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January 22, 2013

***VIA U.S. AND ELECTRONIC MAIL***

Nevada State Environmental Commission
c/o John B. Walker, Executive Secretary
901 South Steward Street, Suite 4001
Carson City, NV 89701-5249
*Email: jbwalker@ndep.nv.gov*

**RE: Opening Brief on Appeal**
**In Re: Appeal of Water Pollution Control Permit No. NEV2008106**

Dear Mr. Walker:

Enclosed for filing with the SEC in the above-referenced matter, please find the following Opening Brief on Appeal.

Also enclosed, please find a pre-addressed, postage prepaid confirmation card for the filing. Upon receipt of the above-referenced document, please return the card to our office.

Thank you for your assistance. Please call our office if you have any questions.

Very truly yours,

SCHROEDER LAW OFFICES, P.C.

Therese A. Ure

TAU: srl

Enclosures

cc: Cassandra P. Joseph
Jim B. Butler
John R. Zimmerman
Client

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*Attorneys for the Appellant, Carolyn Bailey*

BEFORE THE STATE OF NEVADA

STATE ENVIRONMENTAL COMMISSION

| | |
|---|---|
| In Re:<br>Appeal of Water Pollution Control Permit<br>Permit No. NEV2008106<br>Permittee: Eureka Moly, LLC | **OPENING BRIEF ON APPEAL** |

Appellant Carolyn Bailey, hereinafter "Bailey," by and through her attorneys of record, Therese A. Ure, Laura A. Schroeder, and Schroeder Law Offices, P.C., hereby files this Opening Brief pursuant to NAC 445B.8925 and the Nevada State Environmental Commission ("SEC") Order Regarding Briefing Schedule dated January 7, 2013.

## PROCEDURAL HISTORY

In July, 2008, Eureka Moly applied to the Nevada Division of Environmental Protection ("NDEP"), Bureau of Mining Regulation and Reclamation for a Water Pollution Control Permit ("WPCP") for the Mount Hope Project. See, Water Pollution Control Permit NEV2008106. On September 28, 2012, NDEP provided notice of proposed action to grant Eureka Moly's application. The notice provided that the deadline for public comments was October 30, 2012,

and a public hearing would be held that same date in Eureka, Nevada. See, Notice of Proposed Action and Public Hearing. Bailey timely submitted comments to NDEP and participated in the public hearing. See, Bailey Mount Hope Mine Comments (Exhibit 1); excerpt of Transcript of NDEP Bureau of Mining Regulation and Reclamation Mount Hope Project WPCP NEV2008106 Public Comment Hearing (Exhibit 2). NDEP issued Permit NEV2008106 (hereinafter "the Permit") on November 21, 2012. Bailey submitted a timely appeal to the Nevada State Environmental Commission dated December 6, 2012.

## STATEMENT OF FACTS

Bailey owns real property in Eureka, Nevada. Her family has ranched in Diamond Valley since 1863 and many generations of the Bailey family continue to live in the area. Bailey runs ranching and farming operations in Diamond Valley. Bailey's property is within approximately 10 miles of the proposed Mount Hope Mine, and is the closest private property to the proposed mine in two directions. Bailey owns numerous vested and certificated water use rights in Diamond Valley.[1] The vast majority of the Bailey's water use rights are from springs and groundwater. Bailey grazes cattle and grows crops near Mount Hope.

Eureka Moly, LLC plans to develop the Mount Hope Project to mine molybdenum. See generally, Mount Hope Project Final Environmental Impact Statement, U.S. Department of the Interior, Bureau of Land Management 1-1 (October 2012), incorporated herein by reference ("FEIS"). The proposed project is located approximately 23 miles northwest of Eureka, Nevada (*Id.*; see, NEV2008106 Fact Sheet p. 1 hereinafter "Fact Sheet"), and straddles three hydrographic water basins: Diamond, Kobeh, and Pine Valleys. Fact Sheet p. 1.

The Mount Hope Project, active mine life, is anticipated to last 44 years. Fact Sheet, p. 2. The mining will utilize an open pit method. *Id.* A pit lake is expected to form after year 32. *Id.* at 24. The water entering the pit lake is of good quality. *Id.* However, with the formation of the pit

[1] Vested Claims: V04158 (1905), V04159 (1905), V04160 (1905), V04161, V04162 (1894), V01105 (1889), V01106 (1889), V02280 (1887), V02281 (1887); Certificates: 16935, 16760, 11470, 12063, 12064, 12704, 6182, 6183, 12552, 8414, 8415, 13361, 15957, 12553, 16137.



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lake, the resulting water quality of the lake is expected to exceed Profile I reference values. *Id.* at 25.

The NDEP is allowing the pit lake to exceed Profile I reference values because "[t]he pit lake has no established beneficial uses and will have fencing to prevent livestock, and humans, from accessing it." Notice of Decision, at Division Response 5. However, Permit NEV2008106 fails to acknowledge that ground water testing indicates that water entering the pit lake will meet drinking water standards.

Waste rock will surround the open pit in Potentially Acid Generating ("PAG") and Non-PAG storage piles. *Id.* Storm water diversion channels and collection ponds are planned that will be large enough to accommodate the estimated process water and the 100-year, 24-hour storm event. *Id.* at 3-9. Tailings will also surround the pit. *Id.* at 15. A drain and collection pond will be constructed for the tailings stockpiles. *Id.* at 20. Bailey provided NDEP with information regarding flash flood storm events. Public Hearing Transcript, p. 65. The Mount Hope Project proposes to remove vegetation to construct the mine facilities. See, FEIS 2-24. The Mount Hope Project design is inadequate to address flash floods and fails to consider flood risk that will arise from removal of vegetation and construction of impervious surfaces.[2]

## ISSUES AND ARGUMENT

### I. Standard of Review

When a court reviews the decision of a state agency regarding a question of fact, the court is limited to a determination of whether substantial evidence in the record supports the decision. *Town of Eureka v. State Engineer*, 108 Nev. 163, 165 (1992). The decision should be affirmed if the court finds the ruling supported by substantial evidence. *United States v. Alpine Land & Reservoir Co.*, 919 F.Supp. 1470, 1474 (D.Nev. 1996). The Nevada Supreme Court defines "substantial evidence" as "that which a reasonable mind might accept as adequate to

[2] The 100-year 24-hour storm event can change over time as data changes. See U.S. Geological Survey, The USGS Water Science School, Floods: Recurrence intervals and 100-year floods, available at: http://ga.water.usgs.gov/edu/100yearflood.html.



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support a conclusion." *State Employment Sec. Dept. v. Hilton Hotels Corp.*, 102 Nev. 606, 608 (1986) (citing *Richardson v. Perales*, 402 U.S. 389 (1971)).

The decision of an administrative agency will generally not be reversed unless it is arbitrary or capricious. *Hilton Hotels*, 102 Nev. at 608. A decision is "arbitrary or capricious" if it is "baseless or despotic," or "a sudden turn of mind without apparent motive; a freak, whim, mere fancy." *City of Reno v. Estate of Wells*, 110 Nev. 1218, 1222 (1994).

Nonetheless, an administrative decision may also be reversed, remanded or set aside if it is "affected by an error of law." *Dredge v. State ex rel. Dep't Prisons*, 105 Nev. 39, 43 (1989) (ruling applied to NRS § 233B.135 by *Pricz Tattoo Studio LLC v. Dep't of Employment Training & Rehabilitation-Employment Securities Division*, Slip Copy, 2011 WL 6932405, *1 (Nev. 2011)). An error of law is a "clear error in view of the reliable, probative, and substantial evidence of record or an abuse or clearly unwarranted exercise of discretion." *Dredge*, 105 Nev. at 43. Further, the administrative decision may be reversed, remanded or set aside if the decision constitutes an "abuse of discretion" because the decision maker acted arbitrarily or capriciously. *Id.*

## II. Arguments

### A. NDEP Erred by Issuing a Permit that Unreasonably Threatens to Degrade Groundwater.

The Non-PAG WRDF presents a significant, unmonitored risk of ground water degradation. Under Permit NEV2008106 the Project's non-potentially acid-generating waste rock disposal facility (Non-PAG WRDF) will be constructed upon the west and south open pit perimeters. The Non-PAG WRDF will have a footprint expected to be approximately 1,683 acres and upwards of 450 in height. Fact Sheet, p. 6. Construction of the Non-PAG WRDF base involves "grubbing to clear vegetation, excavation and storage of growth media (topsoil), and grading of the topographic surface toward the future facility toe. Rock berms and temporary sediment control structures will be placed as necessary to control sediment runoff prior to



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placement of waste rock directly on the grubbed and cleared surface." Fact Sheet, p. 7. Unlike other facilities within the project, no specific permeability conditions are applicable to the Non-PAG WRDF base. In sum, the site is designed to channelize run-off and minimize sediment transport.

Material with a sulfide content less than or equal to 0.3 weight percent will be classified and managed as Non-PAG. Yet, as conceded within the Permit's Fact Sheet, heavy metal constituents will be present within waste rock to be deposited at the site. Yet "[d]uring MWMP static testing, waste rock that exhibited low pH and the potential to form acid variably released constituents such as aluminum, arsenic, cadmium, copper, fluoride, iron, lead, manganese, nickel, sulfate, and zinc in elevated concentrations to the MWMP leachate." Fact Sheet, p. 9.

The program to monitor the site of a facility must be designed to monitor the quality of all ground and surface water which may be affected by the facility. The type, number and location of the monitoring points must be described in the application as part of the monitoring plan and must be approved by the Department. NAC 445A.440. Despite a risk that heavy metal constituents may leach beneath the Non-PAG WRDF, Permit NEV2008106 requires little in the way of monitoring. Miles separate Monitoring Well IGM-154, located east of the dump, from Monitoring Well IGM-157. Not only does a significant risk of ground water degradation exist, it is compounded by the fact that the Permit does not require monitoring wells south and west of the dump to detect contaminants.

**B. The Division is prohibited from issuing a water pollution control permit that does not comply with the mandatory standard imposed by NAC 445A.429.**

Under Nevada's Water Pollution Control Law (NRS 445A.300 to 445A.730), it is unlawful for any person to discharge *any* pollutant from any point source into any waters of the State. NRS 445A.465(1)(a). A "discharge" is "any addition of a pollutant or pollutants to water." NRS 445A.345. A "point source" is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure,



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container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." NRS 445A.395. A "pollutant" is dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water." NRS 445A.400. "Waters of the State" means "all waters situated wholly or partly within or bordering upon this State, including but not limited to: 1. All streams, lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigation systems and drainage systems; and 2. All bodies or accumulations of water, surface and underground, natural or artificial." NRS 445A.415.

Under its statutory authority, Nevada State Environmental Commission ("SEC") passed NAC 445A.429(3), which states: "Bodies of water which are a result of mine pits penetrating the water table must not create an impoundment which: (a) Has the potential to degrade the groundwaters of the State; or (b) Has the potential to affect adversely the health of human, terrestrial or avian life." Therefore, under the Nevada Water Pollution Control Law, mine operations ***must not*** create pit lakes that have the ***potential*** to adversely affect human, terrestrial, or avian life.

Here, the Mount Hope Project Final Environmental Impact Statement, released in October, 2012, found that the *initial* pit lake water quality is predicted to meet Nevada water quality standards. See, FEIS Section 3.3.3.3.3, p. 3-220. However, as evaporation from the pit lake concentrates dissolved materials, some water quality constituent concentrations are predicted to increase relative to baseline concentrations and to exceed the present Nevada water quality standards. *Id.* Similarly, the Fact Sheet for NEV2008106, created in November, 2012, states that "concentrations of antimony, cadmium, and manganese are predicted to be above the Profile I reference values." Fact Sheet, p. 25.

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A Screening-Level Ecological Risk Assessment ("SLERA") was prepared using the results of the pit lake study for water quality. Fact Sheet, p. 25. The Fact Sheet finds: "The SLERA results indicate the overall ecological risk to livestock and wildlife that might inhabit the site or could use the pit lake as a drinking water source is considered to be low. Given the low risks identified, mitigation of the Mount Hope Project pit lake does not appear to be necessary at this time." *Id.*

WPCP NEV2008106, therefore, allows a "low risk" of ecological harm to livestock and wildlife as a result of drinking pit lake water. Any risk, albeit low, indicates a potential of adverse effects on terrestrial or avian life, contrary to NAC 445A.429(3). The Fact Sheet, the SLERA, and the FEIS all conclude that terrestrial or avian life may be affected by the concentration of toxic materials or ecological risks presented by the pit lake. Nevada Administrative Code 445A.429(3) prescribes a mandate that mine operations "must not" create impoundments of water that have "the potential to affect adversely the health of human, terrestrial or avian life."

Despite NDEP's finding that *there is a risk of adverse effects* to the health of terrestrial or avian life, NDEP issued WPCP NEV2008106 without requiring any monitoring or mitigation to ensure that no adverse effects occur. NDEP's issuance of the WPCP was an error of law, clearly erroneous, arbitrary and capricious, and an abuse of discretion. NDEP cannot permit Eureka Moly to create an open pit mine that creates an ecological risk, no matter how low the risk. Nevada Administrative Code 445A.429 imposes a mandatory standard, and NDEP has no discretion to issue permits that do not fully comply with that standard.

### C. NEV2008106 improperly allows ground water degradation in a manner contrary to NAC 445A.424 and NAC 445A.429(3)(a)

A facility "may not degrade the waters of the State to the extent that…[t]he quality is lowered below a state or federal regulation prescribing standards for drinking water." NAC 445A.424(1)(b). For waters of the State that already exceed the state or federal drinking water



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standards, the facility cannot lower the water quality "to a level that the Department finds would render those waters unsuitable for the existing or potential municipal, industrial, domestic or agricultural use." NAC 445A.424(1)(c). In sum, the SEC imposed a mandate that a mining facility cannot degrade groundwater below drinking water standards. If the groundwater source already fails to meet drinking water standards, the mining facility cannot degrade the groundwater quality to levels rendering the waters unsuitable for existing or potential beneficial uses of the water.

The term "groundwater" means "all subsurface water comprising the zone of saturation, including perched zones of saturation, which could produce usable water." NAC 445A.361. Here, the Fact Sheet states that groundwater inflow will be the primary source of water for formation of the pit lake. Fact Sheet, p. 24. Thus, the pit lake is composed of groundwater.

Eureka Moly's application materials state: "A comparison of the maximum concentrations for groundwater to Nevada beneficial use standards, reveals that the groundwater within the area demonstrates a wide range of beneficial uses. The majority of the groundwater locations can be used for municipal or domestic supply, watering of livestock and industrial uses." Mount Hope Project – Baseline Surface Water and Groundwater Report, p. 48. "Domestic use" means "culinary and household purposes." NRS 534.013. Culinary purposes include drinking water.

Here, the Final Environmental Impact Statement makes the following finding: "Initial pit lake water quality is predicted to be good and would meet Nevada enforceable [drinking water standards]. As evaporation from the lake surface concentrates the dissolved minerals, some water quality constituent concentrations would be predicted to increase over time relative to baseline concentrations and to exceed the present Nevada water quality standards." See, FEIS, p. 3-220. Therefore, NDEP is aware that drinking water quality groundwater will flow into the open pit mine, creating a pit lake. The groundwater will then become degraded because of evaporation from the pit, leaving the groundwater contaminants in higher concentrations. Additionally, pit



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wall material will influence the degradation of the pit lake. Fact Sheet, pp. 24-25 (recognizing a "secondary influence" from pit wall materials).

Nothing in Nevada law states that groundwater ceases to be groundwater once it flows into the pit mine. Moreover, NDEP has not granted any exemption to Eureka Moly under NAC 445A.424 that would allow Eureka Moly to create a facility that will degrade groundwater. Good quality groundwater that meets drinking water quality standards will flow into the pit mine, creating a pit lake. Due to the mine facilities, that groundwater will then become degraded below applicable drinking water quality standards. That degradation is prohibited by Nevada's Water Pollution Control Law. NDEP's issuance of the WPCP, which allows Eureka Moly to create the pit lake, was an error of law, clearly erroneous, arbitrary and capricious, and an abuse of discretion.

### D. NEV2008106 improperly allows Eureka Moly to use water exceeding Profile I reference values for dust suppression absent public notice.

The Division's Permit NEV2008106 is error to the extent is requires only written approval from the Division in order to utilize water that exceeds Profile I constituents for dust suppression.

The Mount Hope Project proposes a total of 8,355 acres of disturbance within the 22,886-acre project area. *Introduction, EIS Record of Decision.* Dust suppression will presumably occur through the 44 year duration of the Project. Permit limitations expressed in Part I, Section G, No. 13 provide that, "[t]he Permittee is authorized to use water that does not exceed the Division Profile I reference values for dust suppression activities. If the water proposed exceeds the Profile I reference values, prior written authorization from the Division is required." Non-process water that exceeds Profile I reference values may be used for dust suppression only if approved

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by the Division based on a demonstration of no potential to degrade waters of the State." *See also* Notice of Decision, at Division Response 34.[3]

In the event process water exceeding Profile I reference values is used for dust suppression, it can be reasonably expected that heavy metals and other constituents will remain following evaporation of the suppression, including lands located within uncontained portions of the Project. Subsequent precipitation or storm events will thereafter pose a risk that heavy metals will either be carried into natural drainages or potentially leach into the ground. Given the very long mine life--44 years plus--and the large amounts of water that will be applied for dust suppression to potentially thousands of acres, many of the constituents in the water, including heavy metals, will accumulate and concentrate over time. Action of this nature is significant enough to require a major modification of the permit that requires public notice under NAC 445A.417. Utilization of non-Profile I water would constitute a significant change in the location of a proposed process component site condition which was not adequately described in the original application.

### E. NEV2008106 Fails to Address Localized Storm Events with Potential to Breach Stormwater Channels, Collection Channels, and holding ponds.

Under NAC 445A.433, all mine process components must be designed to fully contain all accumulations resulting from a 25-year, 24 hour storm event, and withstand all accumulations from a 100-year, 24 hour storm event. In approving NEV2008106, the Division determined that based on precipitation estimates, the PAG WRDF is designed with sufficient capacity. However, the Mount Hope region and Garden Pass areas are susceptible to intense, localized flash floods that send remarkable volumes of water toward the Bailey Ranch.[4] The risk will only grow as the

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[3] "Permit Part I.G.13 authorizes the use of water for dust suppression only if it does not exceed Profile I reference values or if the Division otherwise approves it. Non-process water that exceeds Profile I reference values may be approved for dust suppression only if it is demonstrated that there is no potential to degrade waters of the State."

[4] See generally, http://www.youtube.com/watch?v=rk3A9fBlyEQ (8/31/2012 – Video 1); http://www.youtube.com/watch?v=crF5PojuYl4 (Video 2); http://www.youtube.com/watch?v=ExCgysi1U8A



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Mount Hope Project proceeds to disturb thousands of acres of land surface which results in the vegetation removal and the creation of impervious surfaces. Moreover, given the 44 year duration of active project mining, climate change can reasonably be expected to influence future storm events.

In reviewing NEV2008106, the Department failed to consider and address a demonstrable risk that localized flash flood events can result in breach of the proposed containment facilities. Given the historical flow path between the PAG WRDF and the Bailey property, the Division erred by failing to require supplemental containment facilities as contemplated by NAC 445A.433(d) and an articulated contingency plan that address the environmental threat imposed upon Ms. Bailey by the Mt. Hope Project.

