

Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Dannel Roe
1002 Hillside Dr.
Weed, CA 96094

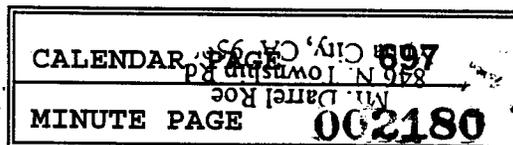
I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: *Dannel Roe*



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Glass Mountain KGRA

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Name:

Robert Scott
711 South St.
Yreka, CA 96097

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I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: _____

Robert Scott

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Sierra Club/Shasta Group
Attn: Carl Weidant
30646 100 Road
Singleton, CA 96088

___ I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

___ Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

___ I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

___ I have the following specific comments regarding the geothermal proposal:

Signed: _____

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Glass Mountain KGRA

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Name:

George Setzer
Tionesta
Tulelake, CA 96134



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Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.



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I have the following specific comments regarding the geothermal proposal:

Signed: _____

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Glass Mountain KGRA

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Name:

Harry Shott
300 Sheldon Ave.
Mt. Shasta, CA 96067

I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: Harry - Louis Shott

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October 12, 1994

Randall Sharp;
Modoc National Forest
800 West 12th Street
Alturas, Ca. 96101

Mr. Sharp;

We are writing in regard to the Geothermal Exploration Activities in the Medicine Lake area.

There has been quite a lot of exploration already done in this area. There are two sites that we object to. They are too close to the Medicine Lake subdivision. They are #15-15 TCH and #42-13 TCH. From past drillings, the noise alone will be objectionable. Being in the Mountains, noise carries over a large area. Especially at night.

We go to Medicine Lake for the peace and quiet. We hope this will be taken into consideration.

Thank you

Bettie Shott
Harry H. Shott
Bettie and Harry Shott
300 Sheldon Ave
Mt. Shasta, Ca. 96067

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Lorin Spencer
1894 N. Euclid Ave.
Upland, CA 91786

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Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Daniel T. Spencer
696 - 18th Street #2
Des Moines, IA 50314

Dan is my son - as a geologist he worked with USGS several years ago mapping volcanic activity in the Medicine Lake Highlands.

Amanda L. Spencer
1800 Lincoln Village Circle Drive APT. 2324
Larkspur, Ca 94939

Amanda is my daughter - a registered geologist and a hydrologic engineer whose master's thesis at UC-Berke dealt with a study of underground hot areas in Iceland.

Signed:

Lorin Spencer

I have sent copies of this material to each of them for their comment. My own comment is that the well sites appear dangerously close to recent medicine lake - Lorin Spencer

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Sidney
~~Edward~~ Staunton
Route 1 Box 296,
Tulelake, CA 96134

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Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: _____

Sidney Staunton

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Molok Natl Forest - Attn: Radell Sharp Oct. 6, 1994
800 W. 12th Street
Alturas, Ca. 96101

I have the following comments on the geothermal proposal. I have had a cabin at Medicine Lake for 34 years and spend much of the summer there with friends and relatives. We are attracted there by the quiet and uncrowded condition of the terrain.

I notice on your map that wells # 13 + 15 are within one mile of the lake and cabin area. The noise associated with drilling & maintaining these wells would impact on the serenity of this mountain retreat. Also, the construction of roads and the clear cutting attendant upon the building of a pad to make use of the geo-thermal power will greatly disturb the recreation value of this area.

I have watched the drilling of many wells in this area. Several are capped for further use. Why drill more? If more wells must be drilled, please consider eliminating sites # 13 + 15 from the plan.

I was shown this proposal by Harry Shatt, a neighbor at the Lake cabin. Please send me a copy of this proposal and include my name on all future mailing lists for this project or within the Glass Mtn KGRA.

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Thank you.

Sincerely yours

Louise Thompson

1235 W. Scenic Dr.

Mt Shasta, Ca 96067

MS LOUISE THOMPSON
1235 W SCENIC DR
MOUNT SHASTA CA 96067

Also - Please add to the mailing list for this
project - Send her the current geothermal proposal

Olga Orr

7470 Seneca Place

La Mesa, Ca 91841

She too has a cabin at Medicine Lake

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

~~Reggy Maxwell~~
~~1209 W. 11th St.~~
~~Corning, CA 96101~~
Mr. & Mrs. Ron TUREK
417 MARIN ST.
CORNING
CALIF. 96021

I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: Reggy Maxwell

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Ethel Tygerson
1509 Seacrest Lane
Brookings, OR 97415

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I have the following specific comments regarding the geothermal proposal:

Signed: _____

Ethel Tygerson Krause

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

W.H. Weitkamp
251 James Way
Arroya Grande, CA 96067

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Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

Signed: W.H. Weitkamp

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Medicine Lake Geothermal Activities
Glass Mountain KGRA

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Vivian Wells
6324 Shasta Way
Klamath Falls, OR 97603

___ I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

___ Please include my (~~our~~) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

___ I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

___ I have the following specific comments regarding the geothermal proposal:

Signed: Vivian Wells

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County of Modoc
Department of Public Works

202 W. 4th STREET
ALTURAS, CALIFORNIA 96101
(916) 233-6403 office
(916) 233-3132 FAX

JOHN G. PEDERSEN
Director/Road Commissioner

MICHAEL L. MACDONALD
Deputy Road Commissioner
RICHARD R. HIRONYMOUS
Deputy Director Public Works
MICHAEL KIP LYBARGER
County Surveyor

January 31, 1995

Randall Sharp
Modoc National Forest
800 West 12th Street
Alturas CA. 96101

Dear Mr. Sharp:

The Modoc County Road Department has reviewed the California Energy General Corporation Glass Mountain Geothermal Exploration Projects Environmental Assessment/Initial Study and on the basis of the information provided in said document we offer the following comments:

1. Prior to pad access roads being constructed from any roads in the County Maintained system an encroachment permit is required.
2. County road 97, in the vicinity of the proposed project, is near the end of its design life and will not accommodate heavy traffic such as water or logging trucks. Our concern is that heavy loads could break up and destroy the pavement along this road. Prior to the use of this road California Energy General Corporation needs to propose a method of mitigating any potential damage.

Encroachment permits are available at the Modoc County Road Department office, 202 West 4th Street, Alturas, CA 96101.

If you have any questions regarding the comments, please call Mike Macdonald at (916) 233 6411.

Sincerely,

Michael L. Macdonald
Deputy Road Commissioner

MLM:mim

cc: D. McEllon
Hub Adams

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APPENDIX C: Mitigation Monitoring and Reporting Program

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APPENDIX C: Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) outlines procedures for the implementation of mitigation measures identified in this Environmental Assessment/Initial Study (EA/IS) to reduce all potential environmental effects of the proposed action to less-than-significant levels. California Energy General Corporation (CEGC) and its construction contractors must fully comply with the conditions and measures described in this MMRP. The U.S. Forest Service (USFS) will monitor and verify compliance with the MMRP and will be responsible for preparing brief compliance reports that will be kept on file by the USFS, U.S. Bureau of Land Management (BLM), and Siskiyou County Air Pollution Control District (SCAPCD).

The MMRP is organized in table format and is keyed to each mitigation measure identified in the EA/IS. The MMRP is organized by environmental issue area, and discusses only those impacts for which mitigation has been identified. The intent of formatting the MMRP as a table is to provide the reader with a concise and quick summary of the measure(s) to be implemented, agencies involved, timing of implementation, and frequency of monitoring. The purpose of each column heading is as follows:

- **Mitigation Measure:** A summary of the mitigation requirement;
- **Implementation Procedure:** Additional information on how mitigation measures will be implemented, where needed;
- **Monitoring and Reporting Actions:** An outline of the appropriate monitoring and/or reporting actions required to verify implementation of measures;
- **Responsible Agency:** The responsible agency will be responsible for monitoring the implementation of all mitigation measures identified in the MMRP. Other agencies which will be involved with the review and approval of actions required to implement specified mitigation measures and reporting tasks are identified, as appropriate; and
- **Monitoring Schedule:** A schedule for conducting each mitigation monitoring and reporting action.

The full text of the EA/IS mitigation measures is contained under the appropriate parameter discussion in Chapter 4 of this EA/IS.

Mitigation Monitoring and Reporting Program

GEOLOGY AND SOILS

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
<p>4.2.1 In order to protect the obsidian flow near pad 58-6, no facilities will be located within 200 feet of the toe of the obsidian flow. No surface disturbance or activity will occur between the edge of the pad and the toe of the obsidian flow.</p>	<p>CEGC will stake the limits of construction at pad 58-6 to be a minimum of 200 feet from the obsidian flow. CEGC will construct the pad so that no facilities will be located within 200 feet of the obsidian flow, and no surface disturbance or activity will occur between the edge of the pad and the toe of the obsidian flow.</p>	<p>1) Review pad construction drawings for pad 58-6 and inspect staking and pad during construction to ensure no facilities are located within 200 feet of the obsidian flow. 2) Inspect pad during drilling and testing activities to ensure no surface disturbance or activity has occurred between the edge of the pad and the toe of the obsidian flow.</p>	<p>USFS</p>	<p>1) Review construction drawings prior to commencement of construction, and inspect pad after pad is staked and before construction is commenced. 2) Inspect pad once during drilling activities, and once every four months during testing activities.</p>
<p>4.2.2 Erosion controls (such as vegetated buffers and grass stabilization) will be used as prescribed by the USFS to protect surrounding undisturbed vegetation and down-slope areas. Erosion controls will stay in effect and be maintained until construction at the well pad site is completed or all of the cleared land at the well pad site is stabilized with new ground cover.</p>	<p>CEGC will implement and maintain erosion controls as prescribed by the USFS.</p>	<p>1) Inspect pad sites prior to construction to identify pads where erosion controls would be necessary. 2) Inspect the pad sites that have had erosion control implemented to verify that erosion controls have been properly maintained.</p>	<p>USFS</p>	<p>1) Inspect each pad site prior to construction at the pad site to identify necessary erosion controls. 2) Inspect the pad sites with implemented erosion controls once during construction and once during drilling to verify erosion control maintenance.</p>

HYDROLOGY

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
<p>4.3.1 In order to verify that no effects are occurring at Paynes Springs from implementation of wells at well pads 56-18 and 13-18, CEGC will collect water samples from the springs before drilling, during initial drilling, after drilling to 500 feet (the equivalent elevation to the Paynes Springs), and after completion of these wells. If effects are identified after analysis of the samples, drilling at these wells will be halted until the hydrologic connection to the springs is better understood. BLM will analyze the samples. USFS will compare the samples after they are analyzed.</p>	<p>CEGC will collect and analyze water samples from Paynes Springs. CEGC will submit the water sample analyses to the BLM and USFS for comparison. CEGC will halt drilling at well pads 56-18 and 13-18 if effects to the springs are identified.</p>	<p>Compare and analyze water sample analyses from Paynes Springs that have been collected by CEGC. The water samples will be collected before drilling, during initial drilling, after drilling to 500 feet, and after well completion.</p>	<p>BLM and USFS</p>	<p>Compare and analyze each water sample analysis from Paynes Springs immediately following the submittal of each sample analysis from CEGC to the BLM and USFS.</p>

