



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Carson City District Office  
Stillwater Field Office  
5665 Morgan Mill Rd.  
Carson City, Nevada 89701-1448  
<http://www.nv.blm.gov/Carson>



In Reply Refer to:  
NVN-084239X and  
NVN 084604X  
2800 (NV-03300)

JAN 13 2010

Scott Kessler  
Ormat Nevada  
6225 Neil Road,  
Reno, NV 89511-1163

Re: Dead Horse Wells and Gabbs Valley Projects

Dear Mr. Kessler,

Enclosed is a copy:

1. The Finding of No Significant Impact and Decision Record for the "Environmental Assessment Gabbs Valley and Dead Horse Wells Geothermal Exploration Projects DOI-BLM-NV-C010-2010-0006-EA";
2. Two Notice of Intents to Conduct Geothermal Resource Exploration Operations;
3. Six Geothermal Drilling Permits.

Please be advised the following are being processed:

1. Four Contracts for Material Sales;
2. Two Rights-of Way.

If you have any questions, please contact David Parker, Realty Specialist at (775) 885-6076.

Teresa J. Knutson  
Stillwater Field Manager  
Carson City District Office

Enclosures

**FINDING OF NO SIGNIFICANT IMPACT  
AND  
DECISION RECORD**

**Ormat Nevada, Inc.  
Dead Horse Wells and Gabbs Valley  
Geothermal Exploration Projects  
DOI-BLM-NV-C010-2010-0006-EA**

***Dead Horse Wells Geothermal Unit NVN 084239X (NVN 083929, NVN 083930, NVN 083931, & NVN 083932) and  
Gabbs Valley Geothermal Unit NVN 084604X (NVN 076821, NVN 076822, NVN 076823, NVN 076824, NVN 076825, NVN 076826 & NVN 076827)  
Material Sales NVN 086228, NVN 086225, NVN 086226, and NVN 086227 and  
Rights-of Way NVN 086243 and NVN 086244***

**INTRODUCTION**

Ormat Nevada, Inc. (Ormat), as operator, proposes to conduct the Dead Horse Wells (DHW) and Gabbs Valley (GV) Geothermal Exploratory Drilling Programs on lands managed by the BLM Carson City Stillwater Field Office (CCSFO). The DHW and GV proposed projects area are located on federally issued geothermal leases located in Mineral and Nye Counties, Nevada.

**DEAD HORSE WELLS PROJECT:**

The Proposed Action, submitted in a Notice of Intent and an Operations Plan for DHW, includes 14 temperature gradient wells and 13 wells that may be drilled as temperature gradient wells and drilled and tested as observation / exploration wells for a total of 27 well pad sites. These proposals also include pad construction and associated roads to these pads to assess the potential for geothermal resource development in the Dead Horse Wells area in Mineral County, Nevada. Ormat submitted a right-of-way application (NVN 086243) for off lease access to the project. In addition, Ormat submitted one application for a material site (NVN 086228) to supply aggregate for well pad and road construction.

**GABBS VALLEY PROJECT:**

The Proposed Action, submitted in a Notice of Intent and a Plan of Operations for the GV, includes six (6) temperature gradient well sites and twenty five (25) wells that may be drilled as temperature gradient wells and drilled and tested as observation / exploration wells for a total of 31 pad sites. These proposals also include pad construction and associated roads to these pads to assess the potential for geothermal resource development in the Gabbs Valley area in Mineral and Nye Counties, Nevada. Ormat submitted a right-of-way application (NVN 086244) for off lease access to the project. In addition, Ormat submitted applications for three (3) material sites (NVN 086225, NVN 086226, and NVN 086227) to supply aggregate for well pads and road construction.

In 2003, Ormat submitted geothermal lease applications, NVN 076821 through NVN 076827, for the GV area in Nye and Mineral Counties, Nevada. This area was analyzed in the Geothermal Leasing Environmental Assessment EA-NV-030-06-025 and approved in the July 17, 2006, BLM Carson City Field Office (CCFO) Geothermal Leasing FONSI/Decision Record. The leases were issued to Ormat on August 23, 2006.

In 2007, five competitive leases in the DHW area were analyzed and a Determination of Land Use Plan Conformance and NEPA Adequacy signed on June 1, 2007. A geothermal competitive lease sale for these leases was held on August 14, 2007. On September 10, 2007, Ormat was issued geothermal lease's NVN 083929 through NVN083932, for the DHW area in Mineral County, Nevada.

