

**FINDING OF NO SIGNIFICANT IMPACT
TUNGSTEN MOUNTAIN GEOTHERMAL EXPLORATION PROJECT
CHURCHILL COUNTY, NEVADA**

**Environmental Assessment
DOI-BLM-NV-C010-2012-0029-EA
Ormat Technologies, Inc.
Tungsten Mountain Geothermal Exploration Project**

INTRODUCTION

Ormat Technologies, Inc. (Ormat) submitted an Operations Plan to drill and test up to 27 wells and construct 4.2 miles of access roads within the boundaries of the Tungsten Mountain Lease Area (Lease Area) in Churchill County, Nevada. The Bureau of Land Management Stillwater Field Office (BLM) has prepared this environmental assessment (EA) to analyze potential impacts to the human and natural environment resulting from this activity on portions of geothermal leases NVN-85715; NVN-88428; NVN-86897. Ormat currently holds 4,880 acres under lease in this area, however, the Project Area for this exploration proposal comprises approximately 610 acres within the lease area and the total surface disturbance would be approximately 131 acres. Primary access to the Project Area is along a northeast trending County Road off of U.S. 50, approximately 60 miles east of Fallon, Nevada. As described in the EA Ormat would implement environmental protection measures to minimize or eliminate impacts to the extent practicable.

The Tungsten Mountain Geothermal Exploration Project includes:

- Drilling and completing an exploration well to a depth of about 7,000 feet from each of the constructed drill pads;
- Flow-testing each exploration well to obtain samples of geothermal fluids and to collect aquifer information from the geothermal reservoir;
- Constructing, improving or maintaining access roads (both on lease and off lease);
- Constructing and maintaining a 5-acre mineral material pit on lease; and
- Drilling temporary water wells at one or more proposed drill sites.

A Right-of-way (ROW) application was submitted to the BLM in January 2012 for off-lease access on public lands managed by the BLM. Issuance of these ROWs will provide for access to certain exploration activities.

In addition, a mineral material sales contract would be required for aggregate material obtained from a BLM-managed aggregate pit, should the private pit intended to be used not contain the needed amount of aggregate material. This contract, should one be necessary, would be for less than 50,000 cubic yards of aggregate and less than 5 acres of surface disturbance.

The BLM manages the permit processing of geothermal exploration proposals. Geothermal exploration and production on federal land conducted through leases is subject to terms and stipulations to comply with all applicable federal, state, and local laws and regulations pertaining to sanitation, water quality, wildlife, safety, air quality, and reclamation. Lease stipulations may be site specific and are derived from the environmental analysis process. In accordance with the BLM Programmatic Environmental Impact Statement (PEIS) for Geothermal Development (BLM 2008a) and the Churchill County Master Plan (CCPD 2011), the expansion and development of geothermal resources is supported and promoted for federal lands. The Energy Policy Act of 2005 further identifies support of the need “to ensure jobs for our

future with secure, affordable, and reliable energy”. Additionally, the proposed action responds to EO 13212, which directs the BLM to process geothermal leases in a timely manner in order to support efforts to increase energy production from federal minerals, while preserving the health of public lands.

The impact analysis in the EA characterizes the potential for impacts, from the Proposed Action, for each resource in the project area. The determination of environmental risk is resource-specific and is based on a number of factors, including the presence and extent of resources within the federal geothermal leases associated with the Proposed Action, the extent of resources in the surrounding area, and the quality of existing data.

PLAN CONFORMANCE AND CONSISTENCY

The Proposed Action has been reviewed for conformance with the Carson City Field Office Consolidated Resource Management Plan (2001) and is found to be consistent with current BLM policies, plans and programs. The proposed action is consistent with Churchill County ordinances, policies and plans.

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION

Based on the analysis of the Tungsten Mountain Geothermal Exploration Project, environmental assessment DOI-BLM-NV-C010-2012-0029-EA, I have determined that the Proposed Action will not have a significant effect on the human environment and an environmental impact statement (EIS) will not be prepared. This finding is based on the context and intensity of the project as described:

Context:

Ormat is proposing to explore for geothermal resources on federal geothermal leases held by Ormat. The Proposed Action would be drilling into and testing of the geothermal resource and construction of access roads within the Tungsten Mountain Lease Area.

