

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION**

**CASE NO. 14948**

**APPLICATION OF LOS LOBOS RENEWABLE POWER, LLC  
(FORMS G-112) FOR APPROVAL TO INJECT INTO A  
GEOTHERMAL AQUIFER THROUGH TWO PROPOSED  
GEOTHERMAL INJECTION WELLS AT THE SIDE OF THE  
PROPOSED LIGHTNING DOCK GEOTHERMAL POWER  
PLANT, HIDALGO COUNTY, NEW MEXICO.**

**PROTESTANT AMERICULTURE'S PRE-HEARING STATEMENT**

AmeriCulture, Inc., ("Americulture"), by and through undersigned counsel, hereby submits the following Pre-Hearing Statement in the above-captioned matter.

**I. Name of the Party and the Party's Attorney**

AmeriCulture, Inc.  
25 Tilapia Trail  
Animas, NM 88020

Charles Lakins, Esq.  
Lakins Law Firm, P.C.  
P.O. Box 91357  
Albuquerque, NM 87109

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**II. Statement of the Case**

The Applicant Los Lobos Renewable Power, LLC ("Los Lobos") filed two applications on Form G-112 with the Oil Conservation Division to inject fluids into a geothermal reservoir. Los Lobos' intent is to use two existing geothermal wells, LDG 53-7 and LDG 55-7, as injection wells in connection with Los Lobos' geothermal power plant project planned to be constructed in Section 7, Township 25 South, Range 19 West, Hidalgo County, New Mexico. Los Lobos contends that it is developing a utility-scale closed loop geothermal power facility to produce electricity for sale to a New Mexico utility, PNM. The project as characterized by Los Lobos "involves drilling and utilizing wells for production from and re-injection of geothermal fluids

into the Lightning Dock geothermal reservoir.” According to Los Lobos, the “subject wells will reinject native, chemically unaltered, geothermal fluid back into the Lightning Dock geothermal reservoir so that the fluids can reheat and then run through the heat-exchanger portion of Los Lobos’ closed-loop binary power plant over and over again.” (Motion to Expedite, ¶7B.)

Los Lobos cannot demonstrate that:

- A. Its project as proposed will not result in no new net depletions to the source (NMSA §71-5-2.1)
- B. Its project as proposed will not result in waste (NMSA §71-5-4);
- C. Its project as proposed will not impair existing correlative rights; and
- D. Its project as proposed will not impair existing water rights; and
- E. Its project as proposed will not degrade the public domestic water supply.

In mid-2008, Los Lobos applied to the OCD for a discharge permit and authority to construct three Class V injection wells and five geothermal production or development wells, all of which were in connection with the exact same geothermal power facility project before the Commission at this hearing. On December 1, 2008, a hearing was conducted in Lordsburg, with a re-hearing on April 7, 2009. (Case No. 14246). Los Lobos’ permit was issued July 1, 2009. In that permitting process, the proposed injection well in this case – Well 53-07 – was permitted as a geothermal production or development well.

Order No. R-13127 from that case reflected that the evidence submitted was “not sufficient to demonstrate the characteristics of, or even the identity of, the injection formation, nor does it demonstrate whether or not hydrologic communication exists between the injection formation and other aquifers in the vicinity that are or may be underground sources of drinking water.” (Order, ¶30). Conditions were drafted into the Permit to address the OCD’s concerns.

However, since the issuance of the permit, activity has occurred that demonstrate even the permit conditions as drafted do not protect existing water rights, correlative rights and the physical wells of Protestant and other parties.

The proposed production and injection well locations and designs are not based upon prudent geoscience and/or reservoir engineering practice. The characteristics, hydraulic properties and fluid chemistry of the entire Lightning Dock geothermal reservoir are very poorly characterized and to a large extent unknown. It is impossible to site and space production and injection wells without knowledge of the hydraulic properties of the intended production and injection zones. What is apparent is that the “pump and reinject” program as proposed does not account for the known structural and hydrogeologic differences between the production well and injection well site locations, and there is a significant likelihood of impairment to existing water rights as well as correlative geothermal rights.

