BLM

Stillwater Field Office, Nevada

FINAL ENVIRONMENTAL ASSESSMENT

Fluid Mineral Leasing within Six Areas of Churchill, Lyon, Mineral and Nye Counties, Nevada on the Carson City District

Finding of No Significant Impact

DOI-BLM-NV-C010-2014-0013-EA

U.S. Department of the Interior
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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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Background

BACKGROUND

Oil and Gas Leasing

Oil and gas resources generally include oil, oil shale, native asphalt, solid and semisolid bitumen, and bituminous rock (including oil-impregnated rock or sands from which oil is recoverable only by special treatment after the deposit is mined or quarried) or gas (excepting helium). Oil and gas resources in federal lands are subject to lease under the Mineral Leasing Act of 1920, as amended and supplemented (30 United States Code [USC] 181 *et seq.*), and the onshore oil and gas leasing regulations (43 Code of Federal Regulations [CFR] 3100).

After a lease has been granted, it is reasonably foreseeable that the operator may propose subsequent exploration and development activities for Bureau of Land Management (BLM) approval. These would require BLM authorization and, if necessary, environmental review. For exploration other than casual use activities, the operator must file an exploration permit that identifies, among many things, the areas to be explored and the method of exploration. When the operator has filed this permit with the local BLM office, the Proposed Action in the exploration permit undergoes environmental analysis and review under the National Environmental Policy Act (NEPA) to determine if there are any environmental conflicts in the area to be disturbed. If so, the BLM may, at its discretion, approve or disapprove the permit or modify it by requiring additional mitigating measures. Should the operator not be willing to accept the decision, the permit can be modified and resubmitted, or the decision can be appealed.

The development phase occurs when the operator has located a potentially economic reservoir. The operator must file an operations plan to describe how an operator will drill for and test the oil and gas resources covered by the lease. The action proposed in the operations plan would undergo environmental analysis and review by the local BLM office to evaluate the possible environmental impacts of the action. If environmental conflicts are likely to occur, the BLM may again approve, modify, or disapprove the plan.

Barring abandonment of exploration and development wells, the final phase of this process is the creation of, for example, a production well. After the appropriate paperwork is filed with the local BLM office, the Proposed Action again undergoes the approval process. Should this drilling operation result in producing wells, continued monitoring would be required to check for any hydrocarbon spills resulting from leaking pipelines, overfilled tank batteries, or tanker truck spills. This area would need continued monitoring to ensure safety for people, livestock and wildlife.

Oil and gas exploration and production upon BLM managed land are conducted through leases with the BLM and are subject to terms and stipulations to comply with all applicable federal and state laws pertaining to various considerations for sanitation, water quality, wildlife, safety, and reclamation. Stipulations may be site specific and are derived from the environmental analysis process.

All lands available for oil and gas leasing are offered for competitive oral bidding. The BLM Nevada State Office is required to hold sales for such lands at least quarterly. At least 45 days before a competitive auction, lands to be offered for competitive lease sale are posted in the

Nevada State Office. At the day of the auction, the minimum acceptable bid of $2 per acre, total first years rental and a $75 administration fee must be paid. The remainder of the bonus bid for each parcel is due within 10 working days. The lands offered in leasing units will be a maximum of 2,560 acres per lease. Only lands that have been offered competitively and receive no bid are made available for noncompetitive leasing. Lease offers are not made for less than 640 acres and may not include more than 10,240 acres. Leases are issued for a primary term of 10 years. The amount of rental for leases will be $1.50 per acre for the first 5 years of the lease term and $2 per acre for any subsequent year. A royalty rate of 12.5 percent on all leases is required on the amount or value of the production removed or sold.

