



## GEOHERMAL ENERGY

by Nan Nalder

HERE WE GO AGAIN!!! A major Geothermal Leasing Program consisting of 490,000 acres of Forest Service land in the Jemez Mountains is currently being considered. And surprisingly enough an Environmental Impact Statement is not required, but will be considered in the current study being done by the Forest Service. This study is the EAR - Environmental Analysis Report which is the first step taken by a Federal agency in the Geothermal leasing program. We have seen very recently in the leasing at Kilbourne Hole

location that the Federal agencies are not required to prepare an EIS even though the size and scope of the proposed action is a major impact on the environment. Due to the sensitive location of the proposed 490,000 acres included in this parcel of leasing, we feel that an Environmental Impact Statement is essential. The NEPA guidelines state that, "an environmental statement should be prepared if it is reasonable to anticipate a cumulatively significant impact on the environment from Federal Action."

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We feel that smaller, more manageable tracts of land should be considered in order to develop this resource at a more manageable pace. The DRIVING FORCE in this issue seems to be the Secretary in Washington who says to lease so many acres. Priorities seem to be based on the potential for production, rather than by an in-depth study of the resources by location and an understanding of the environmental impact in each location. The leases are DIRT CHEAP and the public is being ripped off.

We believe that priorities should be established in the selection of those Geothermal Resource areas to be leased. We feel in this case, that the comparative value of forest land --for example as a watershed area--should be weighed in the selection of these areas. The content of the brine should be studied prior to the release of the lands for development. This is not being done during the EAR, but could be required in an EIS. The quality and quantity of water in each area should also be inventoried and monitored closely during any development.

The problem of water was not adequately covered in the recent EAR at the Kilbourne Hole location and it looks as though water will be a major problem in the development and production of the lands in that location. There were only two bidders in the competitive locations included in the Kilbourne leasing -- ANADARKO at \$20.00 per unit and Chevron at \$2.00 per unit. It will be interesting to watch the pace of development at the Kilbourne location and to watch for environmental problems due to increased development in this area. It would seem wise to monitor this production area and to watch for the problems that have plagued the Geysers site in California before we lease another 490,000 acres in the Jemez Mountains. The Kilbourne location considered a lease area of 400,000 acres plus. We wonder why the massive size of the proposed lease areas when there is no solid proof that this activity will not seriously degrade the existing environment.

We feel that there should be a more restrained policy for geothermal leases until the technology for the production and development of these resources can overcome and prevent many of the severe environmental problems.

In the leasing of any public trust land we feel that an in-depth study of the land and its comparative use factors should be done prior to the consideration of any one type of leasing. For example, the lands being considered for this parcel of geothermal leases are valuable as grazing lands, wildlife habitat areas, watershed areas, recreational areas, and are of great scenic value.

In a recent interview, Joe Quade of the Forest Service stated, "The thought has occurred to me, that if the geothermal resources up here in the Jemez Mountains are not developed immediately the country is not going to go down the drain. There are plenty of other energy resources. The Four Corners plant is going to keep us supplied

for a long time. I'm interested in finding out what our geothermal potential really is. Are our resources limited or are they large enough to become an energy source for the entire Southwest?"

This brings up the question of who is going to use the power NOW? Will it be transported by additional power line systems to supply the metropolitan areas of Tucson and Phoenix? One plant in the state of the size currently in operation at the Geysers in California could supply the entire state needs for electrical power! This idea was discussed at the recent public meetings on the subject in Los Alamos. Why should we in New Mexico allow our public trust lands to be massively developed only to be developed by out-of-state interests for more out-of-state use? We will end up paying the enormous costs of such development in increased use of our lands by these out-of-state interests. These costs are reflected in the boom-town development phase and the loss of public access to recreational lands as well as in the eventual cleanup of the environment due to this type of development.

Some of the direct environmental hazards are:

1. GENERAL IMPACT ON SITE - visual, noise, etc. A geothermal site is a HIGHLY INDUSTRIALIZED region with a network of pipes, wells, drill pads, and buildings. Columns of steam issue from the cooling towers and "bleeding wells". It is an area affected by constant NOISE from the well drilling, testing, plant operation and vehicular traffic. ODOR results from the discharge of hydrogen sulfide - the smell of rotten eggs.

2. DRILLING causes severe environmental problems from the noise of the drilling rigs. A noise similar to a jet plane results and to date the muffling technology has not been able to deal with this problem.

3. DRILLING MUDS - are contained in a pool of some 100-200 feet in diameter. There exists a constant hazard of spillage or seepage from the ponds. Some of these substances are extremely toxic. Visually these ponds and roads affect an ugly transformation of the landscape, and the landscape stripped away for the roads, pads and other development takes years to replace.

4. AIR POLLUTION - hydrogen sulfide, ammonia, ethane and methane exist in the fallout from these plants.

5. WILD WELLS AND BLOWOUTS are a continuing problem at developed sites. On 23 April 1975 there was another major blowout at the Geysers, some 20 feet in diameter.

6. WATER POLLUTION has been a constant problem. It can occur when severe erosion takes place or when a fresh water aquifer becomes contaminated by the brines during drilling or re-injection.

7. GROUND SUBSIDENCE and SEISMIC ACTIVITY can occur along with the development when there are changes in the underground pressure.

8. WILDLIFE, FISH, and BIRDS have been affected in the loss of habitat, by collision with high tension lines, and in the case of fish - a major

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fish kill was observed at Big Sulphur Creek where the population decreased in numbers from 22,400 in 1968 to 89 in 1973.

