MINUTE ITEM
This Calendar Item No. C64 was approved as Minute Item No. 64 by the California State Lands Commission by a vote of 3 to 0 at its 8-17-04 meeting.

CALENDAR ITEM
C64

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PRC 8556

08/17/04
W 40843
J. Adams

CONSIDER APPROVAL OF THE ISSUANCE AND ASSIGNMENT OF A NEGOTIATED STATE GEOTHERMAL RESOURCES LEASE, THE GEYSERS GEOTHERMAL FIELD, SONOMA AND MENDOCINO COUNTIES

APPLICANT AND ASSIGNOR:

WHR, Inc.
Attn: Mr. Richard Wall
100 Broadway, Third Floor
San Francisco, CA 94111-1404

ASSIGNEE:

Geysers Power Co., LLC
Attn: Mr. Kevin Talkington
10350 Socrates Mine Road
Middletown, CA 95461

AREA, LAND TYPE, AND LOCATION:

Approximately 1,657.43 acres of State 100 percent (100%) reserved mineral interest School Lands at The Geysers Geothermal Field, Sonoma and Mendocino Counties.

BACKGROUND:

The State owns the minerals on nearly 10,000 acres of School Lands in The Geysers Known Geothermal Resource Area (KGRA). As defined by the Federal Geothermal Steam Act of 1970, a KGRA is "an area in which the geology, nearby discoveries, competitive interests, or other indicia would, in the opinion of the Secretary (of the Department of the Interior), engender a belief in men who are experienced in the subject matter that the prospects for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures of money for that purpose." The developed portion of The

Geysers KGRA is commonly referred to as The Geysers geothermal field. It is the world's largest geothermal resource development generating nearly 1,000 megawatts of electrical power. The first generating facility was built there in 1960.

At present, the State has approximately 5,200 acres of School Lands under lease at The Geysers. The leased lands are situated mostly in the central and southeastern portion of the field, whereas the subject lands, like most of the State's unleased acreage, are situated in the northwest part of the field. The leased lands comprise seven State geothermal leases issued by the California State Lands Commission (Commission) between 1971 and 1995. The leases are currently held by Geysers Power Company, LLC, (GPC) or Silverado Geothermal Resources, Inc., both wholly owned subsidiaries of Calpine Corporation. The leases include more than 120 wells that produce nearly four million pounds per hour of steam from a subterranean geothermal reservoir. This geothermal steam, together with nearly 12 million pounds per hour of steam from adjacent Federal and private leases, is transported to a series of generating facilities, owned by the Calpine subsidiaries, that produce more than 800 megawatts of electrical power. Another operator, in the extreme southeast corner of the field, generates about 200 megawatts.

The State leases currently yield approximately $4 million per year in revenue from royalties and rent. Section 6217.5 of the Public Resources Code (PRC) provides that the net revenue from State School Lands shall be deposited in the State Treasury to the credit of the State Teachers' Retirement Fund. The leasing and subsequent exploration and development of the subject lands will increase the revenue derived from State School Lands, and help achieve California's goal of increasing electrical generation from renewable sources.

PRIOR LEASING EFFORTS:

The subject lands were previously leased by the Commission through competitive public bid lease sales held in the late 1970s and early 1980s. The lands once comprised five different leases, two of which were explored and developed, but later abandoned and quitclaimed. The other leases were surrendered before exploratory drilling occurred. In both cases, the cessation of activity was due to unfavorable economics at the time.

The Commission was petitioned to conduct a new competitive public bid lease sale involving a portion of the subject lands when the economics for geothermal development improved in the late 1980s. The Commission eventually held that

sale in 1993, but no bids were received. Potential bidders, including the company that petitioned the sale, indicated that geothermal development had again become uneconomic. The economics of geothermal development have improved recently, due to higher electrical prices and institutional incentives.

LEASE APPLICATION:

An application for a negotiated lease covering the 1,647.43 acres of subject lands was first submitted by GPC in 2001. GPC subsequently modified that application twice over a three-year period. The amended application was deemed to be complete in January 2004. Commission staff then notified the surface owner, WHR, Inc. (WHR), of the pending application pursuant to section 6912(a) of the Public Resources Code. That code section provides that where lands have been sold by the State subject to a mineral reservation in favor of the State, the owner of the such lands be notified of any application for a lease involving the lands, and may, within four months from the date of service of notice, file an application for a lease. The code section further provides that if the surface owner files an application and is qualified to hold a lease, and if the Commission determines that the leasing of the lands is in the best interests of the State, the owner's application shall be granted, subject to all the provisions of Article 5.5 of the Public Resources Code.

