Editor's note: Reconsideration denied by Order dated July 31, 1989

THE SIERRA CLUB, INC. ET AL.

IBLA 87-735 Decided Frbruary 1, 1989

Appeal from a decision of the Deputy State Director for Mineral Resources, Oregon State Office, Bureau of Land Management, approving amendments to existing drilling permits on geothermal leases OR-34669 and OR-34681.

Affirmed.

1. Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements

A determination that a proposed action will not have a significant impact on the quality of the human environment will be affirmed on appeal if the record establishes that a careful review of environmental problems has been made, relevant areas of environmental concern have been identified, and the final determination is reasonable. The party challenging a determination must show that the determination was premised on a clear error of law, a demonstrable error of fact, or that the analysis failed to consider a substantial environmental question of material significance to the action for which the analysis was prepared. Mere differences of opinion provide no basis for reversal if BLM's decision is reasonable and supported by the record on appeal.

APPEARANCES: Victor M. Sher, Esq., and Todd D. True, Esq., Seattle, Washington, for appellants; L. Charles Johnson, Esq., Pocatello, Idaho, for intervenor, California Energy Company, Inc.; Donald P. Lawton, Esq., Assistant Regional Solicitor, Portland, Oregon, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE GRANT

The Sierra Club, Inc., et al., 1/ have appealed from a July 1, 1987, decision of the Deputy State Director for Mineral Resources, Oregon State

1/ The amended notice of appeal was filed on behalf of the Sierra Club, the Oregon Natural Resources Council (ONRC), and the National Parks and Conservation Association (NPCA). The record reveals a question as to whether NPCA

Office, Bureau of Land Management (BLM), approving amendments to the geothermal drilling permits of California Energy Company, Inc. (CECI). The amendments authorize the drilling of temperature-gradient core holes to a depth of 5,500 feet with loss of circulation of drilling fluid to the subsurface.

By order dated October 22, 1987, the Board granted CECI's motion to intervene as an adverse party and took CECI's request for an evidentiary hearing under advisement. CECI has filed an application renewing its request for a factual hearing and oral argument in the event that the present record is deemed insufficient to support BLM's decision. Upon examination of the record, we find no disputed issues of material fact which require a hearing in order to decide this appeal and that the present record provides a sound basis for deciding this case. Hence, CECI's requests for a factual hearing and for oral argument are denied.

Effective January 1, 1984, BLM granted geothermal leases OR-34669 and OR-34681 to CECI for lands in the Winema National Forest located to the east and south of Crater Lake National Park. These leases are part of a 76,000- acre unitized lease area. On March 1, 1984, CECI submitted a proposed plan of exploration for the drilling of up to 24 temperature-gradient holes to a depth of 4,000 feet on the leased areas. 2/ The plan envisioned the collection of temperature and stratigraphic data necessary to determine whether future development was warranted, and discussed the methods and equipment to be used in the operation.

fn. 1 (continued)
is a proper party to this case with standing to pursue this appeal, because NPCA did not participate by commenting on the proposed action to BLM. We need not decide this question, however, because both the Sierra Club and ONRC have standing to appeal BLM's decision.

2/ According to the 1984 Amended Environmental Assessment (1984 EA) prepared for this proposed plan, geothermal resource exploration and possible development of the resource has four phases. The first phase, completed in 1983, was the initial exploration and reconnaissance. The second phase is the drilling of small temperature-gradient holes to discover if a producible resource may exist. If sufficient geothermal resources are located in phase two, then phase three would consist of drilling large diameter production test wells. Finally, if sufficient geothermal resources were produced from the production test wells and if the economic situation was favorable, phase four would be the development of a geothermal power plant (1984 EA at 1 (unnumbered)).

The purpose of drilling temperature-gradient holes is to determine if a significant increase in rock temperature is occurring with depth, thus indicating the proximity of a geothermal resource. A temperature-gradient hole is not to penetrate the actual resource. See 43 CFR 3260.0-5(h). Frequent temperature measurement provides information as to the proximity of the resource, and drilling must stop if certain temperature conditions defined by drill permit stipulations are encountered.