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(Cont.)
(Video 4); http://www.youtube.com/watch?v=mIt9OmEilac (Video 5); and http://www.youtube.com/watch?v=0SrER61g4jw (Video 6).



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## CONCLUSION

The Division's issuance of NEV2008106 is error. The record demonstrates an unacceptable risk of degradation to waters of the State that the Division has failed to heed. The Permit was issued despite a demonstrable potential to adversely affect terrestrial or avian life. In addition, NEV2008106 improperly allows ground water degradation in a manner contrary to NAC 445A.424 and NAC 445A.429(3)(a). Also, the Permit improperly allows Eureka Moly to use water exceeding Profile I reference values for dust suppression absent public notice. These shortcomings, together with the Division's failure to account for extreme storm events in the regions presents an unacceptable risk to human health and the interests of Ms. Bailey. The Division's final decision is error, clearly erroneous, and characterized by abuse of discretion.

DATED this 22nd day of January, 2013.

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Carolyn Bailey
P.O. Box 29
Eureka, Nevada 89316

February 27, 2012

BLM Battle Mountain District Office
ATTN: Angelica Rose, Mount Hope Project
50 Bastian Road
Battle Mountain, Nevada 89820

RE: Mount Hope Mine DEIS Comments

Dear Ms. Angelica Rose,

Please find enclosed my comments regarding the Mount Hope project in Eureka County. We have the closest private property to the project in two directions so it will have a profound impact on our family.

Thank you for your consideration.

Sincerely,

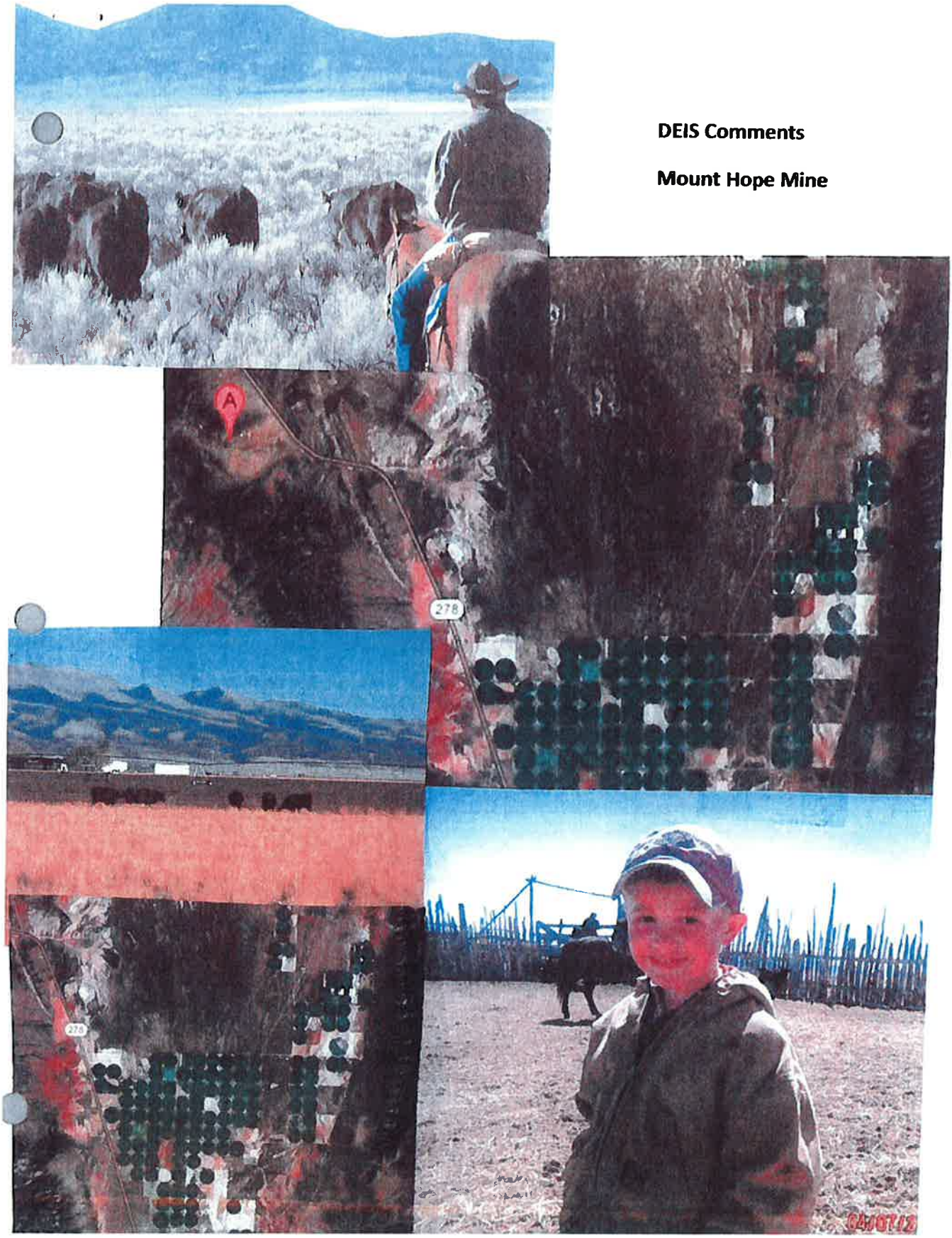
Carolyn Bailey

Carolyn Bailey

Cc: Nevada Department of Conservation and Natural Resources, Division of Water Resources; Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Air Pollution Control; Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Mining Regulation and Reclamation; Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Water Pollution Control; Eureka County Board of Commissioners c/o Eureka County Department of Natural Resources

**DEIS Comments**

**Mount Hope Mine**



## Comments for the Mount Hope Project Draft Environmental Impact Statement

## U.S. Department of the Interior Bureau of Land Management

*The value of a glass of milk....*

Thank you for the time and resources you have committed to carefully planning the resource management of the United States in Eureka County.

My name is Carolyn Bailey. I am a member of the Bailey family. This family has a rich legacy in ranching and agriculture in Eureka County with many generations of the family currently thriving in the area. The Bailey ranching business in Diamond Valley was established in 1863 and is listed as the sixth oldest Pioneer Company in Nevada by the *Nevada Business Journal* (Foley, 2003, pg. 16). The five older companies in the state are: the Fulstone Ranch (Smith and Mason Valley) and the T Quarter Circle Ranch (Winnemucca), The Genoa Bar, the Gold Hill Hotel and the Washoe Health System (Foley, 2003, pg. 16).

The Bailey Ranch on the Sadler Brown Road was purchased by the company in 1875 and was honored by the Governor of Nevada as one of the Historic Centennial Ranches in the State of Nevada (Price, 2011). We also own farming operations in Diamond Valley. We own the closest private property to the Mount Hope Mine project in two directions.

I would like to bring up the following issues regarding the Mt. Hope Draft Environmental Impact Statement.

1. **The Bailey Ranch should be considered a Sensitive Receptor and be included in the maps and studies used in the Environmental Impact Statement.** A good illustration of this is (my Figure 1) on page 3-267 of the text (United States, 2011, Volume 1, pg. 3-267, figure 3.6.2). The only Sensitive Receptor used for the study that is within this figure is the Roberts Ranch. However, the Bailey Ranch is also within this area near the northeast corner of the nested Cartesian receptor grids. Our farm and four residences on our farm are also within the grid a little more than half way down the east side of the figure. The next page, p. 3-269 (my Figure 2), shows which way the wind blows (United States, 2011, Volume 1, pg. 3-269, figure 3.6.3). Clearly, it blows directly towards the Bailey Ranch from the project area. The four residences are close, three plus miles due east from the tailings, but are not recognized as such. 1

2. **Idaho General Mines, Inc., General Moly, Inc., Eureka Moly, LLC, Kobeh Valley Ranches LLC and any other entities that are clearly connected to the Mt. Hope Project should be included in the maps and studies of the land that the mine owns or controls.** On page 1-1 of the DEIS, the last sentence on the page states, 2

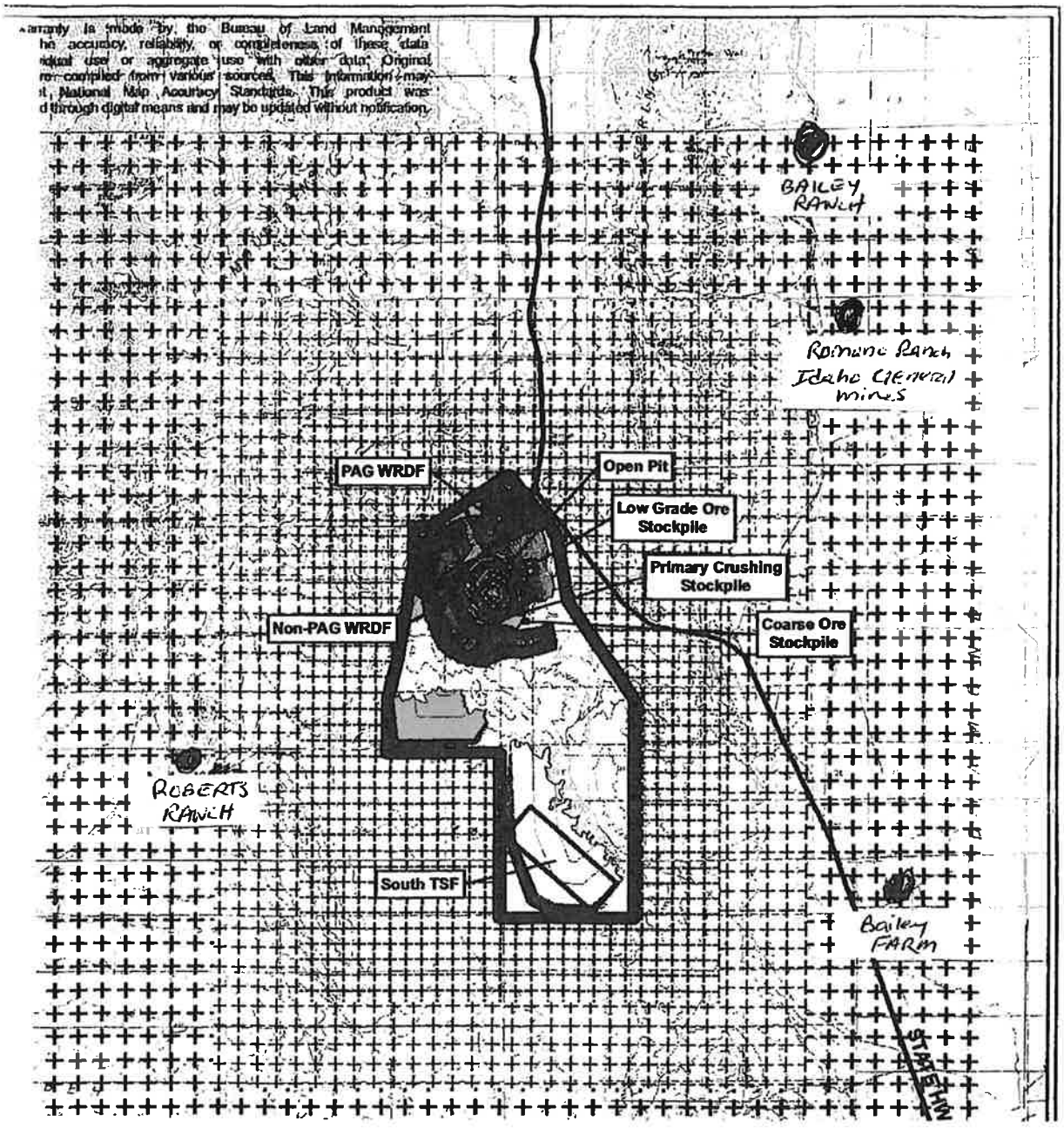



IMAGE. United States. (2011) pg. 3-267. Figure 3.6.2

**Figure 1. Sensitive Receptor Locations. This figure adds sensitive receptor locations to the DEIS map.**

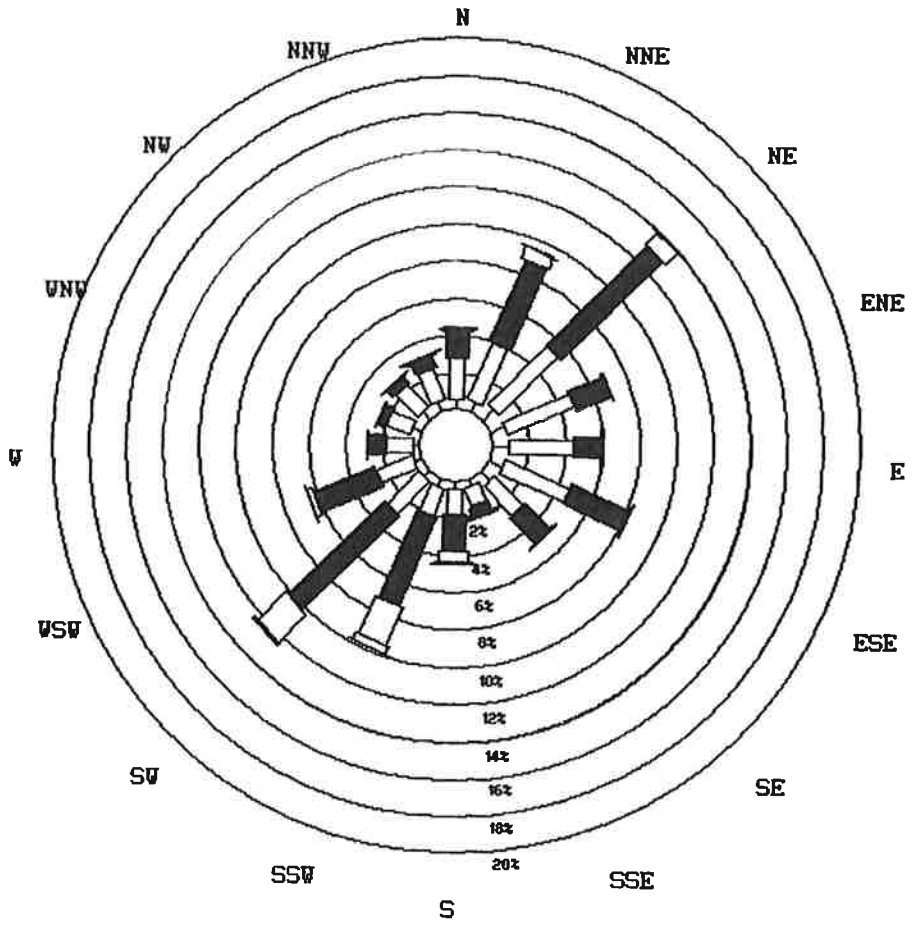



IMAGE. Unites States. (2011) pg. 3-269. Figure 3.6.3

**Figure 2. Wind Frequency Distribution. This figure shows wind direction at Mercury.**

## Diamond Valley Property Ownership

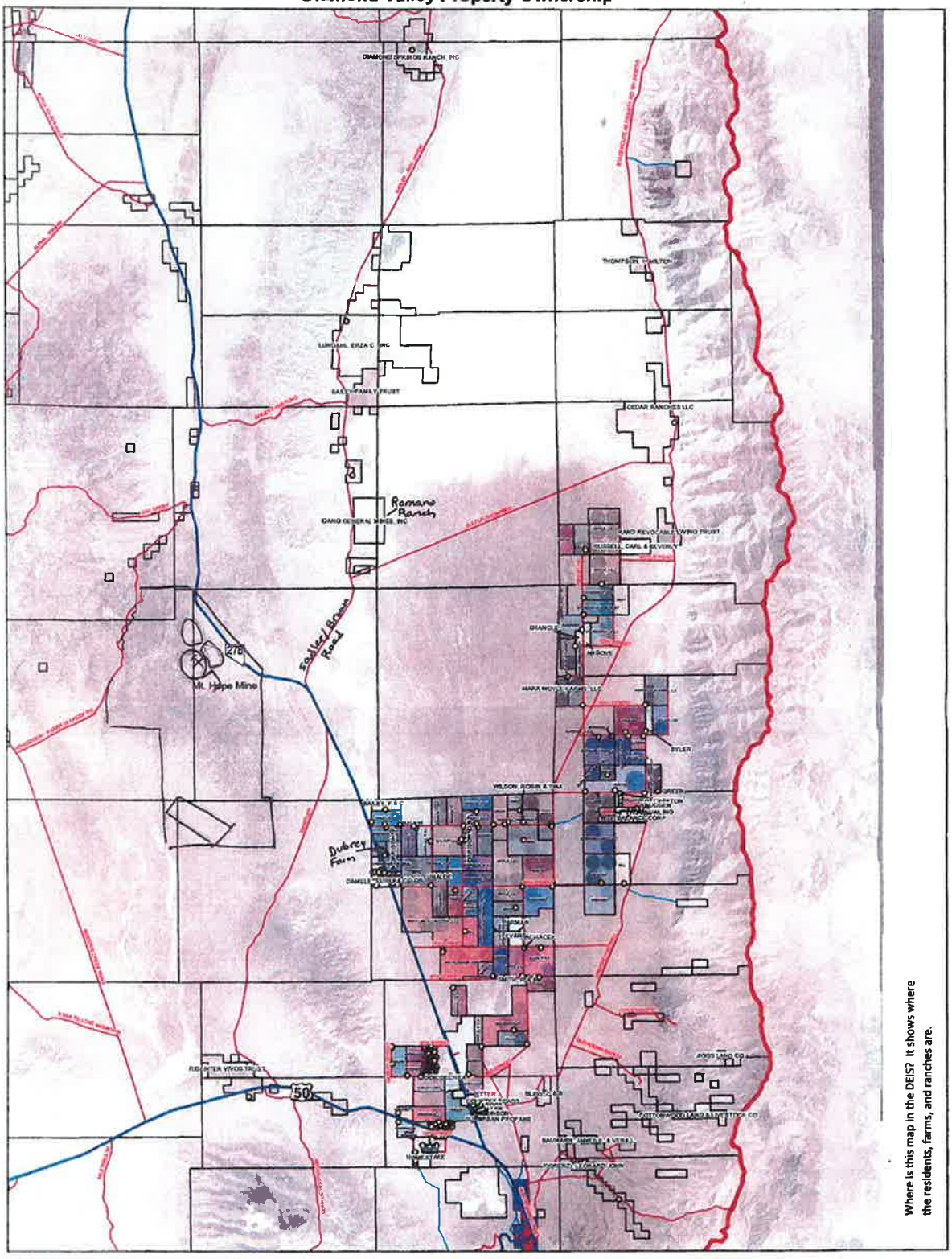



**Figure 3. Diamond Valley Property Ownership. This figure shows private property in Diamond Valley in relation to the Mount Hope project.**

> In determining the scope of the Proposed Action, the BLM has determined that actions on private lands are connected actions with those proposed on public lands (40 CFR 1502.4 (2) and 40 CFR 1508.25(a)). This EIS will also analyze impacts from private land activities. (United States, 2011, Volume 1, pgs. 1-1 – 1-2)

An example of this is on page ES-13 of the DEIS which does not include the Romano Ranch as Project Land Ownership (United States, 2011, Volume 1, pg. ES-13, figure ES-2). There are other lands owned under various names also not shown in Diamond Valley, Kobeh Valley and the Town of Eureka (United States, 2011, Volume 1, pg. ES-13, figure ES-2). Figure 1.1.2 has the same issue (United States, 2011, Volume 1, pg. 1-5, figure 1.1.2). What the mine does at the Romano Ranch or the Dubrey Farm will definitely affect us as well as other properties currently owned or purchased by mining interests in the future.

