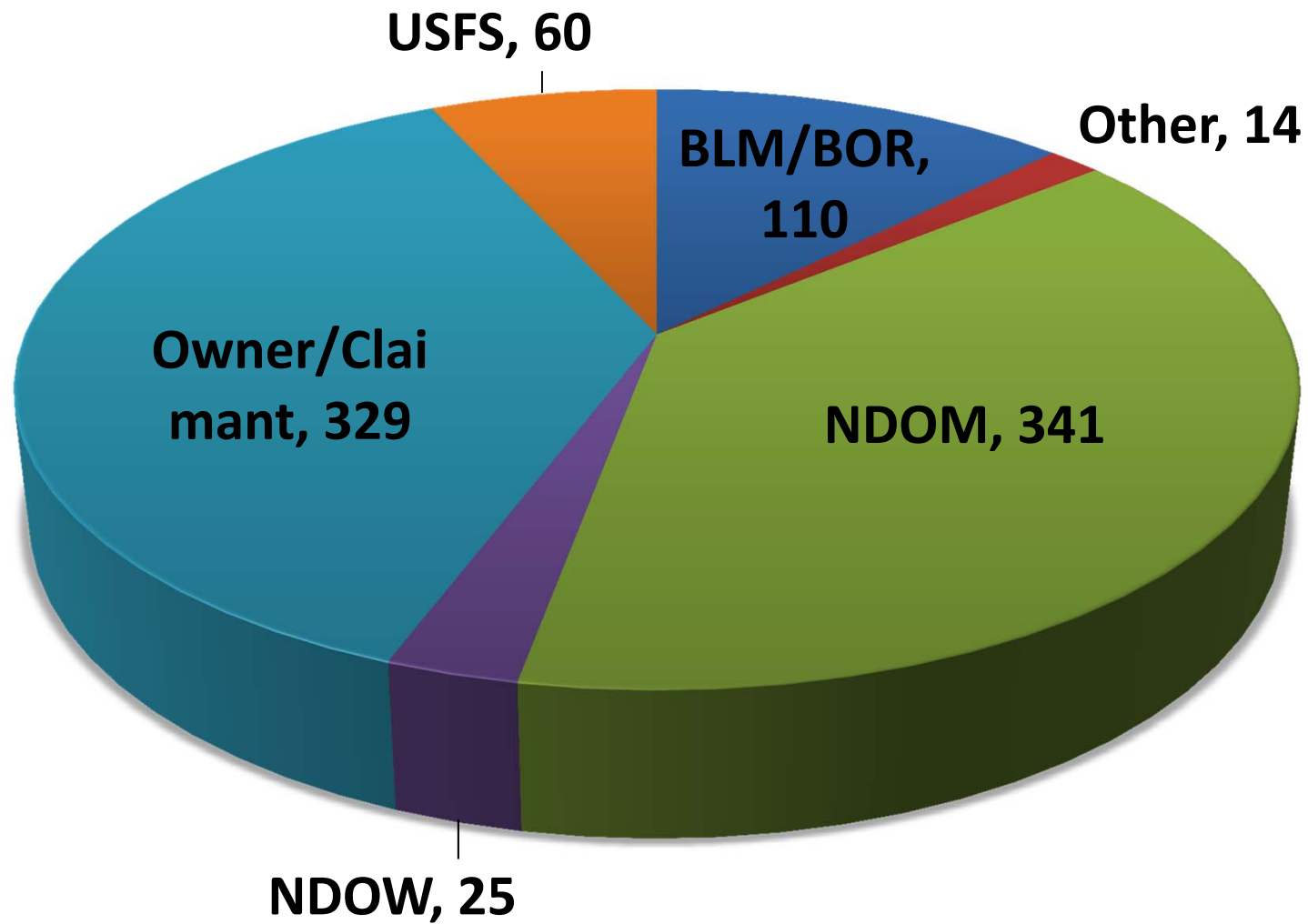
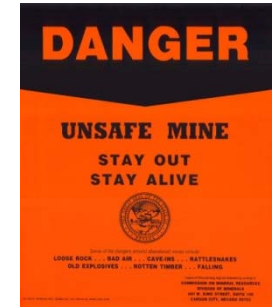
2015 Program Accomplishments



- 663 Loggings
- 435 Revisits
- 879 Securings
 - 635 Fenced or posted
 - 244 gated / backfilled/ PUF
- Work was completed in all 17 counties
- Field investigation were captured for the first time completely digital.



Securings by Agency or Owner





Nevada Division of Minerals Abandoned Mine Lands 2015 Summer Intern Program



2015 Accomplishments



Alain Nowakowski



Conor Ostling



Brett Maur



Emma Baker



Griffin Kilroy



Ed Probst

Logged:
4,233 Non-Hazards

Identified:
329 New Hazards

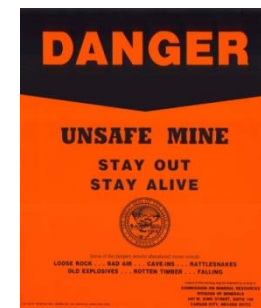
Secured:
190 Hazards

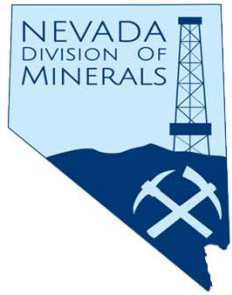
Revisited/Repaired:
214 Hazards

**Thank You
Interns!!!**

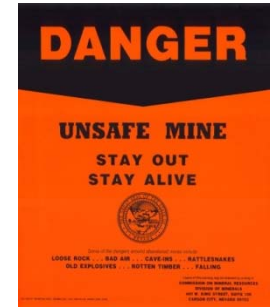


**Thank You
Interns!!!**

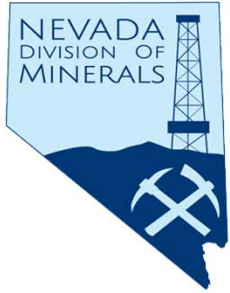




New AML Database Development

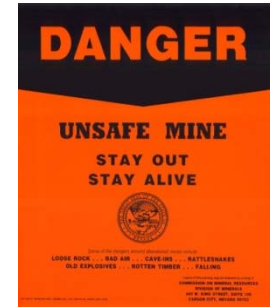


- The AML Access database was transferred to a SQL database May 2015.
- The new database is a SQL based language with a web interface know as SOSA (Stay Out, Stay Alive)
- Currently all data is managed from the SOSA interface with no NDOM direct access into SQL Server Management Studio (SSMS)
- NDOM staff has been introduced into SSMS and will be trained on to properly manage the AML database on the new SQL interface.