BLM prepared a detailed environmental assessment (EA) of the proposed plan that identified the plan's impacts, examined alternatives, and developed mitigation measures to lessen or remove the identified impacts. The EA was then submitted to the Forest Service (FS), the National Park Service (NPS), various state agencies, and the general public for comment. As a result of the comments received, BLM issued an amended EA that included the alternative of drilling only four wells. Based on the amended 1984 EA, a finding of no significant impact (FONSI) was made, thus obviating the need for preparation of an environmental impact statement (EIS). On December 12, 1984, BLM and FS issued a joint decision approving the drilling of four temperature-gradient wells on previously disturbed sites.

In accordance with the joint decision, on May 9, 1985, BLM approved a geothermal drilling permit for well No. MZI-11A, located one-half mile outside the boundary of Crater Lake National Park and over 4\ miles from Crater Lake. On November 4, 1986, a drilling permit was issued for well No. MZII-1, located one-quarter mile from the park boundary and approximately eight miles from Crater Lake. Both permits, as amended, provide for the drilling of a 7-7/8-inch hole and cementing in place 550 feet of 4\-inch steel casing. They then provide for core drilling of the remainder of the hole at a diameter of 3.782 inches or less to a depth of 4,000 feet. The permits contain detailed conditions concerning surface protection, the placement of well casing, blowout prevention equipment, temperature monitoring, and reporting.

By a sundry notice signed October 29, 1986, CECI requested permission to temporarily abandon well MZI-11A because it was having problems maintaining the circulation of drilling fluids. At this point the surface casing had been cemented in place to a depth of 575 feet, and a 3.782-inch hole had been drilled to a depth of 1,354 feet. BLM authorized temporary abandonment on November 10, 1986. On December 8, 1986, CECI similarly requested permission to temporarily abandon well No. MZII-1 which had been drilled to a depth of 485 feet and cased to a depth of 483 feet. BLM authorized temporary abandonment on January 2, 1987.

The events giving rise to this appeal were triggered by CECI's request for permission to change the total authorized depth of the wells from 4,000 feet to 5,500 feet and to allow temperature-gradient hole core drilling to proceed without fluid returns to the surface. 3/ On January 5, 1987,

3/ Because geothermal resources are frequently associated with highly fractured rock, core drilling rigs, rather than conventional rotary drilling rigs, are generally used to drill temperature-gradient wells. See BLM Answer, affidavit of Richard M. Estabrook at 2. Less drilling fluid is needed for core drilling because the donut-shaped drill bit preserves a central core of rock, thus generating fewer drill cuttings that need to be washed away. Id. Because core rigs typically flow only 10 gallons per minute of drilling fluid as compared to 500 to 1,000 gallons per minute with a large rotary rig, drilling with complete loss of fluid return to the surface becomes economically feasible and is standard procedure in the drilling of temperature-gradient holes in fractured areas. Id.

BLM notified interested persons that it was preparing a supplement to the 1984 EA to analyze the potential impacts of those proposed changes. On May 4, 1987, BLM and FS sent copies of the 1987 EA to interested parties, including Federal and state agencies, environmental groups, and others, requesting public comments.

The 1987 EA discusses the background and history of the project and identifies the purpose of and need for the temperature-gradient core drilling program. 4/ It notes that the United States Department of Energy is providing partial funding for drilling MZI-11A because of the importance of obtaining information about the deep hydrothermal resource in the Cascades and of providing that information to the public. The EA describes the two parts of the proposed action - drilling to 5,500 feet and drilling with fluid loss to the subsurface - and identifies five drilling alternatives and the no-action alternative.

The 1987 EA's discussion of the affected environment refers to the 1984 EA and focuses only on those aspects of the drilling and impacts that are different from those described in the 1984 EA. The analysis of the environmental consequences of the proposed action and alternatives similarly centers on those impacts which differ from the analysis in the 1984 EA. In its discussion of the impacts to surface water resources, the 1987 EA concludes that although additional water would be used, the use would be considered minor, and water quality would not be affected by the proposed action. Similarly the increase in noise levels would not be significant.

The 1987 EA also analyzes the impacts to subsurface resources, identifying two particular areas of concern: (1) the impacts, if any, of drilling through a fresh water aquifer; and (2) the possibility, if any, that drilling fluid could reach Crater Lake. The discussion notes that only nontoxic drilling fluids, consisting of a light mixture of naturally occurring bentonite clay and water with a small amount of additives, would be used. If fresh water aquifers are encountered, the injection of drilling fluid would be temporary because CECI would be required to immediately seal these zones. Even with a total loss of circulation, the maximum drilling fluid injection rate would be about 10,000 gallons per day, an amount which BLM finds minimal when compared to the water budget for the area. Therefore, the analysis concludes that the impacts to local aquifers would be negligible.