In May 2004, WHR exercised its rights under Section 6912(a) of the Public Resources Code by submitting to the Commission an application for a negotiated geothermal resources lease for the subject lands.

ASSIGNMENT:

Due to the fact that WHR is a landowner not in the business of exploring for and developing geothermal resources, WHR has entered into an agreement with GPC, the world's largest supplier of electrical power generated from geothermal resources. Commission staff has reviewed the agreement, under the terms of which WHR has (i) granted to GPC surface access rights to the subject lands, and (ii) agreed to assign to GPC the subject State Geothermal Resources Lease upon issuance by the Commission. GPC will then have rights to utilize the surface, and to explore for, develop, and produce the geothermal resources beneath the surface. WHR therefore requests the Commission issue the State Geothermal Resources Lease contemplated in this calendar item and approve the assignment of its 100 percent interest in the lease to GPC.

BASIS FOR NEGOTIATED LEASE:

Section 6919 of the Public Resources Code provides that the Commission may issue negotiated geothermal leases in lieu of a competitive bid procedure, if any of the following conditions exist: (a) wells drilled upon private or public lands, including State-owned lands, are draining or may drain geothermal resources from State-owned lands; (b) the lands are determined to be unsuitable for competitive bidding because of such factors as their small size or irregular configuration, or their inaccessibility from surface drill sites reasonably available or obtainable; (c) the State owns a fractional interest in the lands; or (d) the lease or agreement is determined by the Commission to be in the best interests of the State. Commission staff believes at least two of these conditions apply to the subject lands – drainage and unsuitability due to size and accessibility limitations.

Accumulated evidence from more than 30 years of operations at The Geysers suggests that much of the reservoir is interconnected and that steam can migrate when a sufficient pressure differential forms. If the subject lands contain geothermal resources as suspected, drainage of those resources is occurring now, or may occur in the future, as a result of wells drilled upon private and Federal lands. Several such wells are situated to the south and southeast of the State lands, some as near as 500 feet from the lease boundary.

Further, the subject lands are considered unsuitable for competitive bidding due to size, configuration, and accessibility limitations. This is despite the fact the lands were considered suitable for such bidding in the 1970s and 1980s. Early in the development of The Geysers, the nature of the reservoir was less well understood, and there were several companies holding a land position and competing for geothermal resources. During the late 1990s, GPC successfully consolidated leaseholds and combined the once separate operations of steam production and electrical generation. The benefit of this effort has been an overall improvement in the conversion efficiency throughout the field in terms of the amount of steam required to generate a given unit of electrical power. But because the geothermal field is a mature one, the acreage necessary for a commercial development is different today than it was 20-30 years ago. The resource potential of the State lands alone is thought to be insufficient to support a new generating facility. The State lands would have to be combined with adjacent lands. GPC has geothermal lease rights on adjacent lands, and surface access rights on the State's reserved mineral interest lands. Commission staff believes it unlikely that any other company could acquire a land position that would afford access to the State's geothermal resources. The

alternative to developing the subject lands via a new generating facility would be to transport the geothermal resources to an existing facility. GPC is the only entity with existing facilities that could utilize newly-developed geothermal resources from the subject lands. Therefore, Commission staff believes it is in the best interests of the State to enter into a negotiated geothermal resources lease with WHR and to assign that lease to GPC.

BASIS FOR STEAM VALUE:

Most of the geothermal steam from existing State leases at The Geysers is valued for royalty purposes at forty-two percent (42%) of the gross proceeds from the sale of electrical power generated from the steam. However, Commission staff has concluded that valuing the steam from the subject lands at forty-two percent (42%) could seriously undermine GPC's ability to develop and utilize the steam. This conclusion is based on the following particulars.

The nature of geothermal resource utilization is such that development of the subject lands is very unlikely to occur unless GPC is able to secure a long-term contract for the sale of electricity with a major utility or municipality. A lower steam value directly improves GPC's chances to secure long-term contracts because it allows GPC to bid as low a price as possible in competitive bidding against other renewable energy technologies. Further, a lower steam value improves GPC's ability to secure the financing required for a geothermal development project.

The forty-two percent (42%) steam value used on the State's largest geothermal leases, in the central part of the field, was approved by the Commission in 1999. The value agreed upon was actually thirty-six percent (36%) initially, but it escalated annually to a maximum of forty-two percent (42%). These values were established through negotiation when GPC acquired and consolidated numerous geothermal leaseholds and generating facilities at The Geysers. The values were based in part on estimates of future royalty had GPC not acquired and consolidated facilities and had the previous royalty method remained in effect. Although a forty-two percent (42%) steam value is still considered appropriate for existing generating facilities, its application to new generating facilities cannot be justified, particularly where poorer steam quality necessitates additional costs. The subject lands are in the northwest part of the field where several generating facilities were forced to close between 1989 and 1996 partly because their production equipment and generating facilities were not properly designed to handle the gassy, corrosive steam found there.