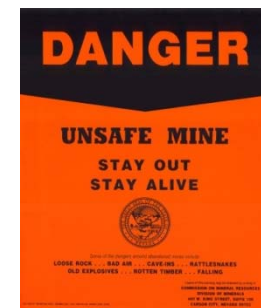
Database Demonstration

- <https://amlsosa.nv.gov/sosa/>

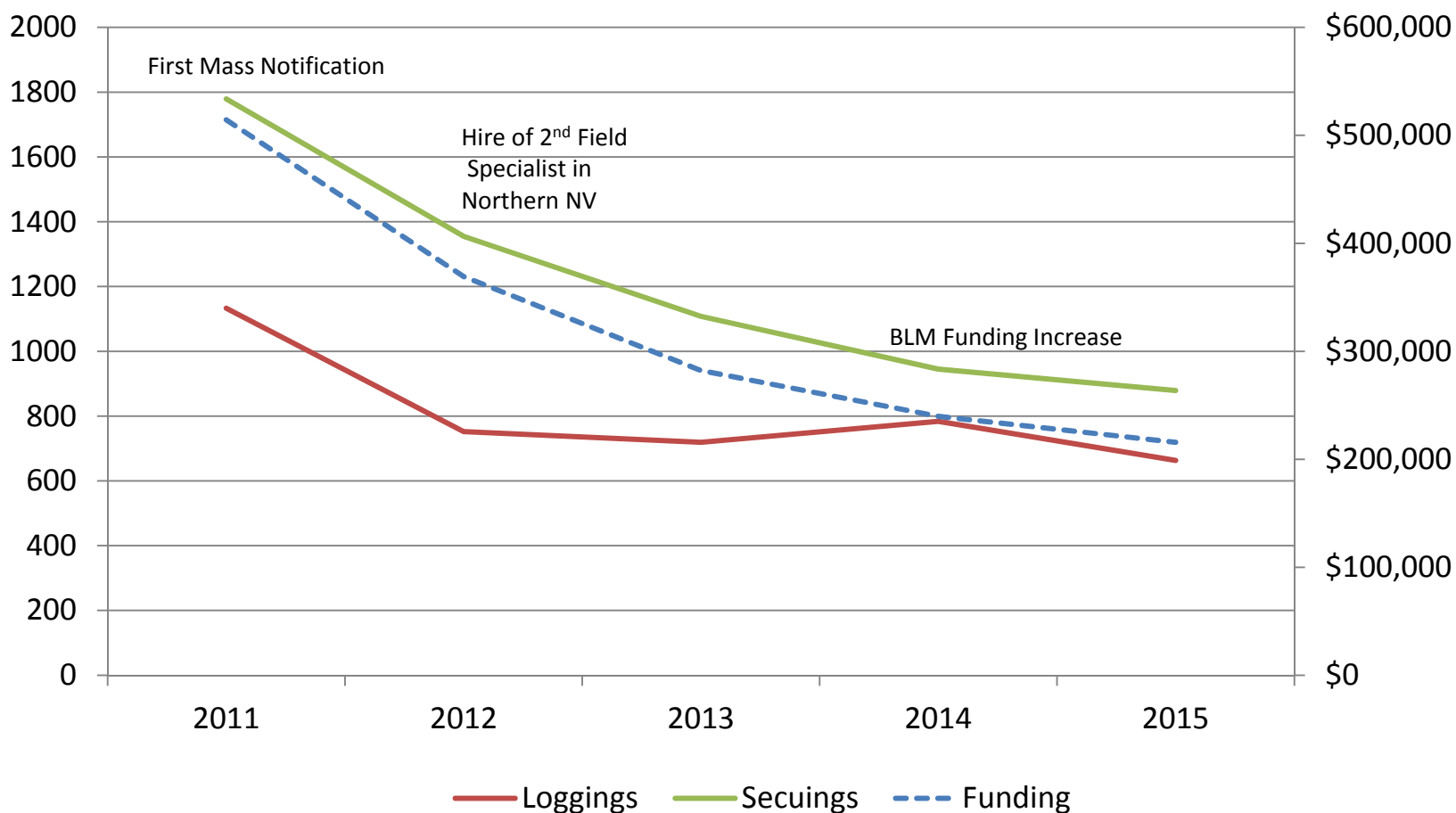


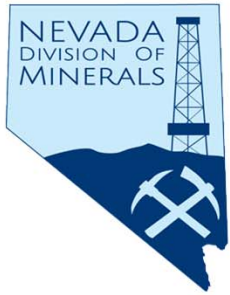


AML Program Trends

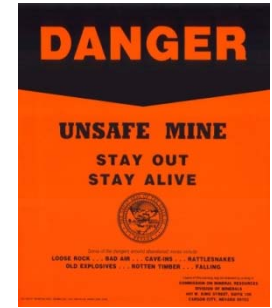


NDOM AML Inventory/ Securing work vs. Funding

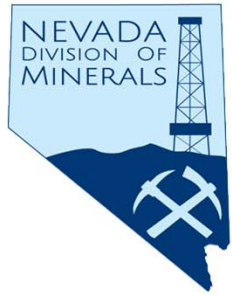




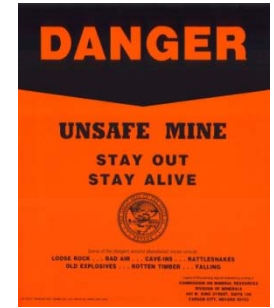
AML Program Funding Trends



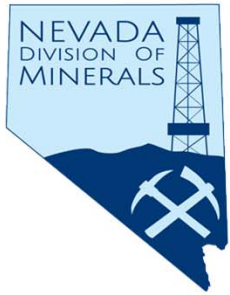
- FY 2016 is estimated to have a \$298,691 or 58% decrease of AML funds expended from 2012.
- The represented funding pays for:
 - AML supplies
 - Contracting work
 - AML specific computer software
 - Travel Per Diem
 - Trucks including maintenance, supplies & fuel
 - Mail-outs
 - Printing for AML field work and AML education
- This does not include NDOM staff and intern salaries, or overhead



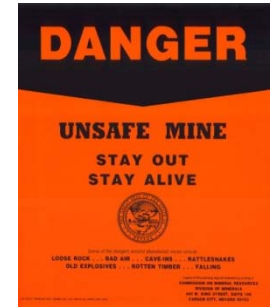
Program Alterations



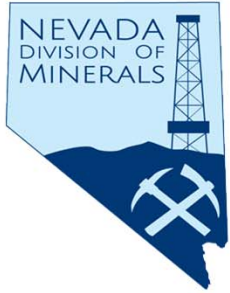
- To adapt to the decreasing budget the AML program has:
 - Minimized work by the contractor
 - Reduced the amount of Summer Interns from 8 to 6.
 - Deferred purchasing new a truck until FY 2017
 - Requested additional funding from Federal Agencies (Assistance Agreements and MOUs)