This EA, DOI-BLM-NV-C010-2010-0006-EA, evaluates the impacts on the natural and human environment that could result from implementation of the proposed DHW and GV exploration projects. There are four stages of geothermal resource development within a lease, including exploration, development, production, and closeout. Each of the four stages requires separate site-specific environmental analysis and BLM authorization when ground-disturbing activities are proposed. The impact analysis in this EA characterizes the potential for impacts for each resource in the exploration 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 proposed lease section, 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.

#### **FINDING OF NO SIGNIFICANT IMPACT DETERMINATION**

Based on the analysis of environmental assessment DOI-BLM-NV-C010-2010-0006-EA for the Dead Horse Wells and Gabbs Valley Geothermal Exploration Projects, I have determined that the action will not have a significant effect on the human environment, and therefore, an environmental impact statement will not be prepared. The twenty seven (27) Well Numbers for the DHW project and the thirty one (31) Well Numbers for the GV project analyzed in this EA are attached hereto as Exhibit A. There are two (2) rights-of-way, i.e. NVN 086243 and NVN 086244. In addition, there are four (4) applications for a Contract for the Sale of Mineral Material, i.e. NVN 086225, NVN 086226, NVN 086226, and NVN 086228.

#### **Context:**

The proposed fifty eight (58) total drill sites, their access, and material sites together cover an area of approximately 143 acres. The project area encompasses BLM managed lands and BLM approves the projects under the Conditions of Approval attached hereto as Exhibit B.

**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 resource exploration consisting of construction of 58 well pads, access roads, material sites and other associated activity as described in the EA, as well as reclamation of these disturbances when exploration and testing is completed.

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

The Proposed Action is to drill for geothermal resources in the project areas 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.

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.*

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

BLM has considered the Area of Potential Effect (APE) relative to cultural resources and historic properties, providing oversight for a full inventory of the areas that include construction of 58 well pads, access roads, material sites and other associated activity. Based on the cultural inventory, BLM determined that historic properties are present in the APE and Ormat shall avoid these sites. Ormat shall avoid any historic properties and shall comply with the Monitoring and Emergency Discovery Plan described in the Stipulations and Conditions and attached hereto as Exhibit C. If it is determined that Ormat cannot avoid disturbance of historical properties, Ormat shall be required to develop a Treatment and Recovery Plan to be approved by the BLM and submit an approved bond, to assure the completion of a Recovery Report, prior to construction. BLM has conducted reasonable and good faith government-to-government consultation with the Yomba Shoshone Tribe, Yerington Paiute Tribe, and Walker River Tribe. Through this process, BLM determined that impacts would be negligible for the proposed exploration drilling project relative to cultural resources in proximity to the APE. The Nevada State Historic Preservation Officer (SHPO) has concurred with these determinations and procedures.

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 land in this general area has been analyzed in this EA. Public comment has been minimal.

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 exploration drilling for geothermal resources. There are no predicted effects on the human environment that are considered highly uncertain or involve unique or unknown risks.

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.*

The Energy Policy Act of 2005 (Act) supplemented and amended 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 exploration activity or eventual development of energy generation facilities is proposed on a geothermal lease, an environmental analysis is performed 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.*

All resource values were evaluated for cumulative impacts and determined that cumulative impacts would be negligible for the proposed exploration drilling project. Subsequent actions for geothermal 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 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 and provided for above under section 3, 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.

In order to protect nearby known historic properties and resources that are unknown but unanticipated, this EA provides for: 1) a pre-construction meeting and training for Ormat employees on cultural resources laws and avoidance of all historic properties and significant cultural resources; 2) construction monitoring by a permitted archaeologist; and 3) procedures for any unanticipated discoveries of human remains or items of cultural significance. The Nevada SHPO and the Yomba Shoshone Tribe, Yerington Paiute Tribe, and Walker River Tribe have concurred with these procedures.

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 lease parcel sites 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. Specialists from BLM CCSFO were involved in preparation of the EA and officials from the State of Nevada, Nye and Mineral Counties and the Yomba Shoshone Tribe, Yerington Paiute Tribe, and Walker River Tribe were notified of the proposal.