**I believe that some of the major issues have not been studied where I live. This action on public and private land will significantly affect private land owners and residents in Diamond Valley and Eureka County.** The surface water at both the Bailey Ranch and the Romano Ranch already have gone dry from over appropriation making any further dewatering or pumping a serious issue. With the decline of the water table and global warming issues, the trading of water, air quality, soil and forage for mineral wealth and urban populations may create a possible shortage of agriculture in the future. Currently the ranching and agricultural resources in this county raise enough beef to feed every person in the county beef every day, sustainably. Hopefully we will be able to continue the western legacy of ranching and agriculture at the Bailey Ranch as well as in Eureka County's Natural Resource Portfolio for generations to come. 3

## Water Quality

My Figure 3 shows Private Property Ownership in Diamond Valley. Mount Hope Mine is located on Highway 278. On the Sadler/Brown Road is a ranch owned by Idaho General Mines, Inc. (Mount Hope Mine). The next ranch is owned by our family. Directly south of Mount Hope Mine on Hwy 278, the first farm is owned by our family. Both properties are close enough to Mount Hope Mine to be affected by dust, drainage, smoke, traffic, noise, and the possibility of damage to our business from any drawdown, cone of depression, or any drop in the static level from the added use of water by the mine. The farms and ranches in Diamond Valley are not represented fully in the DEIS. 4

My Figure 4 shows a Serious Drainage Issue. This is serious because it drains from the proposed Potentially Acid Generating Waste Rock Disposal Facility elevation of 7,550 feet (United States, 2011, p. 2-23) and the pit directly toward the farms and residents in Diamond Valley at 5,800 feet elevation (Eureka County, 2004). 5

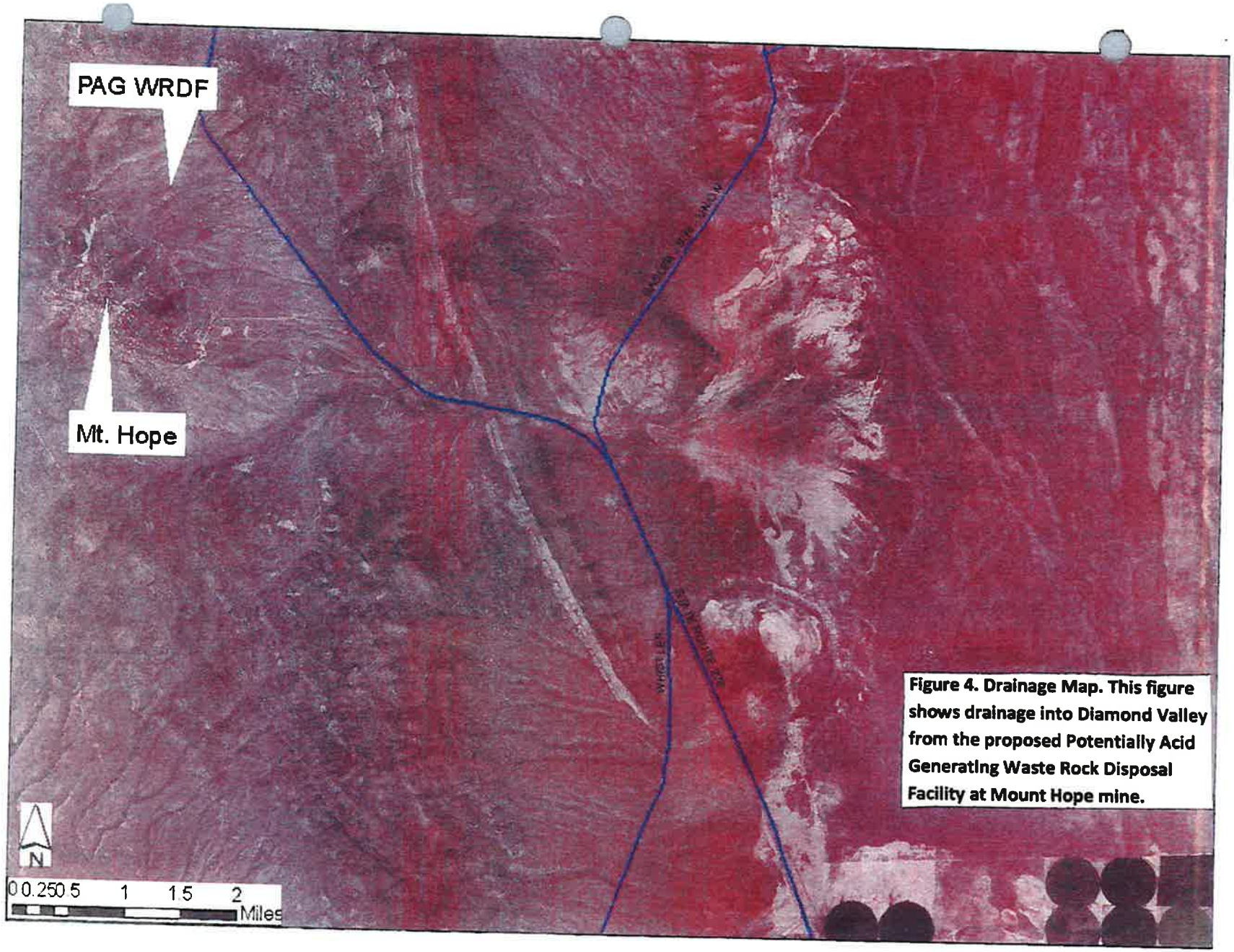



**Figure 4. Drainage Map. This figure shows drainage into Diamond Valley from the proposed Potentially Acid Generating Waste Rock Disposal Facility at Mount Hope mine.**

IMAGE. Tibbots. (2012). PAGRDF map. Eureka County Natural Resources

**Mt. Hope Potentially Acid Generating Waste Rock Disposal Facility is in a Flash Flood Area.** Mt. Hope DEIS uses 24 hour 100 year event data for planning (United States, 2004). A 24 hour 100 year event is very different than a flash flood. The 100 year data is basically if the weather station at Eureka Airport collected data for 100 years, what their highest rainfall in a 24 hour period was (U. S. Geological, 2011). Then it is said that there is a 1% probability that there will be that much rain this year (a new highest rainfall amount could be added this year, or it can happen two years in a row). There are also 1 hour 100 year events, 100 year drought levels, 50 year, 500 year, 48 hour, and so forth (U.S. Geological, 2011). The USGS states that 6

> during intensely localized storms, rainfall amounts throughout the basin can differ greatly from the rainfall amount measured at the location of the rain gage. Some parts of the basin may even remain dry... Another factor to consider is the relation between the duration of the storm and the size of the stream basin in which the storm occurs. For example, a 100-year storm of 30-minutes duration in a 1-square-mile basin will have a more significant effect on stream flow than the same storm in a 50-mile basin. (U.S. Geological, 2011, pg. 2)

According to the National Weather Service, floods are the most common weather-related natural disasters and "flash floods are the most dangerous kinds of floods, because they combine the destructive power of a flood with incredible speed and unpredictability (National Weather, 2011, pg. 1)."

> In the mountains, where terrain channels the flow of water, rocky, dry packed soil or bedrock keeps precipitation from percolating into the ground. Thunderstorm precipitation rates can be high as well over mountainous terrain, so that the combination can lead to flash floods with rainfall of only an inch or two. (National Weather, 2011, pg. 1)

There have been flash floods observed in Garden Pass including events that have partially and totally washed out the Sadler Brown Road (Figure 4). One flash flood washed a pickup and horse trailer off of Highway 278 causing the owners to rescue the pinned horses (Parman-Dempsey, 2011). According to the National Weather Service, in order to monitor storms in Eureka, a beam is sent from Battle Mountain (personal communication, December 18, 2011). Mountains are in the path of the beam between Battle Mountain and Eureka. Consequently, the beam is sent at 6000' higher, to clear the mountains, creating a situation where only the strongest storms are visible (personal communication, December 18, 2011). Even with data considered sparse in the area, there were Flash Flood Warnings issued for Central Nevada on the following dates:

> September 16th, 2011 at 1:56 pm
> July 31st, 2011 at 5:01pm
> July 31st, 2011 at 4:48pm
> June 15th, 2009 at 7:01 pm
> August 1st, 2007 at 5:22 pm
> July 31st, 2007 at 2:30 pm (personal communication, December 18, 2011, and NOAA weather)

Linda L. Dempsey

HC 62 Box 62111

Eureka, NV 89316

775-237-5750

December 20, 2011

To Whom It May Concern

It has been several years ago, August 1977, I had just finished showing horses in Eureka at one of the first Eureka County Fairs. Since I was competing for Hi point Junior Horse in Elko Nevada my husband and I headed out to make the show in Elko. We planned on staying in Elko, showing horses the next day. It was a cool evening and we had been rained on at the show in Eureka. As we were traveling to Elko on Hwy 278 we were met by Mr. and Mrs. Norman Rebaleati who were returning from Elko. They blinked their head lights at us trying to warn us as we approached the Garden Summit area. But unfortunately it was too late. We hit a wall of water coming down and across Hwy 278 just after the Sadler Brown turn off. It hit us with such force it washed our pickup truck and horse trailer off the road. We had water coming in the truck and my horse was in water up to her belly standing in the trailer. We had to cut the trailer door open to get her out. She was bruised and scared. We were forced to return home. I have great appreciation and thanks to Bill Hick for his help when he arrived with the State Hwy truck.

As a kid riding the Eureka County School Bus from the ranch to school I have seen flash floods before, leaving those big washes in that area. It can be raining above on Mt. Hope and sunny down below, the water can come with such force, washing ponds, roads, highways' and anything else that gets in the way completely out. I have seen these floods come, washing the Sadler Brown Road complete out. This area is prevalent to flash floods.

If anyone has any questions I would be happy to answer them.

Sincerely,

Linda L Dempsey

Linda Parman Dempsey

Linda grew up on the Diamond Springs Ranch which her family owned. She currently owns property on Hwy 278 near the Dubrey farm.

A Flash Flood Warning "is issued when a hazardous weather or hydrologic event is occurring, imminent or has a very high probability of occurring (The City of, 2012, pg. 1)." Some dirt work has been done at the mine that may disguise this fact, but the evidence is there on satellite photos and on the Sadler Brown Road. On one side where the road washes out, the ditches have been filled with dirt and reclaimed, thereby erasing the ditch. On the other side of the road, someone has tried to fill the ditch with a huge pile of used wire, a refrigerator, etc., to hold the road from washing out again.

The projected changes in climate (increases in temperature, reductions in soil moisture, and more intense rainfall events) could increase the possibility of these events. This data should be studied in reference to uncontrolled acid rock drainage, or other contaminants moving through the down gradient water system causing impacts to the waters of Diamond Valley and the State of Nevada. 7

Acid Mine Drainage can occur from under the "low permeability base layer" of the PAG WRDF (United States, 2011). Acid Mine Drainage can occur from Flash Floods breaching the collection channels and collection ponds. Acid Mine Drainage could occur from a breach in the .06 inch liner under 966 million tons of tailings. Acid Mine Drainage can occur when the pond liners are cut at closing (United States, 2011, p. 2-85). Acid Mine Drainage can occur from a landslide, earthquake or pipeline rupture. Evapotranspiration cells for storm discharge may be difficult to install because of the volume of waste and the steep slope (United States, 2011, pg. 2-86). Leached constituents including remobilization of heavy metals into the soil and water supply would be very hard to mitigate. In addition, page 3-595 of the DEIS states: 8

> "Post-mining pit lake is potentially predicted to exceed the calculated screening level toxicity criteria (United States, 2011, pg. 3-595)."

Millions of gallons of water will fill the pit where 2.7 billion tons of ore were removed. Throughflow that infiltrates the pit wall will move through and into the downgradient ground water system and gradually evolve as the readily soluble chemical mass and be rinsed out into Diamond Valley (United States, 2011, p. 3-221). Proponents of the mine may confuse pit lake toxins to be low because they are not intended for livestock or humans and there will be a permanent fence to barricade the pit forever (United States, 2011, p. 3-402, 3-425, 3-206, 3-219). This information provided in the DEIS contradicts what Mount Hope Mine tells the public. Eureka Moly touts "Satisfactory water quality in post-mining pit-lake. (Eureka Moly, 2011, pg. 1)"

There could be a huge economic burden if the mine company files bankruptcy or refuses to cover treatment costs. The Interstate Technology & Regulatory Council Mining Waste Team identified two general problems: 9

- Mining-impacted waters are difficult to treat cost-effectively to levels protective of human health and the environment.
- Solid mining waste is not a specifically regulated waste and involves huge volumes of material. The volume of material alone makes some of the techniques for minimizing

> the risk unreasonably costly. On the other hand, the exposure posed by direct and indirect ingestion of some of this waste is a major health and ecological concern. (ITRC, 2008, pg. iv)

I believe that by the time the Nevada Division of Environmental Protection could detect a health risk at a well in Diamond Valley, the situation would be irreversible and irretrievable. The BLM includes goals to manage any discharges from process components (United States, 2011, p. 1-9). This project puts human health and the environment at risk. *FIGURE 4 shows the drainage from Mount Hope Mine directly toward Diamond Valley residents. I believe Figure 4 showing the drainage from Mount Hope into Diamond Valley demonstrates Significant Criteria (p. 3-196) for significant impact.* 1

## Water Quantity

The Bureau of Land Management as well as the Nevada Division of Water Resources has policies designed to protect water rights. In response to the scarcity of water in the western United States, the doctrine of "first in time-first in right" evolved. It is the Prior Appropriation Doctrine. To quote the BLM Water Rights Policy (United States, 1984):

> The final essential feature of the prior appropriation doctrine is the priority of a water right... the first appropriator on a water source has the right to use all the water in the system necessary to fulfill his water right. A junior appropriator cannot use water to satisfy his water right if it will injure the senior appropriator. A senior appropriator may "place a call" on a river. A call required that the institution which manages the water source shut down a junior diverter in order to satisfy the senior right. Senior appropriators, however, cannot *change* any component of the water right if it will injure a junior appropriator. Therefore, if a senior wants to change his place of use and this change will adversely affect a junior's interest, the junior can stop the senior from changing the water right. Any change of a water right (time of use, purpose of use, point of diversion, etc.) cannot cause harm to another water user, regardless of priority. (United States, 1984, pg. 92)

In My Figure 5, I have circled where the Bailey family owns vested water rights on the DEIS map. I have also marked where the Mount Hope pit and dewatering will occur. The dewatering will occur in the Diamond Valley water basin. My figure 6 lists some of the Bailey family's water rights in Diamond Valley.

Diamond Valley is a closed basin that was over appropriated when farmers settled here. Consequently, Diamond Valley is in a deficit of inflows vs. outflows. The state engineer committed 133,000 acre feet of water before it was known that the recharge is only 30,000 acre feet (my figure 7). This has caused the water table in Diamond Valley to drop between one and two feet per year depending on location. In 2006, the U.S. Geological Survey reported drops in the water table of 26 to 90 feet at 67 wells (Tumbusch & Plume, 2006) (my figure 8 and 9). There is a lot of concern among the farmers and ranchers that adding a huge water consumer will exacerbate our already serious problem. 1

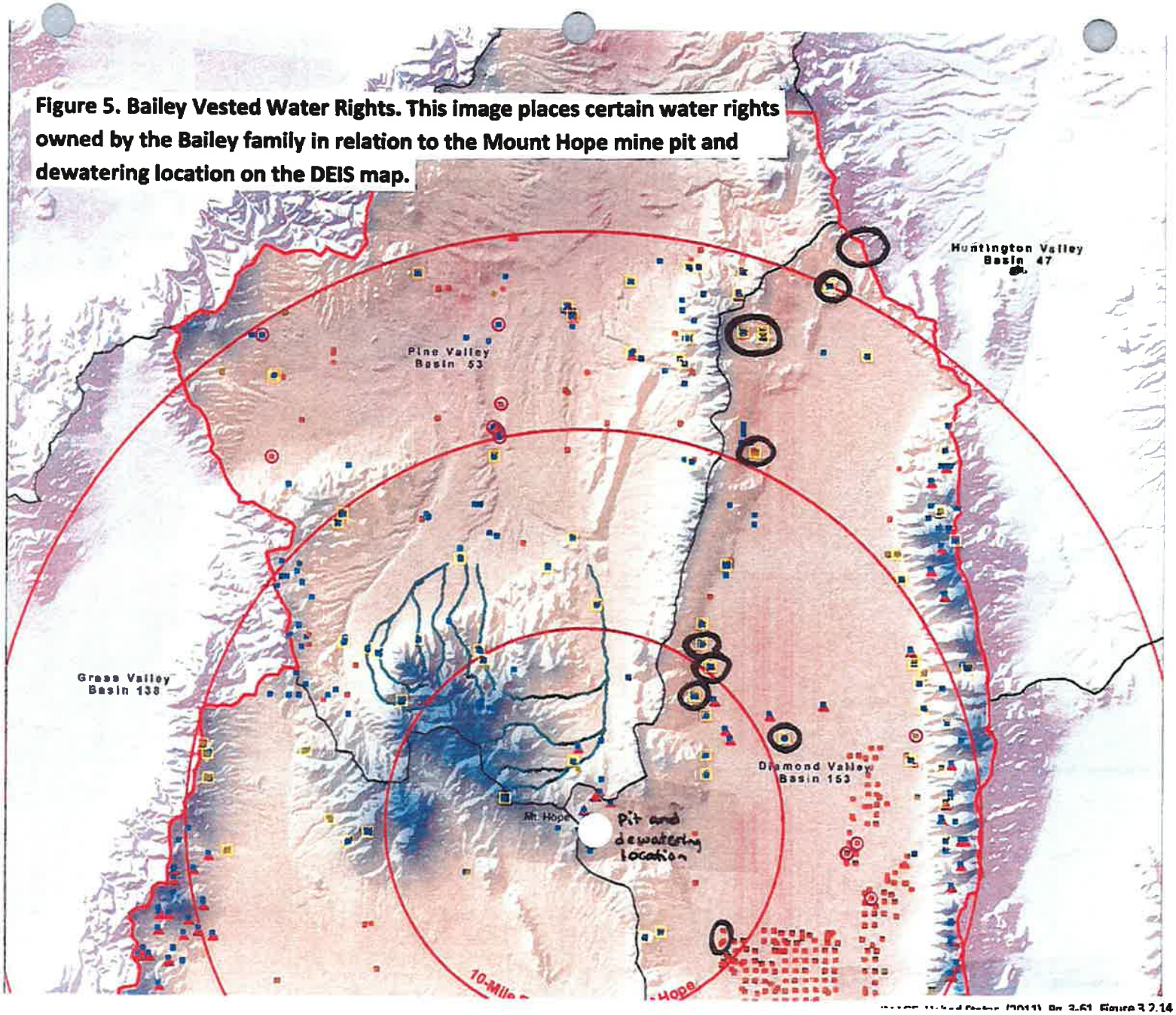



**Figure 5. Bailey Vested Water Rights. This image places certain water rights owned by the Bailey family in relation to the Mount Hope mine pit and dewatering location on the DEIS map.**

# Certain Water Rights Owned by Baileys in Diamond Valley

**Established 1863**

VESTED

V0415, dated 1884
V04159, dated 1884
V04160, dated, 1884
V04161, dated 1884
V04162, dated 1884
V01105, dated 1912
V01106, dated 1912
V02280, dated 1934
V02281, dated 1934

Permit 63497, 1997 (V01104, dated 1880)
Permit 67144, 2001
Certificate 11470, 1979
Certificate 12063, 1979
Certificate 12064, 1979
Certificate 12704, 1988
Certificate 6182, 1964
Certificate 6183, 1964
Certificate 12552, 1986
Certificate 8414, 1974
Certificate 8415, 1974
Certificate 13361, 1985
Certificate 15957, 1991
Certificate 12553, 1986
Certificate 16137, 2000

Vested waters were put to beneficial use by the Baileys prior to these dates.