 - Performed less field work



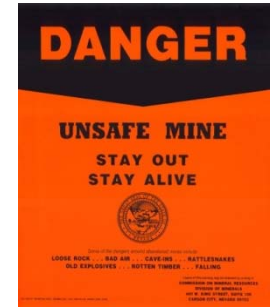
2016 Plan



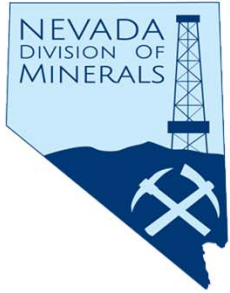
- Continue working with USACE and TerraSpectra to develop the SQL database.
 - SSMS training for Staff
 - Possible continuation of funding for the next 2-3 years.
- Expand the digital field investigations and start beta testing with the summer interns.
- 6 summer interns (14 weeks)
- Continue our public awareness campaign.
 - Possible remake of the NDOM “Stay Out, Stay Alive” video



2016 Projects



- 3 closure projects (FY16)
 - Mint Shaft, Chukar 3, Mound House
- Start resolving the logistical issues associated with the Arden complex closure
- New Assistance Agreement with the BLM
- Continue working with the USFS MOU
- Categorical Exclusion with the BLM closures
- Joint NDOM/NDEP UAV demonstration project
 - Funded by RAMS



FY 2017 Risks and Opportunities

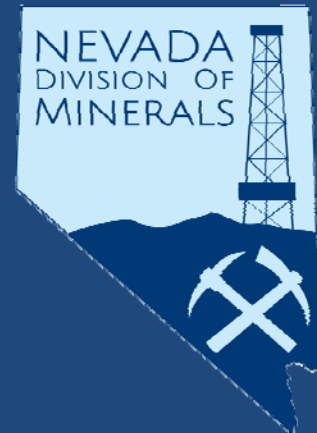
- RAMS program funding
- BLM/USFS Assistance agreements
 - \$49,000+\$18,000=\$67,000 FY16
- Claim Fees
- Nevada BLM inventory program
- Federal Legislation
- Southern Nevada Public Land Management Act (SNPLMA)