### **DECISION**

I approve the exploration drilling projects and associated activities as described in the Proposed Action of DOI-BLM-NV-C010-2010-0006-EA. Further it is my decision to approve the subject material sales and rights-of-way as described in the Proposed Action. This decision is contingent on meeting all stipulations and conditions of the geothermal leases/drilling permits, rights-of-way and the material sales contracts and the Conditions of Approval that have been attached to this FONSI/Decision Record.

### **Stipulations:**

All applicable standard operating procedures (SOPs) and Conditions of Approval (COAs) upon the issuance of each geothermal lease listed above have been carried forward in this FONSI/Decision Record. In addition are the COAs attached hereto as Exhibit B which should include the SOPs, BMPs, and mitigation proposed in the Ormat Gabbs Valley and Dead Horse Wells Notice of Intent and Operations Plans for Geothermal Exploration Projects, Geothermal Drilling Permits, and Rights-of-Way in the DOI-BLM-NV-C010-2010-0006-EA.

Material site NVN 086225 may have preexisting unpatented mining claims over the sales area and would require a waiver from the mining claimant to allow the sale to go forward.

### **Monitoring:**

Cultural: Pursuant to the Monitor and Emergency Discovery Plan (the Plan), attached hereto as Exhibit C, a qualified archeological monitor (Archeological Monitor) will be hired by Ormat to be on site during construction, as necessary, at locations determined in consultation between BLM and the Tribes. Under the Avoidance of Historic Properties section of the Plan, a Archeological Monitor will be on site for the duration of all ground disturbing activities, including their associated access roads and the excavation of sumps/wells undertaken within 30 meters of the historic properties. The EA and the Plan identifies the process involving this monitoring and the actions to be taken by the Archaeological Monitor for unanticipated discovery of human remains or items of

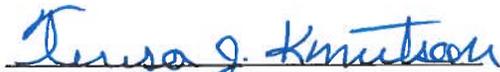
cultural significance.

In addition, Ormat and the Archeological Monitor, in consultation with the Tribes, will make arrangements for a Tribal Monitor to work in conjunction with the Archeological Monitor.

Hydrologic: As provided for under item 2.1.2 of the Ormat Nevada, Inc. Gabbs Hydrologic Data Collection Program (the Program), upon Ormat obtaining legal access to the private property in holdings to the Geothermal Unit, hydrologic data will be collected as provided for in the approved Program.

**Rationale**

The Proposed Action, as stipulated and mitigated, meets the criteria described in the Federal Land Policy and Management Act of 1976 to prevent undue and unnecessary degradation of public land; the 43 CFR Subparts 3200, 3250 and 3260; the 43 CFR 3600 Mineral Material Disposal Regulations, and the 43 CFR Part 2800 for Rights-of-Way Program. The Proposed Action is in conformance with the Carson City Field Office Consolidated Resource Management Plan (2001) which states that the BLM desired outcome is to 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. The action must comply with the conditions of permit for the Nevada Division of Minerals Geothermal Resource Development Permit Application and with applicable rules and regulations of other local, state, and federal agencies.



Teresa J. Knutson  
Manager,  
Stillwater Field Office

01/13/2010  
Date

3 attachments: Exhibit A Well Site Locations  
Exhibit B Conditions of Approval  
Exhibit C Monitoring and Emergency Discovery Plan

**EXHIBIT A**

**ENVIRONMENTAL ASSESSMENT**

**# DOI-BLM-NV-C010-2010-EA**

Sites identified exclusively for temperature gradient hole drilling:

TGH Site Name	Lease No.	Township/ Range	Section Number	Approximate UTM Coordinates (NAD 83)	
				Easting (m)	Northing (m)
<b><i>Gabbs Valley Project</i></b>					
72-24	NVN-76825	T12N, R33E	NE¼NE¼, Section 24	395415	4306000
43-24	NVN-76825	T12N, R33E	SE¼NW¼, Section 24	394721	4305655
26-18	NVN-76823	T12N, R33E	NW¼SW¼, Section 18	396037	4306710
36-18	NVN-76824	T12N, R33E	NE¼SW¼, Section 18	396499	4316497
71-7	NVN-76827	T12N, R33E	NE¼NE¼, Section 7	397124	4309313
27-7	NVN-76827	T12N, R33E	SW¼SW¼, Section 7	396160	4308195
<b><i>Dead Horse Wells Project</i></b>					
26-14	NVN 083929	T11N, R32E	SW¼SW¼, Section 14	382957	4297425
51-02	NVN 083929	T11N, R32E	NW¼NE¼, Section 2	383703	4301551
46-13	NVN 083929	T11N, R32E	NE¼SW¼, Section 13	384943	4297513
22-10	NVN 083929	T11N, R32E	NW¼NW¼, Section 10	381492	4299959
43-15	NVN 083930	T11N, R32E	SE¼NW¼, Section 15	381895	4298166
85-03	NVN 083929	T11N, R32E	NE¼SE¼, Section 3	382631	4300820
83-04	NVN 083930	T11N, R32E	SW¼NE¼, Section 4	381094	4301222
12-17	NVN 083930	T11N, R32E	NW¼NW¼, Section 17	378130	4298434
37-09	NVN 083930	T11N, R32E	SE¼SW¼, Section 9	379990	4298970
85-10	NVN 083929	T11N, R32E	NE¼SE¼, Section 10	382629	4299294
52-14	NVN 083929	T11N, R32E	NW¼NE¼, Section 14	383716	4298409
77-07	NVN 083931	T11N, R33E	SE¼SE¼, Section 7	387107	4298844
42-08	NVN 083931	T11N, R33E	NE¼NW¼, Section 8	387911	4299807
72-05	NVN 083931	T11N, R33E	NE¼NE¼, Section 5	388526	4301350

Sites identified for Temperature Gradient Hole/Observation Well/Exploration Well Drilling

Well Site Name	Lease No.	Township/ Range	Section Number & Aliquot Part	Approximate UTM Coordinates (NAD83)	
				Easting (m)	Northing (m)
<b><i>Gabbs Valley Project</i></b>					
87-18	NVN-76824	T13N, R34E	SE1/4SE1/4, Section 18	397451	4316283
81-19	NVN-76824	T13N, R34E	NE1/4NE1/4, Section 19	397484	4315721
73-19	NVN-76824	T13N, R34E	SE1/4NE1/4, Section 19	397290	4315320
45-19	NVN-76824	T13N, R34E	NE1/4SW1/4, Section 19	396730	4314960
24-17	NVN-76822	T13N, R34E	SW1/4NW1/4, Section 17	397865	4316911
26-17	NVN-76822	T13N, R34E	NW1/4SW1/4, Section 17	397833	4316432
18-17	NVN-76822	T13N, R34E	SW1/4SW1/4, Section 17	397713	4315961
22-20	NVN-76822	T13N, R34E	SE1/4NW1/4, Section 20	397917	4315526
45-20	NVN-76822	T13N, R34E	NE1/4SW1/4, Section 20	398294	4314977
37-20	NVN-76822	T13N, R34E	SE1/4SW1/4, Section 20	398025	4314504
15-20	NVN-76822	T13N, R34E	NW1/4SW1/4, Section 20	397639	4315009
35-29	NVN-76822	T13N, R34E	NE1/4SW1/4, Section 29	397998	4313379
33-30	NVN-76826	T13N, R34E	SE1/4NW1/4, Section 30	396493	4313848
83-30	NVN-76826	T13N, R34E	SE1/4NE1/4, Section 30	397499	4313773
84-12	NVN-76821	T12N, R33E	SE1/4NE1/4, Section 12	395653	4308770
87-12	NVN-76821	T12N, R33E	SE1/4SE1/4, Section 12	395661	4308267
17-7	NVN-76827	T12N, R34E	SW1/4SW1/4, Section 7	395901	4308172
41-7	NVN-76827	T12N, R34E	NE1/4NE1/4, Section 7	396556	4309345
53-7	NVN-76827	T12N, R34E	SW1/4NE1/4, Section 7	396729	4309052
83-12	NVN-76821	T12N, R33E	SE1/4NE1/4, Section 12	395831	4308996
81-13	NVN-76825	T12N, R34E	NE1/4NE1/4, Section 13	395712	4307728
74-13	NVN-76825	T12N, R34E	SE1/4NE1/4, Section 13	395556	4307184
85-13	NVN-76825	T12N, R33E	NE1/4SE1/4, Section 13	395651	4306987
38-13	NVN-76825	T12N, R33E	SE1/4SW1/4, Section 13	394573	4306314
41-24	NVN-76825	T12N, R33E	NE1/4NW1/4, Section 24	394834	4306152
<b><i>Dead Horse Wells Project</i></b>					
38-12	NVN 083929	T11N, R32E	SE $\frac{1}{4}$ SW $\frac{1}{4}$ , Section 12	384826	4298638
87-11	NVN 083929	T11N, R32E	SE $\frac{1}{4}$ SE $\frac{1}{4}$ , Section 11	384260	4298935