Conditions of Approval are attached hereto as Exhibit B.

The Final EA has revised the Supplemental Authority, Invasive, Nonnative and Noxious Species section as present/may be affected and carried this analysis forward in the EA in section 3.3.8. Livestock Grazing was changed to Present/Not affected, measureable impacts to livestock grazing is not anticipated. Measurable impacts to Air Quality are not anticipated with this exploration drilling project.

The Wastes, Hazardous or Solid section of the Supplemental Authorities Table 7 has been modified to show these types of materials may be present but are not affected. Additional Environmental Protection Measures have been included for implementation to Air Quality, Wildlife, Invasive/Noxious Species, Hazardous and Solid Waste, Public Safety, Visual Resources and Soil Erosion as part of the Proposed Action – see Section 2.1.11. Preparation of a Water Comprehensive Monitoring Plan, Invasive Weed Plan, Interim and Final Reclamation Plan is in process and not completed at this time. Wildlife fencing construction language has been added to Section 2.1.2. Water Quality, Surface and Ground rational regarding monitoring of 18 springs within 2.5 miles of the project area has been added to Section 3.3.9.

With regard to U.S. Army Corp of Engineers (COR) jurisdictional waters of the United States, there are none as defined in COR Federal Regulations.

Intensity:

The Council on Environmental Quality (CEQ) regulations includes the following ten considerations for evaluating intensity:

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

None of the environmental effects discussed in detail in the EA are considered significant, nor do the effects exceed any known threshold of significance, either beneficial or adverse. The Proposed Action is geothermal exploration drilling, construction of twenty seven (27) well pads, construction of 4.2 miles of access road and reclamation of these disturbances if the wells are not developed.

2) The degree to which the selected alternative will affect public health or safety:

The Proposed Action is to drill into and test the geothermal resources in the project area analyzed in the EA. It is reasonable to expect further 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 could be addressed through conditions of approval for further exploration and development actions as determined by federal and state agencies.

3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wilderness, wild and scenic rivers, or ecologically critical areas.

The BLM have considered the Area of Potential Effects (APE) relative to cultural resources and historic properties, providing oversight for a full inventory of the areas that include construction of the proposed well pads and access roads and their associated activity. Based on the cultural inventory, avoidance of known sites and the established protocol for the discovery of any new site, there would be no impact on cultural resources discovered during operation of the proposed Project. Accordingly, implementation of the Proposed Action would not be anticipated to impact sites eligible for listing on the National Register of Historic Places. There are no park lands, prime farm lands, wild and scenic rivers or ecologically critical areas in or near the sites proposed.

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

The effects of the Proposed Action on the human or natural environment were determined to be negligible. Drilling for geothermal resources and its potential effects on the subsurface in this project area has been analyzed in this EA.

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 action described in the EA is drilling for geothermal resource. There are no predicted effects on the human environment that are considered highly uncertain or involve unique or unknown risks. Public comment has been minimal.

6) The degree to which the action may establish a precedent for future actions with significant effects or presents a decision in principle about a future consideration.

As exploration advances and additional development of energy generation facilities is proposed on a geothermal lease, an environmental analysis may be warranted to assess impacts resulting from these types of projects. The progression of the project from leasing to exploration to development is customary and expected.

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

Resource values, as identified in this EA, were evaluated for cumulative impacts and determined that cumulative impacts would be negligible for the proposed exploration project. Subsequent actions for geothermal resource exploration and/or development would be evaluated for cumulative impacts in associated environmental analysis that maybe warranted 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 other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

As described in the EA, the project will not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historical resources because all activity is subsurface.

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 ESA of 1973.*


As described in the EA, no known threatened or endangered species or critical habitat has been identified in the surface area considered in the EA. Any future exploration and development actions would be evaluated in a future environmental analysis for the future project.

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

As described in the EA, the Proposed Action does not violate any known Federal, State, or local law or requirement imposed for protection of the environment. Resource specialists from the BLM Stillwater Field Office, the State of Nevada, Churchill County, and the Fallon Paiute-Shoshone Tribe were notified of the proposal.


Teresa J. Knutson

Stillwater Field Manager
Carson City District Office


Date