There are other descendents in Diamond Valley and Pine Valley not listed here.

**Figure 6. Water Rights.**

# WATER RIGHTS IN DIAMOND VALLEY 1921 - 2005

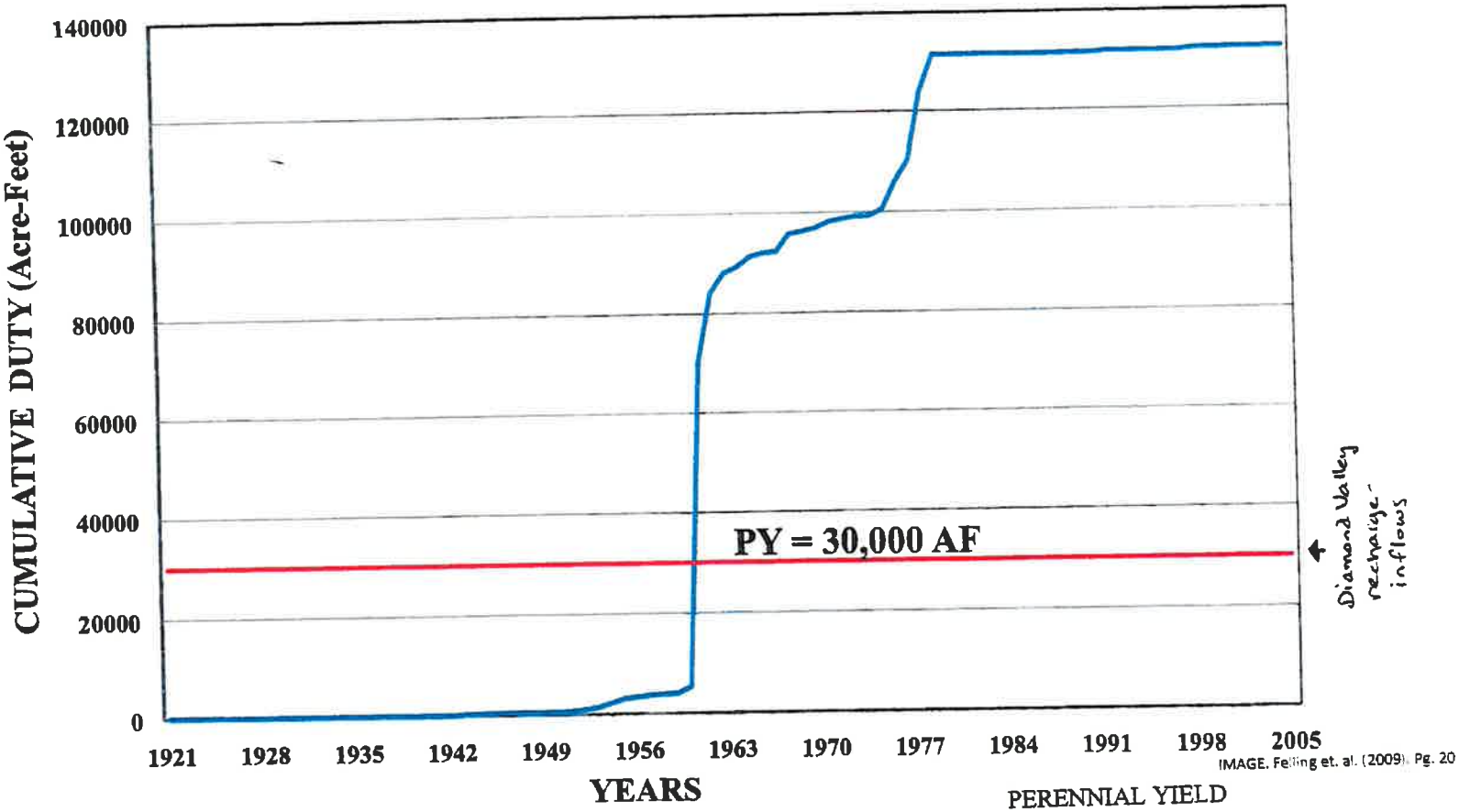



IMAGE. Felling et. al. (2009). Pg. 20

**Figure 7. Over Appropriation In Diamond Valley. This image shows the recharge of 30,000 acre ft per year vs. 133,000 acre ft committed by the state engineer.**

PERENNIAL YIELD

The amount of usable water of a ground water reservoir that can be withdrawn and consumed economically each year for an indefinite period of time. It cannot exceed the sum of the Natural Recharge, the Artificial (or Induced) Recharge, and the Incidental Recharge without causing depletion of the groundwater reservoir. Also referred to as Safe Yield.

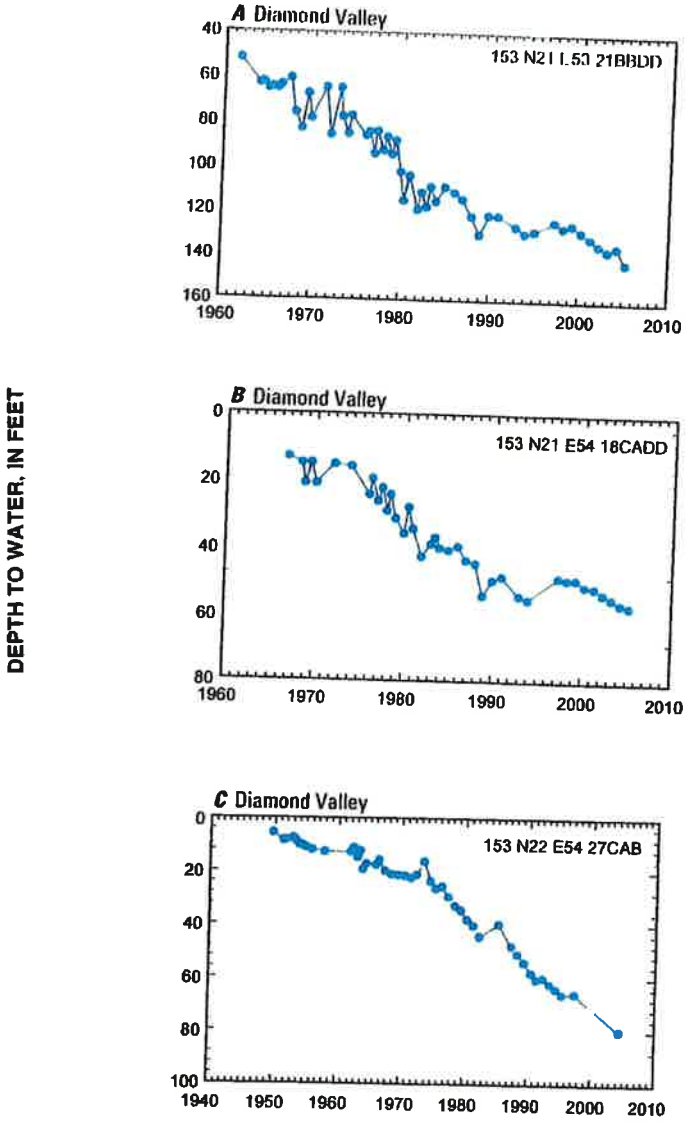



IMAGE. Tumbusch & Plume. (2006). Pg. 17.

**Figure 8. Declines in the Diamond Valley Water Table. This image shows declines in the Diamond Valley water table at three locations in Diamond Valley.**

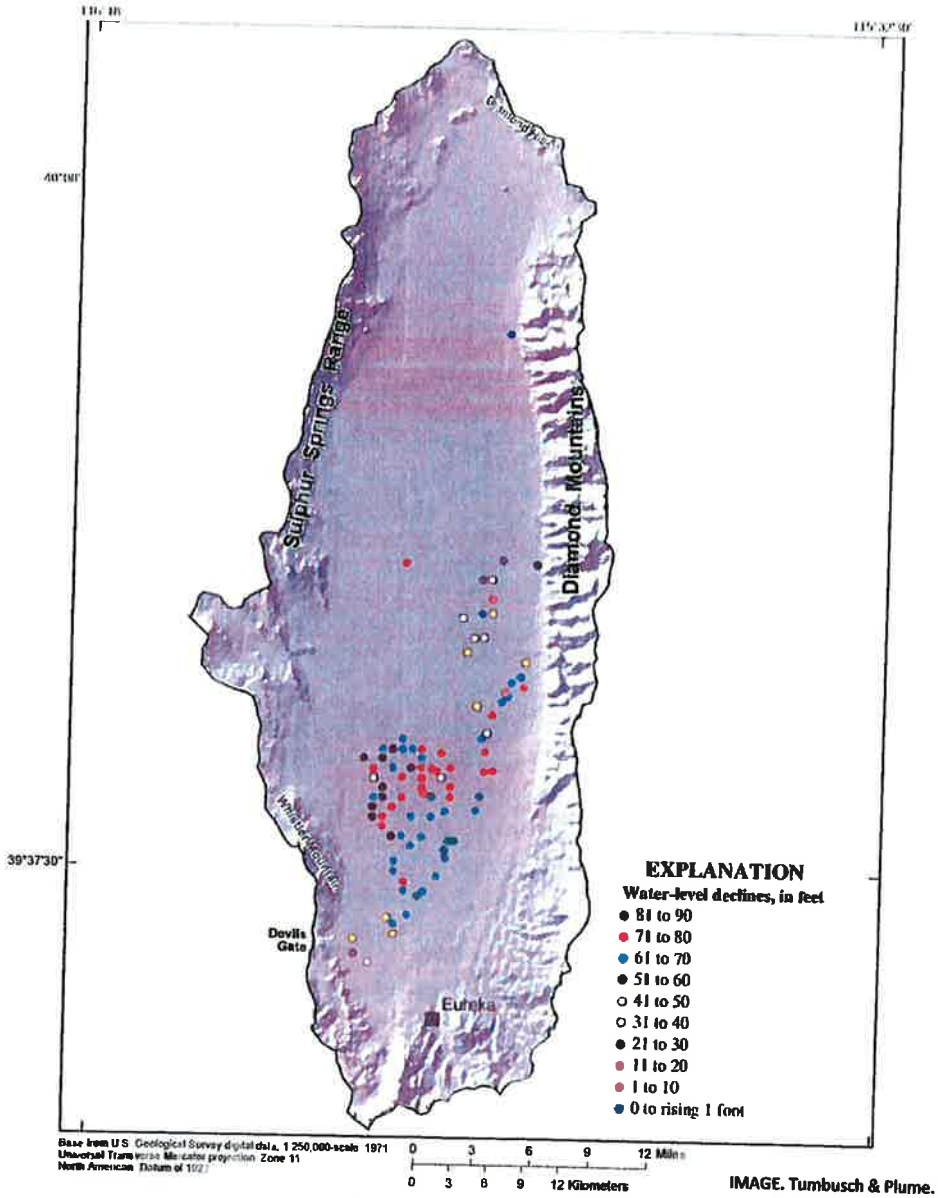



IMAGE. Tumbusch & Plume. (2006). Pg. 16

**Figure 9. Declines in the Diamond Valley Water Table. This image shows declines in the Diamond Valley water table at certain wells in Diamond Valley.**

There have been times when there have been chances to help remediate the situation which have gone unused but not unrecognized. The use of water for Mount Hope Mine will clearly exacerbate the problem with the obvious predictability of impact.

Discussion and mitigation about a five foot or ten foot drawdown, does not address the rate that the actual water table (static level) is currently dropping every year. If the water table continues to drop two feet per year, that will add an additional 140 foot drop during the mine's 70 year life (the water needed for mitigation is not discussed in the DEIS). This is without Mount Hope Mine. 1

With global warming issues, changes in weather patterns, the possibility of a drought event, a fissure, ground subsidence, or a crack from blasting (United States, 2011, p. 3-456), inflows to Diamond Valley could be even less, causing a more serious drop to the actual water table. This is without considering drawdown at all.

The amount of water Mount Hope Mine will use is significant. The result is predictable. Harm will come to the current users. The drop in the static level will be exacerbated causing wells to go dry. This is a desert. It is even possible the underground water source we use may even be totally exhaustible. 1

The drawdown from pumping and dewatering will certainly add to the problem, especially considering that the mine will be using the water all year without a chance to turn the pumps off for recharge, but *the water table (static level) drop has shown to be permanent.* 1

Definitions:

**Static level** – The level of water in a well when no water is being pumped. It is usually expressed as the distance from the ground surface to the water level (Lytle & Markowski, 1989).

**Drawdown** – The drop in level of water in a well when water is being pumped. Drawdown is the difference between the static level (water table) and the pumping level (Lytle & Markowski, 1989).

**Well recovery** – The time required for the aquifer to stabilize at the static level (water table) once pumping has stopped (Lytle & Markowski, 1989).

How can a five foot or ten foot drawdown be measured when the static level is dropping at the same time and the wells and dewatering at the mine are continuous? The Mine will be pumping for years without stopping for well recovery. What about the dropping static level (actual water table) because of over appropriation? Current users may be put out of business and mine mitigation could become difficult if water is unavailable or in short supply. The static level will NEVER recover in 400 years with the current, pre mine, inflows vs. outflows. 1

This is critical because p.ES-21 of the DEIS states there will be mitigation for a water right holder if the drawdown is more than ten feet (United States, 2011). Diamond Valley farms irrigate onto the surface where some water percolates back into the water table. They typically turn the irrigation pumps off for

six months. Does mitigation begin when the static level, in spring when drawdown from agricultural irrigation has recovered for six months, has dropped ten feet at the Bailey farm?

P. 3-401 and page 3-388 of the DEIS both say:

> Mine dewatering and ground water pumping subsequent recovery of the water table is expected to draw down the ground water table in an area surrounding the open pit. As discussed in Section 3.2, modeling results show significant water table drawdown in the aquifer would occur in an area measuring approximately 232 square miles around the Project Area. (United States, 2011, pg. 3-401) (United States, 2011, pg. 3-388) 1

What a confusing statement. Drawdown, well recovery, and static level are different things. The static level (water table) will *never* recover at the current, pre-mine inflows vs. outflows. At current pre-mine inflows vs. outflows, the static level will drop in areas of Diamond Valley 140 feet in a 70 year mine life. Pumping and dewatering for Mount Hope Mine will exacerbate the already serious problem.

The pit is located in Diamond Valley. The DEIS states, "modeling (by the mine) results show a significant water table drawdown in the aquifer would occur in an area measuring approximately 232 square miles around the Project Area, including the northeast quadrant of Kobeh Valley and the southernmost fringe of Roberts Mountains (United States, 2011, p. 3-401)", yet page 2-18 of the DEIS says, "80 percent of the pit dewatering water would be from Diamond Valley" (United States, 2011, pg. 2-18). It does not make sense that Diamond Valley would not be affected at all. Isn't the significant drawdown at Roberts Mountain, because of dewatering in Diamond Valley? Is the mitigation water for Roberts Creek in Pine valley supposed to come from Kobeh Valley? I know Kobeh Valley and Roberts Mountain are both in the Diamond Valley Flow System. 1

There has been much discussion about how the mine water use will not affect Diamond Valley because it is a different water basin. P. 3-55 shows inflows *to* Diamond Valley from Kobeh and Pine Valleys. The mine will be pumping water at a different time (year round) and at a much closer location. The dewatering *is* in Diamond Valley.

How much water will be required to fill the pit at closing? 44 years of removing 2.7 billion tons of ore will leave a gigantic pit lake. How many gallons of water from Diamond Valley will be lost from beneficial use to become toxic pit water. I did not read in the DEIS how much water will be lost to evaporation from the pit lake. I did read in the DEIS on p. 3-96 and 3-97 that 9000 gallons per minute will be required for mitigation of Roberts Mountain and Henderson Creek for the proposed pipeline. This water usage should be accounted for, and mitigated. I am concerned about how all of this will affect *our* springs and wells. 1 1

Many of the maps and studies do not include the Bailey ranch or farm in Diamond Valley. *The surface water at our ranch as well as the Romano Ranch listed in Figure 3 as Idaho General Mines, Inc. has*

*already dried up. This is significant.* We are a significant water right holder in Diamond Valley and will be affected (Figure 5).

Also, the plan to artificially recharge the natural springs and streams that Mount Hope assumes will go dry, from their dewatering actions, will certainly change the flora and fauna in the area. If the efforts are not timely, destruction will occur. The water intended to be piped to the streams could be water captured from the same source. If the source is pumped dry, mitigation becomes impossible. A water modeler told me that, *"there are better uses for water than surface forage (personal communication, January 4, 2007)." I disagree.* 2

Why should Diamond Valley farmers work so hard trying to remediate over appropriation of water by forfeiting their water rights, or even taking a cut across the board? Why add a gigantic water user to the Diamond Valley Flow System causing further harm? It would be different if we were not already over appropriated. It would be different if water flowed *from* Diamond Valley *to* Kobeh Valley.

