

**FINDING OF NO SIGNIFICANT IMPACT
LEACH HOT SPRINGS GEOTHERMAL EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT
DOI-BLM-NV-W010-2011-0001-EA**

Based on the Environmental Assessment (EA) DOI-BLM-NV-W010-2011-0001-EA, dated April 2011, I have determined that the Proposed Action, with implementation of all of the recommended mitigation and monitoring measures developed in the analysis, will not have a significant effect on the human environment and; therefore, an Environmental Impact Statement (EIS) will not be required.

I have determined that the Operations Plan and geothermal exploration drilling are in conformance with the approved Sonoma-Gerlach Management Framework Plan and are consistent to the maximum extent possible by Federal law with the plans and policies of neighboring local, county, state, and federal agencies and governments. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), with regard to both context and intensity factors.

Context

Ormat proposes to conduct geothermal exploration operations in the Leach Hot Springs Geothermal Lease Area located approximately 25 miles south of Winnemucca, Nevada, in Pershing County. The Lease Area is located on the west side of the Sonoma Range and consists of 3 federal geothermal leases for approximately 5,267 acres. The Project Area is a portion of the Lease Area encompassing approximately 160 acres, which would include all drilling sites and access roads. The Proposed Action includes construction of up to 12 well pads, each sized to accommodate the drilling of each of three different types of geothermal exploration wells: temperature gradient wells, observation wells, and production wells (the drilling of each type of well may not necessarily occur on each well pad, and the pad would be sized to accommodate the type of well drilled) for a maximum total of 36 exploration wells; improvements to existing, and construction of new on-lease access roads; expansion of an existing mineral material site; up to two groundwater wells (which would be drilled on one or two of the constructed well pads); temporary surface pipelines and associated ancillary facilities (including a temporary man-camp) for the purpose of drilling geothermal exploration wells within the Project Area. Total acreage proposed for disturbance within the Project Area is estimated to be 70 acres.

Intensity

1) *Impacts that may be both beneficial and adverse.*

The environmental assessment has considered both beneficial and adverse impacts of geothermal resource exploration in the Leach Hot Springs vicinity. Concerns related to natural resources including Population Management Units (PMUs) for Sage-Grouse, Mule Deer and their associated habitat arose through analysis and coordination with a cooperating agency, the Nevada Department of Wildlife (NDOW). Ormat agreed to modify the Proposed Action during the process of developing the Environmental Assessment to address concerns related to Sage Grouse and their habitat. The following environmental measures became features of the Proposed Action:

- The well pads would be constructed to avoid ephemeral washes to the extent practicable. The pads would be designed to divert sheet wash or water in drainages around and away from drill pads.
- Sagebrush seedlings would be planted during interim and final reclamation in topographic drainages and draws (areas of concentrated sagebrush) where project disturbance is created.

In addition, the following mitigation was recommended through the analysis to further reduce potential impact to sage-grouse and their habitat:

- Sagebrush seedlings would be required in disturbed sagebrush habitat. Density of seedlings should be 0.25 per meter square (1 seedling per 4 meters), or 1,000 seedlings per acre. Seedlings would be planted between February 15 and April 1.

There is an active ferruginous hawk nest within the project area.

- Should construction or drilling occur within a one-half mile distance of an active raptor nest, including the known ferruginous hawk nest in the Project Area, construction shall be delayed until any young birds have fledged from the nest. Should raptors begin to nest in the Project Area after the initiation of drilling, the birds would be considered habituated to the disturbance and drilling could continue.

The eastern portion of the lease area is identified as crucial mule deer winter range. The following mitigation was developed in the analysis to reduce impacts to this winter range.

- To mitigate for the potential impacts to mule deer use, operations within the areas mapped as crucial winter habitat for mule deer would not be permitted between December 15 and March 15. Should sufficient additional data be collected to determine actual mule deer use within the Project Area, modifications to these dates could be made by the BLM in consultation with the NDOW. The seasonal restriction for crucial mule deer winter habitat also applies to wintering sage-grouse.

Due to concerns regarding potential impacts to Leach Hot Springs, located on private property, adjacent to the lease area, the following mitigation were developed in the analysis. This mitigation was found to be important to not only the water quality analysis, but also relative to reducing potential impact to the wildlife, Native American religious concerns and cultural resources.

Leach Hot Springs are located on private property immediately downstream and adjacent to the Lease Area. Due to their proximity, they appear to be potentially connected to the proposed action with the potential that development of the geothermal reservoir could impact them. Adverse impacts to surface expressions of the geothermal reservoir (hot springs) are not acceptable. With the permission of the water rights owner, the lessee will monitor the quality, quantity, and temperature of Leach Hot Springs as follows:

- Prior to commencement of exploration activities, the operator should institute a BLM-approved water monitoring program.

There would be an adverse impact to a prehistoric site without the implementation of the following mitigation recommended in the analysis:

- If gravel is to be taken from the existing mineral material pit, a boundary fence would be constructed to protect the existing prehistoric site. The boundary fence would be built to the width of the proposed mineral material pit and include appropriate signage.

2) *The degree to which the Proposed Action affects public health or safety.*

The Proposed Action would not adversely affect public health or safety.

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 Proposed Action, with the implementation of BLM-recommended mitigation, does not impact any National Register eligible sites, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

The effect on the quality of the human environment from development of geothermal resources is well known and documented in northern Nevada and specifically within the jurisdiction of the Humboldt River Field Office.

Native American Consultation has been continuous through the evaluation of this project; however, no formal or informal comments have been received from the tribes regarding geothermal exploration in the Project Area.

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

The Proposed Action is not unique or unusual. The development of geothermal resources for the production of electricity is specifically regulated and follows accepted standard operating procedures and best management practices. The BLM has previous experience implementing similar actions in similar areas and have found the effects to be reasonably predictable. There are no known effects of the Proposed Action identified in the EA which are considered uncertain or involve unique or unknown risks. While this is the

case, human use of the area will continue to be investigated through the course of the Proposed Action.

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.*

Each Proposed Action is evaluated individually as whether or not it may establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. It has been determined that this Proposed Action will cause neither.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

Based on the EA, no significant cumulative impacts are expected. The Proposed Action, when evaluated together with other past, present, or reasonably foreseeable land disturbing activities in the area, would not result in cumulatively significant impacts at the local or watershed basin scale.

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.*

The Project Area is in the vicinity of districts, sites, highways, structures or objects listed or eligible for listing in the NRHP. With the implementation of BLM recommended mitigation measures, no adverse impacts, loss or destruction of significant scientific, cultural, or historical resources would occur.

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.*

There are no known threatened or endangered species present. Based on the EA and implementation of all mitigation, no significant impacts would result to special status species, including sensitive species, or their habitats from implementing the Proposed Action. The NDOW and U.S. Fish and Wildlife Service were consulted and the National Heritage Program database was researched in the development of this EA.

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 does not violate or threaten any known Federal, State, or local law or requirement imposed for the protection of the environment.



Michael Truden
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Humboldt River Field Office

4-27-11
Date