

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

**Carson Lake Basin Project LLC
Geothermal Drilling Permits
EA-NV-030-07-05
NVN-79663, N-79664, N-79665, NVN-79666, &
NVN-79310**

Introduction

Carson Lake Basin Project LLC (CLB), as operator, submitted a geothermal drilling permit (GDP) to the Bureau of Land Management (BLM) for ten temperature gradient wells to assess the potential for geothermal resource development in the Salt Wells area in Churchill County, Nevada. In 2004 and 2005, Vulcan Power Company (Vulcan) submitted geothermal lease applications, NVN-79310, NVN-79662 through 79668, for the Salt Wells area. This area was analyzed and approved in the March 6, 2003 BLM Carson City Field Office (CCFO) geothermal leasing EA/FONSI/Decision Record. As a result, CCFO determined that these Vulcan lease applications had received adequate environmental analysis and issued a memorandum in May 2005 recommending approval. The 2003 CCFO leasing stipulations and Conditions of Approval were included in the recommendation to lease.

Finding of No Significant Impact

Based on the analysis of environmental assessment EA-NV-030-07-05 for the Carson Lakes LLC Geothermal Drilling Permit Project, 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 10 wells analyzed in this EA include: CLB 33-11, CLB 51-16, CLB 52-15, CLB 31-14, CLB 31-20, CLB 27-16, CLB 67-14, CLB 23-21, CLB 33-33, CLB 89-15.

Decision

It is my decision to recommend authorization of the action as described in the Proposed Action of EA-NV-030-07-05. This decision is contingent on meeting all stipulations and monitoring requirements listed below, as well as the Conditions of Approval that have been attached to this FONSI/Decision Record. Consultation with the Fallon Shoshone-Paiute Tribe disclosed no issues with this project.

Stipulations

1) With the concurrence of the Nevada State Historic Preservation Officer, a Treatment Plan to address the historic trail deemed eligible for the National Register of Historic Places will be prepared and implemented prior to any surface disturbance for this project. The proponent understands and agrees with this mitigation measure.

2) All applicable standard operating procedures (SOPs) and Conditions of Approval (COAs) have been carried forward and are attached to this FONSI/Decision Record. SOPs, BMPs, and mitigation listed in EA-NV-030-07-05 are included.

Monitoring

No monitoring needs have been identified as a result of the environmental analysis for this action. However, the cultural resources Treatment Plan to be developed with the concurrence of the SHPO may require some type of monitoring during its implementation.

Rationale

The Proposed Action, as mitigated, meets the criteria described in the Federal Land Policy and Management Act of 1976 to prevent undue and unnecessary degradation of public land and the 43 CFR Subparts 3200 and 3260. 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.

for 
Donald T. Hicks
Field Manager
Carson City Field Office

2/6/07
Date

CONDITIONS OF APPROVAL (COAs)

Pre-Construction

1. Existing roads should be used to the extent possible. Additional roads, if needed, shall be kept to an absolute minimum and the location of routes must be approved by the authorized officer prior to construction.
2. Upon determination of an impending field development, a transportation plan will be requested to reduce unnecessary access roads.
3. All access roads will be constructed and maintained to BLM road standards (BLM Manual Section 9113).
4. Off road travel will be restricted to terrain with less than 30 percent slopes unless approved by the authorized officer.
5. Proposed surface disturbance and vehicular travel will be limited to the approved well location and access route.
6. Any changes in well location, facility location, access or site expansion must be approved by the authorized officer in advance.
7. Prior to approval of an APD or other lease operations, a Section 106 consultation must be completed by the authorized officer as provided for under the Nevada BLM Programmatic Agreement for Cultural Resources.
8. Any activity planned within a quarter-mile on either side of the Pony Express National Historic Trail must undergo a visual assessment. Appropriate mitigation of visual impacts will be implemented as necessary to keep the management corridor in as natural a condition as possible.

Well Pad and Facility Construction

1. Every pad, access road or facility site must have an approved surface drainage plan.
2. A site diagram depicting the location of production facilities, recontoured slopes and stabilization measures shall be approved by the authorized officer prior to installation of production facilities.

3. The design of all facilities, including well pads, roads, pumps, and pipelines, shall be approved by the authorized officer prior to construction to avoid unnecessary conflicts with visual resources management objectives.
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 should 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. Low water crossings should be used whenever possible. Installation of culverts, if necessary, will be designed to maintain the original stream gradient and of adequate size to accommodate a 24-hour 100-year event. Fill material will be properly compacted in layers not exceeding 6 inches in thickness to ensure stability and to prevent washing out or dislocation of the culvert. The road surface should not be less than 12 inches above the culvert to prevent crushing from weight loads.
10. 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.
11. Water turnouts needed to provide additional drainage will be

constructed not to exceed two percent slope to minimize soil erosion.

