

EXHIBIT B



Heidi M. Rhymes, PG
625 2nd Street, Suite 210
Petaluma, CA 94952

September 9, 2013

Christina M. Caro, Assistant Attorney
Lozeau | Drury LLP
410 12th Street, Suite 250
Oakland, CA 94607

Subject: *Additional Comments on the Final Environmental Impact Report and Environmental Impact Statement (FEIR/FEIS) for the Casa Diablo IV Geothermal Energy Project Environmental Impact Report Geology and Water Resources*

Dear Ms. Caro,

I reviewed the FEIS/FEIR for the Casa Diablo IV Geothermal Energy Project (Project) and my previous submittal of comments dated January 24, 2013 for review of the Draft EIS/EIR is relevant and appropriate to the recently released FEIS/FEIR. I also reviewed the comments on my submittal and submitted comments on the Applicant's responses to my comments dated July 12, 2013 and those comments are also relevant. The below comments

EIR comments of Casa Diablo IV Proposed Geothermal Development Project
Heidi Rhymes, PG,
July 12, 2013

are in addition to the comments supplied in my January 24, 2013 and July 12, 2013 submittals for the Draft EIR/EIS and FEIS/FEIR, respectively.

The FEIR/FEIS fails to adequately assess the risks to geothermal resources from the project

As mentioned in my letter dated January 24, 2013 the proposed CD-IV project has the potential of impacting and irreversibly altering the natural geothermal features such as hot springs and pools, fumaroles (steam vents) and steaming ground in the vicinity of the project. Some additional data from the Long Valley Hydrologic Advisory Committee - Hydrologic Monitoring Data (LVHAC, Dec 2011) was provided in Comment Letter 19 in the Comments section Volume 2 for the DEIR/DEIS. As indicated in my January 24, 2013 letter the surficial thermal features are at risk of being adversely effected by the continual reduction in thermal inflow temperatures as a result of the project. As shown in the graph for Fish Hatchery Springs AB and CD the thermal water discharge and the temperature has already decreased markedly from the installation of the first geothermal plants in the 1980's and early 1990's. The FEIS relies upon proprietary models to conclude that the further reduction in temperatures from the source will not have a significant effect on the environment, however, with the addition of 50% more energy extracted from this geothermal reservoir and the already decreased outputs to the surface features the environmental fate of the resources impacted should be thoroughly and openly investigated and the FEIS/FEIR fails to do this.

According to USGS's (USGS, 2013) hydrologic monitoring program changes have been observed in the hydrologic system caused by geothermal development. Notably, changes have been observed in the discharge and

temperature of thermal springs at sites located along Hot Creek east of the Project (USGS, 2001). This same data shows a decline in the total volume of thermal water entering the Hot Creek Head springs since the early 1990s. In addition, as shown in Section 4.7.4.1 of the FEIR/FEIS water quality chemistry and temperatures indicate a clear connection from the Casa Diablo well field to the shallow geothermal features down flow from the site including Hot Creek Springs, Hot Bubbling Pool and Hot Creek Fish Hatchery. Reduction in temperatures of geothermal features can negatively impact the ecosystem and community resources. The rate of temperature decline (thermal drawdown) from the geothermal extraction/injection process in the reservoir exceeds the rate of recovery (Sutter, Fox et al., 2011) and although the process of geothermal energy is considered renewable reservoirs need “breaks” from extraction processes so that temperatures and pressures have time to recover to initial or close-to initial conditions. The decline in temperatures in a given system during the extraction and injection period will manifest themselves not only in the reservoir itself but also in the shallow geothermal features connected within the exploited reservoir. For this reason, as indicated in Section 4.7.4.1 of the FEIR/FEIS temperature declines are expected in the areas of concern for this project such as Hot Creek Springs, Hot Bubbling Pool, Hot Creek Fish Hatchery. According to the Owens Basin Wetland and Aquatic Species Recovery Plan (USFWS, 1998)” Geothermal development in Long Valley may be altering aquifer dynamics. Springs supporting Little Hot Creek should be protected from adverse impacts of decreased discharge, and changes in the thermal and chemical characteristics of water.” Based on the above information and in information supplied in previous documents by others and myself it is clear that there exists a significant risk to the biological resources that rely on thermal inputs from the geothermal reservoir. The FEIR/FEIS does not provide a complete

EIR comments of Casa Diablo IV Proposed Geothermal Development Project
Heidi Rhymes, PG,
July 12, 2013

and thorough review of these risks and additional studies, open to a full public review, is required to adequately determine the associated risks.