III. D. Education Activities and Outreach

EDUCATION AND PUBLIC AWARENESS and EAGLE SCOUT SERVICE PROJECTS

**Commission on Mineral Resources Meeting
February 4, 2016
Las Vegas, Nevada**

Bill Durbin

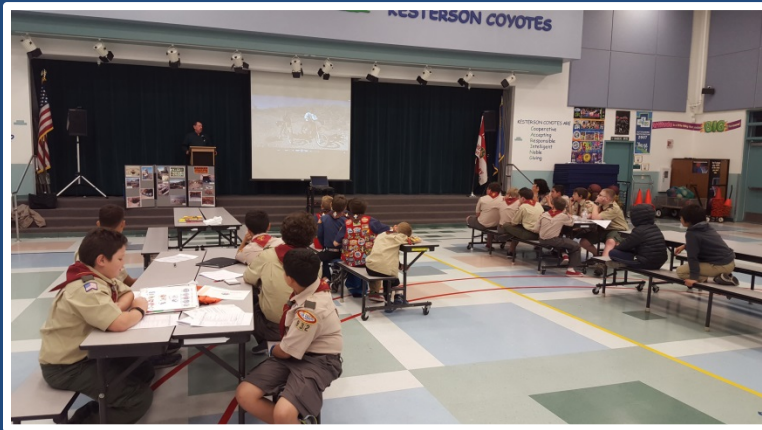


PUBLIC OUTREACH AND EDUCATION STAFF PRESENTATIONS - CALENDAR YEAR 2015

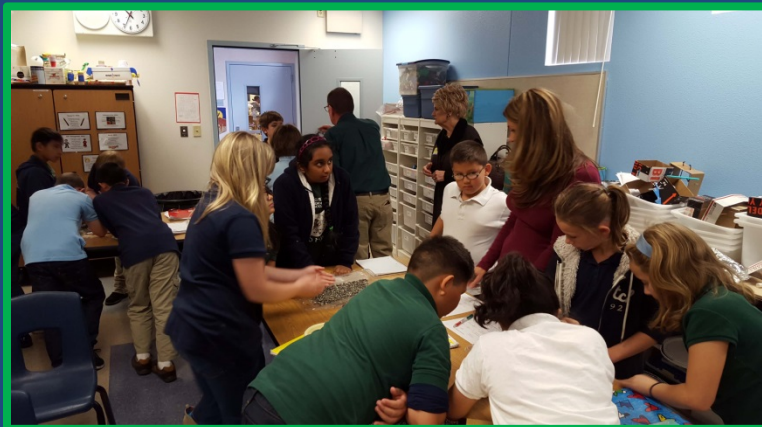
- **192 PRESENTATIONS MADE**
 - **17.5 PRESENTATIONS PER STAFF MEMBER**
 - **EXCEEDS NDOM PERFORMANCE INDICATOR OF 1 PRESENTATION PER MONTH PER STAFF PERSON (11X12 = 132 PRESENTATIONS)**
- **OUTREACH TO 18,482 PERSONS**
- **114 CLASSROOM PRESENTATIONS TO 5,710 STUDENTS**
- **41 PRESENTATIONS TO CIVIC GROUPS, CLUBS, ORGANIZATIONS**
- **5 MEDIA PRESENTATIONS**
- **10 PRESENTATIONS TO SCOUT TROOPS AND YOUTH ORGANIZATIONS**
- **11 AML SAFETY TRAINING PRESENTATIONS TO EAGLE SCOUT SERVICE PROJECT PARTICIPANTS**
- **112 PRESENTATIONS IN NORTHERN NEVADA**
- **76 PRESENTATIONS IN SOUTHERN NEVADA**
- **4 PRESENTATIONS OUT OF STATE (AEMA CONFERENCE – SPOKANE)**

EDUCATION AND OUTREACH

(Top) Boy Scout Troop 932 meeting - 11/10/2015
(Bottom) Sandy Miller Elem. School – 10/11/2015



(Top) Gordon McCaw Elem. School – 10/12/2015
(Bottom) Lawrence Jr. High School – 11/17/2015



Upcoming Southern Nevada E & O

(scheduled as of January 15, 2016)

- **Durango High School – January 20-23 – 13 sessions – Minerals in Dental Hygiene, Paste with a Taste activity, AML – 560 to 600 students**
- **Southern Nevada Science Teachers Association (SNSTA) Conference – NDOM display/handout materials – Western High School – February 6**
- **Pat Diskin Elementary School Career Fair – March 18**
- **Southern Nevada Earth Science Education Workshop – March 22-23 – Faith Lutheran High School**

Eagle Scout Service Projects – Calendar Year 2015

- **11 PROJECTS COMPLETED IN 2015**
 - CLARK (8), LINCOLN (1) AND LYON (2)
- **44 HAZARDS SECURED**
- **12 PREVIOUSLY SECURED HAZARDS RE-VISITED AND RE-SECURED**
- **7 PROJECTS PENDING FOR 2016 IN CLARK AND LYON COUNTIES, 1 PROPOSED FOR DOUGLAS COUNTY**
- **TOTAL TO-DATE: 165 SCOUT PROJECTS COMPLETED SINCE 1992**
 - **740 HAZARDS SECURED**
 - **148 PREVIOUSLY SECURED HAZARDS RE-VISITED AND RE -SECURED**

Eagle Scout Service Projects - 2015

Clark and Lyon Counties

Project Work – Fred Allen – 11/21/2015
Lyon County



Project Work – Riley Houston - 11/21/2015
Clark County



THANK YOU

QUESTIONS??



III. E. MSM annual \$2 per claim consideration



MACKAY \$2/CLAIM FEE HISTORY

Fiscal Year	Date of Transaction	Amount		# of claims
2009	1/22/2009	\$ 180,500		
	6/8/2009	\$ 243,922	for FY 08	
2010	5/10/2010	\$ 391,302	for FY 09	
2011	11/10/2010	\$ 379,554	for FY 10	189,781
2012	4/24/2012	\$ 394,178	for FY 11	196,977
2013	2/26/2013	\$ 449,544	for FY 12	224,772
2014	3/19/2014	\$ 436,814	for FY 13	218,407
2015	2/25/2015	\$ 390,068	for FY 14	195,034
2016	not paid	\$ 373,068	for FY 15	186,534
Total Paid		\$ 3,238,950		

ATTACHMENT A SCOPE OF WORK

Background

The Nevada Commission on Mineral Resources [CMR] agrees to provide financial support for the University of Nevada, Reno, Mackay School of Earth Sciences and Engineering [MSESE]. In return the University of Nevada, Reno is prepared to make certain adjustments to the distribution of the Marigold Mines royalty income.

Terms of Agreement

The above parties hereby enter into the following agreement:

1. The CMR will provide funds to the University of Nevada, Reno for the benefit of the Mackay School of Earth Sciences and Engineering (MSESE) in the amount of \$2.00 per mining claim filing beginning July 2008. The amount paid to MSESE is based on the number of mining claim filing payments (NRS 517.185) received during the previous state fiscal year (July 1 through June 30) and continuing for a period of five years. The said funds will be transferred to MSESE every year and will not be subject to University overhead or administrative expenses.
2. It is understood and agreed that funds from this source are estimated by the CMR to be approximately \$440,000 for FY 2008, but the amount will vary from year to year based upon the previous fiscal year mining claim filings.
3. It is understood and agreed that such funding is contingent on changes being made to the relevant state regulations by CMR to authorize such payments, and contingent upon approval by the appropriate governing bodies. It is anticipated by the parties that the appropriate regulation changes will be completed no later than December 31, 2008.
4. The use of the funds by MSESE must be for educational purposes in support of exploration and production of mineral resources in the State of Nevada (NRS 513.073, Secs. 1 and 2) as approved by the Board of Regents, the University of Nevada, Reno, and after consultation with the Dean of the College of Science and the Director of the MSESE, and the Nevada Commission on Mineral Resources.
5. In exchange for the payment of the funds to MSESE described herein above, the University of Nevada, Reno agrees to dedicate part of its future annual income from its Marigold Mine royalties for the support of the endowment(s) in MSESE for educational purposes in support of exploration and production of mineral resources in the State of Nevada as follows:
 - a. The University will retain the first \$500,000 of royalty income.
 - b. The University will direct the next \$250,000 of royalty income to an endowment in MSESE.
 - c. Any royalty income in excess of \$750,000 will be split equally between the University and the MSESE endowment.