As a senior water right holder, I am making this "call" to do no further damage to the senior water rights. The ranches surrounding the Mount Hope Project are the senior right holders. The farms in Diamond Valley are second in line. The Mount Hope Mine has purchased water from these senior right holders with the intention of changing their time, place and purpose of use. The changes in the uses of the water in the Diamond Valley Flow System, including Kobeh Valley, will have adverse affects to the senior water right holders. Farmers and ranchers are rightly concerned. I believe the project would violate the Water Rights Policies of the Nevada Division of Water and the Water Policies of the Bureau of Land Management regarding the prior appropriation doctrine. 2

## Air Quality, Fugitive Dust, Roaster Flue Dust and Greenhouse Gasses

How much water would it take to wet 8,318 acres of disturbed Nevada surface so that it is not dusty during mine operation? The Tailings Storage Facility is three plus miles east of the Bailey Farm. What is the mitigation? When we are trailing a herd of cattle nearby or horseback riding in our yard, will the dust we breathe contain toxic fugitive dust from the tailings facility? I do not understand the use of tailings drain water as a means of dust control. Is it toxic? Will it dry and become airborne particulates to be deposited onto soil and vegetation surfaces? 2

It seems to be that the best available data for air quality is from Ely and Elko. Wind direction data is from Mercury. If the air quality degradation from Mount Hope's roaster were to be measured at the Bailey ranch or farm, would the air quality there make it considered a "Minor Stationary Source?" In my Figure 1, I have added the location of The Bailey Ranch and Farm as well as the Romano Ranch, (owned by Idaho General Mines) to DEIS Figure 3.6.2. My Figure 1 shows the location of the Bailey Ranch and Farm. My Figure 2 shows the wind direction according to the DEIS Figure 3.6.3. The Bailey property is so close to, and in the direction the wind would take the roaster/smelter smoke, that the impacts should be studied for this location and the location considered a Sensitive Receptor. *None of the Sensitive* 2

*Receptors used for the DEIS are downwind from the roaster (United States, 2011). Meaningful monitoring should be required at a place that is actually downwind from the facility.*

What does it mean to say that:

"Fugitive emissions would be adverse but not irreversible (United States, 2011, pg. 3-291)." 2

The plan is to accept toll roasting in order to keep the roaster consistently working (United States, 2011). In 44 years, that is adverse to my parents, me, my children, my grandchildren and my great-grandchildren. Will the 600,000 tons of Greenhouse Gasses per year (United States, 2011, p. 3-294), and other Particle Pollutions (sulfur dioxide, arsenic, lead, cadmium, mercury), come down as wet or dry acid rain and affect the surface forage, including the aspen groves that capture more rainfall because of their elevation? What about the forage we grow at the Diamond Valley farms and feed our livestock? Are we considering the range and soil outside the project area? Does Eureka County plan to monitor air quality locally, and what will Eureka County do if the air quality is considered unhealthy at night or in the morning when the mixing heights are low? Toxic metals from Molybdmum roaster flue dust could be carried into watersheds and soil by wind and be capable of disrupting essential physiological processes causing human illness and impacting vegetation. 2

Where would the toll roasting come from? Would it be restricted to molybdenum? 2

How can Mount Hope tout the facility as "Designed as zero-discharge facility (United States, 2011, p. 2-66, DEIS and Eureka Moly, 2011, pg. 1)"? 600,000 tons per year is not zero. According to the DEIS there are no air quality standards for Hazardous Air Pollutants (United States, 2011, p. 3-293). This does not mean the same as zero pollutants. It means there is no limit to exposure. 2

The Environmental Protection Agency engaged expert scientists to assess particle pollution and published research with the following findings:

**EPA Concludes Fine Particle Pollution Poses Serious Health Threats**
Causes early death (both short term and long-term exposure)
Causes cardiovascular harm (e.g. heart attacks, strokes, heart disease, congestive heart failure)
Likely to cause respiratory harm (e.g. worsened asthma, worsened COPD, inflammation)
May cause cancer
May cause reproductive and developmental harm (U.S. Environmental Protection Agency cited in American Lung Association, 2009)

All three sizes of particles are toxic. Health issues are significant for my family, Diamond Valley residents, and other down winders. The cumulative air impacts for the study (p. 3-294 DEIS) do not include 600,000 tons of Greenhouse Gasses or any other airborne metal flue dust particulates. The Eureka Moly LLC (Mount Hope Mine) Tailings Siting Evaluation (Appendix A ,DEIS) does not discuss 2

Fugitive Dust from tailings outside the project area. What are the combustion emissions for the roaster and will it heat up Diamond Valley?

There are no mitigations for these issues. 3

The impact from Air Pollutant Concentrations are not considered significant because they do not include any Sensitive Receptors downwind from the project and because there are no standards for Hazardous Air Pollutants. We consider impacts to the health of Diamond Valley residents, the surface forage, soil and, watersheds to be significant, and we are concerned. 3

The DEIS states, "the Clean Air Act delegates primary responsibility for air pollution control to state governments, which in turn often delegate this responsibility to local or regional organizations. (United States, 2011, pg. 3-257) How will Eureka County mitigate Mount Hope Mine's emissions? 3

## Soil and Vegetation

- Cumulative Impacts to soils (p. 4-55, DEIS) do not include impacts from flash floods or seepage underneath the Potentially Acid Generating Waste Rock Storage Facility at Mount Hope Mine. 3
- Cumulative impacts to soils (p.4-55, DEIS) do not include impacts from 600,000 tons of Greenhouse Gasses per year or other metal flue dust particles landing on soils outside the project area from Mount Hope Mine. 3
- Cumulative Impacts to soils (p. 4-55, DEIS) do not include fugitive dust prior to capping or leakage from Tailings Storage Facilities at Mount Hope Mine landing in or on soils in Diamond Valley. 3
- Cumulative impacts to vegetation (p. 4-57, DEIS) do not include damage to vegetation outside the project area from 600,000 tons per year of Greenhouse Gasses or other metal flue dust particulates from Mount Hope Mine. 3
- Cumulative impacts to vegetation (p. 4-57, DEIS) do not include impacts to vegetation from fugitive dust or water shortages in Diamond Valley from Mount Hope Mine. 3
- Cumulative impacts to soils and vegetation do not include impacts from all the mines already existing in Eureka County or Nevada. 3

*Impacts to soils and vegetation could be significant and are not included for where I live or Diamond Valley.* 3

## Visual Impacts, Noise, Traffic

> Light Pollution in the Mount Hope area is minimal and primarily limited to dispersed pinpoints of light associated with ranches. The town of Eureka, 23 miles south of the Project Area, is the largest source of light pollution in the immediate area. (United States, 2011, pg. 3-301)

That is a quote from p. 3-301, DEIS. The existing landscape elements are pinpoints that are ranches (United States, 2011). What a contrast to the noise and visual impact of haul trucks driving by our residence. We do not have air pollution at our home now. Our skies are beautiful. If we were to have smoke, it would be a stark contrast. We experienced a large number of haul trucks on Highway 278 for the first time a couple of months ago. Barrick's Ruby Hill Mine sent a large amount of ore down the highway for the first time. At the same time, there was a highway repair job in progress requiring numerous asphalt trucks. This was the first time I remember experiencing a large amount of truck traffic going by our residences. However, it was temporary. 4 4

During this one-time event, it became clear that the two-lane Highway 278, is not safe for large numbers of trucks. There were five accidents in Pine Valley in a very short period of time, including a tanker spill in front of the barn at the Hay Ranch on Highway 278. This was not even in the winter when ice and snow add to accidents. There are no passing lanes from Eureka to Carlin: the entire length of Highway 278. There are school bus stops throughout Diamond Valley and Pine Valley where there are no pull outs. Haul trucks speed by residences and school bus stops with a 70 mile per hour speed limit on a two lane road. Nevada Department of Transportation requested Mount Hope Mine build a new turn lane at the entrance to the mine on Highway 278. Would Mount Hope Mine pay a sufficient amount of taxes to add passing lanes and bus safety pullouts? How many deaths would be required before the infrastructure is installed? 4

In the several weeks the haul trucks moved on Highway 278, the trash on the highway increased dramatically. Who is going to be responsible for picking up the new trash on Highway 278? Mount Home Mine made a gravel pit at the Romano Ranch and plans to use the gravel for construction. I am concerned about trucks hauling on the Sadler Brown Road in Diamond Valley. 4 4

How can Mount Hope tout the facility as "Designed as zero-discharge facility (United States, 2011, p. 2-66, and Eureka Moly, 2011, pg. 1)" when the DEIS estimates probabilities of releases and spills resulting from probable truck accidents on page 3-547 (United States, 2011)? 4

Mount Hope is the view from my kitchen window. Just as important to me is the fact that my residence and many others are directly adjacent to Highway 278. P. 4-55 of the DEIS, *Cumulative Impacts to Visual Resources*, does not include traffic through the "dispersed pinpoints of light that are ranches. (United States, 2011, pg. 4-55)" Highway 278 appears peaceful and safe today. *This would be a significant impact from the Mount Hope Mine. The change from an agricultural setting to an industrial one would be a significant concern.* 4

The DEIS says, "The predicted changes in hourly ambient noise levels at the nearest ranch houses are 1dB or less. (United States, 2011, pg. 3-46)" I believe this is a false statement and my home is not represented. P. 4-65 of the DEIS Cumulative impacts to auditory resources does not effectively represent the impacts from traffic noise at my home from Mount Hope Mine traffic on Highway 278. "Visual, noise, or atmospheric elements that are out of character with a property alter its setting (United States, 2011, p. 3-579)." Right now we live near "the Loneliest Town on the Loneliest Road in America", and *We Love Lonely* (reference title of original artwork by Larry Bute). The increase in traffic will generally degrade the quality of life here. 4 4 4

## Culture, Economics, Employment and Environmental Injustice

P. 4-66 of the DEIS, Cumulative Impacts to Socioeconomic Resources, *incorrectly represents* that the increase in tax revenues to Eureka County would likely outweigh any adverse effects on social and economic values in Eureka County (United States, 2011). 5

With the mines in the north end of Eureka County and the small population, Eureka County is financially stable without Mount Hope Mine. Eureka does not need jobs (United States, 2011, p. 3-501); we will not be able to fill our own jobs (United States, 2011, p. 3-502). Those persons in Eureka County that are unemployed are either unemployed by choice or are unemployable. They will not be any more employable for Mount Hope Mine than they would be for Barrick Mines or Newmont Mines. 5

The school system in southern Eureka is high achieving and the education of our children will be compromised. New students entering the system typically are behind as soon as they enter because of Eureka's current high achievement. The system will be inundated with new students compromising the quality of the small school system, and the quality of education currently enjoyed. 5

Crime will increase, especially since the mine would bring 600 new employees for construction instantly, who have nowhere to live. Mount Hope Mine is not clear about where they would house all of those people. We are very concerned that a man camp at the Romano Ranch would definitely reduce the integrity of the setting at the Bailey Ranch. The Eureka Canyon Project is not complete and would not have enough units. 5

It feels like an Environmental Injustice to possibly displace the "weaker section" of agriculture, for mining. Farmers and ranchers may not be considered "Low-Income Populations" or "Minority Populations," but they certainly do not have the resources to vie for natural resources against multi-national mining interests. Eureka County has a tiny population that can be taken advantage of without representation. How can agriculture survive in Diamond Valley, when China reportedly invested 600 million dollars in the Mount Hope project? The community, people, and their affairs are being artificially "engineered" by foreign bankers. 5

The politics of Eureka County will change because the population in the community will double specifically with mining constituents where now 71% of Eureka's mining employees live and vote in Elko County (United States, 2011). Agriculture has a strong political position in local politics now.

The impact to our cultural resources would be irreversible and irretrievable. The Western Shoshone say that:

> Impacts to water sources impact all other resources as well as animals that utilize the water and plant foods for survival. Once the water is gone, then life is gone (United States, 2011, Pg. 3-581).

*Environmental injustice and the affects to our culture are significant to the residents of southern Eureka County.*

## Legacy Management: Yours, Mine or the Mine's?

Legacy is defined as:

- a gift that you arrange for someone to have after you die.
- something transmitted by or received from an ancestor or predecessor or from the past
- something such as a tradition or problem that exists as a result of something that happened in the past

The Bailey family has a rich legacy in ranching and agriculture in Eureka County. Established in 1863, and listed as the sixth oldest Pioneer Company in Nevada by the *Nevada Business Journal* (Foley, 2003, pg. 16), the Bailey Ranch on the Sadler Brown Road was purchased by the company in 1875 and was honored by the Governor of Nevada as one of the Historic Centennial Ranches in the State of Nevada (Price, 2011). We also own farming operations in Diamond Valley. We feel like we are temporary stewards of this legacy, keeping the knowledge, culture and property for future generations of our family to enjoy and pass on.

> If we destroy the productivity of the land or have no one who knows how to nurture life from the land, there will be no future for humanity. (Ikerd, 2005, pg. 2)

> The quiet desperation of today's farmers is in no small part a realization that they may be incapable of passing on the essential legacy of agriculture, not just for future generations of farmers and ranchers, but also, for future generations of Americans and of humanity. (Ikerd, 2005, pg. 3)

> How can agriculture meet the food and fiber needs of a growing population if we destroy the natural productivity and regenerative capacity of the land? Economists generally assume that we will find substitutes for anything we use up and will fix any ecological or social problems we create; but these are simple beliefs with no logical or scientific support in fact... Economists simply don't consider the social, psychological, or ethical consequences of the things people do to make money... Economics credits no value to the legacy of agriculture, in terms of either land or people. (Ikerd, 2005, pg. 4)
>
> In farming and ranching, there are cultures of the land and people that must be nurtured and passed on from one generation to the next. The regenerative capacity of land and people is essential to the sustainability of human food production, and thus human life on earth (Ikerd, 2005, pg. 5).

The agricultural practices performed by the Bailey family include knowledge from ancestors who have nurtured the arid soils and watersheds of Nevada to produce high protein food products sustainably in the driest state in America for nearly a century and a half. They have learned and passed down the amazing knowledge about water, plants, animals, fires, how to survive the depression, surviving 100 year storm events and droughts, family values and western cowboy culture. The Baileys have experienced many changes in Diamond Valley, Pine Valley and Eureka, but some changes could be irreversible, irretrievable and totally destructive.

> Mining may be essential to the economy of the United States, but historical mining practices and the absence of routine mine-land reclamation, remediation, and restoration have led to legacy sites with significant environmental and human health impacts. Typical remedial solutions are often lengthy, expensive, and unacceptable... communities continue to embrace economic prosperity along with dynamic environment(s). Although traditional mining practices and regulations have changed, new mining operations continue to have severe waste issues that must be addressed during and after the actual mining operation. (ITRC, 2008, pg. iii)

"Mining impacted water, occurring from mine drainage, can last for tens to hundreds of years. Undoubtedly, the potential liability for states on any of these properties is a major issue. (ITRC, 2008, pg. iv)"

Perhaps the local, statewide, national, and global planners have a legacy plan for Nevada that includes the elimination of agriculture and ranching, the exhaustion of the mineral resources, the contamination of limited water resources, the use of Nevada as a receptacle for depositing mining and nuclear wastes and underground military bases. I am concerned that they believe the legacy of agricultural culture in Eureka County and Diamond Valley is expendable.

My father-in-law asked me to say one thing in my comments (too bad I couldn't keep my comments this short). He said, "It is very simple. A glass of milk could be a luxury to those miner's grandchildren."

It is possible that in the future, people may invent ways to handle Acid Mine Drainage, Greenhouse Gasses and Particle Pollution. Mineral deposits are like money in the bank, they would be there later if proper techniques were invented to protect human health and resources.

## Who Inspects, Monitors or Punishes? Is there any actual Mitigation?

This process feels like a divide and conquer scenario. There seem to be numerous agencies all of which only accept responsibility for some part of the Mount Hope Mine Project. As the next door neighbor to the project, I feel baffled. It seems like some aspects of the project just have no actual standards for human health, for example: air quality or toxic waste storage facilities.

When I contacted the Nevada Division of Environmental Protection asking about releases, the answer was that:

> Current regulations do not allow for a mine to discharge contaminants that may degrade waters of the state for both surface and groundwater. The Bureau of Mining Regulation and Reclamation has the authority to issue water pollution control permits to mining operations that are able to provide the required scientific and engineering information to show that no discharge will occur to the environment. (personal communication, December 30, 2011)

Every year, mines are required to file Toxics Release Inventory reports. In an article *titled EPA: Nevada's toxic releases up 161 percent*, it states, "Toxic releases in Nevada were up in 2010 to 477 million pounds, a 161 percent increase over the nearly 183 million released in 2009... Newmont's Phoenix site south of Battle Mountain released a little more than 208 million pounds. (Harding, 2012, pg. A1)"

How do these mines remain in compliance with the Division of Environmental Protection? That is not the same as "no discharge." What are the cumulative effects and were those mines shut down and the releases mitigated?

When I tried to contact the Nevada Bureau of Health Protection Services about Mount Hope Mine's Radioactive Material License (p. 1-11, DEIS), the Bureau didn't seem to exist (how much radioactive material is going to be used at the mine, what is the half-life and where will it end up?) 5

I think the theme of the DEIS is "The impact is not considered significant." Nearly every single study ended with that phrase. I honestly appreciate the effort put into the study and application process, but it feels like there will be "zero releases" "Designed as zero-discharge facility" (United States, 2011, p. 2-66, and Eureka Moly, 2011, pg. 1) and "The impact is not considered significant" really means that there are no releases nor are there any significant impacts to anything or anyone that is not considered expendable. 5

Environmental justice is about social transformation directed towards meeting basic human needs and enhancing our quality of life, economic quality, health care, housing, human rights, environmental protection, and democracy. In linking environmental and social justice issues the environmental justice approach seeks to challenge the abuse of power which results in poor people having to suffer the effects of environmental damage caused by the greed of others. (McDonald, 2002)

I believe this project does not use environmentally sound techniques, does not pass sustainability criteria, uses unfair subsidies to distort prices and that the importer will not bear the environmental and social costs. Those costs would be irretrievable and irreparable and be borne by the local community. Is it feasible or realistic for farmers and ranchers in Diamond Valley and in America to be able to trust our system to sustain the laws and regulations and sustain their future?

If the Mount Hope mine Project goes forward with the plan represented in this Draft Environmental Impact Statement, ranchers, farmers, and the community of Eureka will be significantly affected. The Mount Hope Project Draft Environmental Impact Statement does not effectively represent where I live or those to the north, east, and south of the project. It does show some of the impacts, but does not show acceptable mitigation for those impacts. 5

Thank you for your consideration,

Carolyn Bailey

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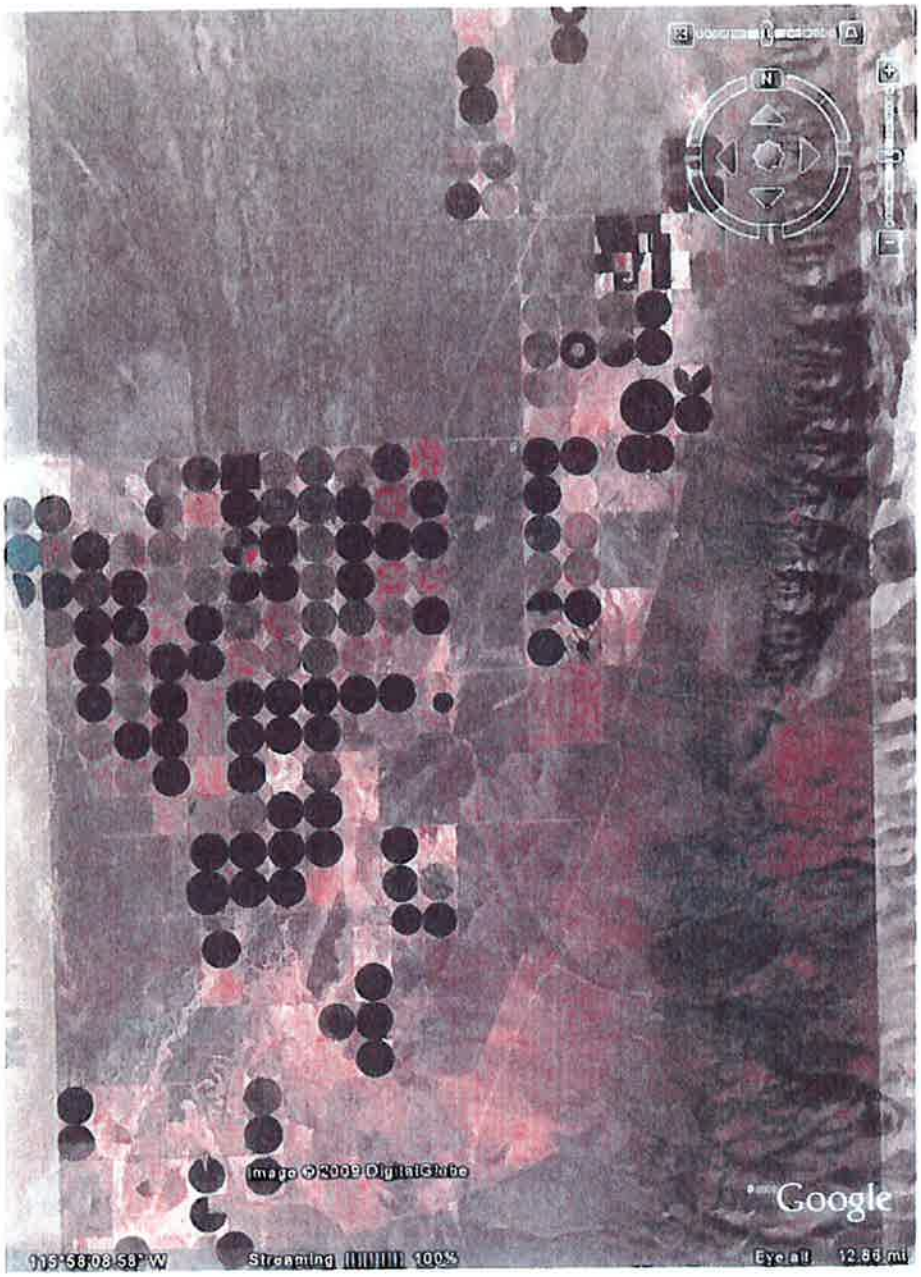


IMAGE. Felling et. al. (2009). Cover

**Diamond Valley**

EUREKA MOLY

Volume 3, Issue 12
December 12, 2011

GMO Share Price $3.47
Molybdenum Oxide Price Per Pound $13.50

## IT'S TIME TO VOICE YOUR SUPPORT FOR THE MT. HOPE MINE

On Friday, December 2, the BLM published the Mt. Hope project's Notice of Availability ("NOA") in the *Federal Register*, commencing the public comment period for the Mt. Hope project's Draft Environmental Impact Statement ("DEIS"). The publication of the DEIS is one of General Moly's most significant permitting accomplishments in the last five years. It is a very thorough document that represents an assessment of our project by scientists, engineers and experts.