<b>Well Site</b>	<b>Lease No.</b>	<b>Township/ Range</b>	<b>Section Number &amp; Aliquot Part</b>	<b>Approximate UTM Coordinates (NAD83)</b>	
76-12	NVN 083929	T11N, R32E	SE¼SE¼, Section 12	385575	4299009
62-12	NVN 083929	T11N, R32E	NW¼NE¼, Section 12	385454	4299857
65-11	NVN 083929	T11N, R32E	NE¼SE¼, Section 11	383864	4299415
62-11	NVN 083929	T11N, R32E	NW¼NE¼, Section 11	383905	4299891
12-12	NVN 083929	T11N, R32E	NW¼NW¼, Section 12	384400	4299936
24-12	NVN 083929	T11N, R33E	SW¼NW¼, Section 12	384715	4299516
28-1	NVN 083929	T11N, R32E	SW¼SW¼, Section 1	384756	4300389
57-1	NVN 083929	T11N, R33E	SW¼SE¼, Section 1	385371	4300509
24-6	NVN 083931	T11N, R33E	SW¼NW¼, Section 6	386297	4300941
68-6	NVN 083931	T11N, R33E	SE¼SE¼, Section 6	386960	4300217
23-7	NVN 083931	T11N, R33E	SW¼NW¼, Section 7	386164	4299772

**EXHIBIT B**  
**FONSI/DR**  
**DOI-BLM-NV-C010-2010-0006-EA**

January 2009

Ormat Nevada, Inc. Dead Horse Wells and Gabbs Valley Geothermal Exploration Projects

**CONDITIONS OF APPROVAL (COAs)**

**Pre-Construction**

1. Roads to be constructed, improved or reclaimed as part of the Projects would be reviewed by the BLM and required to conform to the requirements of BLM Manual 9113 and the "Gold Book", as applicable to the intended Project Use.
2. Off road travel will be restricted to terrain with less than 30 percent slopes unless approved by the authorized BLM officer.
3. Proposed surface disturbance and vehicular travel will be limited to the approved well location and access route.
4. Any changes in well location, facility location, and access or site expansion must be approved by the authorized BLM officer in advance.
5. Inform Fallon Naval Air Station regarding drilling dates, locations, and mast heights.
6. The underside of all heavy equipment will be cleaned by water before entering public lands to do work. Driving through or parking on noxious weed infestations will be avoided.
7. Vehicular travel through the pass over the Monte Cristo Mountains will be limited to the minimal number of trips necessary to address pre-construction activities. A maximum speed of 25 m.p.h. will be adhered to at all times in this area annually from December 1 to March 31.
8. Prior to the kickoff meeting for the construction crew, the Archeological Monitor will be provided a confidential copy of the Cultural Report and the shape files of the maps contained therein.

**Well Pad and Facility Construction**

1. A site diagram depicting the location of production facilities, recontoured slopes and stabilization measures shall be approved by an authorized BLM

officer prior to installation of production facilities.

2. The design of all facilities, including well pads, roads, pumps, and pipelines, shall be approved by the authorized BLM officer prior to construction to avoid unnecessary conflicts with visual resources management objectives.
3. The reserve pit shall be fenced in conformance with the Gold Book.
4. Drainage from disturbed areas will be confined or directed so that erosion of undisturbed areas is not increased. In addition, no runoff water (including that from roads) will be allowed to flow into intermittent or perennial waterways without first passing through a sediment-trapping mechanism. Erosion control structures may include: waterbars, berms, drainage ditches, sediment ponds, or other devices.
5. Access road construction for exploratory wells shall be planned such that a permanent road can later be constructed in the event of field development.
6. Construction of access roads on steep hillsides and near watercourses will be avoided where alternate routes provide adequate access.
7. Access roads requiring construction with cut and fill will be designed to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill material will be deposited, resource concerns and visual contrast.
8. Fill material will not be cast over hilltops or into drainages. Cut slopes should normally be no steeper than 3:1 and fill slopes no steeper than 2:1.
9. As required, fill slopes surrounding culverts will be rip-rapped with a well graded mixture of rock sizes containing no material greater than two feet or smaller than three inches. The ratio of maximum to minimum dimension of any rock shall not exceed 6:1.
10. Water turnouts needed to provide additional drainage will be constructed not to exceed two percent slope to minimize soil erosion.
11. Well site layout shall take into account the character of the topography and landform. Deep vertical cuts and steep long fill slopes shall be avoided. All cut and fill slopes should be constructed to the least percent slope practical.
12. Trash will be retained in portable trash cages and hauled to an authorized disposal site for disposal. Burial or burning of trash will not be allowed