- d. Royalties directed to Mackay will not be subject to University overhead or administrative expenses.

NRS 513.073 Encouragement of exploration; collection and dissemination of educational information; maintenance of register of operations; record of annual production; administration of chapter 522 of NRS and regulations of Commission. The Division shall:

1. Encourage and assist in the exploration for and the production of oil, gas, geothermal energy and minerals within this State.

2. Collect and disseminate throughout the State information calculated to educate persons engaged in those enterprises and benefit those enterprises in this State, and any information pertaining to any program administered by the Division.



University of Nevada, Reno

November 30, 2015

Dr. Fred Gibson
State of Nevada Commission on Mineral Resources
Division of Minerals
400 W. King St., #106
Carson City, NV 89703

Dear Dr. Gibson:

Greetings from the University of Nevada, Reno! It is a time of great transformation and we are pleased to update you on our latest campus accomplishments. Your generosity makes our remarkable growth and notable list of achievements possible. You may be familiar with some of our published successes, but I would like to tell you more about our untold story.

Our story is one of growth of the University and growth of the University's endowment. Your permanent endowment is an integral part of the University's total endowment, providing continual and stable support. Our total endowment value topped \$306 million as of June 30, a record achievement. This year, more than \$16.4 million in gifts was added to the University's true and quasi endowments, which are held by the University of Nevada, Reno Foundation, Nevada System of Higher Education and AAUN.

While we are certainly pleased by the size of the endowment, its true value lies in what the endowment is able to realize. A growing endowment generates more support for a growing University and a growing student body. The more than \$12 million generated by the University's endowments currently supports 33 endowed academic positions and more than 3,100 student scholarship awards. Additionally, the endowment provides funding for academic programs, research, graduate student aid and equipment and technology. The long-term growth of the endowment is significant because of the prosperity it guarantees for the future of the University.

Dr. Gibson, we are grateful for the establishment of the **MSESE Marigold Royalty Quasi-Endowment Fund**, and we are pleased to recognize the Nevada Commission on Mineral Resources' support of MSESE in this important and meaningful way. Your endowment is valued and we take very seriously our responsibility to prudently manage your investment. It is my privilege to share with you the attached report for your endowed fund and its performance during the past year.

We hope this information is helpful and worthwhile. If it creates questions, please feel free to contact me at (775) 784-1352, or Keiko Weil, director of donor relations at (775) 784-1587 or kweil@unr.edu.

Sincerely,

Bruce A. Mack, Ph.D.
Associate Vice President for Development and Alumni Relations
Associate Director and Secretary, University of Nevada, Reno Foundation
bmack@unr.edu

*MY SINCERE THANKS TO YOU AND THE COMMISSION
FOR THIS VERY GENEROUS ENDOWMENT. FUNDS
SUCH AS THIS ARE TRULY APPRECIATED BY OUR
UNIVERSITY. ON BEHALF OF ALL THE FACULTY
AND STUDENTS WHO
BENEFIT FROM THIS FUND,
THANK YOU!*

FOUNDATION

Morrill Hall/162

Reno, Nevada 89557-0162

(775) 784-1587

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University of Nevada, Reno: A Time of Transformation

- The University's overall student enrollment is up again, to nearly **21,000** students this fall, representing a 4.8 percent increase over last fall
- Nearly **4,000** bachelor degrees, advanced degrees and certificates were awarded during 2014-15
- In the last decade, our alumni numbers have grown a remarkable **51 percent**, from 53,000 in 2005 to nearly **80,000 alumni** today. Our higher graduation rates improve the workforce of our communities and aid in the economic development of our state and nation
- **Freshman enrollment is up 13.7 percent** over last fall to **3,851** students in the Class of 2019
- The Class of 2019 is well prepared academically with an average high school **GPA of 3.4** and average **ACT score of 23.6**. The class includes **16 National Merit Scholars**, bringing the campus total to 50. The incoming class also includes **121 Presidential Scholars**, bringing the campus total to 300 high-achieving students awarded this prestigious university scholarship
- Contributing to the enrollment increase is the freshman-to-sophomore **retention rate of 81 percent**
- In-state student enrollment is **up 4.5 percent** and non-resident enrollment is **up 8.2 percent**
- The University is **rising in the top tier of "best national universities"** as ranked by *U.S. News & World Report*
- The University's newest residential facility, **Peavine Hall, opened this fall**. The five-story suite-style hall houses 600 students who participate in wellness-themed educational opportunities. Peavine Hall will be the University's first LEED Gold certified building
- The 78,000 square-foot **William N. Pennington Student Achievement Center will open in January** and will bring a myriad of student success services under one roof, including centers for writing, math, tutoring, advising, disability resources, counseling, student veteran affairs and faith-based groups
- Construction has begun on the **new E. L. Wiegand Fitness Center**. The four-story facility, scheduled to open early 2017, will offer more than 108,000 square feet of multi-use space for fitness and recreation
- This year **41 new faculty positions were added**, bringing the number of additional faculty to 101 hired in the past two years
- Just ahead, work begins on the conversion of **Lincoln and Manzanita Halls** from residence halls to offices, as well as comprehensive renovations of the **Thompson Building** and **Palmer Engineering**
- The University's **new InNEVation Center**, 'Powered by Switch,' located in downtown Reno, is serving as a hub of community, business and advanced manufacturing engagement
- The University received the 2015 Council for Aid to Education (CASE) **Award in Fundraising** for public research/doctoral institutions with endowments over \$250 million

We appreciate the important part you play in our transformation and we are gratified by the support of our alumni, friends and community partners to our mission. Your generosity and support of our efforts makes our accomplishments and achievements possible.