Sincerely,

A handwritten signature in black ink that reads "Heidi M. Bauer". The signature is written in a cursive style with a large, looping initial "H".

Heidi Bauer, PG

REFERENCES:

LVHAC, Dec 2011, Comment Letter 19, Long Valley Hydrologic Advisory Committee Hydrologic Monitoring Data
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/bishop/casa_diablo_40.Pa.r.28225.File.dat/cd4_final_eir_volume_2_attachment_g1_part_1.pdf - Page 84

USGS, 2013, <http://pubs.usgs.gov/dds/dds-81/Intro/MonitoringData/Hydrologic/Hydro.html#References>

USGS, 1996, Hydrologic Data for Long Valley Caldera, Mono County, California, 1987-93

USGS, 2001, Hydrologic Data for Long Valley Caldera, Mono County, California, 1994-96

EIR comments of Casa Diablo IV Proposed Geothermal Development Project
Heidi Rhymes, PG,
July 12, 2013

USFWS, 1998 U.S. Fish and Wildlife Service. Owens Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California. Portland, Oregon

Daniel Sutter, Don B. Fox, Brian J. Anderson, Donald L. Koch, Philipp Rudolf von Rohr and Jefferson W. Tester, 2011, *Sustainable Heat Farming of Geothermal Systems: A case study of heat extraction and thermal recovery in a model EGS Fractured Reservoir*, Atkinson Center for a Sustainable Future and the Cornell Energy Institute, Cornell University, Ithaca, NY.

Graphs from Comment Letter 19 Long Valley Hydrologic Advisory Committee Hydrologic Monitoring Data
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/bishop/casa_diablo_40.Par.28225.File.dat/cd4_final_eir_volume_2_attachment_g1_part_1.pdf - Page 84

USGS,2013,<http://pubs.usgs.gov/dds/dds-81/Intro/MonitoringData/Hydrologic/Hydro.html#References>

USGS, 1996, Hydrologic Data for Long Valley Caldera, Mono County, California, 1987-93 <http://pubs.usgs.gov/of/1996/0382/report.pdf>

USGS, 2001, Hydrologic Data for Long Valley Caldera, Mono County, California, 1994-96 <http://pubs.usgs.gov/of/2000/0230/report.pdf>

EIR comments of Casa Diablo IV Proposed Geothermal Development Project
Heidi Rhymes, PG,
July 12, 2013

USFWS, 1998 U.S. Fish and Wildlife Service. Owens Basin Wetland and
Aquatic

Species Recovery Plan, Inyo and Mono Counties, California. Portland,
Oregon

<http://inyo-monowater.org/wp->

[content/uploads/2011/09/OV_Wetland_Aquatic_spp_Recovery_Plan_1998.pdf](http://inyo-monowater.org/wp-content/uploads/2011/09/OV_Wetland_Aquatic_spp_Recovery_Plan_1998.pdf)

f



HEIDI M. BAUER, PG

625 2nd Street, Suite 110
Petaluma, CA 94952

707-769-2289

heidi@awsciences.com

www.awsciences.com

PROFILE

Professional Geologist (CA) and QSP for stormwater. Effective manager and communicator for environmental investigations and reports. Effective and efficient professional for CEQA/NEPA project reviews and third-party peer reviews. Effective leader for hazmat clean-ups, indoor air quality investigations and employee health and safety programs and oversight.

EXPERIENCE

Senior Project Geologist

Air & Water Sciences, Petaluma, California

January 2004 – present

Currently manages environmental projects, environment project oversight, and third-party review. Includes review, analysis, interpretation and comment/advise on groundwater and soil contaminated sites. Performs file reviews for contaminated sites and prepares summary reports. Researches and comments on environmental impacts from subsurface contamination including groundwater, soil and soil vapor, including review of subsurface contaminant transport, groundwater flow, soil stratigraphy and hydrogeologic data to determine risk and remediation goals. Provides review, opinion and comments for CEQA/NEPA projects and other projects reviewing environmental review. Project management includes report and plan preparation, proposal development, estimating, data collection, analysis interpretation, and reporting. Coordinates and interacts with regulatory agencies on compliance issues. Reviews and provides updates/presentations on regulatory/compliance standards and requirements. Performs peer reviews and environmental damage claim assessments for insurance carriers. Also performs indoor air quality investigations and reporting, including, mold, VOCs, particulates, asbestos and lead. Serves as collateral health and safety officer and prepares health and safety-related plans.