Geothermal Leasing

A geothermal lease is for the earth's heat resource where there is federal mineral estate. Geothermal resources are underground reservoirs of hot water or steam created by heat from the earth. Geothermal steam and hot water can reach the surface of the earth in the form of hot springs, geysers, mud pots, or steam vents. These resources also can be accessed by wells, and the heat energy can be used for generating electricity or other direct uses, such as heating greenhouses and aquaculture operations or for dehydrating vegetables. Geothermal resources on federal lands are subject to lease under the Geothermal Steam Act of 1970, as amended (30 USC § 1001, et seq.), and geothermal resource leasing regulations (43 CFR §3200).

Developing geothermal resources on federal lands involves four phases; leasing, exploration, development/operation and close-out. The first phase is to issue a lease. Leasing of geothermal resources confers an implied right to the lessee to explore and or develop the geothermal resource. The act of leasing does not directly result in surface disturbance activities; however ground disturbance would occur during the second phase, exploration and phase three, development. Phase four, close-out, would involve removing facilities and reclaiming the site. The BLM would require a separate site-specific environmental analysis for exploration, development/operation, and close-out phases.

Geothermal leases are usually issued for a ten-year period. Once a geothermal resource is developed within the lease area, the lease allows the lessee use of the resource for up to 40 years. Leases are initially issued through a competitive process. Only lands that have been offered competitively and receive no bid are made available for noncompetitive leasing. Most lease applications are for a minimum of 640 acres.

Land Use Plan Conformance

The proposed action and alternatives described below are in conformance with the Carson City Field Office Consolidated Resource Management Plan (CRMP) of May 11, 2001. Management Actions/Decisions found on:

- Page #MIN-1, RMP Level Decisions, Desired Outcomes, 1. Encourage development of energy and mineral resources in a timely manner to meet national, regional and local needs consistent with the objectives for other public land uses
- Page #MIN-5, Standard Operating Procedures: Leasable Minerals, 5. Oil, gas, and geothermal exploration and production upon BLM land are conducted through leases with the Bureau and are subject to terms and stipulations to comply with all applicable

federal and state laws pertaining to various considerations for sanitation, water quality, wildlife, safety, and reclamation. Stipulations may be sit specific and are derived from the environmental analysis process.

Finding

This finding and conclusion is based on the consideration of the Council on Environmental Quality's criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts described in the EA.

Based upon the analysis in the EA# DOI-BLM-NV-C010-2014-0013-EA *Fluid Mineral Leasing within Six Areas of Churchill, Lyon, Mineral and Nye Counties, Nevada on the Carson City District,* it is my determination that the implementation of the Proposed Action will not have significant environmental impacts and that the Proposed Action is in conformance with the CRMP adopted in 2001. I have determined that the Proposed Action is not a major federal action, and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. Therefore, an environmental impact statement is not necessary and will not be prepared for the Proposed Action.

Context:

The project area resides in a high-desert environment characterized by arid to semiarid conditions, bright sunshine, low annual precipitation, and wide daily ranges in temperature. The terrain consists of expansive valleys containing playas and dunes surrounded by steep mountainous areas shrouded by alluvial fans. Elevations range from 3,000 feet above mean sea level (amsl) to 9,000 feet. The climate is controlled primarily by the rugged and varied topography to the west, particularly the Sierra Nevada Range. Prevailing westerly winds move warm, moist Pacific air over the western slopes of the Sierra Nevada Range where the air cools, condensation takes place, and most of the moisture falls as precipitation. As the air descends the eastern slope, compressional warming takes place resulting in minimal rainfall. Annual precipitation in the area of the Proposed Action is greatest in the mountains and least in the valleys. The higher elevations (above 8,000 feet amsl) may receive up to 25 inches of precipitation annually and the lower elevations (below 6,000 feet amsl) can receive less than 10 inches annually (PRISM precipitation map of Nevada, Oregon State University Spatial Climate Analysis Service 2002).