We encourage those who support the Mt. Hope project to participate in the public comment process and submit supportive comments to the BLM Battle Mountain District Office during the next 90 days. You may submit comments related to the Mount Hope Project by any of the following methods:

Web site: http://www.blm.gov/nv/st/en/fo/battle_mountain_field.html
Email: mhmm_project@blm.gov
Fax: (775) 635-4034, Attention: Angelica Rose, Mt. Hope Project
Mail: BLM Battle Mountain District Office, 50 Bastian Road, Battle Mountain, NV 89820
Attn: Angelica Rose, Mt. Hope Project

Copies of the Mount Hope Project Draft EIS are available at the Battle Mountain District Office at the above address, and on the Battle Mountain District's NEPA Web site at: http://www.blm.gov/nv/st/en/fo/battle_mountain_field/blm_information/national_environmental.html

The 90-day public comment period will close March 1st and includes two public hearings: one in Eureka Wednesday, January 18th and one in Crescent Valley Thursday, January 19th where the BLM will present the Mt. Hope project and the BLM's findings. Following the public comment period, the BLM will consider comments received in developing a Final Environmental Impact Statement ("FEIS").

We anticipate the Mt. Hope Record of Decision ("ROD") to be issued following the FEIS, which will allow construction to proceed. We anticipate we'll receive our final permits within 6-9 months.

## MT. HOPE MINE RECEIVES TREMENDOUS INDUSTRY SUPPORT DURING NORTHWEST MINING ASSOCIATION EXPO

General Moly recently exhibited during the Northwest Mining Association's Annual Expo and received many visits to its booth from industry professionals. Awareness of the Mt. Hope Mine and support of this worthwhile project was overwhelming. This world-class molybdenum deposit is well known throughout the mining industry for the following reasons:

**Mt. Hope & Molybdenum**

- The mineral deposit at Mt. Hope contains high grade ore near the surface and proven mining and processing technologies will be utilized
- Once in production, Mt. Hope will produce 8% of the global moly supply
- Molybdenum is primarily utilized in the steel industry to strengthen carbon and stainless steels and to reduce corrosion. It is also an essential alloying agent for steels used in high stress and high temperature applications (military and jet aircraft), and increasingly used in steels to build renewable energy projects

**Environmental Advantages**

No endangered species
No wetlands
No sacred Native American sites
No mercury
No cyanide or other toxic chemicals
Minimal pit dewatering
Satisfactory water quality in post-mining pit-lake
Minimal land disturbance for new infrastructure

**Environmental Controls**

Segregation of acid generating waste rock
Fully-lined tailing storage facility
Stringent air pollution controls
Storage of topsoil for use in reclamation
Providing water to mitigate impacts to wild horses and burros
Nevada Department of Wildlife acclaimed sage-grouse mitigation program
Avoidance of the Pony Express Trail
Designed as zero-discharge facility

# Diamond Valley Flow System

# Ground-Water Flow Paths

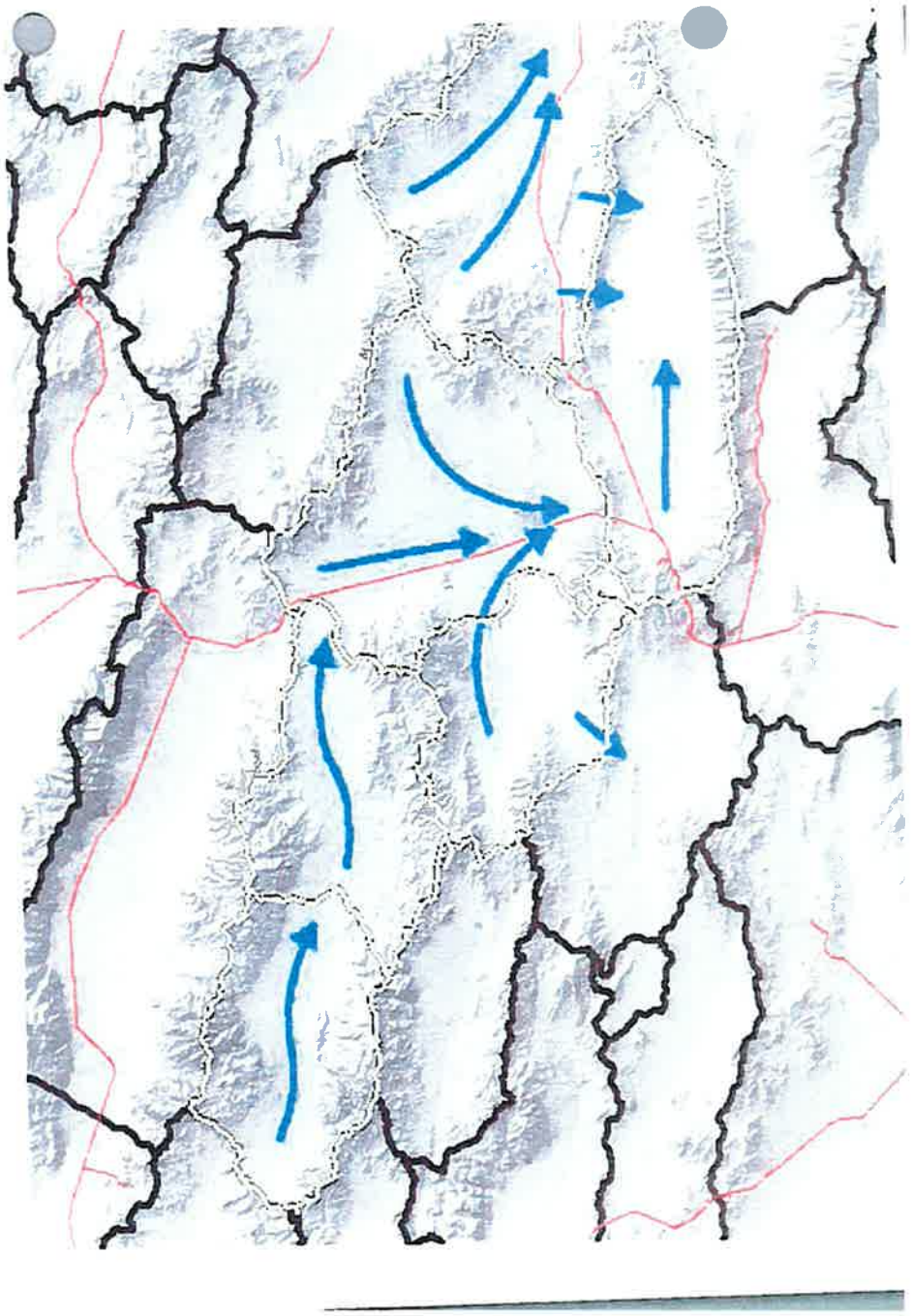

IMAGE. Felling et. al. (2009). Pg. 12

Great, tab 3



TRANSCRIPT OF

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

BUREAU OF MINING REGULATION AND RECLAMATION

MOUNT HOPE PROJECT

WATER POLLUTION CONTROL PERMIT NEV2008106

PUBLIC COMMENT HEARING

Tuesday, October 30, 2012
6:00 p.m.

Grand Hall of the Opera House
31 South Main Street
Eureka, Nevada

TRANSCRIPT PREPARED BY:
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Dale Bugenig
Abby Johnson

Comments by Members of the Public:

Jake Tibbitts
Dale Bugenig
Carolyn Bailey

You know, if a comment will be responded to as part of the final action, then, while you're more than welcome to come up and make a comment, repeating the comments isn't really very helpful.

So, with that, I think, I'm going to go ahead and turn it over to Joe Sawyer.

MR. SAWYER: Hi. For the record, my name's Joe Sawyer. I'm the Regulation Branch Supervisor. My goal is to give you an idea of who we are and how we actually come about putting together the water pollution control permit for mining sites.

Again, we're State of Nevada, Division of Environmental Protection. And our bureau is the Bureau of Mining Regulation and Reclamation.

I think, this one picture -- that's, obviously, not Mount Hope. But for those of you that may not have seen a mine site, this has similar components to what you see in the Mount Hope operation.

There's a large tailings facility here for spent ore, a waste rock dump, open pit, and your bench and ore processing facility. So this gives you an idea of what a mine site would look like from the air. Obviously, the Mount Hope facility would have a different configuration.

Okay. We were created, the BMRR, in 1989 with

three specialized regulatory branches. They were the Regulation Branch, Reclamation Branch and Closure Branch. I'm representing the Regulation Branch. Our mission is to protect waters of the state and enforce water pollution control regulations at mining facilities.

The other two branches, just briefly, the Reclamation Branch, if you were at the earlier meeting, they ensure that lands disturbed by mining operations are reclaimed to safe and stable conditions to promote post-productive mine land use.

We also have the Closure Branch that looks at chemical stabilities of the long term.

I want to mention one other thing. We are fee-based. We receive a hundred percent of our funding from permit fees from mining operations, which include renewal fees and annual fees, as well as modifications and things. So one of the things, I think, people aren't aware of, once we issue a permit, we don't just walk away. We're with the facility basically from cradle to grave. We do have updates and modifications as the facility changes over -- over time.

This is just an organizational chart. Just quickly, I have a couple of things I want to explain. One thing is that we do the entire state. This is the

Regulation Branch. We have three permit writers and three inspectors. Every project is given a specific permit writer and inspector that basically stay with that project for the life of the project or however long they're employed. The idea is to give continuity.

But, also, I want to mention that between myself, the Bureau Chief and the other permit writers, we actually have four professional engineers on staff, as well as the staff engineer, and we have a very formal peer review process. So all of our permits are looked at by everyone to one degree or another. As well, obviously, the regulation -- excuse me -- reclamation folks and closure folks also provide input on these sites.

Some of the other branches, just quickly, there's the Closure Branch, Reclamation Branch. Then we also have two people from the BLM that are placed, based in our office. Obviously, because the State of Nevada has -- I believe, about 80 percent of the state is BLM. So a lot of these mine sites are on BLM land. And by having those two folks in our office just helps with communication with our federal partners.

Okay. Just quickly, everything we do is based on regulations and state laws. And I just wanted to display those here. Basically, all the decisions,

permit timing, basically everything we do, in one way or another, goes back to a regulation or law.

When I talk about waters of the state, simply, it's basically all bodies of water or accumulations of water, surface and underground, natural or artificial. So we care about all the water when it comes to water quality and water degradation.

As far as mining regulated activity, what's within our purview is -- basically, it's any mining or processing activity that has the potential to degrade the waters of the state. It's private land, as well as public land, any land within the state of Nevada. Basically, it includes all metal mining. We're a little bit different than a reclamation group, though. We do not oversee industrial minerals, sand and gravel, clay, chips and those kinds of things.

Within the Regulation Branch, we actually have three activities. There's permitting, where we issue water use control permits. We have the inspection function, where we actually go out and inspect mines on a regular basis. And then we have the compliance and enforcement function when we have groundwater issues or spills and those kinds of things to deal with. And I'm going to speak about each one of those activities in detail.

Before I get into that, I have a few other things to fill in. One's water pollution control permit applicability. And, basically, no person may begin the construction of a new process component, or materially modify an existing process component without visiting with us and obtaining a permit. So, basically, you know, they have to come to us in advance.

And that's where I talk about the cradle to grave thing. General Moly, for example, assuming they get their permit and they go into operation, and they want to make an operational change at any point in the future, they have to come back to us and review that operational change, so that we can ensure, you know, they are taking the groundwater degradation into consideration and taking proper steps where that would not occur.

As far as water quality and what we look at, basically, for surface water, is it's there's no degradation allowed. It's -- period. It's pretty simple. When it comes to groundwater, we generally default to the drinking water standards.

As far as application review times, the period by legislation is 180 days. It often takes a year or more to permit a site. The reason for that is every time the site -- we request additional information, the

clock stops. If they change their minds, and they have to go back and revisit things, obviously, the clock stops for changes. And so, oftentimes, it can go out beyond 180 days because we're waiting for information from the applicant.

But during that 180-day time, period, it includes administrative technical reviews done by our staff. We draft the initial permit, and then we have a 30-day public comment period, which we're attending today.

Also, a public meeting can be held upon request. They're not required. Sometimes they're requested during the comment period, and we will actually have it a month or so after the comment period, because we have to notice these, these public meetings. This meeting was actually held because it was requested by General Moly. They felt there was enough public interest that we should, should hold a meeting.

Assuming everything continues forward, the next step is the Notice of Decision. We're going to take all our public comments over the last 30 days; we'll also take all comments in this meeting, both written and verbal and, basically, address those in our Notice of Decision. And we're looking at probably sometime within the next two to four weeks, we'll issue that Notice of

Decision.

Now, once we've issued that notice of decision, there's actually a 10-day period, I've outlined here, before the permit becomes effective, any interested party may appeal to the State Environmental Commission if they feel that we've done some action that's not complete, or inappropriate. That's actually mentioned in the NOD, that information.

Now, once we issue the permit, it is valid for a five-year period. There are annual fees and annual reviews that we do. And, like I say, it's an ongoing process.

Applications include the following requirements. Again, I'll go into a little more detail after this slide. But, basically, the corporate information. We do an area assessment. We do a meteorological report. There's an engineering design report, as well as proposed operating plans.

And I just want to really stress the amount of information we go through and the level of detail that we go through.

As far as the assessment of area of review, we have geological and hydrological information. We look at surface waterways, streams, springs, seeps. We also look at watershed and storm event information. And we

look at existing wells and habitable structures in the area of the mining operation.

Under meteorological report, we look at historical rainfall and temperature data. Storm events, we go out a hundred years. We also -- this one is very important to us, the bottom one here, is using chemical characterization of the overburden, waste rock, ore, and tailings for the potential to release pollutants and generate acid. We use that information to help design the facilities for containment.

And, actually, we have ongoing review, once a mine is in operation, where we characterize these materials during the life of the project. Because, as some of you probably know, the material that we find in ore and waste rock isn't always consistent through the ore body or the area being modified.

Under engineering and design report, it must be prepared by a professional engineer or engineer registered in the state of Nevada.

Plans, specifications and calculations for process components and fluid management are provided to us, as well as all the potential sources at the facility, including mine areas, which is very important. Some folks may not be aware of that. As well as the process components, waste rock and spent ore.

We also look at geological, hydrogeological conditions beneath the site to address structural stability of the waste rock dumps and tailings impoundment and that kind of thing. Now, when it comes to tailings, we actually have a different division -- I think, it's Water Resources -- that actually look at the dam stability.

Another thing that we take into consideration for all process components is 110 containment for any of the chemicals that are in use, as well as zero discharge of process solution.

Also under engineering design report, we look at methods for control of storm flow and runoff. I know that's one of the concerns we've received from the public so far. But looking at those hundred-year storm events I mentioned earlier, as well as 25-year storm events, diversion channels and those type of things, as well as pond capacities for storm events is one of the things that we look at.

We also look at methods to utilize for inspecting, testing and quality assurance and quality control. This is especially during the construction period. One of the things that our permit writer does is he actually goes out and makes some inspections during construction to make sure that the construction

is conforming to our permit requirements. And, actually, once construction is complete, we require an as-built report that has to be signed off by a professional engineer that everything had been done in accordance with the original plans.

And, also, we, obviously, review the process schematics of the facility.

Getting near the end here, we have proposed operating plans. And all these must be provided as a part of the permit application. Obviously, we need their operating plans for the mineral processing circuit.

We also need their plans for management of all the process fluids.

An important one is the monitoring plan. You'll see in the next presentation, there's a lot of monitoring wells. And we also have a lot of leak detection ports in a lot of facilities for controlling fluids. That's actually a very important part of this.

We also have to require an emergency response plan for fluid management system failures; you know, things like, you know, what they're going to do in a power failure, how they're going to shut the facility down, manage fluids in emergency-type situations.

We also require a temporary closure plan. You

know, if the site were to shut down for what is economic reasons or , you know, severe weather or what have you, then we require a tentative permanent closure plan as part of the application.

Under inspections, we, basically, do these to ensure that the -- initially, during the original permitting process, to make sure that the facilities, as I mentioned earlier, are constructed to the approved design.

We complete -- once they are in operation, we do inspections at least on a quarterly basis. And they're very thorough inspections. We look for compliance with permit regulations. But we also look at component integrity. You know, we inspect liners, sumps, tanks, floors in the process buildings.

We also inspect their monitoring system, the leak detection systems.

And we look for any evidence of surface discharges.

We also require quarterly reports and annual reports. That's part of the inspection and monitoring process.

The last item, compliance and enforcement. We actually have -- you can see on the bottom there, we have the ability up to $25,000 per day per violation.

We rarely get to that point. Typically, what we try to do is work with the operators to mitigate any potential groundwater and/or soil contamination when it occurs. However, generally, we do have degradation of waters of the state. The final act is some type of enforcement that involves, you know, a monetary -- a payment.

Other areas that can get folks into trouble are operating or constructing without a permit; unauthorized discharge; violations of statutes, regulations or permit conditions.

There is a requirement on mine operations to do self-reporting. When they do have spills of certain volumes and types, they are required to phone those in and self-report. And then we act, act on those.

And that's it for me. I'd like to introduce Tom Gray, who will go over in detail the Mount Hope Project and how it relates to the water pollution control permit.

Thank you.

Do you want that -- woops. Do you want this down?

MS. KITTRELL: No. We might need to tighten it up, though.

