

**DECISION RECORD
LEACH HOT SPRINGS GEOTHERMAL EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT
DOI-BLM-NV-W010-2011-0001-EA**

Introduction

The BLM Humboldt River Field Office (HRFO) received and accepted a geothermal Operations Plan from Ormat Technologies, Inc. (Ormat) on May 14, 2010, under the provision of 43 CFR 3261.12. The Operations Plan describes 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 Ormat's Leach Hot Springs geothermal Lease Area. The Leach Hot Springs Geothermal Lease Area is located entirely in Pershing County, Nevada.

The Lease Area consists of three geothermal leases held by Ormat and encompasses 5,267 acres. Ormat has identified a Project Area where the proposed 12 wells sites may be constructed within the three leases. Total acreage proposed for disturbance within the Project Area is estimated to be 70 acres.

As required under the provisions of 43 CFR 3261.11 and .13, prior to initiating surface disturbing activities, a complete drilling program and individual Geothermal Drilling Permits (GDPs) would be submitted. Each GDP is reviewed by a petroleum engineer and surface management specialist and requires approval by an Authorized Officer before it is accepted.

Conformance

The Proposed Action is subject to the BLM, Winnemucca District Office Sonoma-Gerlach Management Framework Plan (MFP), dated July 9, 1982. Objective M-5 of the Sonoma-Gerlach MFP states: "Make energy resources available on all public lands and other lands containing federally owned minerals." However, the MFP at M-5.5 does establish some restrictions on certain public lands.

DECISION

Based on the Leach Hot Springs Geothermal Exploration EA (DOI-BLM-NV-W010-2011-0001-EA) and the attached Finding of No Significant Impact (FONSI), it is my decision to select the proposed action for implementation, subject to all the mitigation developed in the EA, which will now be referred to as Conditions of Approval (COA) and are attached to this document. These will be attached to each individually approved Geothermal Drilling Permit (GDP) as COAs. **It should be noted that one of these COAs, pertaining to a BLM-approved water monitoring program, needs to be implemented prior to commencement of exploration activities.** Also

included on the COA attachment are the environmental protection measures committed to by the operator in the Proposed Action. The Proposed Action is also subject to the individual lease stipulations which were developed at the time of issuance of the leases. These are attached to this Decision Record for reference.

The BLM will be responsible for monitoring approved operations to ensure compliance with COAs and lease stipulations in accordance with 43 CFR 3260 and 43 CFR 2800.

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.

Interim and final reclamation activities proposed for this project are described in section 2.1.8 of the EA and have been designed to help address concerns raised by BLM and the Nevada Department of Wildlife and remain consistent with BLM and Nevada Division of Minerals requirements. Ormat agreed to modify the Proposed Action during the process of developing the EA 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 (typically areas of concentrated sagebrush) where project-related disturbance occurred.

Per Instruction Memorandum (IM-2002-053), this decision has taken into consideration the President's National Energy Policy and Executive Order 13212. The Proposed Action would not generate any adverse energy impacts or limit energy production and distribution.

Rationale

1. The Proposed Action is in conformance with the Sonoma-Gerlach MFP dated July 1982.
2. The Proposed Action meets the purpose and need for action.
3. The Proposed Action is in conformance with the Energy Policy Act of August 2005.
4. Per Instruction Memorandum (IM-2002-053), this decision has taken into consideration the President's National Energy Policy and Executive Order 13212. The Proposed Action would not generate any adverse energy impacts or limit energy production and distribution.
5. Development of geothermal resources at the Leach Hot Springs site supports state and federal initiatives to expand development and use of renewable energy resources.

6. The EA and FONSI support the Decision.
7. The Conditions of Approval will serve to monitor for impact and reduce or prevent impacts.

Public Outreach/Involvement

Scoping and Preliminary EA

In addition to internal scoping, a 30-day public scoping period, beginning July 27, 2010, and ending August 30, 2010, yielded comments from three State of Nevada agencies, the Environmental Protection Agency and a private land owner. The issues identified during this scoping were incorporated into the planning effort, along with discussions provided by other agencies, and the professional insight of BLM staff.

A preliminary EA was posted on the BLM's Winnemucca District Office web page for a 30-day public review on March 3, 2010. Letters were also mailed to interested parties, notifying them of the Preliminary EA's availability. During this review period, a total of four comment letters were received from the Environmental Protection Agency (EPA), the Nevada Division of State Lands, the Nevada Division of Water Resources (NDWR), and a local private land owner.

In their letter, the EPA had specific questions pertaining to the water resources section including proposed design of any fencing to be constructed in drainages, whether or not waters of the U.S. (WUS) would be impacted, water supply questions, as well as general edits to the document. The Nevada Division of State Lands provided comments concerning direct, indirect and cumulative visual impacts with regard to lighting and design and location of infrastructure. The NDWR provided a comment reiterating that all use of water for drilling and/or dust control is subject to a waiver or permit issued by the state engineer, and that plugging and abandonment of wells or boreholes shall be in compliance with the Nevada Administrative Code. A private land owner made comments regarding certain private land ownership interests; baseline groundwater level data and recommended water quality mitigation; whether the public would be further involved with commenting on mitigation measures; reclamation procedures; questions pertaining to certain aquatic species and the potential for their associated habitat to exist within the affected environment; local Rights-of-Way; and some general edits to the document.

All public comments were reviewed and considered, and substantive comments were addressed in finalizing the EA. A reasonable range of alternatives were considered for this exploration-level project. The EA has been modified in Chapter 2 for further explanation regarding why no alternatives beyond the Proposed Action and No Action Alternative were developed (see sections 2.3 & 2.3.2). There is no potential to impact WUS from implementation of this project. Language has been added to the EA in Chapter 2 to detail the type of fencing that may be used and where it would be constructed. Comments regarding water resources were addressed by clarifying ambiguous language, augmenting text in Chapter 3, and including quantities. Questions from the Nevada Division of State Lands had been adequately addressed the EA, and thus required no additional revisions (see sections 2.2 Visual Resources, as well as direct, indirect and cumulative analysis for visual resources). Rationale provided by commenter regarding the potential for certain species or their habitat to exist in the area did not support removal of analysis from the document. The BLM will not be soliciting further public

involvement regarding the development of mitigations in this document. Comments made regarding fencing of reclaimed areas and including additional species to the BLM-recommended seed mix have been reviewed and, for the fencing, are neither required nor necessary, and for the seed mix, not suitable for this project. Figure 3 was adjusted to depict the Grass Valley Road fence. Figures two and three were adjusted to depict a revised mineral material site. Chapters 4 and 6 were compared to ensure that recommended mitigation measures matched. General edits were each addressed, such as adding citations, correcting dates and headings, and including the publication page.

Native American Consultation

Native American Consultation was initiated with the Lovelock Paiute Colony, the Fallon Paiute Shoshone Tribe, the Winnemucca Indian Colony, and the Battle Mountain Band Council on April 22, 2010. No comments were received regarding this project. The Preliminary EA was sent out during the first week of March 2011, to the above listed tribes and the Shoshone-Paiutes of Duck Valley, and no comments were received during the 30-day public review period.

Appeal

If you feel you are adversely affected by this decision, you may appeal to the Interior Board of Land Appeals per the attached appeal form (1842-1). You must file your appeal and attach a statement of reasons, within 30 days from the date of this decision.



Michael Truden
Field Manager
Humboldt River Field Office

4-27-11

Date

Attachments:

EA
FONSI
COAs
Lease Stipulations
Form 1842-1