Here, Applicant’s operational plan is based upon the presumption that the Lightning Dock geothermal reservoir is in essence, similar to a covered pot boiling on a stove, where the heat from the water is extracted from one tube and the “cool” water is injected to be “re-heated” based upon a constant heat source with a temperature above that of both the extracted and reinjected waters. The known geology of the area demonstrates this not to be the case. The injection and production wells are located in separate geologic domains; overproduction of the reservoir – proposed at up to 6,000,000 million gallons per day – has the potential to create a significant pressure gradient between the shallow geothermal reservoir and the cold ground water aquifer, as well as to induce mixing of different aquifer sources. Injection south and southeast will force cold geothermal and ground water to flow in and mix with the current geothermal production area, impairing correlative rights. The planned production and injection will

eventually “quench” the shallow outflow plume reservoir with cold injection water at greater depth and induce cold ground water inflow from the reservoir margins. Thermal breakthrough of cold water into the planned production wells in the deep reservoir will also occur from over production and the poorly cited injection well locations.

In January 2012, Los Lobos requested temporary approval from OCD to re-enter three geothermal wells to conduct a temporary tracer test, and conduct geophysical logging. The plan as proposed involved three wells not owned by Los Lobos, State Well No. 1, State Well No. 3 and State Well No. 4, which are in Section 6, T25S, R19W, and are all within the Lightning Dock Geothermal Reservoir. The plan was to inject Rhodamine WT into one or more of the wells, and over a three to five-day period pump from other (non designated) wells under Lightning Dock Geothermal’s existing discharge permit. During this test, Los Lobos pumped from wells 45-7 (the proposed project supply well) and 53-7 (one of the wells proposed for injection), and injected into 55-7 (the other well proposed for injection). This test resulted in contamination of Protestant’s geothermal well used for business purposes and domestic purposes. Protestant’s business was significantly impacted. The New Mexico State Engineer documented this event, which was in essence an unauthorized “pump and inject” test.

Following this tracer test, John W. Shomaker, Ph.D prepared for Los Lobos a March 22, 2012 Report. The Report was not made public; it has been reviewed by Protestant’s expert geologist and has been subpoenaed for production at hearing. The results do demonstrate that Los Lobos encountered serious problems injecting at low volumes of water into Well 55-7 and the well would not reach equilibrium; that there were substantial draw downs as well as rises in the water level of wells within the vicinity; and most notably that the water level in the proposed injection well 55-7 rose from 80’ bgs to surface over a one-week period.

The results reflect the unknown and highly variable hydrogeologic characteristics of the Lightning Dock Geothermal Reservoir. The Report further draws into question the physical integrity of well 53-7 (which is an older well), and whether well 53-7 meets the requirements of NMAC 19.14.27.8. The Report further draws into question whether the proposed injection interval is isolated from the supply source of other drinking water sources, as well as whether the Applicant has met the requirements of 40 CFR §144, as is expressly required under their existing WQCC Discharge Permit.

The Protestant's domestic well, along with other domestic wells in the area, can be adversely affected by the proposed operation. This is due to differences in the known chemistry of the water proposed to be pumped and injected, as the injected waters will alter the chemistry of domestic water supplies and create a situation where the public domestic water supply will be contaminated.

### **III. Witnesses to Testify at the Hearing**

AmeriCulture, Inc. will call the following witnesses to testify:

1. Damon Seawright, AmeriCulture, Inc.
2. James Witcher, Geologist, Las Cruces, NM

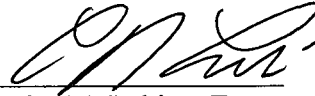
### **IV. Approximate Time Needed to Present Protestant's Case.**

Three (3) hours.

### **V. Procedural Matters to be resolved prior to the hearing.**

Determination of the applicable regulatory and/or statutory authority for review of Los Lobo's Injection Applications; either NMAC 20.6.2.3109(C) or NMSA 1978, §71-5-2.1(B)(1) (2012).

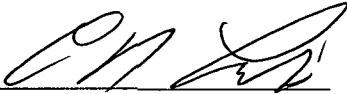
Respectfully submitted,  
LAKINS LAW FIRM, P.C.



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### **CERTIFICATE OF SERVICE**

I, Charles N. Lakins, do hereby certify that on the 13th day of March 2013, a true and correct copy of this Pre-Hearing Statement was hand-delivered to all counsel of record in this matter.



Charles N. Lakins, Esq.