Wabuska Lease Area

The Wabuska Lease Area is centered on the settlement of Wabuska, about 12 miles north of Yerington, Nevada. The lease area is located directly northwest of the Mason Valley Wildlife Management Area and contains a portion of the Desert Mountains, Adrian Valley, and Mason Valley. Elevations range from just less than 4,300 feet amsl in the lowlands within valley areas to 5,740 feet in the Desert Mountains. Vegetation includes shadscale in higher elevations, salt desert shrub in intermediate elevations, and barren playa in low elevations. Emergent riparian species surround the Mason Valley Wildlife Management Area. Some of the southern portion of the area consists of active agricultural fields.

Fallon Lease Area

The Fallon Lease Area is located predominantly within the Lahontan Valley. The Lahontan Mountains are in the southeast corner of the lease area. The northern extent of Carson Lake, and Soda and Little Soda Lakes are in the northwest corner along with the Carson River. The City of Fallon is in the north central portion where Alternate U. S. Highway 95 and U. S. Highway 50 bisect. The Fallon Naval Air Station is in the central portion of the lease area and the northwest corner of the US Naval Reservation is located in the southeast corner and the northeast corner borders the Stillwater National Wildlife Refuge. The Fallon Paiute-Shoshone Tribe/Indian Reservation is in the northeast portion of the lease area on the northern boundary. The entire lease area is located within Churchill County and is 139,412 acres in size; approximately 50% is managed by the Bureau of Reclamation (BOR) and BLM, and 50% is private land. Elevations range from 3,905 feet amsl in the Lahontan Valley and the highest is 4,448 feet in the Lahontan Mountains at Salt Wells Mountain.

Dixie and Edwards Creek Valley Lease Area

The Dixie and Edwards Creek Valley Lease Area is located within portions of Dixie Valley north and east of Job Peak on the southwest end, east of the Humboldt Salt Marsh and interfacing along the alluvial fans west of the Clan Alpine Mountains and a small area north and west of Boo Spring, the northeast point of the Clan Alpine Mountains at the Augusta Mountain interface, the majority of Edwards Creek Valley at the interface of the east side of the Clan Alpine Mountains, the west side and portions of the New Pass and Desatoya Ranges on the east side to the Churchill and Lander County line, excluding the New Pass pass and New Pass Mine. The lease area is 423,346 acres in size, approximately 90% is on federal lands and 10% is privately owned. Elevations range from just less than 3,365 feet amsl in the lowlands of Dixie Valley, 5,052 feet in the lowlands of Edwards Valley to the highest elevation of 9,002 feet in the Desatoya Range in the eastern most portion of this lease area. The area is watered by west facing slopes draining into both valleys. Edwards Creek Valley contains an extinct lake bed. Vegetation ranges from near-bare playa flats, salt desert scrub, sagebrush communities and pinyon and juniper woodland within higher elevations.

Gabbs Valley Lease Area

The proposed lease area is located within Gabbs and Lodi Valleys, Lodi Hills, the west central area including Downeyville and northern end of the Paradise Range, southern edge of the Sand Springs Range including Big Kasock Mountain, southern most Fairview Valley and the majority of the Monte Cristo Mountains including Mount Annie, Fissure Ridge and Black Hills within portions of Nye and Mineral Counties. The majority of the northern boundary of the lease area is the Churchill and Mineral County boundary until it diverges at the Churchill and Nye County line. The lease area is 379,088 acres in size and approximately 90% is on federal lands and 10% is privately owned. Elevations range from 4,100 feet amsl in Gabbs Valley, to the highest elevation of 7,543 feet in the Paradise Range followed by Big Kasock Mountain at 7,142 feet in the Sand Springs Range. Sand dunes are prominent on the north, west and southern edges of Gabbs Valley. Water resources were identified by the examination of topographic maps. Hot and cold springs, and developed wells would indicate the presence of water subsurface in the dry alkali valleys within the lease area. The subsurface water is recharged by the runoff from the various range and hills surrounding the valleys including several washes (Nugent, Phillips, Gabbs and Finger Rock). Vegetation ranges from Great Basin desert shrub communities (salt

desert scrub, greasewood, and sagebrush) to scattered junipers at mid to higher elevations. Riparian plants have been identified near open cold springs or previously developed hot springs.