Thank you for championing the University of Nevada, Reno.

The 2015 ANNUAL REPORT of the
UNIVERSITY OF NEVADA, RENO FOUNDATION ENDOWMENT

MSESE Marigold Royalty Quasi-Endowment Fund

Market Value as of 6/30/14 **\$770,560**

Market Value as of 6/30/15 **\$3,678,089**

The market value represents the actual worth of the endowment fund invested in the University of Nevada, Reno Foundation's general endowment pool as of the specified date. The Foundation's payout policy allows for 4.5 percent (4.5%) of the 12-quarter average market value for distribution purposes. The management fee allows for an annual 0.75 percent (0.75%) fee to be assessed on the endowment in the fiscal year ending June 30, 2015 for administrative expenses associated with managing the endowment funds. The above information excludes any additions made after May 31, 2015. Gifts received for the endowment are included in the very next scheduled quarterly investment buy after the gift is received.

The estimated 2016-17 annual payout will be: \$66,635

The University of Nevada, Reno Foundation was established in 1981 with the mission of attracting philanthropy to the University of Nevada, Reno. The Foundation's volunteer Board of Trustees and its Investment Committee work diligently to establish prudent parameters for investment asset allocation, both broadly diversified and inflation-hedging. The endowment is governed by a well-designed and disciplined policy that considers both long-term and short-term needs with the goal of maintaining the purchasing power of the endowment in perpetuity. The Foundation endowment includes more than 750 named endowment accounts. The endowment funds are responsibly managed by the Investment Committee of the Foundation, which receives independent professional investment advice from Wilshire Associates.

The Foundation's endowment value stood at more than **\$169.4** million as of June 30, 2015, an increase in value of more than 10 percent from \$154 million at June 30, 2014. As of June 30, 2015, the funds were invested at the ratio of **36.97%** in equities, **5.55%** in private equities, **32.95%** in fixed income, **11.95%** in real estate and **11.12%** in inflation linked investments. The goal of this allocation is to produce a return that meets spending obligations and maintains or increases the real value of the endowment.

For the 12-month reporting period of June 30, 2014 through June 30, 2015, the Foundation had a net return of **1.87%** for all assets, compared to the benchmark policy index of **1.52%**, the S&P 500 Equity Index of **7.42%**, the MSCI All Country World ex-U.S. Equity Index of **-4.96%**, and the Barclay's Aggregate Bond Index of **1.86%** for the same period of time.

As of June 30, 2015, the Foundation's three- and five-year overall average rate of returns for the endowment, net of fees, were **8.73%** and **9.84%** respectively. These returns use March 31, 2015 market values for the non-marketable investments.

The Foundation's policy is administered in accordance with the Uniform Prudent Management of Institutional Funds Act (UPMIFA), the provisions of which are set forth in Chapter 164 of the Nevada Revised Statutes. The Foundation's Investment Policy and its Underwater Accounts spending policy can be found on the University's website at: <http://giving.unr.edu/foundation.aspx>.