To aid in understanding the potential impacts the drilling could have on Crater Lake, BLM commissioned the preparation of a study entitled "An Analysis of the Hydrologic Effects of Proposed Test Drilling in the Winema National Forest Near Crater Lake, Oregon," which was attached to the 1987 EA as Appendix II. The 1987 EA adopted the report's conclusion:

> "The fundamental nature of the flow system appears to be well established by the models, and it is clear that natural hydraulic

4/ Appendix I to the 1987 EA consists of a report entitled "Drilling and Lost Circulation" which explains some of the more common methods used in geothermal exploratory drilling and techniques utilized in attempting to control lost circulation.

> forces in the flow system will oppose the inward flow of drilling fluids at any point in the proposed drilling areas. Nevertheless, the analysis of impacts from the injection of drilling fluid does not depend entirely on the presence of radial outward ground-water flow. Calculations of volume displacement show that drilling fluid could not reach Crater Lake from proposed drilling sites even in the most extreme and unlikely cases considered. It is true that a pressure wave from injection at a drill site might reach the vicinity of the lake as a shortlived transient pulse, but the transport of actual molecules of fluid from drilling sites to the lake is not a realistic possibility. Drilling mud is particulate matter, heavier than water, that will settle out fairly quickly at low velocities. When these factors are considered, we conclude that, in all likelihood, drilling mud will not travel in the direction of the lake for more than several hundred meters from the borehole."
>
> "In view of the ground-water flow directions determined by the modeling, which would oppose the flow of drilling fluid toward the lake, and in view of calculations that show the volume of injected fluid to be too small to reach the lake by simple volume displacement, we conclude that the injection of drilling fluid, as proposed by the drilling company, could pose no threat to Crater Lake or in any way affect the hydrologic system in the immediate vicinity of the Crater Lake caldera."

(1987 EA at 9.)

Based on the analysis contained in the 1987 supplemental EA and the attachments thereto, BLM made a preliminary FONSI with respect to the proposed changes to the drilling permits. By cover letter dated May 4, 1987, the supplemental EA and the preliminary FONSI were distributed to interested parties for comment.

In response to the public comments received on the 1987 EA, BLM prepared a summary and analysis of those comments. Replying to two issues raised by the Sierra Club, BLM stated:

> Comment 2c: Would a blowout lead to fluid interchange between permeable formations? Would the blowout be stopped at the wellhead only to reach the surface with noise and effluent problems at another weak spot?
>
> Response: A blowout could lead to a temporary fluid interchange between permeable formations. Likewise, surfacing of subsurface fluids at some point other than the wellhead is possible. However, the likelihood of this happening is extremely small. As mentioned in the original EA (EA #OR010-84-28), the blowout equipment and standard BLM testing procedures have resulted in only one well becoming a problem out of approximately 750 wells that were required to have blowout equipment installed. The blowout was not due to equipment failure, but was the result of allowing the well to be deepened without adequate safeguards being installed.

There are several safety requirements that the lessee must comply with. An adjustable choke is required so that even with the blowout preventors closed, and the wellhead sealed, there is a way to bleed off pressure and effluent. Pressurized fluids will follow the path of least resistance, and be directed to the reserve pit, for containment, through the choke line. The choke provides a means to relieve pressure so that pressure can be taken off of the formation, and action can be taken to kill the blowout and isolate and cement the problem zone.

The lessee is required to keep an adequate supply of cold water on site to pump downhole to kill and control blowouts. Likewise, an adequate supply of mud-weighting material must be kept on hand for similar purposes.

Comment 2d: If loss of circulation is allowed, how will the operator know the drilling has entered an aquifer?

Response: There are several ways to tell if aquifers have been entered. Drilling rates often increase when aquifers are encountered as rock cuttings are washed away from the bit more rapidly. Usually temperature changes occur when aquifers are intersected. In addition, rock often undergoes change when subjected to water. Inspection of the drill core could indicate the existence of aquifers.

Core runs are usually 10 feet in length, sometimes shorter. If an aquifer is encountered below lost circulation zones, there would be water in the bottom of the hole, and this would be detected when re-inserting the core barrel.

Loss of water into lost circulation zones, and loss of low volumes of drilling fluid into aquifers would be temporary. In addition, only non-toxic fluids would be used in this drilling.