Teels Marsh Lease Area
The Teels Marsh Lease Area includes the Teels Marsh surrounded by the Excelsior Mountains on the northern boundary and hills on the west side of the marsh and lease area and the Candaleria Hills on the east and south sides within Mineral County. The lease area is 46,826 acres in size and approximately 90% is on federal lands and 10% is privately owned. Elevations range from 4,920 feet amsl in the Teels Marsh to the highest elevation of 7,854 feet in the Excelsior Mountains. Run off from the Excelsior Mountains and surrounding hills drain into the marsh. Springs were noted on the topographic maps within and on the outer edge of the southern boundary of the lease area. Vegetation ranges consist of salt desert scrub, greasewood flats with some barren sand dunes and playa margins, sagebrush and perennial communities, grasslands within the lowlands with pinyon and mountain mahogany at the higher elevations.

Rhodes Salt Marsh Lease Area
The Rhodes Salt Marsh Lease Area is located on the south end of Soda Spring Valley including the Rhodes Salt Marsh and the east side of the area is the southwest extent of the Pilot Mountains all located within Mineral County. Tonopah Junction is located in the west side of the lease area south of Sodaville along alternate Highway 95 and State Route 360. The lease area is 45,738 acres in size and approximately 90% is on federal lands and 10% is privately owned. Elevations range from 4,316 feet amsl in the Rhodes Salt Marsh to the highest elevation of 7,507 feet in the Pilot Mountains. Run off from the Excelsior and Pilot Mountains and the Candaleria Hills drains into the marsh on the west side of the lease area. Springs were noted on the topographic maps within the marsh, in the upper northeast corner of the lease area. Vegetation ranges consists of salt desert scrub, greasewood flats with some barren sand dunes and playa margins, lowland riparian located within the marsh proper, sagebrush communities and pinyon/juniper at the higher elevations.

Intensity:
The following discussion is based on the relevant factors that should be considered in evaluating intensity as described in 40 CFR 1508.27:

1) *Impacts that may be both beneficial and adverse.*
I have determined that none of the direct, indirect or cumulative impacts associated with the Proposed Action (as analyzed in Chapter 3 of the EA) are significant, individually or combined.

There would be a beneficial impact to the economy of the affected counties, as well as serving the energy needs of the United States if oil and gas leasing is successful and if subsequent exploration and development would occur as a result of the leasing within the Carson City District Office. Any potential adverse impacts that could occur during the exploration and development as a result of fluid mineral leasing would be mitigated during site specific environmental analysis of that proposal.

The Proposed Action is the issuance of fluid mineral leases and is classified as non-surface disturbing type of activity.

All of the impacts are described and analyzed in detail in Chapter 3 of the EA.

2) *The degree to which the proposed action affects public health or safety.*
The proposed action to make lands available for fluid mineral leasing would not adversely affect public health or safety. The project and its potential effects on the human environment are not highly uncertain and do not involve unique or unknown risks.

The Proposed Action is to issue leases for fluid mineral resources within the six areas analyzed in the EA. This is non-surface disturbing type of activity. However, it is reasonable to expect resource exploration and development which could affect public health or safety but those types of activities would be subject to further environmental analysis when considered. These types of issues would be addressed through conditions of approval for such actions.

3) *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*
The BLM Interdisciplinary Team scoped the Supplemental Authorities and Resources other than Supplemental Authorities to determine if they were present and if so, whether they may be affected by the Proposed Action. These resources were evaluated in Chapter 3 of EA# DOI-BLM-NV-C010-2014-0013-EA.