IV. STAFF REPORTS

**NEVADA COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERAL RESOURCES**

FY16

January 22, 2016

**Week: 29
Year %: 56%**

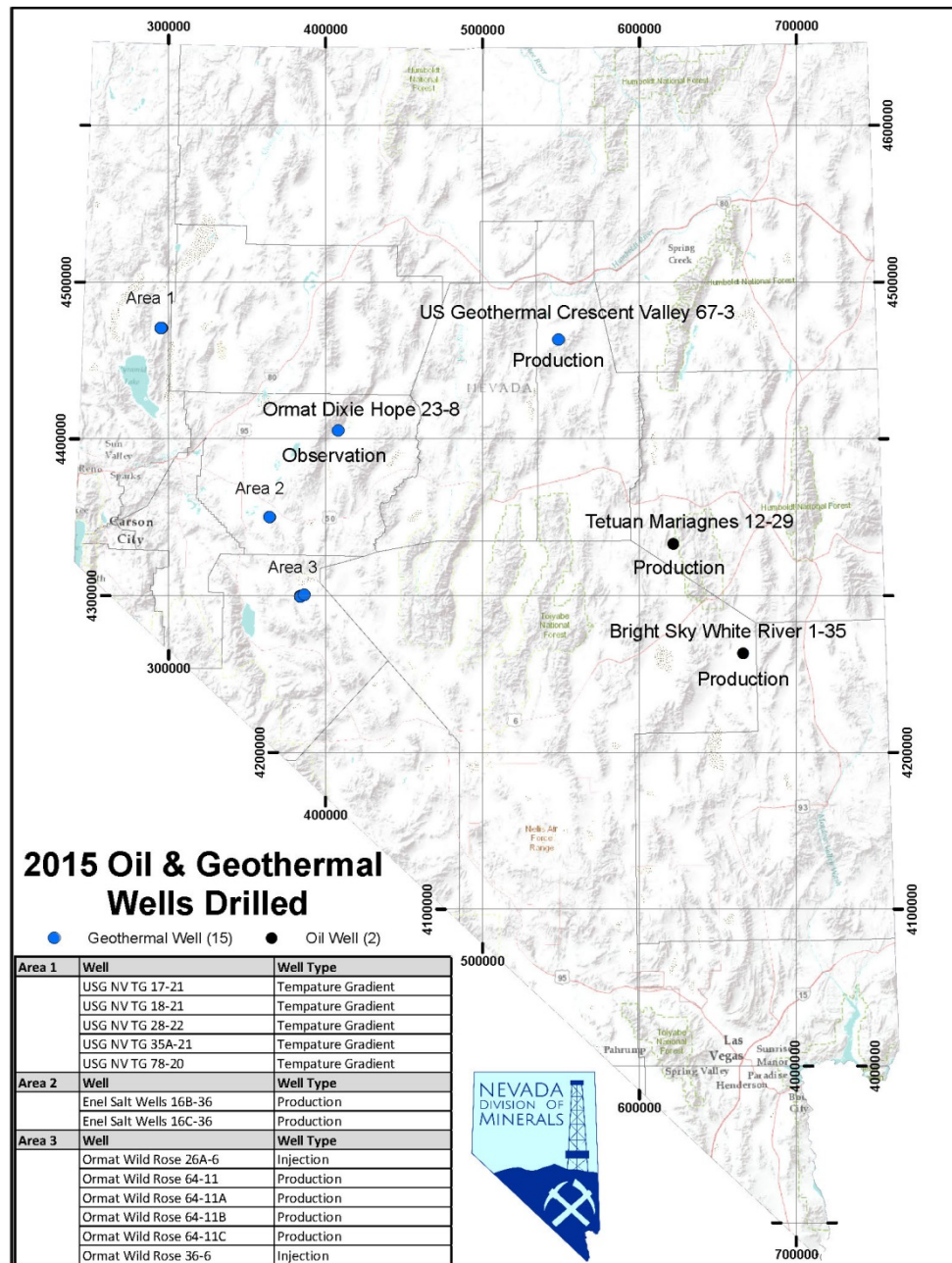
REVENUES

	Work Program	Actual	% of Work Program	Balance Remaining
Balance Forward From Prev. Yr. (2511)	\$856,757	\$856,757	100%	\$0
Federal BLM Cooperative Agreement (3578)	50,000	0.00	0%	50,000.00
USFS Assistance Agreement (3580)	0	0.00	0%	0.00
Oil Assessment Fees (3654)	90,000	14,251.51	16%	75,748.49
Oil Permit Fees (3717)	6,000	400.00	7%	5,600.00
Mining Claim Fees (3718)	1,053,185	982,830.00	93%	70,355.00
Dangerous Mine Fees (3727)	438,827	409,512.50	93%	29,314.50
Geothermal Fees (3736)	120,751	20,900.00	17%	99,851.00
Abandoned Mine Securing Fees (3770)	79,480	44,720.00	56%	34,760.00
Printing Sales (4011)	300	0.00	0%	300.00
Publication Sales (4027)	2,757	777.52	28%	1,979.48
Prior Yr Refunds (BOA Travel Card) 4203	0	26.32	0%	(26.32)
Excess Property Sales (4252)	21,144	21,604.00	102%	(460.00)
Medallion Royalty Income (4311)	1,550	97.50	6%	1,452.50
Treasurer's Interest Distribution (4326)	2,037	786.83	39%	1,250.17
Transfer frm Reclamation Bond Pool (4620)	80,500	0.00	0%	80,500.00
FY15 Revenues Received	\$1,946,531	\$1,495,906.18	77%	\$450,624.82
TOTAL REVENUES	\$2,803,288	\$2,352,663.18		

EXPENDITURES

	Work Program	Actual	% of Work Program	Balance Remaining
Personnel (01)	\$1,054,529	\$526,585.88	50%	\$527,943.12
Out of State Travel (02)	11,947	4,692.71	39%	7,254.29
In State Travel (03)	29,339	7,642.26	26%	21,696.74
Operating (04)	105,877	72,750.14	69%	33,126.86
Board Travel (08)	2,914	163.66	6%	2,750.34
Special Projects (09)	403,309	14,086.41	3%	389,222.59
Las Vegas Office (14)	35,602	23,151.46	65%	12,450.54
Oil, Gas Geothermal (17)	15,149	3,958.71	26%	11,190.29
AML Support (18)	155,750	54,609.12	35%	101,140.88
Bond Pool Expenses (19)	0	0.00	0%	0.00
County Royalty Grants (20)	0	0.00	0%	0.00
Computer H & S Ware, DOIT(26)	35,985	4,991.94	14%	30,993.06
AML Enhancement (39)	54,792	14,001.26	26%	40,790.74
SageBrush Ecosystem Trx to DCNR (69)	0	0.00	0%	0.00
Purchasing Assessment (87)	1,149	574.50	50%	574.50
State Cost Recovery (88)	0	0.00	0%	0.00
AG Cost Allocation (89)	55,293	41,469.75	75%	13,823.25
FY15 Expenditures	\$1,961,635	\$768,677.80	39%	\$1,192,957.20
Reserve Balance (86)	\$841,653	\$1,583,985.38	188%	(742,332.38)
TOTAL EXPENDITURES PLUS RESERVE	\$2,803,288	\$2,352,663.18		

This report reflects receipts and expenditures processed by the division to date.