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Mitigation Monitoring and Reporting Program (Continued)

CULTURAL RESOURCES

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
<p>4.4.1 If archaeological resources are discovered during excavation for the proposed action, all work in the immediate vicinity will be suspended pending site investigation by the USFS and a qualified archaeologist to assess the materials and determine their significance. If the qualified professional determines that the resource will yield new information or important verification of previous findings, construction in the immediate area will not resume until the USFS and SHPO have been consulted and the resources appropriately evaluated and treated.</p>	<p>If a resource is discovered, CEGC will suspend all work in the vicinity of the resource and notify the USFS and an archaeologist for resource evaluation. Work will not resume until the USFS and SHPO have evaluated and treated the resource.</p>	<p>1) Inspect each pad during construction to verify that no resources have been discovered. 2) If a resource is discovered, inspect the site and consult with SHPO and a qualified archaeologist to evaluate the significance of the resource.</p>	<p>USFS</p>	<p>1) Inspect each pad once during construction to verify that no resources have been discovered. 2) If a resource is discovered, inspect the site and consult with SHPO and a qualified archaeologist immediately following notification from CEGC of the discovery of the resource.</p>
<p>4.4.2 If prehistoric archaeological deposits that include human remains are discovered by the project sponsor or any construction contractors during excavation for the proposed action, the County Coroner will be immediately notified. If the remains are found to be Native American, local Native American groups and the Native American Heritage Commission (NAHC) will be notified within 24 hours. The most likely descendants of the deceased Native American will be notified and given the chance to make recommendations for the remains. If no recommendations are made within 24 hours, remains may be reinterred elsewhere on the property. If recommendations are made and not accepted, the NAHC will mediate the problem.</p>	<p>If human remains are discovered, CEGC will suspend all work in the vicinity of the remains and notify the County Coroner and the USFS. If the remains are Native American, local Native American groups and the NAHC will be notified. Work will not resume until interment of the remains has been resolved.</p>	<p>1) Inspect each pad during construction to verify that no human remains have been discovered. 2) If human remains are discovered, notify the County Coroner; if the remains are Native American, notify local Native American groups and the NAHC.</p>	<p>USFS/County Coroner</p>	<p>1) Inspect each pad once during construction to verify that human remains have not been discovered. 2) If human remains are discovered, notify the Coroner immediately following notification from CEGC of the discovery of the remains. If the remains are found to be Native American, notify local Native American groups and the NAHC within 24 hours of this determination.</p>
<p>4.4.3 If archaeological resources are discovered during excavation for the proposed action and avoidance of these resources is not feasible, evaluation of the resources will be required. An evaluation plan will be prepared that provides for the methodical excavation of resources that would be adversely affected. Only a qualified archaeologist or cultural resources consultant will be allowed to collect any discovered prehistoric resources. The work will be accomplished within the context of a detailed research design and in accordance with current professional standards. The plan will result in the extraction of sufficient volumes of non-quantitative archaeological data so as to address important regional research considerations, and detailed technical reports will be prepared to document the findings.</p>	<p>If necessary, CEGC will contract with a qualified archaeologist or cultural resources consultant to prepare an evaluation plan and a plan to conduct resource treatment, collect discovered prehistoric resources, and prepare technical reports to document the findings.</p>	<p>If necessary, review the evaluation plan for excavation of discovered prehistoric resources to ensure adequacy. Attend the implementation of the collection plan, and review all technical reports that are prepared to document the findings.</p>	<p>USFS</p>	<p>If required, review the evaluation plan for resource excavation prior to collection of any resources. Attend the collection of resources during resource collection, and review the technical reports immediately following their preparation.</p>

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Mitigation Monitoring and Reporting Program (Continued)

BIOLOGY

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
<p>4.5.1 Conifers over 14 inches dbh will be avoided where feasible during pad construction. In addition, implementation of Mitigation Measure 4.2.2 will ensure that there would be no erosion effects to vegetation.</p>	<p>CEGC will avoid conifers over 14 inches dbh where feasible during construction and will document where it is not feasible to avoid certain conifers over 14 inches dbh.</p>	<p>Inspect each pad prior to construction to identify conifers that could be avoided and conifers that would be removed, and inspect after construction to verify that identified conifers have been avoided.</p>	<p>USFS</p>	<p>Inspect each pad prior to construction and immediately following construction.</p>
<p>4.5.2 For the northern spotted owl, seasonal restrictions will be imposed by the USFS for all proposed well pad and access road locations. Under these restrictions, no construction or drilling may take place at the well pads between February 1 and August 15. For all well pads except for pad sites 63-20TCH and 15-15TCH, seasonal restrictions will be imposed until completion of protocol requirements (i.e., the second-year surveys). The second-year surveys will consist of site visits during the appropriate survey period. Upon completion of the surveys, one of two actions will be taken depending on the results of the surveys. If there are no owl responses, it will be determined that the proposed action would not have an effect on the owl, and the USFS will release the well pads from seasonal restrictions for owls. If there are owl responses, the USFS will require the seasonal restrictions as mitigation, and these restrictions will remain in place for those well pads that are in the vicinity of the responses.</p>	<p>CEGC will adhere to all seasonal restrictions until completion of northern spotted owl protocol requirements. If there are owl responses during second-year surveys at the well pads, CEGC will continue to adhere to seasonal restrictions for all well pads where there were owl responses.</p>	<p>Add the seasonal restrictions for northern spotted owl to the conditions of approval for the proposed action. For all well pads except 63-20TCH and 15-15TCH, coordinate with CEGC to ensure that no construction or drilling takes place at the well pads between February 1 and August 15 until completion of northern spotted owl protocol requirements. Upon protocol completion, lift seasonal restrictions for applicable pads.</p> <p>For sites 63-20TCH and 15-15TCH, coordinate with CEGC to ensure that no construction or drilling takes place at the well pads between February 1 and August 15 unless northern spotted owl surveys are undertaken and the protocol requirements are met for these pad sites.</p>	<p>USFS</p>	<p>Coordinate with CEGC prior to February 1 each year to ensure compliance with seasonal restrictions; verify through random site inspections until August 15 that seasonal restrictions are not being violated.</p>
<p>The seasonal restrictions for pad sites 63-20TCH and 15-15TCH will remain in place for the life of the proposed action or until northern spotted owl protocol requirements are completed for these pads.</p> <p>4.5.3 For the northern goshawk, seasonal restrictions will be imposed by the USFS for all proposed well pad and access road locations. Under these restrictions, no construction or drilling may take place at the well pads between February 1 and August 15. For all well pads except for pad sites 63-20TCH and 15-15TCH, seasonal restrictions will be imposed until completion of protocol requirements. The goshawk surveys will consist of nesting surveys in May 1995. Upon completion of these surveys, one of two actions will be taken depending on the results of the surveys. If no new active goshawk nests are identified, it will be determined that the proposed action would not have</p>	<p>CEGC will adhere to all seasonal restrictions until completion of northern goshawk protocol requirements. Upon completion of goshawk surveys, CEGC will continue to adhere to seasonal restrictions for all well pads where goshawk presence was recorded.</p>	<p>Add the seasonal restrictions for northern goshawk to the conditions of approval for the proposed action. For all well pads except 63-20TCH and 15-15TCH, coordinate with CEGC to ensure that no construction or drilling takes place at the well pads between February 1 and August 15 until completion of goshawk protocol requirements. Upon protocol completion, lift seasonal restrictions for applicable pads.</p>	<p>USFS</p>	<p>Coordinate with CEGC prior to February 1 each year to ensure compliance with seasonal restrictions; verify through random site inspections until August 15 that seasonal restrictions are not being violated.</p>

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Mitigation Monitoring and Reporting Program (Continued)

BIOLOGY (Continued)

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
<p>an effect on the goshawk, the USFS will release the well pads from seasonal restrictions for goshawk, and the protocol would be deemed complete. If there are goshawk or active goshawk nests, the USFS will require that the seasonal restrictions be left in place until completion of the post-fledgling dependency period survey in early July through late August.</p> <p>The results of the second surveys (if needed) will again result in one of two actions being taken. If there is no response during the second survey, it will be determined that the proposed action would not have an effect on the goshawk, and the seasonal restrictions for goshawk will be lifted. If goshawk presence is confirmed during the second survey, the USFS will require as mitigation that the seasonal restrictions remain in place for those well pads that are in the vicinity of the responses to avoid effects to goshawk.</p> <p>The seasonal restrictions for pad sites 63-20TCH and 15-15TCH will remain in place for the life of the proposed action or until northern goshawk protocol requirements are completed for these pads.</p>		<p>For sites 63-20TCH and 15-15TCH, coordinate with CEGC to ensure that no construction or drilling takes place at the well pads between February 1 and August 15 unless northern goshawk surveys are undertaken and the protocol requirements are met for these pad sites.</p>		
<p>4.5.4 For the American marten, CEGC will provide compensation mitigation for removal of marten habitat. Compensation mitigation will consist of placing d/d material from the well pads in concentrated debris piles near but somewhat isolated from the well pads, which will create denning sites for the marten. One to two piles per acre of disturbed marten habitat will be provided. Approximate minimum dimensions of the piles will be eight feet wide by four feet tall by 10 feet deep. The extent of compensation and the locations of mitigation sites would be determined by field surveys conducted by the USFS and CEGC prior to any construction activities at well pads.</p>	<p>CEGC will coordinate with the USFS to provide appropriate compensation mitigation for removal of marten habitat. CEGC will then implement appropriate compensation mitigation for removal of marten habitat.</p>	<p>Coordinate with CEGC to conduct field surveys prior to any construction activities at well pads to identify the extent of marten compensation and the locations of mitigation. Verify implementation of appropriate compensation mitigation.</p>	<p>USFS</p>	<p>Conduct field surveys to identify the extent of marten compensation and the locations of mitigation prior to any construction activities at well pads. Verify implementation of appropriate compensation mitigation following construction activities at each well pad.</p>
<p>4.5.5 Construction materials and equipment will arrive and leave all well pad sites by way of existing roads or through existing disturbed areas. Construction materials and equipment will not be allowed to cross areas that are to remain undisturbed. Construction materials and equipment will be stored within disturbed areas either at or near the well pad sites.</p>	<p>CEGC will avoid areas that are to remain undisturbed when accessing well pad sites and will store materials and equipment within disturbed areas.</p>	<p>Inspect well pad sites to ensure that activities are not occurring in areas that are to remain undisturbed.</p>	<p>USFS</p>	<p>Randomly inspect well pad sites during project activities to ensure that activities are not occurring in areas that are to remain undisturbed.</p>

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Mitigation Monitoring and Reporting Program (Continued)

BIOLOGY (Continued)

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
4.5.6 Where feasible, CEGC will top existing snags in adjacent areas to make these snags more suitable for use by wildlife species.	CEGC will coordinate with the USFS to identify snags that could be topped, and will top snags where feasible.	Identify snags that could be topped, and verify that these snags have been topped	USFS	Identify snags for topping during field surveys prior to construction, and verify following construction.