The assessment area is representative of the northern Basin and Range physiographic province vegetative condition and ecological functionality. Unique characteristics of the project area include pinyon forest in the northern Stillwater Range in the Buena Vista Valley Lease Sale Area which has been utilized by generations of Native Americans for pine nut harvesting. The Stillwater Range includes one Traditional Cultural Property (TCP) which is listed on the National Register of Historic Places (NRHP) as well as several other unevaluated TCPs. Four hot springs in the project area are also considered sacred by Native American Tribes. The lease areas also include numerous archeological sites, several of which have been determined to be eligible to the NRHP. There is also a recommended National Register Eligible District in the Double H Mountains Lease Area. There are also sage grouse nesting, brooding, and rearing habitat in the Double H Mountains Lease Sale Area.

There are no park lands, prime farm lands, wild and scenic rivers or ecologically critical areas in or near the sites proposed.

Known cultural resources are located in such a fashion (size, density and placement) that avoidance is feasible during development of fluid mineral resources. The potential for locating additional cultural resources within the six proposed lease areas ranges from low to high. The Fallon and Teels Marsh Lease Areas are expected to have the highest potential to contain unknown cultural resources. A no surface occupancy restriction is stipulated in the Carson City District Office CRMP (2001) for areas with the highest potential for unknown cultural resources within the Fallon Lease Area. The remaining lease areas are expected to have a high to moderate potential to contain unknown cultural resources. It is considered highly unlikely that the Proposed Action would have an adverse effect to historic properties. Prior to any placement of

equipment or personnel onsite, a full inventory of all proposed sites will be conducted in accordance with provisions outlined in the Nevada State Protocol Agreement between the BLM and State Historic Preservation Office.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*
Although the effects on the quality of the human environments of fluid mineral leasing are well known and documented in other parts of the country, they are not well known within the state of Nevada, and specifically within the jurisdiction of the Carson City District Office. Leasing of fluid mineral resources is a non-surface disturbing action and the effects on the land are not likely to be controversial.

The EA was scoped internally by BLM resource specialists in February 2014 and externally scoped to the public in April 2014.

Comments were accepted on the *Fluid Mineral Leasing within Six Areas of Churchill, Lyon, Mineral and Nye Counties, Nevada on the Carson City District* Environmental Assessment (EA), DOI-BLM-NV-C010-2014-0013-EA, for a 30 day period from April 10, 2014 through May 10, 2014; although comments received in a timely manner after this date were also considered.

The Carson City District published a news release on April 10, 2014 that was sent to media outlets listed on the Nevada BLM State Office media list. Scoping letters detailing the content of the EA were sent out to Churchill, Lander, Lyon, Mineral, and Nye Counties on November 19, 2008. The Bureau of Reclamation was issued a preliminary copy of the EA on December 11, 2009. The Fallon Paiute-Shoshone Tribe, Walker River Paiute Tribe, Yerington Paiute Tribe, Yomba Shoshone Tribe and Timbisha Shoshone Tribe were notified of the proposed lease sale via certified letter on October 29, 2008, and the Fallon Paiute-Shoshone Tribe were notified of additional lease parcels on February 25, 2014. Comments were received from the BOR (see letter of December 17, 2008 in Appendix B) as a result of scoping. Representatives from Lander, Lyon and Nye Counties indicated that they had no comments or concerns. Notification of the availability of the EA to 88 other State and federal offices was made through the Nevada State Clearinghouse on April 10, 2014.

Comment letters were received from 9 individuals, State agencies, Federal agencies and non-governmental organizations by email, fax or mail. Organizations included the American Wild Horse Preservation Campaign and Friends of Nevada Wilderness. State agencies that commented include the State Land Use Planning Agency, the State Lands Office, the Nevada Department of Wildlife and the Nevada Division of Water Resources. Federal Agency comments were received from the Environmental Protection Agency. The two individuals that commented were Ms. Kathleen Gregg and Sherry Oster. Minor non-substantive changes were made to the EA as a result of the individual letters (noted in the response tables).

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*
There are no known effects of the proposed action identified in the EA which are considered uncertain or involve unique or unknown risks. Fluid mineral leasing and subsequent exploration

and development are specifically regulated and follow accepted standard operating procedures and best management practices.