Senior Project Geologist

Miller Brooks Environmental, Oakland, California

June 2002 to January 2004

Managed the implementation and direction of environmental investigations and LUST programs for multi-site, small to large, petroleum distribution and marketing companies. Worked and met with regulators and prepared local, state and federally required reports and documents. Managed compliance testing and discharge reporting requirements. Performed peer reviews, property development investigations, and damage claim evaluations for insurance companies. Performed function as company Health and Safety Officer and prepared health and safety plans and risk assessment reports for projects.

Senior Project Geologist

Clearwater Group, Inc., Oakland, California

September 1997 to August 2001

Supervised 10 – 15 managers, scientists, and technicians and served as operations manager of satellite office. Directed program implementation for multi-site clients with LUST sites. Collected and analyzed data and prepared and implemented plans and permits including, but not limited to, workplans, proposals, sampling plans, RAPs and CAPs, RNA plans, feasibility studies, pilot tests, health and safety plans, NPDES and air quality permits. Conducted environmental research, support and reporting for environmental litigation cases, damage claim evaluations and property development. Served as representative for environmental and property development issues at hearings and meetings. Served as Corporate Health & Safety Officer and managed safety compliance issues, reporting and conducted appropriate training.

Project Geologist

Walden Associates Inc., Oyster Bay, New York

January 1996 – July 1997

Responsible for environmental investigative work to assess the nature and extent of contaminant releases from LUST sites or hazardous material releases. Conducted and coordinated assessments and remedial projects. Prepared workplans, corrective action plans, reports and permitting documents. Served as Corporate Health and Safety Officer and conducted all trainings, reporting and compliance management.

Environmental Coordinator

Department of Environmental Health & Safety, State of New York, Stony Brook, New York

January 1993 to January 1996

Responsible for compliance with all applicable federal, state and local hazardous waste regulations and storm water and NPDES discharge reporting. Worked with facilities maintenance on facility inspections, storage, transportation oversight and

disposal/discharge of hazardous and regulated waste. Collateral duties included confined space safety, industrial hygiene sampling, indoor air quality investigation, hazard communication program, chemical hygiene program implementation and compliance inspections.

ADDITIONAL PART-TIME EMPLOYMENT

Lieutenant/Chemical Safety Division Officer

June 1996 to June 2002

US Coast Guard Reserve, Pacific Strike Team, Novato, California and Fort Wadsworth, NY

Directly supervised 15 response technicians and scientists. Directed hazardous materials response operations in area of responsibility. Worked on environmental investigations for EPA Superfund sites and oversaw direct-push (Geoprobe) work. Conducted unit training on safety and monitoring and Geoprobe. Served as Chemical Division Safety Officer.

Environmental Management Assistant

August 1993 to December 1993

Marine Science Research Center, Stony Brook, New York

Conducted groundwater sampling, data collection and interpretation for municipal solid waste landfill sites. Conducted research project on the environmental and public health effects of improper lead waste disposal. Conducted research project on the disposal routes and environmental consequences of medical waste disposal on local beaches.

Environmental Intern

June 1993 to August 1993

Atlantic States Legal Foundation, Syracuse, New York

Conducted research project and report on waste discharges (TRIs) from steel mills to the Great Lakes basin in accordance with the Emergency Planning and Community Right to Know Act (EPCRA).

Environmental Health & Safety Intern

January 1992 to December 1993

Department of Environmental Health & Safety, State of New York, Stony Brook, New York

Worked under Environmental Health and Safety Manager and Industrial Hygiene Manager and performed environmental surveys and inspections. Responded to and remediated chemical spills. Assisted with Hazcom/Community Right-to-Know program.

Environmental Intern

January 1990 to December 1992

New York Public Interest Research Group

Performed research, outreach and public education on waste-to-energy plants. Also performed research and public education in support of the 5-cent bottle return program for Suffolk County.

ACADEMIC BACKGROUND

- *Bachelor of Science* – Major in Environmental Geology (Minor in Marine Science), State University of New York at Stony Brook – December 1993
- *Master of Professional Studies*– Environmental/Waste Management – State University of New York at Stony Brook – May 1997

REGISTRATIONS, CERTIFICATES, & PUBLICATIONS

Current State of California Professional Geologist (PG) #7050
Qualified Storm Water Pollution Prevention Practitioner (QSP)
Asbestos Building Inspector and Site Supervisor/Contractor
Confined Space Entry & Rescue – I and II
Hazardous Materials Response – Operations level
Hazardous Materials Response – Technician level
Hazardous Materials Response – Supervisor level

USCG DOT Pollution Investigation Qualification
Lead Sampling Technician
USCG DOT Hazardous Materials Response Qual.
40-hour Hazwoper training and instructor
Indoor Air Quality Investigation