LAND USE, RECREATION, AND TRANSPORTATION SYSTEMS

MITIGATION MEASURE	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	RESPONSIBLE AGENCY	MONITORING SCHEDULE
4.9.1 All heavy vehicles associated with the proposed project (particularly water and other trucks accessing well pads 15-15TCH and 63-20TCH) will avoid using Road 43N48 in order to avoid potential damage to this road and to minimize the potential for conflicts between vehicles associated with the proposed action and recreational uses and motorists associated with the Medicine Lake campgrounds. Water for activities at these well sites will either be obtained from existing sources west of the well sites or trucked from the Arnica Sink wells on roads to the north of Road 43N48.	CEGC will avoid use of Road 43N48 by water trucks and other heavy trucks such as drill rig trucks.	Coordinate with CEGC to ensure that heavy vehicles associated with the proposed action do not use Road 43N48, and that an acceptable alternative route is identified. Verify compliance during lifespan of the proposed action.	USFS	Coordinate with CEGC to regarding heavy vehicle use of Road 43N48 prior to implementation of the proposed action. Verify compliance during lifespan of the proposed action.
4.9.2 CEGC will submit design plans to Modoc County and the USFS for the intersection of the access road for pad 56-18 and PFR 97 to ensure that traffic at the intersection will not create a public safety hazard.	CEGC will submit design plans to Modoc County and the USFS for the intersection of the access road for pad 56-18 and PFR 97, and Modoc County and the USFS will review these design plans to ensure that the intersection will not create a public safety hazard.	Review the design plans for the intersection of the access road for pad 56-18 and PFR 97 to ensure that the intersection will not create a public safety hazard.	USFS/Modoc County	Review and make any revisions to the design plans for the intersection of the access road for pad 56-18 and PFR 97 prior to construction of well pad 56-18 and development of the access road to the pad.

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APPENDIX D: Public Comments and Responses

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APPENDIX D: Public Comments and Responses

Appendix D includes the comment letters that were received during the public review period for the Glass Mountain Unit Geothermal Exploration Project Environmental Assessment/Initial Study (EA/IS). The public review period began on April 24, 1995, and closed on May 24, 1995. A total of 13 comment letters were received during the review period.

This appendix also includes responses to environmental issues raised in the comment letters. Each comment letter has been assigned an alpha designation (e.g., the first comment letter presented in this appendix is designated as "Letter A"), and a comment number has been assigned to each individual comment (e.g., the first comment in Letter A is designated as "A.1"). The responses are keyed to the numbered comments.

24 May 1995

Mr. Randall Sharp
 FS/BLM Project Coordinator
 800 W. 12th Street
 Alturas, California 96101

Subject: Comments on Glass Mountain Unit Geothermal Exploration Project
 Environmental Assessment/Initial Study

Dear Mr. Sharp:

This letter presents comments on the subject report, prepared for the Plan of Operation (POO) for exploratory geothermal drilling within the Glass Mountain Known Geothermal Resource Area (KGRA) in the Medicine Lake Highlands. My family has owned a cabin near Medicine Lake for about 30 years. In addition, I am a registered geologist and licensed professional engineer in the state of California and completed my masters thesis in the evaluation of the viability of geothermal fields in energy production.

The subject report was well written and well organized. My primary comment is on the lack of technical detail or supporting data for many of the statements in the report. Examples of this lack of technical detail or supporting data are provided below.

- Page 2-14 states that TCH well operations would require approximately 3,000 to 5,000 gallons of water per day and well pad operations would require approximately 9,000 gallons of water per day. The report does not state how these estimates were derived or on what data they are based. A.1
- Page 4-4 states that "minor balanced cut and fill would be required for roads, but would not significantly alter the topography of the area." The report does not indicate what is considered "minor" or significant. A.2
- Page 4-5 states that "CEGC also proposes to use adequate casing and cementing" to avoid blow-outs and that, in case of a blow-out, the effects on the environment would not be expected to be "significant". The report does not indicate what "adequate casing and cementing" consists of for this project nor what is considered to be a significant effect to the environment. A.3
- Page 4-7 provides "Significance Criteria" for evaluating potential impacts to the hydrogeologic setting of the area. Four of the six criteria consider "substantial" effects to be of significance; however, no measurement of what is considered "substantial" is provided. A.4

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- Page 4-8 indicates that the geothermal drilling would not "significantly" deplete water resources in the vicinity. Once again, the definition of significantly is not provided. A.6

- Page 4-8 states that proposed activities would not affect the water levels in Medicine Lake because the wells would be cased and cemented and only geothermal fluids from the deeper geothermal reservoir below 3,000 feet deep would be withdrawn from the exploration wells. However, the report does not provide a clear understanding of the geological and hydrogeological setting of the area and no geologic cross-sections are provided to illustrate and support the above statement. In addition, the report does not indicate whether recharge to the pumped zone will occur laterally or vertically, nor what is the interconnectivity of the water bearing zones in this area. In short, no backup for this statement is provided in the report. A.7

According to comment letters contained in Appendix B of the report, many people have expressed concern about the affect of the proposed work on the water level in Medicine Lake. As outlined in several of the examples above, the report does not provide enough information to assess whether the activities will or will not have an affect on Medicine Lake. It is also not clear from the report whether an assessment of this nature has been completed. A brief description of the hydrology of the area is provided on page 3-4; however, no references were provided to indicate where (or how) this information was obtained. A.8

In addition, I believe many of the long-time visitors and summer residents of this area (myself included) are worried that these activities will alter the physical landscape of the area; therefore, statements that indicate the area will not be "significantly altered" do not provide enough information to assess for oneself if the alteration is or is not significant. What CEGC considers to be "significant" may differ from what visitors consider "significant". A.9

The report also did not provide enough technical information for the reader to assess the scope of the proposed work and evaluate the need for all of the proposed temperature core holes and exploration well pads. The report indicated that CEGC believed that all of the test sites were necessary to achieve the data necessary to determine whether the geothermal resource in the area is viable for commercial development. A summary of previously obtained temperature and geologic data would be helpful for the reader to assess the need for all of the test sites. A.10

As a final comment, the report did not provide a "cost-benefit" analysis of utilizing the geothermal resources in this area. Understandably, this type of analysis is likely beyond the A.11

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24 May 1995
Mr. Randall Sharp
page 3

scope of the environmental assessment/initial study. I would anticipate that this type of analysis will be conducted and results of the analysis included in future reports.

A.11

I appreciate the opportunity to provide these comments. Should you have any questions, please call me at (415) 434-9400.

Sincerely yours,



Amanda L. Spence, R.G., P.E.

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Letter A—Amanda L. Spencer

RESPONSE TO COMMENT A.1

The EA/IS provides the level of technical detail and supporting data necessary to analyze the potential environmental effects of the proposed POO. Detailed information on certain aspects of the proposed project (such as well drilling and testing methods, well casing and cementing, and site safety procedures) are contained in the CEGC Plan of Operation (POO) for the project (CEGC 1994). The description of the proposed project contained in the EA/IS is a summary of the CEGC POO. The POO is on file with the BLM, USFS, and Siskiyou County APCD. In addition, technical information about the Glass Mountain geothermal resource that has been collected by CEGC has been submitted to the BLM for their files. This information is considered by CEGC to be proprietary, but has been evaluated by the BLM in the decision for the proposed POO.

RESPONSE TO COMMENT A.2

Estimates for water requirements for the proposed POO are based on historic water use rates observed by CEGC at existing TCH and exploration well sites in the Cascade Mountain range and at the Coso geothermal field in southeastern California.

RESPONSE TO COMMENT A.3

The proposed project would require the construction of approximately 2,600 feet of new access roads and improvement to about 8,150 feet of existing access roads. These activities would result in approximately 1.35 acres of surface disturbance. Most of the "cut and fill" for roads that is referenced in the second paragraph on page 4-4 of the EA/IS would actually be grading activities that would be required to provide level road surfaces. These activities would result in no more than an inch or two of dirt being cut from an area and redistributed on the road surface. It is anticipated that only the new 2,200-foot access road to well pad 46-32 and the existing 5,000-foot access road to well pad 18-32 would require cut and fill of more than a couple of inches of dirt. Since these roads are located on a sloped area, dirt would need to be removed from the upslope side of the road route and placed on the downslope side of the road route. This balanced cut and fill would allow CEGC to construct roadways to well pads 46-32 and 18-32 that are of sufficient width for access vehicles. At this time, it is not possible to quantify the exact amount of cut and fill that would be required for roads associated with the proposed project, but cuts are expected to be less than 10 feet high.

For the purposes of analyzing the potential environmental effects of the proposed project, a quantified threshold for determining a significant effect to topography was not established. Rather, changes to topography from the project were evaluated in a qualitative sense. Factors that were evaluated included:

- Whether the topography changes would be a drastic change from existing conditions
- If the changes would result in the alteration of the topography of a large area
- If the changes would be highly visible

- If the changes would alter the basic topographic character of the area (e.g., change the area from rolling hillsides to flat terrain)

If any of these conditions had been met, cut and fill activities would be considered major activities, and the project would have been considered to have a significant effect on the topography of the area. However, road construction and improvements would not drastically change the topography of the area, would affect a small area, would not be highly visible, and would not alter the basic topographic character of the area. The amount of cut and fill for road construction and improvements was therefore considered to be minor, and cut and fill would not significantly alter the topography of the area.

RESPONSE TO COMMENT A.4

CEGC would use industry-standard well casing and cementing, as defined by Geothermal Resources Operational (GRO) Order No. 2. Casing would meet steel requirements for wall thickness and tensile strength. Cementing would be performed with cements that are specifically designed for geothermal wells. The well casing and cementing is designed to withstand the pressures and temperatures of the Glass Mountain geothermal resource. The specifics of the casing and cementing are based on CEGC's extensive geothermal drilling experience and knowledge of the Glass Mountain geothermal resource. Detailed information on well casing and cementing are contained in the CEGC Plan of Operation (POO) for the project (CEGC 1994).