unless done at an authorized site.

13. No drilling or storage facilities will be allowed within 650 feet of any pond, reservoir, canal, spring or stream. Other protective areas near water will be required to protect riparian habitat and T&E species.
14. Springs and water developments on public lands shall be used only with the prior written approval of the authorized BLM officer or the water rights holder.
15. To maintain esthetics values, all semi-permanent and permanent facilities will be painted to blend with the natural surroundings. The Standard Environmental Colors will be used for color selection.
16. Fences shall not be cut without prior approval of the authorized BLM officer. Before cutting through any fences, the operator shall firmly brace the fence on both sides of the cut; a temporary gate will be installed for use during the course of operations, unless the fence is immediately repaired. Upon completion of operations, fences shall be restored to at least their original condition.
17. As directed by the authorized BLM officer, cattle guards will be installed whenever access roads are through pasture gates or fences. These cattle guards shall be maintained. This includes cleaning out under cattle guard bases when needed.
18. The depth of surface soil material to be removed and stockpiled will be specified by the authorized BLM officer. If topsoil is stockpiled for more than one year, the stockpile shall be seeded or otherwise protected from wind and water erosion. The stockpile shall be marked or segregated to avoid loss or mixing with other subsurface materials. Any trees removed will be separated from soils and stockpiled separately.
19. Mud, separation pits and other containments used during the exploration or operation of the lease for the storage of oil and other hazardous materials shall be adequately fenced, posted or covered.
20. Lessee/operator shall comply with all regulatory requirements for storage and handling of hazardous materials and wastes.
21. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer. Within five working days the authorized BLM officer will inform the operator as to:

- a. whether the materials appear eligible for the National Register of Historic Places;
  - b. the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
  - c. a time frame for the authorized BLM officer to complete an expedited review under 36 CFR 800.11 or other applicable Programmatic Agreement, to confirm, through the State Historic Preservation Officer, that the findings of the authorized BLM officer are correct and that mitigation is appropriate.
22. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with the process described in item 20 above for inadvertent discovery of cultural resources, the authorized BLM officer will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The authorized BLM officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the authorized BLM officer that the required mitigation has been completed, the operator will then be allowed to resume construction.
23. No surface use will be permitted within 0.6 miles of occupied raptor aeries (nests) during the nesting and fledging period.
24. Fences shall be flagged with bright colored flagging at least every rod from visibility to wild horses. All fences should be constructed using green steel posts with white or silver tops to increase visibility. Fences should also avoid obvious horse migration routes (deep trails, stud piles) if at all possible.

### **Field Operation**

1. Operations shall be done in a manner which prevents damage, interference, or disruption of water flows and improvements associated with all springs, wells, or impoundments. It is the operator's responsibility to enact the precautions necessary to prevent damage, interference, or disruptions.
2. Unauthorized use or failure to lock gates during specified time frames by the lessee or its subcontractors would be considered a violation of the terms of the GPD or associated grants.