9. REDUCTION of PUBLIC ACCESS to public land would occur at these sites.

We feel that undue pressure is being put on the American people to produce more and more electricity to keep up with industry...and to produce this electricity at any cost.

There are other, very valuable uses for the Geothermal steam which should be explored rather than to only produce electricity. Some of these are: direct home heating and cooling using the brine or steam, freezing of produce, lumber drying, drying of prunes, nuts, etc., soil germination for seeds. The OIL companies just are not going to explore these alternatives as their cost at the use point is going to be less than the cost of electricity (it is the oil companies who are largely involved in geothermal development at the present time).

Comment in the form of letters is being collected by the Forest Service at this time to enable them to complete their Environmental Analysis Report. You can write to Joe Quade; U.S. Forest Service; Federal Building; Santa Fe, NM 87501. Also letters to the Congressional delegation concerning the lease action proposed in the Jemez would help.

## Glen Canyon NRA Wilderness

Hearings to consider management and wilderness alternatives in Glen Canyon National Recreation Area were held May 15-19 in Page, Kanab, Salt Lake and Phoenix. Conservationists heavily outnumbered development interests at all four locations.

The record will be held open for written comments until June 19. If you haven't already written, please re-view the Wilderness Hearing Alert you received in early May and write a letter in support of Zoning Alternative 1 and Wilderness Alternative 1 plus conservationists' proposed additions. Even though opposing interests were not very evident at these particular hearings, they work through other channels and it is important to offset their efforts by building a strong record of support for maximal wilderness designation. Please write now to Hearing Officer, c/o Superintendent, Glen Canyon National Recreation Area, P.O. Box 1502, Page, AZ 86000.

by Betsy Barnett

## Wild Rivers Workshop

The Sierra Club's Southwest Regional Conservation Committee is sponsoring a wild and scenic rivers workshop the weekend of June 21 in Stoner, Colorado. The meeting will include (1) a review of the Wild and Scenic Rivers Act of 1968 and subsequent amendments; (2) development of a plan for inventorying stretches of rivers in the Southwest for possible inclusion in the national wild and scenic rivers system; (3) discussion of river management problems. Members of other organizations involved in river protection, as well as representatives of the Bureau of Outdoor Recreation, Bureau of Land Management and National Park Service, will participate.

A four-day river trip on a stretch of the Dolores River currently under study by the BOR will precede or follow the workshop for the benefit of workshop participants. The workshop is open to anyone interested in river protection. If you cannot attend the workshop, but would like to help with river studies in New Mexico, please let us know. For further information on the workshop, river trip or on how you can help, please contact Betsy Barnett, 338 E. deVargas, Santa Fe, NM 87501; phone: 982-4349(o), 662-9581(h).

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 "When we try to pick out anything by itself,  
 we find it hitched to everything else in the universe."  
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### Eco-obscenity of the Month

Federal Power Commissioner Rush Moody, Jr. urges immediate development of western U.S. coal reserves to help ease American dependence on mid-eastern oil imports. He said, "If we wait to open the western states coal reserves until we know they can be mined without environmental damage, we will be sitting on unused coal when hell freezes over."

Quoted from New Mexico Miner, Vol.36, No. 10, 1974.

# S.C. Board/Council Report

by Bob Howard

The annual organizational meetings of the Sierra Club Board of Directors and the Council were held in San Francisco on May 2-3-4. The Board elected as the officers and Executive Committee for the next year: Kent Gill, President; Ted Snyder, V-Pres.; Bill Futrell, Secretary; Paul Swatek, Treasurer; and Holway Jones, Fifth Officer. The Board adopted a Feral Burro Policy calling for the control of feral burros in a manner which protects native flora, fauna, and soils, and adopted guidelines for the policy.

The Board also reaffirmed the policy on Hunting (permissible), added Wilderness System Additions as a primary legislative priority (along with energy, pollution, and land use), and urged immediate study and administration of the surface resources overlying the vast Naval Petroleum Reserve 4 in Alaska by U.S. Fish and Wildlife Service.

The Board initiated development of a comprehensive Agricultural Policy, authorized a Long Range Planning Committee, adopted Guidelines for Fiscal Year 1976 Budget Preparation, and approved continuation of the basic publications program. Two new chapters were approved, Dakota (North and South Dakota) and Wyoming.

The Sierra Club Council conducted tours of Mills Tower (National Sierra Club Offices) and workshops on fund raising, membership recruitment, outings policy, environmental education, internal organization, and volunteer activism. Newly-elected Council officers and Executive Committee include George Shipway, Chairman; Clare Stocks, Vice-chairman; Marty Sandel, Secretary; Jim Henriot, Fourth Officer; and Chuck Kopman, Fifth Officer. The Council, which is primarily responsible for internal and administrative affairs, discussed at length a report by the Internal Organization Committee which proposed to markedly alter the composition and function of the Council, and referred the proposal back to committee.

The Council heard reports from a variety of other committees and acted to raise dues next year, to add the Dakota and Wyoming Chapters, to change boundaries of the Western Canada Chapter, and to seek comments on the proposed Outings Policy and on Insurance Waivers.

Breakfast seminars were held for new delegate orientation, and for discussion of publication sales for chapters, club budgeting, and club publishing programs.

At the May meeting of the Rio Grande Chapter Executive Committee the members elected John Colburn of El Paso to fill the position vacated by Betsy Barnett when she resigned to become a Sierra Club Regional Vice-President and Chairman of the Southwest Regional Conservation Committee.

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