MR. GRAY: Hi. I'm Tom Gray. Can you hear me? Permit writer for the proposed Mount Hope water

pollution control permit. And I am going to give you kind of an overview of the proposed project from the water pollution control perspective and talk about aspects of the draft water pollution control permit.

So I'm going to be speaking about all of these components, the main proposed components of the facility. And then, towards the end, I will -- and I have a slide -- discuss a little bit about the hydrology, groundwater hydrology in the immediate vicinity of the project. And then I'll talk about the hydrology, the groundwater hydrology in the immediate vicinity of the project. And then I'll talk about pit lake study.

So on to here, I think, you guys probably know a site for a well. And there's also similar map to this in the back of the room. But the Mount Hope pit.

When I turn, am I coming through to you? Because I can't really hear myself is all. Okay. So.

Mount Hope pit, obviously, right here in the general vicinity of where the summit of the mountain is right now. And it's surrounded by waste rock disposal facilities and stockpiles and the mill site.

Starting with the largest component here, the -- what's shown here as a NAG waste rock disposal facility, it's the waste rock facility for the waste

rock that is taken out of the pit that's not expected to generate acid, based on testing that's been done on those materials.

Then, there's the PAG waste rock disposal facility, which stands for potentially acid generating waste rock. So this, this is material that the testing has shown that there is a potential that acid sits there, and after it's been mined, it may generate acid. And so I'll talk about what it's contained in an additional containment facility as.

There, the low-grade ore stockpile is here.

And the mill site itself, where all the processing components is right here on the southeast edge of the pit.

Then, there's a tailings pipeline corridor that connects the mill site with the south tailings storage facility.

And those are the main components.

You will notice that on this diagram, as well as most of the other ones you'll see, the yellow dots represent monitoring wells, most of which have already been installed and have -- we have baseline data on water levels and water quality for them. There's a couple that haven't been installed. But those, I'll talk about. I'll talk about the importance of the

monitoring wells as we go forward.

So here's -- with the non-acid generating waste rock disposal facility, 74 percent of the waste rock generated, expected to be generated by the mine will be non-acid generating, once again based on the testing that they've done with drill samples.

Because there's no expected acid generation, there is no engineered subgrade. It's, basically, going to sit on clearly drudged earth that is graded to drain, but it doesn't have an actual what you would call containment.

There are stormwater diversion ditches and sediment basins associated with this structure.

And there's one spring, SP-7, that is going to be covered by this facility. Incidentally, that's the only spring that's directly going to be covered by another component of the site. This spring here is between two waste rock facilities. There's another downgradient spring on this side, and over here, over here. But this, this spring is actually going to be covered. It's a small spring.

And there is a separate engineered construction that's going to be installed to ensure that that water is not in contact with the waste rock. And that's going to consist of a foundation drain, which is, basically,

going to be 18 inches of drain rock and a geofabric. And then that's going to be overlaid by a synthetic liner and then a layer of overliner crush material to protect the liner. And then the waste rock goes on top of that. So.

And then the drain rock in the spring will have perforated pipe that will collect that water. And then it will feed, it will feed outside the footprint of the waste rock disposal facility and be fed into a natural drainage in the early history, up to year 10. And then, as the waste rock facility grows in size, it will need some additional base construction and that piped, will be piped to a stormwater diversion after that.

The potentially acid generating waste rock disposal facility, it's probably one that most of you guys are interested in. 26 percent of the waste rock expected to be produced by the mine will have the potential to generate acid, based on the testing that has been done. It doesn't mean that all of it will generate acid. But as best as our testing can determine, that's the material that needs separate additional containment to make sure that we don't add acid flowing into the environment and hence all the metals that are typically leached by acid.

So this facility has -- has much -- it has

containment in the form of underneath the actual footprint, it has a one-foot engineered low permeability subgrade. It's an earthen material. That's not a synthetic liner. But it is engineered and has a compaction stack. It also has a -- it's graded to drain to the downgradient edge of the facility.

Where this facility is on top of negative drainages, there will be a liner put in, in for the drainage area, a synthetic liner. And then on top of that will be piping that drains off the material to protect the liner. And that is because those areas will be focal points for any infiltrated stormwater that infiltrates into the dump. They will, they will move towards the drainages, get into these, the drainage layer of piping, and then be piped down to the stormwater collection channels. Which there's a stormwater collection channel that's not shown here, but it's right along the periphery of the facility. And then it leads to this stormwater collection pond, number one and, ultimately, as the facilities grow, to a second stormwater collection pond.

This one won't be built initially, because initially the footprint of this facility and this facility will be small enough that a single pond can handle them. But as they grow in size, the second pond

and channel to connect them will be put in.

The channels and the ponds will be lined with a synthetic, a single synthetic liner. Now, those, those ponds are sized, and the channels are sized to be able to contain a 100-year, 24-hour storm event. That goes a little beyond our minimum regulatory requirements. Let's say that the facility only needs to be able to contain the 25-year, 24-hour. These ones are designed to be a little hardier than that.

And the ponds have a 20-day permit. And this is standard in our permits for stormwater ponds. There's single-lined. Basically, when they get flow -- they will not always have flow in them. But when they get flow, then there will be a requirement to evacuate that within 20 days. And they'll be evacuated into a process, this process center at the -- at the mill. So they'll be evacuated into other containment.

And then I will kind of harken this discussion, this presentation about the monitoring wells, which are surrounding these facilities.

Down here, you can see it's a couple in the big footprint. And those, obviously, will be mined out. But there will be some upgradient wells remaining. They may go dry. But, primarily, our -- our monitoring will be for the downgradient monitoring wells, and they will

be monitoring groundwater to make sure that there's no degradation of that groundwater. And if there is, then they have to report to us and clean it up and eliminate that source of contamination.

Low-grade ore stockpile, I won't talk about too much, because it's designed, it's virtually identical to the potentially acid generating waste rock disposal facility. It serves a different purpose, obviously. It's not for waste rock. It's for ore that -- but it's for ore that the mine determines is low enough grade, they don't want to process it right away. They want to process the high-end grade, mill ore initially. And so they're stockpiling this material for years, 33 to 44. But after the mining ceases, they will then be processing, removing ore from this facility and processing it here in the mill.

Like I said, it's the same construction, stormwater collection channels and ponds, and monitoring wells as the PAG WRDF.

Mill area facilities, there -- there are there are many. And I won't go into a lot of detail, but I'll talk in general the types of processing. There will be crushing and grinding to make the ore much finer grain, that they will send to a flotation circuit to float the molybdenum oxide concentrate.

Then they may need to do some ferric chloride leaching. This is -- will be in containment in the mill facility. They may or may not need to do that, depending on what spec they're making at the moment. And then they'll take the concentrate, they'll roast it to purify it further.

And they -- one of the products will require a ferro-molybdenum process to create a different shipping container, you know, product.

So, in general, this, these, these apply to most of the mill area facilities. There's primary and secondary containment. The buildings with concrete floors and concrete stem walls and sumps within the containment, which will -- so that the process will be in primary containment, of tanks and pipes within these buildings. And then any sludge would fall onto the floors, which is the secondary containment, and flow into sumps and be pumped back into the primary.

The requirement, as Joe already mentioned, of secondary containment actually is that it has to be, the capacity has to be 110 percent of the largest primary vessel in that particular containment area. So.

There is required reporting and cleanup of releases and action to prevent recurrence. So when there is an upset, they have to phone us if it's above

the thresholds for rapid -- well, reporting. And then we have -- our inspector will be tracking that release. And it's their actions to clean it up quickly, confirm that it's cleaned up, and make sure that there's preventive actions taken to eliminate that source and prevent that exact type of release from happening again.

And then there's downgradient monitoring wells. These are backup for the monitoring or, sorry, for the containment system. If something gets into the monitoring wells that leads to the failure of the primary and secondary containment and -- and, but we have that level of -- it's kind of a -- the last line of defense to see if there is a contamination in the groundwater moving out, away from the facility. And if there is, they have to take appropriate response. And, what Joe said, there may or may not be enforcement, but there will be corrective action to fix the situation. Which, which in some cases means additional wells to pump groundwater and additional monitoring wells as seen.

Specific components that are -- fall well outside, that have their own kind of specific design and features, I'll just go over them briefly.

The coarse ore stockpile receives ore after it's gone through the primary crusher. And it's -- has

connected ponds to it. The pond and the coarse ore stockpile share a single synthetic liner. That is, the pad is on the liner. And then that same liner on the slope line outside of the limits of the pad goes into a lined pond. The pond, as with all single-lined ponds, has a 20-day pond evacuation with it.

Once again, this is not -- this pond will not be -- it's not designed for routine storage and process. In other words, it will just have stormwater in it.

The tailings thickeners. So right after the ore is crushed and goes over to the coarse ore stockpile and is sent through the grinding system and -- and then it goes through the flotation circuit. When it goes through -- after it goes through the flotation circuit, it separates the concentrate, which they then go and roast from the tailings.

The tailings is the spent ore that no longer holds any recoverable product for them. And that goes up to two large tailings thickeners. The tailings thickeners both have double synthetic liners with a leak detection system that is in between the two liners and has the material in the two liners to allow the -- any leakage to flow between the liners and be caught in the sump.

They have to monitor the leakage rate, if any,

and -- and the permit, that supplies leakage limits.

Once again, it's important to note that this is not leakage to the environment. This is still inside. At the point that it reports as leakage for this purpose, it's still being -- it's gotten through one liner, but it hasn't gotten through the secondary liner.

And the requirement to keep pumping that leak detection system significantly reduces the chance of any additional leakage going through the secondary liner, because it's not holding a lot of hydraulic head of solution.

The downstream furthest final containment at the mill site is the tailings thickener emergency overflow pond. That's known as TTEOP. It's a single synthetic liner, a 20-day evacuation limit. It has 110 percent capacity of a single tailings thickener. It's quite a large, 7 point something million gallons. At any rate, it, once again, is for upsets, nonroutine containment. And so it has a 20-day limit. It is designed to not normally contain process solution.

Going on from the tailings thickeners, go through tailings pipelines into tailings pipeline corridor which leads to the tailings storage facility, which I'll talk about next.

The tailings pipeline corridor is quite

lengthy. And along the way, there's -- there's the tailings pipelines, and then there's corridors reclaim pipelines, so we can reclaim water back from the tailings facility to the mill.

And if there's any releases from the tailings pipeline corridor, they report to three earthen emergency ponds, which, we think, since there's no actual liner in those, those would be reportable releases. And we -- they will have -- would be like any other release, they would have to clean up, report to us, and make sure that they put in place corrective actions to prevent further releases of that type.

The south tailings storage facility shown here is -- there's a little discrepancy about the acres. And I'll have to check my figures. But it's very large. It's approximately two and a half miles in the north-south direction and approximately a mile and a half in east-west once it's built to its full size.

It has a single synthetic liner throughout the entire containment area, which is beyond our minimum design requirements, although it is standard these days for what we require for tailings facilities.

On top of the liner, it has a drainage layer, 18 inches of drainage rock. And then it has a piping system within that drainage layer. And this, the

purpose of this is to drain the tailings that's going to be on top of that drainage layer. It's going to decrease the period of drain-down at closure, which is good for the environment. It's also going to decrease the -- how much water pressure there is that's in the liner and minimize that so that there's not as much water pressure. If there is a leak there, with less water pressure and less head on that liner, there's going to be less, less leakage.

Within that drainage layer, there are piezometers, which are basically pressure sensors, which are going to be able to measure how much water is in there. And there's limits in the permit for how much, how much water pressure can be in that area.

The embankment construction is -- everything I've said so far has been talking about the tailings basin where the actual tails are going to go. On the downgradient side of the tailings impoundment, which is basically the west and south sides, which is -- are the downhill locations, there is going to be an embankment. This embankment is actually going to be constructed of a coarse fraction of the tailings themselves. But not to worry. It's going to be -- that embankment is entirely on top of the liner and drainage layer. So the liner and drainage layer cover the entire footprint of the

embankment and the tails basin.

It will be a coarser fraction of the tailings, and -- and there will be piezometers also installed in that, in the drainage layer to ensure embankment stability. There are permit limits for that, too.

The material or the fluid that's lying in the drainage layer actually reports to two underdrainage collection ponds that are located here downgradient point of the tailings facility. They are double liners, double synthetic liners, with a leak detection system in between and leakage rate limits, also.

From there, the reclaimed solution is pumped back through the tailings corridor to the mill site. And there's also a barge out in the ponds in the tailings basin, which also pump reclaimed water back to the mill.

This -- I know you guys have been hearing about the north tailings facility. It is planned, the facility. However, it was not included in the application to us. It is -- this, this facility has a lifetime of 36 years. Sometime before they need to build the north tailings storage facility, they will have to submit an application for a permit model to us, and that will be another public noticed hearing. It will be a major modification of the permit. And we'll

have to review and approve that as a separate action.

Okay. Hydrology. This map shows projected groundwater contours at year 44. So at the end of processing, at the end of the facility, this is the projected groundwater contours.

It's quite similar to the current (indistinct). This project is located at the intersection of three hydrographic basins, the Pine Valley to the north, the Kobeh Valley to the east -- or west and southwest, and the Diamond Valley to the east.

Some parts of the facility are located in each basin. The mill site is located in the Diamond Valley basin, hydrographic basin. Parts of the PAG waste facility and the non-acid generating waste facility are in the Pine Valley. Other parts are in both the Diamond Valley and the Kobeh Valley. The tailings impoundment is located in the Kobeh Valley hydrographic basin.

I'd like to point out that the comparison of this hydrology with current, based on current monitoring from these monitoring wells that have been installed already and monitoring, it's quite similar on the contours to that, with a few exceptions.

Currently, there's a groundwater high right over the peak of -- right under the peak of Mount Hope. At this point, at year 44, there's a groundwater low

here, on pit dewatering. There's a small groundwater high that's in this area. There is a high, groundwater high here and kind of a saddle high going along here.

This is virtually identical to the current hydrology, the groundwater out here, and it's what separates the tailings down from the Diamond Valley hydrographic basin as this -- this is, like I say, a groundwater high, and these contours show a steep drop-off from here to underneath the tailings impoundment into Kobeh Valley. This is a much steeper drop-off than is currently the case, because of the Kobeh Valley well field, where they'll be dewatering, out here. But it's similar in shape. The groundwater directions is similar.

MS. SMITH: What's the contour?

MR. GRAY: Excuse me?

MS. SMITH: What's the contour over here?

MR. GRAY: The contour over here, I believe, is 100 feet.

MS. KITTRELL: Excuse me. Could you say your name for the record, please. We're recording.

MS. SMITH: My name is Christine Smith, and I asked what the contouring was on the Mount Hope Project hydrology protected groundwater elevation contours for year 44.

MS. KITTRELL: Thank you.

MR. GRAY: And it's -- and it's -- I believe, it's a hundred feet.

So this is the best slice about the monitoring wells. Because our goal is to have monitoring wells upgradient and downgradient of all potential sources of groundwater contamination at the site. And I'll get -- we're talking about major component here.

So you'll notice we have upgradient and downgradient wells. And on the tails, we have upgradient and downgradient wells around the waste rock disposal facilities and the mill site.

The upgradient wells are primarily to get base, baseline data before the line goes in, to make sure that we know what the -- what the natural water involvement is and downgradient, for comparison to see if there's degradation.

There is -- most of these wells are being -- are installed and are being monitored currently. So we actually know, for the downgradient wells, we know what the water quality is now as a baseline for them, too. So we'll compare going forward, the water quality.

And the permit includes 21 monitoring wells shown here, with quarterly analyses and reports to us. There's also an annual report to us that Joe mentioned

previously. Any degradation that's seen in drinking water standards of groundwater is prohibited. And it triggers reporting to us, required investigation and cleanup and source elimination.

My last slide is on the pit lake study. A pit lake is projected to form at the end of mining, which is going to happen in year 32. After year 32, they're just -- they're not going to be mining anymore, so they're not going to be dewatering the pit anymore. At that point, they'll switch to processing low-grade ore and the low-grade ore stockpiled. But the pit will begin to form.

And so I want to give you an overview of the regulatory framework before we launch into what the results of the pit lake study are.

There were no numerical water quality standards for pit lakes, because they are surface water that do not have a beneficial use designation. But the regulations say the pit lake cannot degrade groundwater. So the adjacent groundwater to the pit lake cannot be degraded by the pit lake's water quality. And, also, the pit lake itself cannot affect adversely the health of human, terrestrial or avian life.

So they have to demonstrate that they will not violate these regulatory requirements. They have to do

a guidance, geologic, hydrologic and geochemical testing data and make a pit lake, run a pit lake predictive computer model to predict what the pit lake quality, quantity and elevation will be, and then determine whether it's going to have a potential to adversely affect the human, avian or terrestrial life or degrade the surrounding groundwater.

So the rest that I want to talk about is what their predictions based on their pit lake model qualify. The pit lake, based on the mine plan, the pit lake, or the pit bottom elevation, the bottom of the pit is going to be at elevation 4700 feet. The ultimate pit south rim elevation is going to be at elevation 6800 feet. The pit, ultimate pit lake surface elevation will be -- it's predicted to be at a 5912 feet elevation.

So the prediction is for an approximately 1200-foot-deep pit lake that is approximately 900 feet, at the surface it'll be approximately 900 feet below the pit rim. So it'll all sit in the pit and will be quite deep.

It is predicted, predicted to fill quicker than -- slow, slowly fill the final (indistinct). It's supposed to take 200 years to fill 82 percent and then a thousand years to fill completely. Initially, it's pretty difficult for pit lakes to fill more rapidly

initially. These specific numbers are just what their computer model came up with.

The key, one of the key points from our perspective is they have determined that the pit lake is predicted to be a hydrologic sink. Now, what that means is that the groundwater surrounding on all sides of the pit lake is going to slope down towards the pit lake.

And this is like a lot of natural lakes. But the water table will slope down, which means, since water flows downhill into groundwater, there will be no groundwater flowing out of the lake, the pit lake, if this is true. The only outflow will be evaporation, which will be significant.

So you're basically having water flowing downhill from all sides into the pit lake, in the groundwater, the subsurface, to the pit lake and then coming up through evaporation. This means that the pit lake will have no potential to degrade groundwater, because there will be no groundwater downgradient of the pit lake.

So that, basically, addresses this search point.

Now, on to the actual pit lake quality and this point, can adversely affect the health of human, terrestrial or avian life. The pit lake model predicts

the pit lake will be neutral to slightly alkaline pH. It will not be an acid pit lake. And it will, in general, have very low metals concentrations. Except it will have antimony, cadmium and manganese, and these are the predicted highest values in the pit lake that are shown here.

So this, the screening level ecological risk assessment was conducted to determine if that pit lake quality is going to adversely affect human, terrestrial or avian life.

Well, for humans, they elected to restrict access. So there's not going to be -- in these risk analyses, you determine is there a pathway to use. As they determine, since they're going to keep humans out, there's no pathway. So that, that there's not going to be a significant risk, according to their predictions, for humans.

The livestock also is not intended to be in the pit lake. There's going to be a fence around it, which should keep out livestock, also. They, however, did look at the -- the toxicological data, and the predicted chemistry of the pit lake showed that there is a low to moderate toxicological risk for drinking, for livestock. Once again, the lake is not intended for the watering of livestock. So they concluded there is a low risk to

livestock.