2015 Geothermal Activity

Total Permits Issued: 26

- Production: 10
- Injection: 1
- Observation: 1
- TG: 5
- Project Area: 1
- Domestic: 8

Total Wells Drilled: 20

- Production: 7
- Injection: 2
- Observation: 1
- TG: 5
- Domestic: 5

Active Areas of Industrial Related Drilling Activity

- Dixie Hope (Ormat Nevada)
- Tungsten Mountain (Ormat Nevada)
- San Emidio (US Geothermal)

Areas of Expected Future Activity (2016)

- Dixie Hope: additional 6 to 10 wells
- Tungsten Mountain: additional 6 to 10 wells
- San Emidio: 2 observation wells (deepening of two previous TG wells)
- Crescent Valley (US Geothermal): 1 production well

Sundry Notices Approved in 2015: 95

2015 Oil and Gas Activity

Permits Issued: 4

Permits Drilled: 2

Areas of 2015 Drilling Activity

- Tetuan Resources: Mariagnes 12-29, south of Mount Hamilton, well was plugged and abandoned
- Bright Sky Energy and Minerals: White River Valley 1-35, south of Lund, well was plugged and abandoned, but may re-enter well to drill deeper in 2016

Number of permit applications waiting on BLM approval: 5

- Makoil: Soda Springs 1-22, Railroad Valley
- Makoil: Murphy Gap 14-23, Coal Valley
- Grant Canyon Oil and Gas: Blackburn 22, Pine Valley

Sundry Notices approved in 2015: 48

Fiscal Year 2016 Inspections

	Total Wells	Wells Needed for FY16	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal	456	152	127		
Oil	127	43	34		
Totals	583	195	161	83%	34

OIL, GAS, AND GEOTHERMAL ACTIVITY

2015 Permitting and Drilling Activity (Through 4th Quarter)

Permit Type	Issued 2012	Drilled 2012	Issued 2013	Drilled 2013	Issued 2014	Drilled 2014	Issued 2015	Drilled 2015
Geothermal - Ind Production	16	12	10	5	5	5	10	7
Geothermal - Ind Inj	8	1	2	2	2	2	1	2
Geothermal - Observation	18	8	7	6	10	3	1	1
Geothermal - TG	7	2	1	1	---	---	5	5
Geothermal - Com	---	---	---	---	---	---	---	---
Geothermal - Dom	---	---	1*	---	8**	4	8***	5
Geothermal - Project Area	2	---	---	---	1	---	1	---
Geothermal - Total	51	23	21	15	27	15	26	20
Oil & Gas	14	9	16	5	16	5	4	2

*Existing well, drilled in 1939; ** Includes 4 wells previously drilled and completed; Includes 2 wells previously drilled.

Active During 4 th Qtr 2015	Geothermal	Ormat Nevada	Permitted and drilled the Dixie Hope 24-8 production well. Spud the Dixie Hope 23A-8 production well in mid-January. Ormat is mobing in the GeoDrill 1 rig to spud the Tungsten Mtn. 45A-22 production well in mid-January. The Tungsten Mtn. 84A-22 production well permit application reviewed in January 2016, waiting on BLM approval.
		US Geothermal	Drilled 5 TG wells on the playa at San Emidio. Two of the TG wells converted to observation with current request to deepen. Waiting on BLM approval.
	Oil	Makoil	Currently in the permitting process with the BLM for the Murphy Gap 14-23 in Lincoln County, and the Soda Springs 1-22 in Nye County. Waiting on BLM approval for both wells. The Munson Ranch 12=23X and 13-34 permits approved in 2015, but have not been drilled.
		Noble Energy	Drilling activities in the Marys River and Huntington areas have been suspended by the BLM for one year.
		Tetuan Resources	Tetuan Resources drilled the Mariagnes 12-29 between Duckwater and the Mount Hamilton area. The well was plugged and abandoned in August 2015.
		Bright Sky Energy & Minerals	The 1-35 well is located in White River Valley. Completed drilling in September 2015. Tested in November. P&A'd well.

Summary of Geothermal and Oil Well Inspections (Fiscal Year 2016) through the 4th Quarter

Well inspections for Fiscal Year 2016 began in July 2015. Please refer to the charts below for inspections required and those inspections completed:

	Total Wells	Wells Needed for FY16	Wells Inspected	% of Total Needed	Wells Remaining
Geothermal	456	152	127		
Oil	127	43	34		
Totals	583	195	161	83%	34

Areas in which inspections took place:

Operator	Location	Wells Inspected
Ormat Nevada	Wild Rose (Don Campbell)	6
Ormat Nevada	Tungsten Mountain	3
Ormat Nevada	Tuscarora	12
Ormat Nevada	Jersey Valley	11
Ormat Nevada	McGinness Hills	5
Ormat Nevada	Dixie Hope	1
Ormat Nevada	Desert Peak	16
Ormat Nevada	Brady	15
Terra-Gen	Dixie Valley	4
Enel	Stillwater	31
Elko School District	Flagview Middle School	1
Gradient Resources	Patua	7
Gradient Resources	Carson Lake/Salt Wells/Fallon1	14
Truckee Geothermal	Big Smoky Valley	1
Noble	Humboldt	2
Noble	Huntington	1
Noble	Marys River	1
Kirkwood/Wesco	Eagle Springs/Ghost Ranch	24
Bright Sky Energy	White River Valley	1
Geyser Petroleum	Pipeline Canyon	1
Geyser Petroleum	Railroad Valley	1
VF Neuhaus	Railroad Valley	1
VF Neuhaus	Railroad Valley	1
Makoil	East Inselberg	1
		161

2010-2016

Carson City

8/17/2012-Tour in Yerington

12/11/2014

Virginia City

Elko

08/29/14-Newmont LeeVillie Mine

08/27/15-Noble Energy's Huntington

K1L Well & General Molly Mt. Hope

Reno

5/12/2010

10/19/2010

4/29/2011

7/27/11 – Tour of Bat Cupola in VC

11/2/2011

5/03/2012- Virginia City

11/09/2012

5/03/2013- Hazen and Olinghouse

10/10/2013

05/09/2014- EP Minerals; Nevada
Cement Plant and Mine.

05/01/2015

11/05/2015-Bishop Manogue H.S.

Las Vegas

2/11/2010 – Tour of the McCaw
School of Mines - Henderson

2/7/2011 – Tour of Molycorp Mine

2/27/2012 – Searchlight Area

2/21/13

2/14/14- Tule Springs Park

2/24/15

2/03/16- Simplot Silica

Battle Mountain

July 30, 2010 – Tour of Newmont Phoenix Mine

Tonopah

8/15/13 - Solar Reserve Plant

8/16/13 - Tonopah Mining Park