For the past 15 years, only one geothermal facility has had continued success in generating electricity from the poor quality steam produced in the northwest part of the field. GPC's Aidlin facility was designed specifically to handle gassy, corrosive steam, but it is significantly more expensive to operate and maintain than typical generating units at The Geysers. The steam supplied to Aidlin is valued at thirty percent (30%) of gross proceeds. That value was established for the private lease from which the Aidlin facility gets its steam. Adjacent to that private leasehold is State Geothermal Resources Lease No. PRC 7810.2, which one day could contribute steam to Aidlin. In approving the State lease in 1994, the Commission also approved the thirty percent (30%) steam value.

Commission staff believes the Aidlin facility is an appropriate model for any new generating facility GPC might build, both in its size and its design, and therefore a similar steam value of thirty percent (30%) of gross proceeds is provided for in the subject lease. However, the thirty percent (30%) steam value would apply only to steam used at new generating facilities, or at the Aidlin facility. Steam used at any other facility now in operation would be valued at forty-two percent (42%) of gross proceeds.

LEASE TERMS:

1. Primary term of seven years and for so long thereafter as geothermal resources are being produced, or are capable of being produced.
2. Three years to conduct authorized exploratory drilling operations.
3. Further exploration or development subject to State review and approval.
4. Annual rent of $10 per acre, payable in advance.
5. Annual minimum royalty of $20 per acre, payable in arrears, once a commercial resource is discovered.
6. Royalty of ten percent (10%) of the value of geothermal resources produced.
7. Geothermal resources value of (i) thirty percent (30%) of gross proceeds from electrical sales if a new generating facility is involved, or (ii) forty-two percent (42%) of gross proceeds from electrical sales if an existing generating facility is involved.
8. Reimbursement of the State's costs for inspection of lease operations.
9. Performance bond or other security in the amount of $100,000, backed by a parent Guaranty from Calpine Corporation.
10. General liability insurance covering the leased lands and the lessee's operations and business, with liability limits of $2,000,000 per occurrence and an aggregate limit of $5,000,000, and worker's compensation insurance, employer's liability insurance, and business auto liability

insurance, each with limits of $1,000,000.

11. A covenant requiring assignment of all right, title and interest in the lease to GPC.

EXPLORATORY DRILLING:

The lease authorizes only limited drilling operations of an exploratory nature. GPC plans to conduct a specific geothermal exploration project that involves improving an access road, constructing a new drill site, and drilling three geothermal exploration wells into the State lease – two from existing drill sites, and one from the new site. The potential impacts of the exploration project were reviewed pursuant to the California Environmental Quality Act (CEQA) by the California Division of Oil, Gas, and Geothermal Resources acting as Lead Agency. Any activity that might be proposed by the lessee beyond GPC's exploratory drilling project will require separate CEQA consideration and subsequent consideration by the Commission.

STATUTORY AND OTHER REFERENCES:

A. Public Resources Code sections: Division 6, Parts 1 and 2; Division 13.
B. California Code of Regulations, sections: Title 2, Division 3; Title 14.

OTHER PERTINENT INFORMATION:

Issuance of the Lease:

1. A Mitigated Negative Declaration, State Clearinghouse No. 2004062024, was prepared and adopted for this project by the California Division of Oil, Gas, and Geothermal Resources. Commission staff has reviewed such document.

2. A Mitigation Monitoring Program was adopted by the California Division of Oil, Gas, and Geothermal Resources.

Assignment of the Lease:

1. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines [Title 14, California Code of Regulations, section 15060(c)(3)], Commission staff has determined that this activity is not subject to the provisions of the CEQA because it is not a "project" as defined by the CEQA and the State CEQA Guidelines.

Authority: Public Resources Code section 21065 and Title 14, California Code of Regulations, sections 15060(c)(3) and 15378.