12. Well site layout should take into account the character of the topography and landform. Deep vertical cuts and steep long fill slopes should be avoided. All cut and fill slopes should be constructed to the least percent slope practical.
13. Trash will be retained in portable trash cages and hauled to an authorized disposal site for disposal. Burning will not be allowed on the well site.
14. No drilling or storage facilities will be allowed within 650 feet of any pond, reservoir, canal, spring or stream. Other protective areas near water may be required to protect riparian habitat and T&E species.
15. As wells are drilled, the authorized officer will require that the drilling company monitor the temperature and outflow of water from local hot springs. If the temperature and outflow of water from the hot spring is adversely impacted, the authorized officer will require the operator take corrective action, which may include amending or shutting down operations.
16. Springs and water developments on public lands may be used only with the prior written approval of the authorized officer or the water rights holder.
17. 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.
18. Fences shall not be cut without prior approval of the authorized 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.
19. As directed by the authorized 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.
20. The depth of surface soil material to be removed and stockpiled will be specified by the authorized 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.

21. 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.
22. Lessee/operator shall comply with all regulatory requirements for storage and handling of hazardous materials and wastes.
23. 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 officer. Within five working days the authorized officer will inform the operator as to:
 - whether the materials appear eligible for the National Register of Historic Places;
 - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
 - a time frame for the authorized 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 officer are correct and that mitigation is appropriate.
24. 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 23 above for inadvertent discovery of cultural resources, the authorized 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 officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the authorized officer that the required mitigation has been completed, the operator will then be allowed to resume construction.

25. No surface use will be permitted within 0.6 miles of occupied raptor aeries (nests) during the nesting and fledging period.
26. Field development construction activities within 2 miles of a sage grouse lek will require all motorized equipment to have noise abatement devices to preclude excessive noise during the sage grouse strutting period.
27. The cutting of rare, unique or unusual trees will not be permitted.
28. Consultation with the U.S. Fish and Wildlife Service (USFWS) is required per Section 7 of the Endangered Species Act prior to approval of an GPD or other lease operations if any proposed listed or listed threatened or endangered species or its critical habitat is likely to be affected by project activities. If there is deemed to be any adverse impact the proposal would be modified or the request denied.
29. 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.
30. No access roads, drill pads, mud pits or storage facilities will be allowed within 500 feet of cave entrances, drainage areas and subsurface passages. No waste material or chemicals will be placed, or disposed of, in sinkholes or gates during specified time frames by cave entrances. If during construction activities any sinkholes or cave openings are discovered, construction activities will cease and the authorized officer will be notified.
31. The discharge of dredged or fill material into surface waters such as navigable and interstate waters and their tributaries, wetlands adjacent to those waters and all impoundments of those waters may require an individual permit or notification under Section 404 of the Clean Water Act (CWA) issued by the District Engineer (DE) of the Corps of Engineers (COE). Criteria applied under Section 404 are established in regulation and will be used to determine the type of permit or notification required.

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. Companies controlling roads which provide access into crucial wildlife areas may be required to close the road with a lockable gate to prevent general use of the road during critical periods of the year when resource problems are experienced (during hunting seasons, winter, etc.). This restrictive measure would be applied where needed to protect wildlife resources or to minimize environmental degradation.
3. The use of closed road segments will be restricted to legitimate, authorized agents of the lessee and/or their subcontractor(s), the land managing agency and other agencies with a legitimate need (NDOW, other law enforcement agencies, etc.).
4. 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.
5. The operator shall regularly maintain all roads used for access to the lease operation. A maintenance plan may be required. A regular maintenance program may include, but not be limited to, upgrading of existing roads, blading, ditching, culvert, drainage installation, and graveling or capping of the roadbed.
6. Management actions within riparian areas will be designed to maintain or, where possible, improve riparian habitat condition.
7. All power poles and potential raptor perches within a 2-mile radius of a potentially active sage grouse lek will include anti-perching devices, placed underground, or otherwise designed to eliminate use by raptors.
8. Noxious weeds which may be introduced due to soil disturbance and reclamation will be treated by methods to be approved by the authorized 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 officer 60 days prior to the planned application date.

Reclamation and Abandonment

1. A water well may be accepted by the Carson City Field Office upon completion of operations. Please submit the following information to the Carson City Field Office, Bureau of Land Management, 5665 Morgan Mill Road, Carson City, Nevada 89702.

- A. Water Analysis;
 - B. Type of inside diameter of casing used in well;
 - C. Total depth of well;
 - D. Depth of concrete seal;
 - E. Depth of static water level;
 - F. Water bearing formation or description of aquifer.
2. The operator or contractor will contact the authorized officer 48 hours prior to reclamation work.
 3. Restoration work may not begin on the well site until the reserve pits are completely dry.
 4. Disturbed areas will be recontoured to blend as nearly as possible with the natural topography prior to revegetation. 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.
 5. Site preparation for reclamation may include contour furrowing, terracing, reduction of steep cut and fill slopes, installation of water bars, etc.
 6. All portions of the access roads not needed for other uses as determined by the authorized officer will be reclaimed.
 7. The stockpiled topsoil will be spread evenly over the disturbed area.
 8. 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.
 9. 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.
 10. 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.

11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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 predisturbed condition as required by the authorized officer.
17. When sites are abandoned, they will be inventoried for the presence of noxious weeds and treated if noxious weeds are present.
18. Seed and mulch used to reclaim disturbed areas must be weed free. Mulching of the seedbed following seeding may be required under certain conditions (i.e., expected severe erosion), as determined by the authorized officer.
19. 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 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.