A well blow-out would be considered to have a significant effect on the environment if it would result in a significant effect as defined by the significance criteria that are presented by parameter throughout Chapter 4 of the EA/IS. As discussed in the last paragraph on page 4-5 and in the first and second paragraphs on page 4-6, well blow-outs would have a significant effect if there was an effect on groundwater or surface water, and by affecting human health. However, the on-site sumps would prevent effects to groundwater and surface water, and the Emergency Contingency Plan that is part of the POO defines the procedures that would avoid effects to human health.

RESPONSE TO COMMENT A.5

The significance criteria identified for hydrology on pages 4-7 through 4-8 of the EA/IS are drawn from Appendix G of the CEQA Guidelines. For the four significance criteria that use the term "substantial," neither CEQA nor the CEQA Guidelines provide quantified measurement of what is considered to be a substantial effect. For the purposes of analyzing hydrology effects of the proposed project, the following factors were used to qualitatively evaluate potential substantial effects of the project. The impacts of the proposed project would not exceed any of these criteria.

Depletion of Groundwater Resources

A substantial depletion of groundwater resources would be a depletion that results in a long-term change to groundwater levels or results in other indirect environmental effects (such as drying up of groundwater-fed wetlands or habitat that is critical to certain wildlife species). If the resource is being used by humans as a water source or for

agriculture, a project that would deplete the resource such that the current demand for water could not be met would also be considered a substantial depletion of groundwater resources.

Degradation of Water Quality

Substantial degradation of water quality would be degradation of groundwater or surface water that injures or kills vegetation that is exposed to the water, injures or kills wildlife that is exposed to the water, harms human health, or prevents human use.

Groundwater Recharge

Substantial interference with groundwater recharge would occur if project implementation results in a drop in groundwater levels that are beyond the normal fluctuation of the groundwater resource. This could occur by preventing surface waters and/or rain from percolating into the ground and adding water to the groundwater resource.

Flooding

Substantial effects due to flooding would occur if project implementation would result in the exposure of people or property to flood waters or an increase in the risk of flooding.

RESPONSE TO COMMENT A.6

See the response to comment A.5. A significant depletion of water resources would be a depletion that results in a long-term change to groundwater or surface water levels, results in indirect environmental effects, or affects the ability of the water resource to meet the current demand for water.

RESPONSE TO COMMENT A.7

Sections 3.2, Geology and Soils and 3.3, Hydrology in the EA/IS provide overviews of the geology and hydrogeology of the area, respectively. Certain information related to the geology and hydrogeology of the area (such as geologic cross-sections) is considered by CEGC to be proprietary. This information is on file with the BLM, and has been evaluated by the BLM in the decision for the proposed POO. The following discussion of geology and hydrogeology expands on the information contained in the EA/IS.

The water levels in the many surface lakes and water wells within the six-mile basin that encloses Medicine Lake indicate that an extensive groundwater body exists within the basin. The lakes within the basin are thought to represent the surface of this groundwater body. The surfaces of the lakes are located at an elevation of about 6,670 feet above sea level. Natural fluctuations in water levels of approximately 10 feet indicate that variable permeability exists in the subsurface of the groundwater body.

A deeper regional water body also exists in the Medicine Lake area. It is this deeper water body that contains the geothermal system that would be subject to geothermal testing and exploration activities by CEGC. Water levels of the deeper water body have been

evaluated during previous geothermal well and core hole drilling in the area. These evaluations have determined that the deeper water body has standing water levels of about 5,900 feet above sea level (which is about 800 feet lower than the surface of the upper groundwater body).

Based on the different water level elevations of the two groundwater bodies, the groundwater body that makes up Medicine Lake and the other surface lakes appears to be a perched, fairly well-contained groundwater body that overlies and is separated from the deeper regional water body. The stratum that is responsible for this separation may be glacial till or a type of ash deposit. Further support for the separation of the two groundwater bodies is the lack of hot springs, despite the presence of a very large geothermal resource at depth. Given this separation, the proposed geothermal well drilling and testing of the deeper water body would not affect water levels at Medicine Lake. Only limited geothermal fluids would be withdrawn from the deeper reservoir during geothermal well drilling and testing. Even if the separation of the two groundwater bodies is not complete, there would not be a significant impact from geothermal fluid withdraw due to the small amount of fluids that would be withdrawn. The casing that would be used for geothermal wells would also protect the shallow groundwater body.

The only activity associated with the proposed POO that could affect the perched groundwater body would be pumping of groundwater from the two existing water wells in the Arnica Sink area. The pumped water would supply water for drilling needs and dust control. As discussed on page 4-8 of the EA/IS, this pumping would be of short duration, would utilize an extremely small amount of the groundwater that is available in the perched groundwater body, and would be spread out over time. Any groundwater drawdown that might occur would result in a localized cone of depression that would be confined to the Arnica Sink basin, and would not affect Medicine Lake. Recharge to the pumped zone would occur laterally for most of the year. During periods of snow melt-off, recharge would occur vertically.

To summarize, the water levels at Medicine Lake are not expected to be affected by the proposed drilling because:

- The geothermal wells would produce limited quantities of geothermal fluids during drilling and testing
- The geothermal fluids would be produced from the lower groundwater body, which is 800 feet deeper than the groundwater system that supports Medicine Lake
- Geothermal wells would be cased, which would protect the groundwater system that supports Medicine Lake

RESPONSE TO COMMENT A.8

See the response to comment A.7 for a discussion of why the proposed POO would not affect lake levels at Medicine Lake, and the response to comment A.1 for a discussion of the level of detail that has been provided in the EA/IS. As discussed on page 3-1 of the

EA/IS, the following documents were used as general references for preparation of Chapter 3 (including Section 3.3, Hydrology):

- *Geothermal Leasing of National Forest Lands in the Glass Mountain Known Geothermal Resource Area Supplemented Environmental Assessment* (BLM and USFS 1984)
- *Modoc National Forest Land and Resource Management Plan* (USFS 1991a)
- *Modoc National Forest Land and Resource Management Plan Final Environmental Impact Statement* (USFS 1991b)

Additional references specific to Section 3.3, Hydrology are identified in Chapter 6, References, of the EA/IS.

RESPONSE TO COMMENT A.9

As discussed in the response to comment A.3, development of roads for the proposed POO would not significantly alter the topography or physical landscape of the area. This is also true for the proposed well pad sites. As discussed on pages 4-3 to 4-4 of the EA/IS, the development of roads and well pad sites would require minimal cut and fill and grading, and well pads would generally be located on level and previously disturbed areas. Roads and well pad sites associated with the proposed POO would occupy about 29.6 acres, which represents an extremely small portion of the Modoc National Forest. As discussed in Section 4.8, Visual Resources, of the EA/IS, implementation of the proposed POO would not significantly affect long-range or short-range views in the area. Since the development of roads and well pad sites would not drastically change the topography of the area, would affect a small area (and an extremely small portion of the Forest), would not be highly visible, and would not alter the basic topographic character of the area, the proposed POO would not significantly alter the physical landscape of the area.

RESPONSE TO COMMENT A.10

See the response to comment A.1 for a discussion of the level of technical detail about the proposed project that has been provided in the EA/IS. The description of the proposed CEGC Plan of Operation (POO) contained in the EA/IS is a summary of the POO (CEGC 1994), which is on file with the BLM, USFS, and Siskiyou County APCD. Previously obtained temperature and geologic data are considered by CEGC to be proprietary. These data are on file with the BLM, and have been evaluated by the BLM in the decision for the proposed POO.

RESPONSE TO COMMENT A.11

The commentator is correct in noting that a cost-benefit analysis of development and utilization of the geothermal resource within the Glass Mountain KGRA is beyond the scope of the EA/IS for the proposed exploration project. As discussed on page 1-11 of the EA/IS, it is uncertain at this time whether a commercially viable geothermal resource actually exists. Only exploratory geothermal drilling and testing is proposed in the POO; no development or utilization of the geothermal resource within the KGRA is proposed. Since it is not known at this time if development or utilization of the geothermal resource would occur as a result of the proposed POO, this EA/IS addresses only the activities described in the POO.

If a commercially viable geothermal resource is discovered within the Glass Mountain KGRA, development and utilization of the geothermal resource would require the preparation of separate Plans of Development and Utilization. These future plans (if warranted) would describe detailed plans for construction and operation of geothermal facilities such as a power plant, transmission line, and development well field. Similar to the POO, these plans would be subject to environmental review and public comment.

DEPARTMENT OF FISH AND GAME

601 LOCUST STREET
REDDING, CA 96001
(916) 225-2300



May 24, 1995

Mr. Patrick J. Griffin
Siskiyou County Air Pollution Control District
525 South Foothill Drive
Yreka, California 96097

Post-It™ brand fax transmittal memo 7671 # of pages 3

To: <i>Randy Sharp</i>	From: <i>Pat Griffin</i>
Co. <i>USFS</i>	Co.
Dept.	Phone #
Fax # <i>916-233-5817</i>	Fax # <i>916-233-5817</i>

Dear Mr. Griffin:

Glass Mountain Unit Geothermal Exploration Project
Environmental Assessment/Initial Study
SCH 95041056

The California Department of Fish and Game has reviewed the Glass Mountain Unit Geothermal Exploration Project environmental assessment/initial study, the draft decision record and draft finding of no significant impact for the project. The California Energy General Corporation (CEGC) proposes to implement a plan of operation (Plan) for exploratory geothermal drilling with the Glass Mountain Know Geothermal Resource Area (KGRA) located in the Medicine Lake Highlands on the Modoc and Shasta-Trinity national forests in Siskiyou County. In the proposed Plan, CEGC proposes to drill five exploratory geothermal temperature core hole (TCH) wells; drill, complete and test deep (production size) exploration wells at five well pads within the Glass Mountain KGRA.

The project proposes to construct approximately 2,600 feet of new access roads and improvement to 8,150 feet of existing access roads. Total surface disturbance is estimated to be 29.6 acres. To minimize the increase in road density in the Glass Mountain area and reduce harassment to wildlife, newly constructed or improved roads should be permanently gated to prevent vehicle entry. These gates should be closed and locked when construction or drilling activities are not taking place. These roads should also remain closed during hunting seasons. Permanently locked gates will also facilitate successful revegetation efforts of abandoned access roads.

