

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

**Carson Lake Basin Project LLC
Salt Wells
Geothermal Exploratory Drilling Program
DOI-BLM-NV-C010-2009-0006-EA
NVN-79663, N-79664, N-79665, NVN-79666, &
NVN-79310**

INTRODUCTION

Carson Lake Basin Project LLC (CLB), as operator, proposes to conduct the Salt Wells Geothermal Exploratory Drilling Program on lands managed by the U.S. Department of Interior Bureau of Reclamation Lahontan Basin Area Office (BOR) and lands managed by the BLM Carson City Stillwater Field Office (CCSFO). The project area is located in Churchill County, Nevada, within the boundary of the CCSFO management area and on federally issued geothermal leases. The CCSFO administers geothermal leases on BOR managed lands in accordance with 43 DFR 3200, the geothermal resources leasing regulations. These regulations direct BLM to coordinate the geothermal project review with BOR, the surface management agency, and will authorize any measures resulting from BOR review of the project.

The Proposed Action includes constructing ten (10) well pads and associated roads, and drilling and testing of ten (10) exploratory wells on these pads 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. On February 6, 2007 an Environmental Assessment was completed and a FONSI/Decision Record signed approving ten temperature gradient wells.

This EA, DOI-BLM-NV-C010-2009-EA, evaluates the impacts on the natural and human environment that could result from implementation of this exploration project. This issuance of leases for geothermal resources is a federal action, a commitment to resource development, and confers on the lessee the right to future exploration and development within the lease area. 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 the 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. BOR was involved in the preparation of the environmental analysis for this project and concur with the mitigation, monitoring, and conditions of approval for this project.

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION

Based on the analysis of environmental assessment DOI-BLM-NV-C010-2009-EA for the Carson Lakes Basin Project LLC Salt Wells Geothermal Exploratory Drilling Program, 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 Well Numbers analyzed in this EA include: CLB 76-9, CLB 71-15, CLB 84-16, CLB 14-1, CLB 11-12, CLB 55-17, CLB 54-20, CLB 51-29, CLB 67-29, CLB 65-32. The corresponding Pad Numbers, identified in the EA, are Pad10, 11, 12, 14a, 15,15,17,18,19, and 20.

Context:

The proposed ten drill sites and their access together cover an area of approximately 34 acres. The project area encompasses BLM managed lands and BOR managed lands that are open to fluid mineral leasing and these agencies had involvement in the preparation of the environmental analysis. The BOR concurs with the conditions of approval for this drilling project.

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 ten well pads, access roads, 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 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.

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 ten well pads, access roads, and other associated activity. Based on the inventory, BLM determines that no known historic properties are present in the APE. BLM conducted reasonable and good faith government-to-government consultation with the Fallon Paiute-Shoshone 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 and other EAs. 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, 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 CLB 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 Fallon Paiute-Shoshone 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 and the BOR were involved in preparation of the EA and officials from the State of Nevada, Churchill County and the Fallon Paiute-Shoshone Tribe were notified of the proposal.

DECISION

I approve the exploration drilling project as described in the Proposed Action of DOI-BLM-NV-C010-2009-0006-EA. This decision is contingent on meeting all geothermal lease stipulations and monitoring requirements listed below and in DOI-BLM-NV-C010-

2009-0006-EA, as well as, the Conditions of Approval that have been attached to this FONSI/Decision Record.

Stipulations:

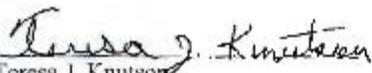
All applicable standard operating procedures (SOPs) and Condition of Approval (COAs) have been carried forward and are attached to this FONSI/Decision Record. SOPs, BMPs, and mitigation listed in the Vulcan Plan of Exploration, Geothermal Drilling Permits, and in the DOI-BLM-NV-C010-2009-0006-EA are included.

Monitoring:

Pursuant to the Monitor and Discovery Plan, a qualified cultural resource monitor(s) will be on site during construction as necessary at locations determined in consultation between BLM, BOR, and the Tribe. Under the Monitoring Procedures section of the Monitor and Discovery Plan, a monitor will be on site for the duration of all ground disturbing activities adjacent to Pad Numbers 13 and 15 including their associated access roads and the excavation of sumps/wells. The EA identifies the process involving this monitoring by permitted archaeologist for unanticipated discovery of human remains or items of cultural significance (see EA pages 4-2 through 4-4) and more specifically in the Monitor and Discovery Plan.

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 and the 43 CFR 3200, 3250, 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.


Teresa J. Knutson
Stillwater Field Manager
Carson City District

Date 4/24/09

1 attachment: Conditions of Approval

April 23, 2009

Cason Lake Basin Project LLC

CONDITIONS OF APPROVAL (COAs)

Pre-Construction

1. All access roads will be constructed and maintained to BLM road standards (BLM Manual Section 9113).
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. 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. 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. 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.

4. Access road construction for exploratory wells should be planned such that a permanent road can later be constructed in the event of field development.
5. Construction of access roads on steep hillsides and near watercourses will be avoided where alternate routes provide adequate access.
6. 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.
7. 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.
8. 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.
9. Water turnouts needed to provide additional drainage will be constructed not to exceed two percent slope to minimize soil erosion.
10. 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.
11. 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.
12. 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.
13. Springs and water developments on public lands may be used only with the prior written approval of the authorized BLM officer or the water rights holder.
14. 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.

15. 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.
16. 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.
17. 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.
18. 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.
19. Lessee/operator shall comply with all regulatory requirements for storage and handling of hazardous materials and wastes.
20. 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:
 - 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 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.

21. 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.
22. No surface use will be permitted within 0.6 miles of occupied raptor aeries (nests) during the nesting and fledging period.
23. 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.
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 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.

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. There will be no discharges into any Bureau of Reclamation water delivery or drainage facilities.
8. The operator shall not use Bureau of Reclamation operation and maintenance roads for lease related access without prior written approval from the Bureau of Reclamation.
9. Operations shall be done in a manner that prevents damage, interference, or disruption of water flows, and improvements associated with all springs, wells, impoundments, or Newlands Project facilities. It is the operator's responsibility to enact the precautions necessary to prevent damage, interference, or disruptions. Monitoring wells may be required at all sites where exploration or development will occur to assess long-term impacts to quantity and quality in accordance with applicable State and federal requirements.

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. 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. 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.

11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. When sites are abandoned, they will be inventoried for the presence of noxious weeds and treated if noxious weeds are present.
17. 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 BLM officer.
18. 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.