The analysis provided in the EA does not indicate that this action would involve any unique or unknown risks. Relevant components of the human environment which would be either affected or potentially affected by the Proposed Action and other alternatives were addressed through the effects analyzed in Chapter 3 of the EA.

6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*
The proposed action of leasing fluid mineral resources does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. All future fluid mineral exploration and development proposals, if they occur, would be subject to site specific environmental analysis and independent decision making.

The Energy Policy Act of 2005 supplemented and amended the Mineral Leasing Act of 1920, and the Geothermal Steam Act of 1970 and new regulations for the implementation of the new Act are approved. The issuance of a lease does not confer on the lessee the right to explore for or develop geothermal resources beyond the level of casual use. As a result, there are no direct impacts resulting from the issuance of geothermal leases.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*
No significant cumulative impacts have been identified in the EA. The proposed action seen together with other land disturbing activities on-going in the area would not result in cumulatively significant impacts at the local or watershed scale.

Direct and indirect impacts of the Proposed Action were analyzed in Chapter 3 of the EA. None of the environmental impacts discussed in detail in Chapter 3 of this EA are considered significant. Past, present and reasonably foreseeable future actions have been considered in the cumulative impacts analysis within the EA. The cumulative impacts analysis examined all of the other appropriate actions and determined that the proposed action would not incrementally contribute to significant impacts.

Subsequent actions for fluid mineral resource exploration and/or development would be evaluated for cumulative impacts in associated environmental analysis and would be addressed through mitigation of the proposed future action and conditions of approval.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources.*
Several districts, sites highways, structures or objects listed in or eligible for listing in the NRHP were identified in the project area and EA. Appropriate stipulations have been identified and applied to the lease areas and any future nominations would be subject to the stipulations that have been identified in the EA.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.*

Rhodes Salt Marsh Lease Area's eastern boundary is within 1 mile of Blue Link Spring which houses the endangered Hiko White River Springfish. The southeastern and southwestern portions of the Fallon Lease Area could contain potential habitat for the endangered southwest willow flycatcher. As described in the EA, no other known threatened or endangered species or critical habitat has been identified in the six lease areas considered in the EA. The issuance of leases for oil, gas or geothermal resources is non-surface disturbing and any future exploration and development actions would be evaluated in a future environmental analysis for the future project.

Therefore, there would be no significant adverse impacts to threatened, endangered, or Nevada State sensitive species or associated habitat within the assessment areas.

10) *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

The proposed action will not violate or threaten to violate any Federal, State, or local law or requirement imposed for the protection of the environment.

The Proposed Action is in compliance with the CRMP and is consistent with Statutes, regulations and policies of neighboring local, County, State, Tribal governments and other Federal agencies. The Proposed Action is in conformance with the NEPA of 1969, (P.L. 91-190 as amended (42 USC §4321 et seq.); MLA of 1920 as amended and supplemented (30 USC 181 et seq.); the Federal Oil and Gas Leasing Reform Act of 1987, which includes the regulatory authority under 43 CFR 3100 Onshore Oil and Gas Leasing; General, 43 CFR 3200, and Title V of the FLPMA of 1976 Right-of-Way (ROW) under regulatory authority under 43 CFR 2800 for ROWs, Programmatic Environmental Impact Statement (PEIS) for Geothermal Leasing in the Western United States (BLM and USFS, 2008) at http://www.blm.gov/geothermal_eis.

Lease Stipulations

All oil, gas and geothermal leases located within the assessment area will be issued subject to the Standard Lease Terms on Form 3100-11 "Offer to Lease and Lease for Oil and Gas" and stipulations developed in the CRMP dated 2001. The attached "Fluid Mineral Lease Stipulations" will also be applied to all leases issued within the assessment area. All the stipulations are incorporated into the decision.

_____ _____

Date

Nevada State Office