EXHIBITS:

A. Land Description
B. Location Map

PERMIT STREAMLINING ACT DEADLINE:

January 16, 2005

RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

CEQA FINDINGS:

ISSUANCE OF THE LEASE:

1. FIND THAT A MITIGATED NEGATIVE DECLARATION, SCH NO. 2004062024, AND MITIGATION MONITORING PROGRAM WERE PREPARED AND ADOPTED FOR THIS PROJECT BY THE CALIFORNIA DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES AS LEAD AGENCY AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

2. ADOPT THE MITIGATION MONTORING PROGRAM, ON FILE IN THE SACRAMENTO OFFICE OF THE COMMISSION.

ASSIGNMENT OF THE LEASE:

1. FIND THAT THE ACTIVITY IS NOT SUBJECT TO THE REQUIREMENTS OF THE CEQA PURSUANT TO TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15060(c)(3) BECAUSE THE ACTIVITY IS NOT A PROJECT AS DEFINED BY PUBLIC RESOURCES CODE SECTION 21065 AND TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15378.

OTHER FINDINGS:

1. FIND THAT CONDITIONS EXIST FOR THE ISSUANCE OF A NEGOTIATED GEOTHERMAL RESOURCES LEASE PURSUANT TO PUBLIC RESOURCES CODE SECTION 6919(a), IN THAT

GEOTHERMAL RESOURCES ARE BEING DRAINED OR MAY BE DRAINED FROM THE LEASED LANDS, AND SECTION 6919(b), IN THAT LIMITATIONS DUE TO SIZE, CONFIGURATION, AND ACCESSIBILITY MAKE THE LANDS UNSUITABLE FOR COMPETITIVE BIDDING.

2. FIND THAT A NEGOTIATED GEOTHERMAL RESOURCES LEASE PURSUANT TO PUBLIC RESOURCES CODE SECTION 6919(d) IS IN THE BEST INTERESTS OF THE STATE

AUTHORIZATION:

1. AUTHORIZE ISSUANCE TO WHR, INC., A GEOTHERMAL RESOURCES LEASE, ON FILE IN THE LONG BEACH OFFICE OF THE COMMISSION, COVERING THE LANDS DESCRIBED IN EXHIBIT A, ATTACHED HERETO.

2. CONSENT TO THE ASSIGNMENT OF 100 PERCENT INTEREST IN THE GEOTHERMAL RESOURCES LEASE TO GEYSERS POWER COMPANY, LLC, WITH THE ASSIGNEE TO BE BOUND BY ALL THE TERMS AND CONDITIONS OF THE LEASE.

3. AUTHORIZE THE EXECUTIVE OFFICER OR HIS DESIGNEE TO EXECUTE ANY DOCUMENTS NECESSARY TO IMPLEMENT THE COMMISSION'S ACTION.

EXHIBIT A

W 40843

LAND DESCRIPTION

Lots 1, 2, 3, 4, 5, 6, 7, 8, 11, and 12 of Section 1, Township 11 North, Range 9 West, Mount Diablo Base and Meridian, Sonoma County, containing 394.46 acres, more or less;

Lots 4, 6, 8, and 11 of Section 2, Township 11 North, Range 9 West, Mount Diablo Base and Meridian, Sonoma County, containing 158.88 acres, more or less;

Lots 1, 2, 3, 4, and 5, the Southeast Quarter, the South Half of the Northeast Quarter, the Northwest Quarter of the Northwest Quarter, the South Half of the Northwest Quarter, and the East Half of the Southwest Quarter of Section 3, Township 11 North, Range 9 West, Mount Diablo Base and Meridian, Sonoma County, containing 624.09 acres, more or less;

The South Half of the South Half of Section 26, Township 12 North, Range 9 West, Mount Diablo Base and Meridian, Mendocino County, containing 160.00 acres, more or less;