B.1

The environmental assessment's (EA) reclamation section states that if wells are found to be nonproductive, wells will be abandoned and well pads and access roads will be restored to their preproject condition. Objectives and success criteria should be developed to gauge successful revegetation of the sites. Revegetation can be considered successful when the sites have revegetated at a level of eighty percent of the adjacent ground cover within five years. If natural revegetation of the well pad sites and access roads are not meeting the performance standards, the project proponents should actively revegetate these areas with local native seed stock. This can include planting lodgepole pine, red fir and other tree species that are listed in Table 3.5-1 of the EA. A revegetation plan should be submitted with details on site preparation, performance standards, monitoring methods and reporting schedule. If site data

B.2

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Mr. Patrick J. Griffin
May 24, 1995
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containing information on revegetation rates exists on comparable drilling well sites occurring in the Glass Mountain KGRA, that data should be made available to analyze the potential for successful revegetation efforts for this proposed project.

B.2

TCH drilling operations will require approximately 3,000 to 5,000 gallons of water per day for 25-60 days. Exploratory wells require up to 9,000 gallons per day for 60-90 days of operation. Up to 40,000 gallons could be required in lost circulation zones. Water for drilling operations will be extracted from two wells at Arnica Sink and possibly Harris Springs and Pumice Stone wells. Water can be a limited resource in this area and wildlife in the area depend upon dispersed available water sources. The EA claims that geothermal drilling would not significantly deplete water resources in the vicinity. The US Geological Survey is proposing to assume hydrologic monitoring responsibilities for the Glass Mountain area and has prepared a draft hydrologic monitoring plan that identifies a proposed monitoring program. Since this hydrologic monitoring plan is only in the draft stage, this EA should provide a specific monitoring plan that will be implemented to ensure that water resources in the Glass Mountain KGRA are not significantly affected by the proposed activities.

B.3

To prevent possible injury to deer and other animals, plastic fencing has been proposed to prevent access by wildlife into the well pad areas. This may be ineffective at keeping other wildlife from entering the sumps. Birds and small mammals could potentially be attracted to the sumps and become trapped. The project proponent should provide some alternatives that could be implemented if this problem occurs.

B.4

Thank you for your consideration of these comments. If you have any questions regarding our review of this project, please contact our staff biologist Ms. Terri Weist at (916) 938-1169.

Sincerely,



Richard L. Elliott
Regional Manager

cc: See attached list

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Mr. Patrick J. Griffin
May 24, 1995
Page Three

cc: Ms. Terri Weist
Department of Fish and Game
1724 Ball Mountain Road
Montague, California 96064

Mr. Rich Burns
Bureau of Land Management
Susanville District, Alturas Resource Area
708 West 12th Street
Alturas, California 96101

Mr. Bernie Weisgerber
US Forest Service
Modoc National Forest
800 West 12th Street
Alturas, California 96101

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Letter B—California Department of Fish and Game

RESPONSE TO COMMENT B.1

As discussed on page 2-3 of the EA/IS, CEGC would install gates on certain access roads and pad entrances to control vehicle access to well pads. Roads that would be gated would generally be those roads that require road improvements or construction. As shown in Table 2.1-1 on page 2-4 of the EA/IS, 7 of the 10 proposed well pad sites would require road improvements or construction. All gates installed by CEGC would have dual locks to allow access to BLM and USFS personnel. These gates would be locked at all times, except the periods when construction and drilling are taking place.

RESPONSE TO COMMENT B.2

The USFS would be responsible for monitoring revegetation at all TCH well pad sites and at those exploration well pad sites that would require reclamation. As discussed on page 2-17 of the EA/IS, CEGC would be responsible for posting reclamation bonds to ensure that all project activities would be reclaimed in a timely manner following completion of the proposed action. A revegetation plan that specifies objectives, performance standards, monitoring methods, and a reporting schedule would be submitted by CEGC to the BLM and USFS at the time that the reclamation bonds are posted.

Both the USFS and CEGC are interested in appropriate reclamation of well pad sites following completion of the proposed action. As discussed on page 2-2 of the EA/IS, all of the well pads except 46-32 would be at least partially located on old log landings, logging roads, or in previously clear-cut areas. These areas have been subject to surface disturbance in the past, and currently show evidence of this previous surface disturbance. For these well pads, reclamation would involve restoring the sites to conditions that existed prior to the original surface disturbance (as opposed to pre-project conditions), to the greatest extent feasible. For well pad 46-32, reclamation would involve restoring the site to pre-project conditions since there has been no previous surface disturbance at this site.

In order to develop the revegetation plan for the proposed action, surveys of each well pad site will be conducted prior to any construction at the well pads. These surveys will identify the richness, diversity, and species composition of existing vegetation at each well pad. For the well pads that have been subject to previous surface disturbance, the vegetation surveys will include an identification of the richness, diversity, and species composition of existing vegetation in immediately adjacent areas to match as closely as possible the original vegetation conditions.

Observation of existing well pads in the Glass Mountain KGRA demonstrates that revegetation of well pads occurs naturally and relatively rapidly (although no data on actual revegetation rates have been collected). Since CEGC would take pro-active steps to facilitate reclamation and revegetation of well sites and access roads (see page 2-17 of the EA/IS), it is expected that revegetation would be successful. The revegetation plan that

will be developed for the proposed action will ensure that the revegetation that occurs is compatible with existing vegetation in the area.

RESPONSE TO COMMENT B.3

As discussed in the EA/IS, the proposed project would not be expected to significantly deplete water resources in the project vicinity. Additional information to further substantiate the conclusion that there would not be a significant depletion of water resources due to project implementation is provided in the response to comment A.7. Data collected by CEGC on the geologic and hydrologic systems in the area support the conclusion that the POO would not significantly affect water resources in the area. In addition, as discussed in Mitigation Measure 4.3.1 on pages 4-12 to 4-13 of the EA/IS, a water sampling program will be conducted by CEGC (under direction of BLM and USFS) at Paynes Springs in order to verify that no effects are occurring at this spring. Since the project would not significantly affect water resources in the area, there is no need to provide hydrologic monitoring for the proposed project.

RESPONSE TO COMMENT B.4

The plastic fencing that would be placed around the perimeter of the well pad sites would be similar to the fencing that is currently in use at existing well pad sites within the Glass Mountain KGRA. This fencing has been in use for several years at the well pad sites, and no instances of wildlife mortality resulting from the fencing has been known to occur. The fencing is of fine gauge and has prevented small mammals from entering existing well pad sites in the area; small mammals are therefore not expected to enter any of the well pad sites and become trapped.

It is possible that birds could be attracted to the sumps at the five exploration well pad sites. However, any birds that are attracted to the sumps would be expected to be able to fly away from the well pad sites. It is therefore not expected that any birds would be trapped at any of the well pad sites.

BUTTE VALLEY CHAMBER OF COMMERCE

BOX 541, DORRIS, CALIFORNIA 96023

May 5, 1995

Randall Sharp
Modoc National Forest
800 West 12th St.
Alturas, Ca. 96101

Ref: EA #CA027-EA95-06, Glass Mountain Unit Geothermal Exploration Project

Dear Mr. Sharp,

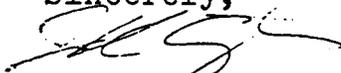
The Butte Valley Chamber of Commerce is in opposition to Alternate A of the referenced Environmental Assessment for the following reasons.

- 1. The chamber is adamantly opposed to the siting of a power plant anywhere near Medicine Lake! The only practical reason for drilling so close (42-13TCH and 15-15TCH) to the lake would be to identify such sites. C.1
- 2. You have grossly underestimated the impact on Medicine Lake which would result from the drilling operations. Nearby property owners well remember the last drilling(s). The noise levels provided are only estimates and at that are only slightly below the safety levels for workers allowed by OSHA. C.2
- 3. The total area of disturbance, 29.6 acres, is also excessive. Drilling professionals in the area indicate that only of fraction of the proposed clearing for pads is necessary. C.3

The chamber is in support of Alternate B. Your own assessment of Alternate B, reference page 4-7, indicates that "the potential for geologic hazards to affect people or facilities would be eliminated." C.4

In summary the risks of any magnitude to Medicine Lake are just not worth taking!

Sincerely,



J. K. Covington, President

cc: Rep. Herger
Sen. Boxer
Sen. Feinstein

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Letter C—Butte Valley Chamber of Commerce

RESPONSE TO COMMENT C.1

The opposition of the Butte Valley Chamber of Commerce to siting a power plant near Medicine Lake is noted. As discussed in the response to Comment A.11, no development or utilization of the geothermal resource (and therefore no plans for siting of a power plant) within the Glass Mountain KGRA is currently proposed. The currently proposed project only involves exploratory geothermal drilling and testing. The siting of a geothermal power plant (if the geothermal resource development is proposed) would be undertaken as part of the process of preparing Plans of Development and Utilization. The TCH wells that would be drilled would be used to help define the extent of the geothermal resource in the area; TCH well pad sites are not usually used to site a geothermal power plant.

CEGC has identified well pad sites 42-13TCH and 15-15TCH as drilling locations that are necessary to acquire adequate information about the geothermal resource within the Glass Mountain KGRA and to determine the future commercialization potential of the geothermal resource. As discussed on page 2-8 of the EA/IS, these TCH wells would be abandoned in accordance with GRO No. 3 after completion of all testing.

The use of the 42-13TCH and 15-15TCH well pads would be a temporary, short-term use of the pads. After completion of the activities proposed in the POO, the well pads would most likely be reclaimed; however, if development or utilization of the geothermal resource is proposed, approved, and undertaken, production and/or injection wells could be drilled at the pads. Any use of the well pads other than that proposed in the POO is beyond the scope of the EA/IS, and would require additional environmental evaluation prior to authorization for additional uses.

RESPONSE TO COMMENT C.2

The analysis of potential noise impacts contained in the EA/IS is an accurate assessment of the potential noise effects associated with the proposed POO. The quantified noise levels identified in Table 4.7-1 on page 4-33 of the EA/IS are estimated noise levels that may occur. These noise levels are based on noise measurements and studies conducted at other geothermal exploration projects in rural portions of California and Oregon, and are considered to be representative of the proposed project. As discussed on pages 4-32 to 4-35 of the EA/IS, the proposed project would not expose the properties located near Medicine Lake to severe noise levels, and would not have a significant noise effect. In addition, all well drilling and testing would comply with OSHA standards for noise levels.

RESPONSE TO COMMENT C.3

The amount of surface disturbance that would occur under the proposed POO is considered by CEGC to be the minimum necessary to complete the proposed geothermal exploration program at the Glass Mountain KGRA. The TCH well pads would each be about 0.14 acres (60 feet by 100 feet), which would be the smallest-sized well pads that would allow necessary equipment, facilities, and vehicle parking to be sited at the TCH

well pads. The exploratory well pads would each be about 5.51 acres (400 feet by 600 feet). The size of exploratory well pads has been determined by:

- The depth of the well that is required (which determines the size of the drill rig and sump pond that is necessary)
- The type of geothermal resource that is present (which also determines the size of the sump pond that is necessary).
- The number of wells that will be drilled per pad

In the case of the Glass Mountain geothermal resource, CEGC will be required to drill deep wells to test the commercial viability of the geothermal resource. Deep wells will require larger drilling equipment and a larger sump pond to contain drilling and geothermal fluids. The geothermal resource is a steam and hot water (two-phase) resource. A sump that can contain 750,000 to 1,000,000 gallons is therefore required for flow testing. In addition, each of the exploratory well pads have been designed to accommodate multiple wells, which reduces the number of pads that would be required for exploration activities. By minimizing the number of well pads and associated roads, less overall surface disturbance will occur under the proposed POO.