3. The operator shall regularly maintain all roads used for access to and within the lease units. A Maintenance and Dust Management Plan may be required. A regular maintenance program may include, but not be limited to: BLM authorized upgrading of existing roads, blading, ditching, culvert, drainage installation, and graveling or capping of the roadbed.
4. Management actions within riparian areas will be designed to maintain or, where possible, improve riparian habitat condition.
5. Noxious weeds which may be introduced due to soil disturbance and reclamation will be treated by methods to be approved by the authorized BLM officer. These methods may include biological, mechanical, or chemical. Should chemical methods be approved, the lessee must submit a Pesticide Use Proposal to the authorized BLM officer 60 days prior to the planned application date.
6. The lessee will institute and pay for a hydrologic evaluation program, which will be site specific and its intensity will be commensurate with the level of developmental drilling. The lessee will develop this evaluation program working with the BLM Carson City Stillwater Field Office Hydrogeologist and with BLM consent will implement. The number of aquifers encountered, their properties, their quality, and their saturated thickness may be documented. This type of information will be submitted to the BLM and would support future NEPA documentation as development progresses and may be useful to determine adverse impacts on surface water expressions of the geothermal reservoir (hot springs). The evaluation program may include the quality, quantity, and temperature of any hot springs or other water resource within the project area.
7. Ormat will inventory and monitor other existing and newly constructed and developed wells in the geothermal lease units. Existing wells in the lease units will be evaluated to determine their suitability for use as monitor wells. Where necessary, monitor wells will be installed at appropriate locations and depths to monitor geothermal exploration drilling and development.
8. Ormat will collect standard aquifer test data during and after well testing from completed cased geothermal explorations wells. Data collection will include but not be limited to static water levels, well drawdown, and other data that characterizes the aquifer(s) and that can be used to predict future scenarios as well as determine boundary affects. The data collection applies to both unconfined and confined aquifers.
9. Ormat will collect baseline hydrologic data from both geothermal lease

units. Data will include ground and surface water temperature, chemistry, groundwater elevations, and surface water flows (springs). Data will be collected to support and expand upon the required hydrologic monitoring program.

10. All drill rig and well test facility lights will be limited to those required to safely conduct the operations, and will be shielded and/or directed in a manner which focuses direct light to the immediate work area.
11. If previously unrecorded cultural resources are encountered during grading or other surface-disturbing activities, all grading or other surface-disturbing activities at the location of the discovery will cease within 100 meters/330 feet of the discovery, and the BLM would be notified. No surface disturbing activities will be allowed until the BLM Authorized Officer issues a Notice to Proceed (NTP) based upon the evaluation, mitigation, as necessary, and the acceptance of a summary description of the fieldwork performed for the discovery situation.
12. The locations of the historic properties will be provided to Ormat and flagged for avoidance. If avoidance of currently documented historic properties is not possible a resolution of adverse effects will be followed as defined in 36 CFR 800.6.
13. An archaeological monitor shall be present during any ground disturbing activities. Prior to construction, the monitor shall coordinate with the BLM archaeologist. The monitor shall also provide BLM with brief updates during the construction period and file a post construction report with BLM, which will provide the information the BLM archaeologist requests. They shall have the authority to halt all earth moving activities in the area of the discovery if prehistoric or historic artifacts are discovered until the find can be assessed. In the event of an inadvertent discovery all construction will cease within 100 meters/330 feet of the discovery.
14. Petroleum products such as gasoline, diesel fuel, helicopter fuel, crankcase oil, lubricants, and cleaning solvents used to fuel, lubricate, and clean vehicles and equipment will be containerized in approved containers.
15. Hazardous material shall be properly stored in separate containers to prevent mixing, drainage or accidents. Hazardous materials shall not be drained onto the ground or into streams or drainage areas.
16. Totally enclosed containment shall be provided for all solid construction waste including trash, garbage, petroleum products and related litter will be removed to an authorized sanitary landfill approved for the disposal of these classes of waste.

17. All construction, operation, and maintenance activities shall comply with all applicable federal, state, and local laws and regulations regarding the use of hazardous substances and the protection of air and water quality.
18. In construction areas where recontouring is not required, vegetation will be left in place wherever possible and the original contour will be maintained to avoid excessive root damage and allow for resprouting.
19. Watering facilities (e.g., tanks, developed springs, water lines, wells, etc.) will be repaired or replaced if they are damaged or destroyed by construction activities to its pre-disturbed condition as required by the authorized BLM officer.