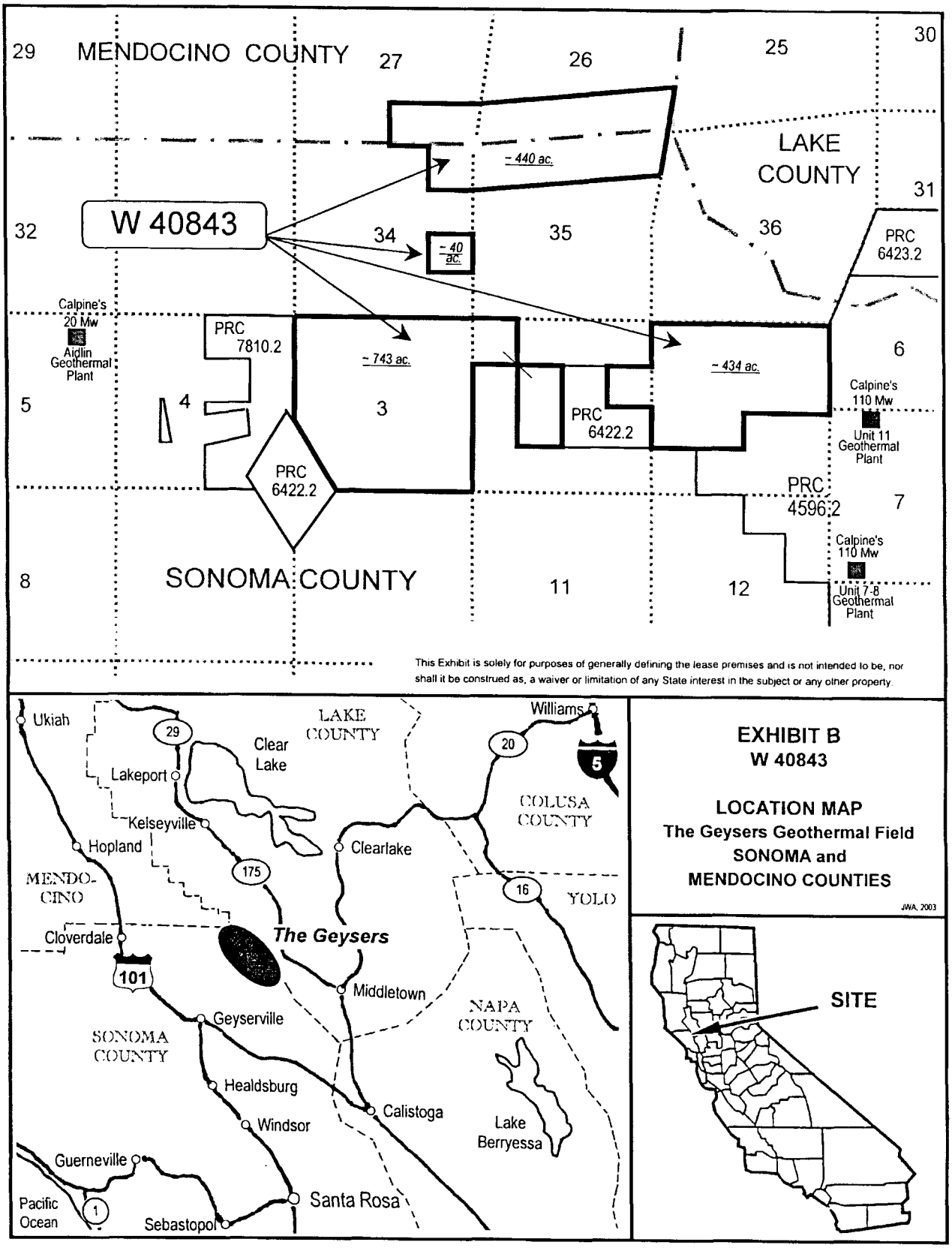
The South Half of the Southeast Quarter of Section 27, Township 12 North, Range 9 West, Mount Diablo Base and Meridian, Mendocino County, containing 80.00 acres, more or less;

The Northeast Quarter of the Northeast Quarter and the Northeast Quarter of the Southeast Quarter of Section 34, Township 12 North, Range 9 West, Mount Diablo Base and Meridian, Sonoma County, containing 80.00 acres, more or less; and

The North Half of the North Half of Section 35, Township 12 North, Range 9 West, Mount Diablo Base and Meridian, Sonoma County, containing 160.00 acres, more or less.

Total acreage is 1,657.43 acres, more or less.

END OF DESCRIPTION


29
MENDOCINO COUNTY
27
26
25
30
~ 440 ac.
LAKE COUNTY
31
32
W 40843
34
~ 40 ac.
35
36
PRC 6423.2
Calpine's 20 Mw Aidlin Geothermal Plant
PRC 7810.2
~ 743 ac.
~ 434 ac.
6
5
4
3
PRC 6422.2
Calpine's 110 Mw Unit 11 Geothermal Plant
PRC 6422.2
PRC 4596.2
7
Calpine's 110 Mw Unit 7-8 Geothermal Plant
8
SONOMA COUNTY
11
12
This Exhibit is solely for purposes of generally defining the lease premises and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.
Ukiah
29
Clear Lake
LAKE COUNTY
Williams
20
5
Lakeport
COLUSA COUNTY
Kelseyville
Hopland
Clearlake
175
MENDO-CINO
16
YOLO
Cloverdale
The Geysers
101
Middletown
NAPA COUNTY
Geyserville
SONOMA COUNTY
Healdsburg
Calistoga
Windsor
Lake Berryessa
Guerneville
Pacific Ocean
1
Santa Rosa
Sebastopol
EXHIBIT B
W 40843
LOCATION MAP
The Geysers Geothermal Field
SONOMA and
MENDOCINO COUNTIES
JWA, 2003
SITE