As discussed on page 2-2 of the EA/IS, the proposed well sites have been selected to minimize the amount of new surface disturbance. With the exception of well pad 46-32, all wells would be at least partially located on old log landings, logging roads, or in previously clear-cut areas; these areas all have been subject to surface disturbance in the past. In order to minimize surface disturbance from development of new access roads, these roads have been routed as directly as possible from existing roads to the well pads, taking into account the topography of the area and the need to avoid sensitive elements where feasible (e.g., any larger trees that could be considered to be old growth trees).

RESPONSE TO COMMENT C.4

The support of the Butte Valley Chamber of Commerce for Alternative B is noted. Alternative B would not completely eliminate the potential for geologic hazards to affect people or facilities. As stated in the first and second sentences of the paragraph on page 4-7, Alternative B would eliminate the potential for geologic hazards to affect people or facilities only at well pads 42-13TCH and 15-15TCH (which would not be constructed under Alternative B). However, the potential for geologic hazards to affect people or facilities at other well pads would still exist. These impacts would be considered less than significant.



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San Fernando Valley Audubon Society
Save Our Ancient Forest Ecology
Sea and Sage Audubon Society
Sierra Club Legal Defense Fund
Sierra Treks
Soda Mountain Wilderness Council
South Fork Watershed Association
South Yuba River Citizen League
Tulare County Audubon Society
U.C. Davis Environmental Law Society
Western States Endurance Run
The Wilderness Society
Wintu Audubon Society
Yolano Group, Sierra Club
Yolo Environmental Resource Center

Letter D

May 23, 1995

Randall Sharp
Modoc National Forest
800 West 12th. Street
Alturas, CA 96101

**Subject: Glass Mountain Unit Geothermal Exploration Project
EA/IS**

Dear Mr. Sharp:

Thank you for this opportunity to comment on the Glass Mountain Unit Geothermal Exploration Project EA/IS. While we welcome alternative energy development, we also strongly believe that old-growth ecosystems and roadless areas must not be sacrificed in the process.

The Mount Hoffman Roadless Area is an important wildlife habitat corridor between the Modoc, Shasta-Trinity, and Klamath national forests. As the EA/IS reveals, the roadless area and surrounding lands provide a refuge for several sensitive wildlife species, including northern spotted owl, American marten, goshawk, bald eagle, pileated woodpecker, and peregrine falcon. As the only portion of the Modoc National Forest covered by President Clinton's Northwest Forest Plan, the area has special significance.

The EA/IS fails to take into account several Northwest Forest Plan standards and guidelines:

• Are any of the proposed drilling sites within managed late-successional reserves or riparian reserves? If so, how will the proposed drilling, logging, and road construction projects be changed to conform to the applicable standards and guidelines for these management areas?

D.1

• A watershed analysis must be completed before any management activities are carried out in the Mount Hoffman Roadless Area (FSEIS, p. 3&4-281). When will this analysis be completed?

D.2

• Is the old-growth logging proposed under Alternative A in a watershed where 15 percent or less of the federal forest land is late-successional forest? If so, no cutting of late-successional forest is allowed (S&G, p. C-44-45).

D.3

• How will the "survey and manage" requirements be followed (S&G, p. C-4-5 and p. C-49-61, Table C-3)?

D.4

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We request that the final version of the EA/IS specifically address these and other standards and guidelines from the Northwest Forest Plan by explaining why they do or do not apply to the proposed project. If it is determined that these standards and guidelines apply, we request that the final version of the EA/IS explain how they are being met within the project area.

D.5

In addition, Alternatives A and B violate Forest Service regulations because they propose to develop portions of the Mount Hoffman Roadless Area without requiring that an EIS be prepared (FSH 1909.15 Section 20.6 WO Amendment 1909.15-92-1). Removing old-growth forest and constructing roads and drilling pads in the Mount Hoffman Roadless Area is certainly a "substantial alteration" as defined in the FSH. If Alternative A or B is selected, we request that an EIS be prepared prior to developing the roadless area.

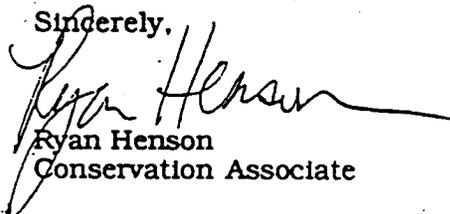
D.6

Lastly, it is important to consider that forested roadless areas are rare in the Modoc. We believe that every effort should be made to preserve these wildlands for future generations. For this reason, we strongly support Alternative C as described in the EA/IS. Alternative C will provide jobs and other economic opportunities while still preserving the primitive character and ecological health of the Mount Hoffman Roadless Area. We encourage the Forest Service and Bureau of Land Management to select Alternative C as the preferred alternative in the final version of the EA/IS.

D.7

Thank you for considering our comments. Please mail us a copy of the final version of the EA/IS when it is completed.

Sincerely,



Ryan Henson
Conservation Associate

cc: Rich Burns, BLM, Alturas Resource Area

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Letter D—California Wilderness Coalition

RESPONSE TO COMMENT D.1

As discussed on page 4-42 of the EA/IS, the project area is located in a matrix area as delineated in the President Plan (also known as "Option 9" and the Northwest Forest Plan). None of the well pads are located in designated late-successional reserves, riparian reserves, or other old growth management areas. The USFS is currently in the process of delineating three late-successional territories in the Medicine Lake area. One of the proposed late-successional territories is in the vicinity of Medicine Mountain, and includes one of the proposed TCH well pads (11-24TCH). Since this well pad is located on a previously disturbed area and development of this pad would not require the clearance of late-successional or old-growth vegetation, development of this well pad would conform with applicable standards and guidelines for late-successional reserves.

The operations that would be undertaken as part of the proposed POO would be temporary and relatively short-term. After completion of the POO, a decision would be made regarding the commercial viability of the geothermal resource. If the resource is not viable, the well pads would be recontoured and revegetated. If the resource is viable and development or utilization of the geothermal resource is undertaken, certain well pads could be used for production and/or injection. However, any future use of the well pads other than the uses proposed in the POO is beyond the scope of the EA/IS, and would require additional environmental evaluation.

RESPONSE TO COMMENT D.2

The subject of performing watershed analyses before conducting management activities on National Forests was addressed in a February 21, 1995 memo from the Regional Foresters of USFS Regions 5 and 6 to the Forest Supervisors of National Forests within the two regions (USFS 1995). This memo was prepared in response to inquiries received by the USFS Issue Resolution Team regarding the requirement for watershed analyses. This requirement is contained in the *Record of Decision and Standards and Guidelines for the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (USFS and BLM 1994). Specifically, the USFS memo addressed how the standards and guidelines for watershed analyses in this document apply to mining activities on National Forests. The USFS considers geothermal exploration activities to be a mining activity.

The USFS has determined that the standards and guidelines for watershed analyses are not rules or regulations governing National Forests; rather, these standards and guidelines are an amendment to Forest Plans (USFS 1995). Since these standards and guidelines are not rules or regulations, processing of a proposed POO for mining activities (such as the POO for the Glass Mountain Geothermal Exploration Project) cannot be delayed simply because a watershed analysis has not been completed, and the USFS must process a proposed POO within the established regulatory timeframe (USFS 1995). If it is determined upon completion of the watershed analysis that mitigation is required for a

POO that was approved during preparation of the watershed analysis, the USFS has the authority to modify the POO to include necessary mitigation measures (USFS 1995).

The EA/IS for the proposed POO contains mitigation measures to ensure that the environmental effects of the POO would be less than significant. Based on the thorough analysis of environmental issues contained in the EA/IS, it is not expected that any additional mitigation would be required for the proposed POO upon completion of a watershed analysis for the area.

The USFS, Modoc National Forest is currently in the process of conducted watershed analyses for the Modoc National Forest. A completion date for these watershed analyses has not been established at this time.

RESPONSE TO COMMENT D.3

The *Record of Decision and Standards and Guidelines for the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (USFS and BLM 1994) do not specify that no cutting of late-successional forest is allowed, regardless of the percentage of remaining old growth acreage. Instead, it is stated on page C-44 of the *Standards and Guidelines* that, "Landscape areas where little late-successional forest persist should be managed to retain late-successional patches." This guideline pertains to late-successional stands, not individual late-successional trees, and does not prohibit any cutting of old growth trees. As stated on page 4-20 of the EA/IS, the proposed well pads and access roads would not be located in timber stands that could be considered pure old growth forest. Since the proposed project would not affect any late-successional stands, it would not be inconsistent with the management directives in the *Standards and Guidelines*, and the issue of whether the proposed project would occur in a watershed where 15% or less of the federal forest land is late-successional forest is not pertinent to the environmental evaluation of the proposed POO.

Implementation of the proposed POO would require the removal of dispersed old growth trees from well pads 46-32, 18-32, 58-6, and 56-18, and the access road to well pad 46-32. Removal of old growth trees from these locations would not be expected to adversely affect the integrity of the old growth forest in the project vicinity. A total of approximately 23 acres (not all of which contains old growth trees) would be cleared for these well pads and the access road. This affected acreage would represent an extremely small portion of the total forest that contains either old growth stands or scattered old growth trees. In addition, all of these well pads and the access road would be located near existing areas that have either been previously harvested, cleared, or otherwise disturbed.

RESPONSE TO COMMENT D.4

The survey and manage requirements referenced by the commentator are contained in the *Record of Decision and Standards and Guidelines for the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (USFS and BLM 1994). These requirements are specifically for implementation of the

Northwest Forest Plan, not for specific projects such as the proposed POO. There would therefore be no need to follow these requirements for the proposed POO.

RESPONSE TO COMMENT D.5

The EA/IS (with these responses to public comments) addresses all applicable standards and guidelines from the President Plan. Consistent with both NEPA and CEQA, the EA/IS focuses on those standards and guidelines from the Plan that the proposed POO could conflict with if implemented. The EA/IS describes and discusses consistency with all pertinent and applicable plans.