### **Reclamation and Abandonment**

1. The operator or contractor will contact the authorized BLM officer 48 hours prior to reclamation work.
2. Restoration work may not begin on the well site until the reserve pits are completely dry.
3. Disturbed areas will be recontoured to blend as nearly as possible with the natural topography prior to revegetation with a BLM approved seed mix. This includes removing all berms and refilling all cuts. Compacted portions of the pad will be ripped to a depth of 12 inches unless in solid rock.
4. Site preparation for reclamation may include contour furrowing, terracing, and reduction of steep cut and fill slopes, installation of water bars, etc.
5. All portions of the access roads not needed for other uses as determined by the authorized BLM officer will be reclaimed.
6. The stockpiled topsoil will be spread evenly over the disturbed area.
7. The operator will be required to construct waterbars and re-open drainages on abandoned access roads and pipeline routes to minimize erosion as required. Water bars will be spaced appropriately dependant upon topography and slope. Pipeline routes shall be water-barred perpendicular to the fall-line of the slope.
8. The area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion stabilized and an acceptable vegetative cover has been established.

9. Rehabilitation shall be planned on the sites of both producing and abandoned wells. The entire site or portion thereof not required for the continued operation of the well should be restored as nearly as practical to its original condition. Final grading of back-filled and cut slopes will be done to prevent erosion and encourage establishment of vegetation.
10. When sites are abandoned, they will be inventoried for the presence of noxious weeds and treated if noxious weeds are present.
11. Seed and mulch used to reclaim disturbed areas must be weed free. Mulching of the seedbed following seeding will be required under certain conditions (i.e., expected severe erosion), as determined by the authorized BLM officer.
12. Seed will be broadcast between October 1 and March 15 using a site-specific seed mixture and depth of planting as determined by the authorized BLM officer. Seed may be applied with a rangeland drill at half the rate of broadcast seeding. All seeding application rates will be in pounds of pure live seed per acre. Seed should be adapted varieties.

## EXHIBIT C

### MONITORING AND EMERGENCY DISCOVERY PLAN FOR ORMAT'S PROPOSED GABBS VALLEY GEOTHERMAL EXPLORATION, LYON COUNTY, NEVADA

#### Treatment of Material Remains or Human Remains and Associated Grave Goods

##### I. Introduction

The purpose of this Plan is to provide for the treatment of all material remains or human remains and associated grave goods in the case of an inadvertent discovery during Ormat Technologies, Inc.'s, (the project proponent, Ormat) federal undertaking on lands managed by the Stillwater Field Office of the U.S. Bureau of Land Management (BLM). This document is intended to conform with the Nevada Bureau of Land Management/Nevada State Historic Preservation Office Protocol (1999) as amended 2005. More importantly, it is also intended to meet the Federal National Historic Preservation Act requirements that mandate the management of cultural resources for Federal undertakings and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA, PL106-601).

##### II. Action Plan

###### 1. Planning for Discoveries

The proposed undertaking is located on lands in which the potential exists for buried archaeological components, lacking a surface expression, to be impacted by project implementation. Therefore, a federally permitted archaeological monitor will be required to be on-site during all initial ground disturbing activities related to the federal undertaking. The project proponent will contact the BLM at least two weeks prior to ground disturbing activities to request an archaeological monitor. BLM may request that the proponent seek the aid of a third party archaeological contractor to conduct monitoring activities.

###### 2. Avoidance of Historic Properties

The proposed undertaking has the potential to impact known historic properties. An archaeological monitor will be required to be on site during all activities related to the undertaking within 30 meters of these historic properties. A letter report detailing these efforts will be provided to the BLM for documentation. One unevaluated resource, a geoglyph site, is not within the APE; however, a buffer between this resource and all activities related to the undertaking will be required.

###### 3. Discovery and Consultation

Upon discovery of previously un-identified cultural resources, including but not limited to archaeological components, human remains, funerary objects, sacred objects, or objects of cultural patrimony, the proponent will notify the BLM archaeologist within 24 hours by telephone with written follow-up documentation. All work within 100 meters of the discovery will cease, and the

newly-discovered cultural resource will be protected. The BLM Authorized Officer will follow the procedures as outlined in the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA, PL106, 601), when appropriate. Work will not be resumed within 100 meters of the discovery until the BLM Authorized Officer issues a Notice to Proceed. A Notice to Proceed can be issued under any of the following conditions:

- a. evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;
- b. the fieldwork phase of the treatment option has been completed; and
- c. the BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work

If a resource determination of Not Eligible is made, then the BLM will ensure that the find is documented, adhering to standard documentation procedures for the State of Nevada as defined by Barker (1989) before work within 100 meters can recommence. If further treatment is required, an avoidance plan will be implemented that protects the resource but allows work to continue nearby.