Wildlife, and this would be whatever wildlife is either coming in, flying into the area and drinking water, or living in the area and drinking water, based on the studies of the indicator species, wildlife species that were analyzed, there is negligible toxicological risk for drinking, to them.

And I might add, this, the permit requires that whenever there's a major modification, any modification to the permit that would affect the pit lake quality, they -- and, also, each renewal of the permit, each five-year renew, they have to reevaluate the pit lake study and make -- because by then, we'll have -- we'll have better monitoring data and, you know, we'll -- they'll be able to incorporate. But the idea is through time the pit lake study should get more accurate, because they'll have better data.

So at this point, I'd like to open up to questions on the presentation. And like Jo Ann said, and so if you --

Do you want them to --

MS. KITTRELL: Yeah, just so that we can make sure that we have it recorded.

MR. GRAY: We'll have you go to the microphone, please, and state your name.

And then, after the question and answer period --

MR. PAGE: Well (indistinct). When were you talking about the PAG material and --

MR. HOLMGREN: Please state your name.

MR. PAGE: Oh. Mike Page.

And on the PAG material, you were talking about the runoff off of that going to a tailings pond or a holding pond?

MR. GRAY: A stormwater collection pond, yes.

MR. PAGE: Yeah, and then that was supposed to be within 20 days placed back and then piped. Did I understand you correctly that you are going to put that potential acid back into the operation?

MR. GRAY: Yes, into the mill circuit.

MR. PAGE: Oh, so you're actually going to be introducing the acid back into the mill operation?

MR. GRAY: That's correct.

MR. PAGE: Okay. Thank you.

MS. BAILEY: Hi. My name's Carolyn Bailey, and I have a question about your last slide.

MR. GRAY: This slide?

MS. BAILEY: Yes. Okay. What do you call the lake, the pit lake, that it won't get water coming from the outside because it's -- what's the name for that?

It's a sink?

MR. GRAY: A hydrologic sink, yes.

MS. BAILEY: Okay. A hydrologic sink. I'm confused. Because I'm the closest agriculture to that pit lake coming to the south. And my water level right now is probably about 5700 feet. So if I have 5700 feet, and that's at 59 at the top level of the water, that would drain towards me?

MR. GRAY: Well --

MS. BAILEY: I don't understand that.

MR. GRAY: Yeah. Let's -- let's go back.

MS. BAILEY: Okay.

MR. GRAY: This slide. So there is a groundwater level here. It's a little hard to see, but these are -- these two contours are lower than the surrounding contours. So everywhere around this, this depression, this low point, there -- there will be groundwater that's as -- at that higher elevation.

MS. BAILEY: I understand.

MR. GRAY: So.

MS. BAILEY: So you're talking about surface water, not --

MR. HOLMGREN: Talking about surface water.

MS. BAILEY: -- underground water, you're talking about surface water?

MR. GRAY: Well, the -- the pit lake surface will intersect, (indistinct) will intersect the -- the groundwater coming down into it. And so the water table is sloping down to the lake surface underground and subsurface from all sides.

MS. BAILEY: Okay. But could you go back to the next slide again.

MR. GRAY: I'm sorry.

MS. BAILEY: I mean the last slide, second to the last slide. Okay. So it says that the predicted ultimate pit lake surface elevation, 5912.

MR. GRAY: Yes.

MS. BAILEY: My water table at my well is at 5700 right now.

MR. GRAY: Right. But in --

MS. BAILEY: So wouldn't that mean --

MR. GRAY: In between, the water, the groundwater level is higher than 59. So the water would have to flow up out of the pit lake, however, that high, and then onto your -- and you can't do that. If this is correct, which it appears to be, so.

MS. BAILEY: On the surface, not underground?

MR. GRAY: No. Underground. Underground. The groundwater, yes.

MR. HOLMGREN: The only surface water is in the

pit.

MS. BAILEY: Surface water.

MR. HOLMGREN: The water in the pit is the surface water. But everything else (indistinct) is groundwater.

MS. BAILEY: Okay.

MR. GRAY: But for -- it flows from -- from the pit lake surface. So you have to go in the groundwater table --

MS. BAILEY: And comes back.

MR. GRAY: -- up over higher groundwater table and then down to -- that higher groundwater in between you and it will prevent it from flowing down to --

MS. BAILEY: Okay. I'll wrap my mind around that later, I guess.

MR. GRAY: Yeah. So this, this (indistinct) right here is higher. And this is groundwater that we're talking about, is there a pathway from the pit lake through the groundwater to -- to out here in Diamond Valley. The -- the water in the pit lake would have to go into the ground, subsurface, in this area and flow in the subsurface out here into the groundwater. To do that, it would have to flow up now to -- into -- pass this contour or this, pass this contour, which is higher than that contour and that contour, to actually

get over to the groundwater tunnel and flow down. If it got here, then it would be downgradient to your -- but it's going to be contained in a groundwater level in pit lake area.

MS. BAILEY: Okay. Isn't there a cone of depression?

MR. GRAY: In the groundwater, I mean --

MS. BAILEY: As far as the pit lake?

MR. GRAY: Yes. Yes. That's what -- that's kind of what we're talking about. The cone of depression means that it follows groundwater towards the pit lake, will flow -- if it's within that cone of depression, which is basically the area of this groundwater level, it will flow back towards the pit lake.

MS. BAILEY: Okay.

MR. GRAY: Not away from the pit lake.

MS. BAILEY: Okay. I feel like I'm downgradient on that waterwise, so. I'll have to wrap my head around that.

MR. GRAY: You are now. Because, right now, there is a groundwater high right under the summit where Mount Hope is proper, and there isn't any pit dewatering, and there isn't a pit lake here. But that will change when -- when the pit is put in. First of

all, it's going to change because they're going to dewater the lake in the pit while they're mining. And afterwards, that pit lake, all the evaporation is going to be coming up out of that, that pit lake, essentially meaning the pit lake is going to be sucking groundwater down to it from all sides. And that is actually what prevents most pit lakes from degrading the groundwater.

We do have some pit lakes that are not hydrologic sinks. They're connected to an aquifer that goes straight under, you know, through the bedrock. But the prediction here is it will -- it will not be that case, it will be a cone of depression.

MS. BAILEY: A tiny little (indistinct)?

MR. GRAY: Yes. Well, I mean it will --

MS. BAILEY: Not big enough to affect me?

MR. GRAY: That's -- that's correct. I don't believe the pit lake itself will (indistinct) affect you.

MS. BAILEY: Thank you.

MR. BUGENIG: Hi. For the record, my name's Dale Bugenig. I'm a hydrogeologist and certified (indistinct) manager, works for Eureka County.

Just a couple of questions that I have on (indistinct). But you said that, regarding the monitoring well locations, most are existing. You indicated there are 21. How many new wells are

MR. GRAY: Thank you.

MS. KITTRELL: Does anybody, does anybody else have any questions before we move to the public comment period?

MR. TIBBITTS: Like before, Jake Tibbitts, with the county. I have no questions on it. So I don't know how you'd like me to go about that.

MR. HOLMGREN: Questions now, comments later.

MS. KITTRELL: Let me just interrupt you for a minute.

Does anybody else have any questions before we go to the public comment part of the public hearing today?

Then, then, please proceed.

And just to remind you, sometimes somebody's comments might make you realize that you have a comment as well. We really want all of your comments. So please feel free to fill out a request to comment card, and we'll make sure that your comments are part of the public record.

Thank you.

MR. TIBBITTS: So, first, Christine actually addressed all of the comments that I had related to the non-acid generating waste rock disposal facility. (Indistinct) the EIS (indistinct) now because of a

reasonable alternative because of being placed in the pit that had been a possibility of degrading the waters.

So, I think, Christine's comment is very valid here, that if that same waste rock, when placed outside the pit, has the potential to degrade waters when placed in the pit (indistinct).

UNIDENTIFIED MAN: (Indistinct.)

MS. KITTRELL: Would you please identify yourself.

MR. TIBBITTS: Another thing, we have a concern related to the geology of Mount Hope and the lack of acid neutralizing capacity. We do not believe that the analysis is adequate to conclusively make the determination that there will not likely be acid generation, acid runoff or acid drainage. From our expert review, we believe that acid generation is possible in the pit lake and has a higher likelihood in the potentially acid generating disposal facility.

Without sufficient neutralizing ability, there is the potential for long-term water quality issues that must be addressed now to ensure enough financial funding is available and management options are contemplated to address this potentially perpetual problem. Our concerns with the potential acid generation are related to the geochemical modeling effort.

We are concerned with how dissolved oxygen was handled in the model. To elaborate, the dissolved gas, carbon dioxide, was reasonably set fixed to sub-atmospheric equilibrium partial pressures. This was in contrast to dissolved oxygen, which instead of setting it fixed to a sub-atmospheric partial pressure, was tied to a fixed oxidation reduction potential, which is called "pe." This was done because setting the dissolved oxygen as an equilibrium phase resulted in extreme pe values that are generally not reflective of natural systems. However, this modeling effort also resulted in dissolved oxygen concentrations that are generally 30 to 40 orders of magnitude less than would be predicted in a pit lake open to the atmosphere.

Other potential modeling -- another potential modeling concern is that it was assumed that all of the ore and reactive sulfides would be removed during mining operations and that these ore materials would not react with groundwater and surface water filling the lake. It is highly unlikely that all of the sulfides exposed during mining operations will indeed be removed.

Additionally, exposure of these sulfides to dissolved oxygen, at concentrations indicative of most surface waters, would result in additional acid generation, metal leaching, and reductions in the

absorption of trace elements into the precipitated solids.

During the sensitivity analysis, this concern was partially addressed through the use of groundwater inflow indicative of water quality collected from a well installed in the mineralized zone of the ore body, which resulted in significantly lower pH and generally higher metals concentration. Although direct oxidation of sulfides was not considered, the use of this groundwater may provide an indication of direct ore interaction with the resulting pit lake, provided the groundwater system is at a similar redox state as that expected for surface water.

Additionally, we fully recognize that predicting the volume of such remaining sulfides is problematic, but some attempt to quantify the impact of any remaining acid generating material should be considered in the context of oxygenated waters.

In addition to these questions raised above, the sensitivity analysis indicates that the predictive pit lake geochemical model is sensitive, some larger than others, to the scaling factor used, early and late stage leaching results, and the occurrence of mineralized water from the ore body. Whatever the outcome of the model, it is our request that significant

monitoring effort be employed to assess the lake geochemistry, once mining operations have ceased, and that funding be reserved for correction, corrective actions that may be required.

Additionally, one mining -- once mining operations begin, the dewatering chemistry should be tracked and the model revised, incorporating these real data, providing the mine, NDEP, and the people of Eureka County better foresight into how this system may look after mining operations have ceased.

Additional efforts into quantifying the impacts of the effects of realistic dissolved oxygen concentrations within the pit lake and how this may affect pit lake geochemistry and potential sulfide oxidation should be considered, or at least the assumptions employed better, explained further and in more detail. At this time, it is unknown as to whether such efforts will or will not result in a significant departure from the conclusions presented in the modeling. And we request further evaluation and discussion.

And I discussed earlier that I have multiple comments, and they have to do with the county. And I don't know if there is a time frame that you want to do that, but I just decided that I would just provide them

all.

MS. KITTRELL: Please proceed.

MR. TIBBITTS: Another thing that we feel is lacking is a nexus to water quality resulting in groundwater drawdown that impacts the surface waters. Specifically, potential decreases in riparian and wetland vegetation are known to directly have an impact on water quality, including increased silting, sedimentation, temperature, and pH.

Some of the mitigation that is going to be required has been stated in the EIS BLM has -- whether it's a dry-out or a decline in surface water flows or discharge of groundwater (indistinct), to ensure (indistinct) that quantity exists (indistinct) issues.

In the draft permit, it talks about water that exceeds the -- I can't remember the exact term -- Profile 1 would be allowed to be applied as -- for dust suppression. And, I guess, I have a comment concerning that many of the waters, or many of these waters may exceed that Profile 1. Dust suppression needs to occur for decades. 44-plus years. Some of those heavy metals and other constituents, do they not accumulate over time? And what happens when you have a large precipitation event, when you've been applying this material for dust suppression? And so we feel that

needs to be addressed.

Another question is the baseline water quality that they compared the project to. It is not clear to us who established this baseline. Was the data (indistinct) or by NDEP, or was it taken at face value?

I think, this was discussed some. And we're not quite clear on the different modifications that may come to the permit. It was discussed as major modifications with a public process, but also there may e some minor modifications. And we weren't clear if that would be done through a public process or something (indistinct).

There's also many things that are kind of kicked down the road to come later. One of them is by 2015, they're requiring a report analysis of cover material that will be used at the PAG facility. There are other minor modifications that happen, also the north tailings storage facility, which wasn't part of their application but is part of the operations the BLM has analyzed and has analyzed as will have to occur. And what kind of public process is that (indistinct).

There are areas in Nevada and within the BLM district that people are currently operating in that have experienced acid drainage from mining facilities. And would the requirements in place on them have

engineering in place at the facility have been sufficient, if this were a different facility (indistinct) have been sufficient to prevent acid generation and drainage?

In the monitoring provisions, (indistinct). It's under D, monitoring requirements. I'm talking specifically about the foundation drains. And these are areas that the county's particularly concerned about related to the acid drainage I spoke about earlier. Where the monitoring will be looking at flow and no flow. So if there is flow encountered (indistinct. If there is flow, that would be a trigger to establish the Profile 2 monitoring, which will be then done accordingly.

And it makes little sense to us to require weekly monitoring for each flow when we know that the flow coming from the facilities will fluctuate according to precipitation events and other things, but then to only have quarterly constituent monitoring that's going to give us (indistinct), such as when you're checking the (indistinct).

The permits, and that would be the fact sheet for sure, talk about all -- it said nearly all of the surface waters near the site are ephemeral. So they only flow during high precipitation events.

Yet many of those springs near that area have certificated water rights that could be put to beneficial use (indistinct) flow (indistinct).

We believe, based on some of the historical data and photos that we have of the pinion-juniper infill and expansion that's taken place up there may have a significant affect on those springs flowing today. So we need to take into account there's going to be a large amount of pinion juniper removed from that site. Potential water (indistinct) springs that (indistinct).

So the engineering taking place in some of those springs for the underdrains and collection (indistinct), we need to take into account higher flows and other baseline (indistinct), because those trees will be removed.

A good example of what's going on in Nevada is at the Smith Creek Ranch Porter Canyon watershed in Nevada, which does show that (indistinct) provide an essential amount of water to the surface waters.

One other comment, it talks about that the applicant can ask for adjustments in the different elements of monitoring after collecting four quarters of complete monitoring. They can't base that justification of cost.

And I'd like you to address -- does the mine complete monitoring so it's (indistinct) that means four quarters complete monitoring, the entire table for monitoring at different (indistinct). And then again, if there's adjustments in that, we request a public process to make sure that the public concerns are addressed if there are any changes (indistinct).

And, I think, this is my last comment.

It talks about the different requirements for the mined materials. And it -- much of this has to do with the static testing, the kinetic testing, the (indistinct) water (indistinct), low-grade ore procedure.

And what it establishes is that this procedure for the low-grade ore, of course, the PAG facilities will be monthly for any quarter generated. And so the mine that has a design (indistinct) 80,000 tons a day of material in a month's period, that's 2.4 million tons that will be mined. And within one month, one measurement is taken.

And it talks about the static testing. The static testing, 30 days for acid generating material. Then the kinetic testing, and that's at 20, a minimum of 20 weeks. And if that comes back positive, then you also have 30 days to address the issue.

And we feel there should be some way to streamline that, I find that, I know that kinetic testing does take time. But if you take that into account, the 30 days, plus the 20 weeks and then the 10 additional days for the static testing, that's six months. And so if there's really issue out there, it's going to take us a long time to (indistinct) it and make changes.

So we feel that monitoring frequency should be expanded to be more than one month. And we also feel that there should be some way to streamline that, that process (indistinct).

Thanks.

MS. KITTRELL: Thank you, Mr. Tibbitts.

Now, Dale Bugenig ("BUJ-n-ig").

MR. BUGENIG: Again, for the record, my name's Dale Bugenig ("BOO-gin-ig").

MS. KITTRELL: Oh.

MR. BUGENIG: (Indistinct.) It comes back a lot worse than that sometimes.

But I work for Eureka County. And I'd like to go back to monitoring, groundwater monitoring program for a minute, and particularly how -- curious as to how the monitoring wells were selected.

Now, the Mount Hope Project is in the

mountains. It's in fractured rock terrain. Hydrology in fractured rock terrain is, to say the least, a little more complicated than an alluvial situation, where things like and (indistinct) and fracture densities and orientations and stuff have a huge impact of the actual groundwater flow direction, which may be dramatically different than the hydro gradient.

So that it's extremely important that the locations of monitoring wells be very, very carefully selected, so that you can have a little bit of confidence that that well could actually detect a release from a particular area of the project. And if you detect something, you can figure out where in this 9,000-acre area the release might be occurring.

And I would like to see the documentation that supports the decision to use these existing monitoring wells report in lieu of new wells that did, in fact -- their analysis shows that a well has the location or is located so that it has a reasonable chance of detecting a release that's occurring. But I think that it has to be very carefully looked at.

I know, in other jurisdictions where the level of analysis is, quite frankly, a level that is almost overwhelming, because it can be -- the complexity of these fractured rock terrain makes it very difficult to

be able to understand whether that well is in the right location or not.

The other thing, I think -- and I appreciate Mr. Gray's presentation. I thought he did a really good job.

I think, one of the things that gets lost here is that the groundwater flow model that was done on behalf of the mine show generally the area south of the Mount Hope Project upwards of 1200 acre-feet of groundwater flow from Kobeh Valley through the bedrock in the east despite the presence of groundwater divide. There is calculated to be a fairly significant groundwater flow component, so that your monitoring network really needs to take that into account.

And I realize it's no easy task to identify wells that would be useful. But I think you need to recognize that relatively significant intervasive flow through that generally (indistinct) the south end of their site.

Thanks.

MS. KITTRELL: Thank you.

Is there anybody else that would like to make a public comment tonight?

MS. BAILEY: Hi. I'm Carolyn Bailey. And I'm a rancher and farmer. And we have the private property

that is closest to this project in two directions, to down (indistinct) and also to the south.

I want to thank Bruce Holmgren and Tom Gray for accepting the comments that I sent them already, 30 some pages. I hope you guys read my comments.

And the other thing I want to do is talk about the video that I posted on YouTube, which is of flash flooding that happened on August -- I think, it was August 12th, 2012, coming from Mount Hope mine. And I would invite anyone that's interested to go onto YouTube, and the videos are called "Flash flooding, Garden Pass, Mount Hope" or "Flash floods in Garden Pass," comma, "Mount Hope," then parenthesis, number one, two, three, four and five. And they are graphic video of flash floodwaters coming down Garden Pass in the Mount Hope area into that valley.

So if you haven't seen those videos, I would like you to look at them. And I believe that that needs to be addressed.

As far as in my comments, I point out that I think there's a big difference between a flash flood and a 24-hour, 100-year storm event, which I go into some detail in my comments.

Thank you.

MS. KITTRELL: Thank you.

## CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of January, 2013, I caused a copy of the foregoing ***Opening Brief on Appeal*** to be sent via electronic mail and deposited for mailing, postage prepaid, to the following:

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