RESPONSE TO COMMENT D.6

The USFS *Environmental Policy and Procedures Handbook* (USFS 1992) is discussed in the last paragraph on page 4-42 of the EA/IS. Chapter 20 of the USFS Handbook identifies four classes of actions that require an Environmental Impact Statement (EIS). These classes include:

- Proposed actions for which an environmental impact statement is required by law or regulation (Section 20.6.1)
- Proposals to carry out or to approve aerial application of chemical pesticides on an operational basis (Section 20.6.2)
- Proposals that would substantially alter the undeveloped character of an inventoried roadless area of 5,000 acres or more (Section 20.6.3)
- Other proposals to take major Federal actions that may significantly affect the quality of the human environment (Section 20.6.4)

Section 20.6.3 is the portion of Chapter 20 that is applicable to the proposed project. This section provides examples of proposals that would substantially alter the undeveloped character of an inventoried roadless area of 5,000 acres or more (and would therefore require preparation of an EIS). These examples include:

- Constructing roads and harvesting timber in a 56,000-acre inventoried roadless area where the proposed road and harvest units impact 3,000 acres in only one part of the roadless area
- Constructing or reconstructing water reservoir facilities in a 5,000-acre unroaded area where flow regimens may be substantially altered
- Approving a plan of operations for a mine which would cause considerable surface disturbance over 700 acres in a 10,000-acre roadless area

The first and third examples provide quantified situations that can be used for comparison purposes for the proposed project. The first example would affect approximately 5% (3,000 of 56,000 acres) of a roadless area, while the third example would affect 7% (700 of 10,000 acres) of a roadless area. The well pads and road that would be constructed in the 10,800-acre Mount Hoffman Roadless Release Area (RRA) as part of the proposed action would occupy about 12 acres, which would represent approximately 0.1% of the total acreage of the RRA. The acreage affected by the proposed project would be substantially less than the acreage affected by the project examples in Section 20.6.3 of the USFS Handbook. In

addition, these facilities would be constructed in a relatively confined area near the perimeter of the RRA, and would not affect any old growth stands.

Given the relatively small size and location of the proposed well pads and road in the Mount Hoffman RRA, the proposed project is not considered to be a proposal that would substantially alter the undeveloped character of an inventoried roadless area of 5,000 acres or more. Preparation of an EIS is therefore not necessary for the proposed POO. In addition, the proposed project would be a temporary short-term project; well pads and roads would either be reclaimed at the end of the proposed action, or additional environmental evaluation would be required for further use of the well pads and roads for geothermal activities.

RESPONSE TO COMMENT D.7

The support of the California Wilderness Coalition for Alternative C is noted.

To Randall Sharp:

May 23, 1995

I am writing with regard to the geothermal well development planned for the Mt. Hoffman Roadless Area. I am vigorously opposed to any new road construction or "high-grade" logging (i.e. logging old growth trees) in this roadless area. Such activities would substantially alter the primitive character of this area and detrimentally affect northern spotted owl, pine marten, goshawk, bald eagle, pileated woodpecker, and peregrine falcon habitat. Test wells are not required in this roadless area and should be limited to areas already roaded and logged in the past. Alternative C is a superior alternative from an ecological perspective and should be adopted as the "preferred" alternative. In any case, the existing "preferred" Forest Service alternative for the Glass Mountain Unit Geothermal Exploration project requires more environmental analysis before it can be legally selected. A full blown environmental impact statement is needed before the development of a roadless area can take place.

Sincerely, Todd Shuman

E1

E2

E3

Letter E—Todd Shuman

RESPONSE TO COMMENT E.1

The opposition of the commentor to new road construction or logging in the Mount Hoffman RRA is noted. However, the level of development activity in the RRA associated with the proposed project would not be considered a substantial alteration of the undeveloped character of the roadless area (see the response to comment D.6).

It is acknowledged that development of the well pads and road in the Mount Hoffman RRA would affect habitat for certain species, including the northern spotted owl, northern goshawk, woodpeckers, and American marten (the well pads and road have not been identified as suitable habitat for the bald eagle or peregrine falcon). However, the relatively small acreage of habitat that would be affected by development of these sites would be an extremely small portion of existing habitat for these species, and these species are not known to regularly inhabit these sites. In addition, mitigation measures have been proposed in the EA/IS for the northern spotted owl, northern goshawk, and American marten to ensure that there would not be a significant effect on these species. The species would therefore not be expected to be adversely affected by the proposed action.

As discussed on page 2-2 of the EA/IS, the proposed drilling activities identified in the POO are the minimum necessary to allow for an adequate delineation of the geothermal resource. As discussed on page 2-19 of the EA/IS, elimination of exploration well pads 18-32 and 46-32 would prevent CEGC from further investigating the commercial potential of the portion of the geothermal resource that is located near Mount Hoffman. These wells would provide more complete data regarding geologic and hydrologic systems in the Medicine Lake vicinity, and subsurface geological information would be collected during testing at these wells. This information is considered to be necessary for the following reasons:

- It will allow CEGC to adequately assess the high heat flow area in the Mount Hoffman region for resource production
- It will allow CEGC to develop an adequate three-dimensional model of the geothermal reservoir

CEGC has sited well pads 18-32 and 46-32 to obtain the necessary information regarding the geothermal resource in the vicinity of Mount Hoffman while avoiding environmentally sensitive areas to the greatest extent possible. The specific sites for well pads 18-32 and 46-32 were selected by CEGC through consultations with the USFS and wildlife biologists. These well pad sites were chosen primarily because they contain a minimum of the necessary habitat components for sensitive wildlife species such as the northern spotted owl. By avoiding wildlife habitat components, potential effects on wildlife habitat from POO implementation would be minimized. There are no previously disturbed pad locations in the immediate Mount Hoffman vicinity that could be drilled (either directionally or conventionally) and used to adequately test the geothermal resource in this area.

RESPONSE TO COMMENT E.2

The support of the commentor for Alternative C is noted.

RESPONSE TO COMMENT E.3

Given the relatively small size and location of the proposed well pads and road in the Mount Hoffman RRA, the proposed project is not considered to be a proposal that would substantially alter the undeveloped character of the Mount Hoffman RRA. Preparation of an EIS is therefore not necessary for the project (see the response to comment D.6).

May 5, 1995

Dear Mr. Sharp,

I wish to strongly urge the Modoc National Forest to restrict geothermal well-drilling to areas outside of the Mt. Hoffman Roadless area. Along these lines, I wish to urge adoption of Alternative C, not the Preferred Alternative. The Modoc has few large roadless areas, protection of this area is important for wildlife. Thank you for your consideration.

F.1

F.2

Sincerely,



Joel Despain

HCR 89 Box 211
Three Rivers, CA 93271

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Letter F—Joel Despain

RESPONSE TO COMMENT F.1

The opposition of the commentor to geothermal well drilling in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT F.2

The support of the commentor for Alternative C is noted.

928 Oak Ridge Road
Los Gatos, CA. 95030
May 13, 1995

Mr. Randall Sharp
Modoc National Forest
800 West 12th St.
Alturas, CA 96101

Dear Mr. Sharp:

I am writing to strongly oppose proposed geothermal test wells in the Mount Hoffman Roadless Area. While I do support geothermal test wells in roaded areas, I object to any logging of old-growth trees or road construction within the Roadless Area in support of these wells.

G.1

I believe that an environmental impact statement need be developed prior to developing the roadless area. I believe it would make a lot more sense to adopt alternative C (drilling proposed wells only in previously logged areas that already have roads) as the preferred alternative in the final version of the EA.

G.2

G.3

Thank you for your consideration.

Sincerely,


John Miller

Letter G—John Miller

RESPONSE TO COMMENT G.1

The opposition of the commentor to geothermal well drilling in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT G.2

Preparation of an EIS is not necessary for the proposed project or for the proposed well pads and road in the Mount Hoffman RRA (see the response to comment D.6).

RESPONSE TO COMMENT G.3

The support of the commentor for Alternative C is noted.

Stephen Buckhout
1389 Heckman Way
San Jose CA 95129-4109

May 9, 1995

Randall Sharp
Modoc National Forest
800 W 12 th Street
Alturas CA 96101

Dear Mr. Sharp:

Re: Glass Mountain
Unit Geothermal
Exploration Project

I am writing to request that the Forest Service select Alternative C as the Preferred Alternative in the final version of the Environmental Assessment. I am opposed to logging any old-growth trees or constructing any new roads within the Mount Hoffman Roadless Area.

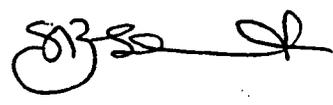
H.1
H.2

Should some other Alternative be selected which will lead to development of the Roadless Area, please be reminded that Forest Service regulations require the preparation of an Environmental Impact Statement since development would substantially alter the primitive character of the roadless area.

H.3

Thank you for your attention to this matter.

Sincerely,



Letter H—Stephen Buckhout

RESPONSE TO COMMENT H.1

The support of the commentor for Alternative C is noted.

RESPONSE TO COMMENT H.2

The opposition of the commentor to project activities in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT H.3

Given the relatively small size and location of the proposed well pads and road in the Mount Hoffman RRA, the proposed project is not considered to be a proposal that would substantially alter the undeveloped character of the Mount Hoffman RRA. The proposed project is a short-term, temporary project that includes exploration activities, rather than development activities. Preparation of an EIS is therefore not necessary for the project (see the response to comment D.6).

Rosanna DiBiase-Ferrera
829 B San Anselmo Ave.
San Anselmo Ca. 94960

May 3, 1995

Dear Mr. Sharp,

I am writing to strongly request that the Forest Service:

- avoid any logging of old growth trees or constructing any new roads within the Mt. Hoffman Roadless Area; | I.1
- prepare an environmental impact statement prior to developing the roadless area; and | I.2
- adopt alternative C as the preferred alternative in the final version of the EA. | I.3

As representative John Porter stated last year regarding road construction in these areas, "Roadless regions exemplify the least...disturbed forest and stream systems, the last reservoirs of ecological diversity, and the primary benchmark for restoring ecological integrity."

We face extraordinary decisions in our time which shall be felt by many generations to come. If we "harvest" the last remaining true wilderness areas of our time and in so doing foil it's potential for regeneration, what is the legacy we leave to our children? The time is now to begin to act out of a restorative perspective. It is our calling to search our hearts and our awareness for alternatives which will not further jeopardize the balance of nature! | I.4

Please, I urge you to act in favor of these requests!

Respectfully,

Rosanna DiBiase-Ferrera

Letter I—Rosanna DiBiase-Ferrera

RESPONSE TO COMMENT I.1

The opposition of the commentor to project activities in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT I.2

Preparation of an EIS is not necessary for the proposed project or for the proposed well pads and road in the Mount Hoffman RRA (see the response to comment D.6).

RESPONSE TO COMMENT I.3

The support of the commentor for Alternative C is noted.

RESPONSE TO COMMENT I.4

As discussed on page 2-2 of the EA/IS, the proposed well sites have been selected to minimize the amount of new surface disturbance and tree removal. With the exception of well pad 46-32, all wells would be at least partially located on old log landings, logging roads, or in previously clear-cut areas; these areas all have been subject to surface disturbance in the past. New access roads have been routed as directly as possible to minimize surface disturbance. Within the Mount Hoffman RRA, the well pads and road that would be constructed would occupy about 12 acres, which would represent approximately 0.1% of the total acreage of the RRA. As discussed on page 4-20 of the EA/IS, the proposed project would not affect stands of old growth trees or the integrity of the old growth forest in the project vicinity.

As discussed on page 2-17 of the EA/IS, reclamation and revegetation of well sites and access roads would occur upon completion of the proposed action. CEGC would be responsible for posting reclamation bonds to ensure that all project activities would be reclaimed in a timely manner following project completion. Well pads and access roads would be recontoured to their approximate pre-project contours and scarified where necessary to loosen the top soil. Any topsoil stockpiled during construction would be replaced, and the well pads and access roads would be reseeded and planted with native vegetation. This would assist in regeneration of forest vegetation, and would avoid any long-term effects from the project.

May 4, 1995

Randall Sharp
Modoc National Forest
800 West 12th Street
Alturas, CA 96101

Re: Mount Hoffman Roadless Area

Dear Mr. Sharp:

I am writing to request that the Forest Service:

1. avoid logging any old-growth trees or constructing any new roads within the Mount Hoffman Roadless Area; | J.1
2. prepare an environmental impact statement prior to allowing any development in the roadless area; and | J.2
3. adopt alternative C as the preferred alternative in the final version of the recently released environmental assessment for the Glass Mountain Unit Geothermal Exploration Project. | J.3

Thank you for your consideration of these requests.

Sincerely,



John Copoulos
226 Page Street
San Francisco, CA 94102

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Letter J—John Copoulos

RESPONSE TO COMMENT J.1

The opposition of the commentor to project activities in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT J.2

Preparation of an EIS is not necessary for the proposed project or for the proposed well pads and road in the Mount Hoffman RRA (see the response to comment D.6).

RESPONSE TO COMMENT J.3

The support of the commentor for Alternative C is noted.

3 May 1995

Mr. Randall Sharp
Modoc National Forest
800 West 12th Street
Alturas, CA 96101

Dear Mr. Sharp,

RE: Glass Mountain Unit Geothermal Exploration Project EA

With regard to the project, please do the following:

- 1) avoid logging any old-growth trees or constructing any new roads within the Mount Hoffman Roadless Area; | K1
- 2) prepare an environmental impact statement prior to developing the roadless area; | K2
- 3) adopt Alternative C as the preferred alternative in the final version of the EA. | K3

Sincerely,

Letter K—H. J. Whitaker

RESPONSE TO COMMENT K.1

The opposition of the commentor to project activities in the Mount Hoffman RRA is noted.

RESPONSE TO COMMENT K.2

Preparation of an EIS is not necessary for the proposed project or for the proposed well pads and road in the Mount Hoffman RRA (see the response to comment D.6).

RESPONSE TO COMMENT K.3

The support of the commentor for Alternative C is noted.

To ensure that the federal agencies provide the appropriate distribution of future information regarding the proposed geothermal drilling within the Glass Mtn. KGRA, please verify the following information and complete the questionnaire. The return address is printed on the other side of this form.

Name:

Vivian Wells
6324 Shasta Way
Klamath Falls, OR 97603

I will be forwarding my (our) comments to you regarding the proposed geothermal project within the Glass Mountain KGRA.

Please include my (our) name on all future mailing lists for this project or similar activities within the Glass Mountain KGRA.

I am not interested in receiving further information regarding the current proposed geothermal project or any other similar projects within the Glass Mountain KGRA.

I have the following specific comments regarding the geothermal proposal:

1. You have stated the proposed core holes and the wells will not affect Medicine Lake levels of water or the levels in Homeowners wells. What is your action plan if the Lake level drops and/or water levels drop in Homeowners wells??

L1

2. What are you planning to do with the Timber you harvest when clearing the sites for the core holes and the wells.

L2

Signed: Vivian Wells

Letter L—Vivian Wells

RESPONSE TO COMMENT L.1

As discussed in the EA/IS and the responses to comments A.7 and B.3, the proposed project would not significantly deplete water resources in the project vicinity, and would not significantly affect water levels at Medicine Lake or in the wells of homeowners near Medicine Lake. As noted in the response to comment A.7, the groundwater body that makes up Medicine Lake and provides water for homeowner wells is a perched, fairly well-contained groundwater body. This groundwater body overlies and is separated from the deeper regional water body that would be tested as part of the proposed POO. Geothermal activities proposed under the POO would therefore not be expected to affect the groundwater body that makes up Medicine Lake or provides water for homeowner wells.

The only project activity that could affect the perched groundwater body would be pumping of groundwater from the two existing water wells in the Arnica Sink area to supply water for drilling needs and dust control. As discussed on page 4-8 of the EA/IS, this pumping would be of short duration, would utilize an extremely small amount of the groundwater that is available in the perched groundwater body, and would be spread out over time. Significant drawdown of this groundwater body from groundwater pumping associated with the POO would therefore not be expected.

Although the POO is not expected to affect water levels at Medicine Lake or in the wells of homeowners near Medicine Lake, if the USFS is notified by homeowners that water levels in their wells are dropping after implementation of the POO, the USFS would investigate if the drop in water levels is due to the proposed project. The USFS would consider such factors as weather and recent precipitation (e.g., drought conditions), changes in runoff patterns, and other water withdrawals in the basin. In the unlikely event that the drop in water levels is due to the POO, the USFS could require that CEGC reduce their pumping of groundwater from the groundwater body that makes up Medicine Lake and provides water for homeowner wells.

RESPONSE TO COMMENT L.2

As discussed on page 4-19 of the EA/IS, all timber removal at the well pads and access roads would be conducted in accordance with USFS specifications. In accordance with USFS requests, CEGC would avoid conifer species over 14 inches dbh where feasible. It is expected that commercial timber (i.e., timber with at least a 4-inch dbh on the short end and over 20 feet long) would be limbed and decked for later removal and sale.

In addition, existing brush and downed logs at the well pads would be used to create concentrated wood debris piles that will serve as denning sites for the American marten (see Mitigation Measure 4.5.4 on pages 4-26 to 4-27 of the EA/IS). These piles will provide compensation for removal of American marten habitat. Brush, saplings, and tree limbs from timber removal at the well pads may also be used to create the denning sites.

Remaining brush, removed tree limbs, and other vegetation that is not viable for commercial sale or American marten habitat creation would be scattered in surrounding areas, piled and burned at the well pads, or buried as appropriate at locations designated by the USFS. Tree stumps would be disposed of at a USFS-designated site and would not be buried at the well pad sites.

Mr. John R. Swanson
3400 Edmund Blvd.
Minneapolis, MN 55406

lory
MAY 1975

May 17, 1975.

Medicine National Forest
Box 2107 12th St.
Albany, California 94701.

Sincerely,

Please accept my following COMMENTS concerning the
Proposal to Dig 4 Wells on the Mount Hoffman Road, Lake Arrow

Some opposed to geothermal and other mining activities in this
general area, as such activities will destroy soil, water, vegetation,
wildlife, and recreation attributes of importance.

M.1

May I suggest the following:
a Wildlife Habitat Preserve,

to save the martin, northern spotted owl, golden eagle, bald eagle,
pileated wood pecker, and peregrine falcon.

So include all old growth in a National Old-Growth Preservation System.

and to designate the Mount Hoffman - Glass Mountain Wilderness of 15,105 Acres.

M.2

So consider that the medicine to be given is unique, varied, and fragile.
and of certain national significance in the Medicine National Monument and
Wilderness of (at least) 43,000 Acres, with the initial wilderness of 28,000 Acres

So promote biological diversity and ecosystem conservation.

So as to fully benefit man, and all life!

Sincerely,

John R. Swanson.

Letter M—John R. Swanson

RESPONSE TO COMMENT M.1

The opposition of the commentor to geothermal activities in the Mount Hoffman RRA is noted. As discussed in the EA/IS, proposed geothermal exploration activities in the Mount Hoffman RRA would not have a significant adverse effect on soil, water, vegetation, wildlife, or roadless and recreational attributes.

RESPONSE TO COMMENT M.2

The suggestion for creation of a wildlife habitat preserve, wilderness area, and/or National Monument is noted. However, consideration of such a special status area by the USFS (which serves as the land manager for the Modoc National Forest) is outside the scope of the EA/IS for the proposed POO. As discussed in the second paragraph on page 3-26 of the EA/IS, the Mount Hoffman area is a Roadless Release Area (RRA), which means that the area has been released from current consideration for designation as a Federal Wilderness Area. The Mount Hoffman RRA was evaluated for Wilderness Area status as part of the 1978 Roadless Area Review and Evaluation (RARE) by the USFS (USFS 1991a). As a result of the RARE, five roadless areas were incorporated into the existing South Warner Wilderness on the Modoc National Forest. All other roadless areas (including the Mount Hoffman RRA) were released from wilderness consideration for the 15-year planning period of the *Modoc National Forest Land and Resource Management Plan* (USFS 1991a).

As discussed in Section 4.5, Biology, of the EA/IS, implementation of the proposed POO (with mitigation) would not have a significant effect on wildlife species such as the American marten, northern spotted owl, northern goshawk, bald eagle, pileated woodpecker, or peregrine falcon. In addition, stands of old growth trees in the Forest would not be affected by the proposed project.

References

- BLM (U.S. Bureau of Land Management) and U.S. Department of Agriculture, Forest Service (USFS). 1984. *Geothermal Leasing of National Forest Lands in the Glass Mountain Known Geothermal Resource Area Supplemented Environmental Assessment*. September 1984.
- CEGC (California Energy General Corporation). 1994. *Plan of Operations for Exploration Drilling, Glass Mountain Area, Siskiyou County, California*. May 1994.
- USFS. 1991a. *Modoc National Forest Land and Resource Management Plan*. 1991.
- _____. 1991b. *Modoc National Forest Land and Resource Management Plan Final Environmental Impact Statement*. 1991.
- _____. 1992. *Environmental Policy and Procedures Handbook*. September 21, 1992.
- _____. 1995. Interoffice Memo from G. Lynn Sprague (Regional Forester for USFS Region 5) and John E. Lowe (Regional Forester for USFS Region 6) to the Forest Supervisors of National Forests in Regions 5 and 6. February 21, 1995.
- USFS and BLM. 1994. *Record of Decision and Standards and Guidelines for the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*. April 1994.