Summary and Analysis of Public Comments, at 6 (unnumbered).

Subsequent to analysis of comments on the supplemental EA, BLM issued a decision record dated July 1, 1987, in which it determined that the proposed amendments to the drilling permits would be approved. This decision was based on the 1987 supplemental EA and the attachments thereto (the hydrologic study and the report on drilling and lost circulation); the public comments received and the analysis thereof prepared by BLM; and the FONSI based on the foregoing.

In their statement of reasons for appeal, appellants challenge BLM's decision to approve the amendments to CECI's drilling permits without addressing the potential impacts of the drilling in an EIS. Appellants preface their specific arguments by discussing the importance of Crater Lake as a national ecological treasure, and by contending that, if there is any risk to the hydrothermal system that supports Crater Lake, such risks should be fully and carefully analyzed and explored before a decision to proceed with the project is made.

Appellants specifically argue that BLM violated the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. | 4332(2)(c) (1982), by failing to analyze the risks associated with either a blowout or the potential for water flowing in the holes between aquifers with different pressure heads, either in the 1984 EA or in the 1987 EA. Appellants assert that BLM admitted this failure, citing to a briefing paper attached to the 1984 EA as the basis for this assertion. Appellants contend that drilling with lost circulation is very risky because the circulating drilling fluid is important in preventing blowouts. Appellants attach a comment by John K. Dean, a petroleum engineer for 15 years, as support for this contention.

Furthermore, appellants allege that BLM, while recognizing that blowouts and interzonal migrations of fluids are possible, minimizes the likelihood of their occurrence and unreasonably limits the possible consequences of such events by assuming that they would be quickly controlled. Appellants argue that a blowout of any substantial duration would create noise, dust, odor, and other disturbances and could result in degradation of the area's air quality, all possibilities that BLM fails to mention. Appellants also contend that drilling fluids could contaminate Crater Lake, and that hydrothermal drilling in the area could reduce pressure in Crater Lake causing hazardous consequences, and assert that BLM has failed to provide assurances that these effects will not result from the approved activities.

Appellants argue that, in determining that the proposed action would have no significant environmental impacts mandating preparation of an EIS, BLM failed to consider "[t]he degree to which the effects on the quality of the human environment are likely to be highly controversial" as required by 40 CFR 1508.27(b)(4). Appellants contend that concern over any potential impacts to Crater Lake demonstrates that the project is highly controversial. In support of this contention, they have submitted various newspaper editorials and articles regarding the development of geothermal resources in the Crater Lake area. Because such controversy exists, appellants assert that an EIS must be prepared. Appellants ask the Board to set aside the FONSI and direct BLM to prepare an EIS for the proposed project. 5/

5/ Appellants' other challenges to BLM's decision must be rejected. Appellants argue that BLM failed to consider the site-specific impacts of CECI's drilling of the remaining two temperature-gradient holes. The two remaining wells authorized in the 1984 decision were not discussed in the decision appealed from relating to the amended drilling authorization for MZI-11A and MZII-1 and, thus, are beyond the scope of this appeal.

Appellants contend that BLM erred by not addressing new information about the thermal features of Crater Lake discovered after the issuance of BLM's decision. Appellants have failed, however, to establish the discovery of any new data which would dictate a different result. See discussion, infra.

Finally, appellants argue that BLM violated section 115 of P.L. 99-591, 100 Stat. 3341-264 (1986), which places a limitation on the issuance of new geothermal leases. This argument ignores the fact that BLM's decision involves an amendment to existing drilling permits issued under leases in existence for over 3 years at that time, and not the issuance of new leases. Thus we find that P.L. 99-591 has no bearing on this appeal.

In its Answer, BLM first describes the proposed action, noting that it is an amendment of existing drilling permits to increase drilling depth from 4,000 to 5,500 feet while allowing loss of drilling fluids to the subsurface. BLM reiterates that the purpose of the present drilling is to obtain temperature readings of the rock at various depths and that, not only is there no intent to drill into a geothermal resource, but, in fact, the terms and conditions of the drilling permit prohibit the production of fluids. BLM provides a brief synopsis of the core drilling method for temperature-gradient wells, citing to the affidavit of Richard M. Estabrook attached to its Answer. (See note 3 supra.) BLM further notes that, even though drilling fluid may be lost, the drill bit is fully lubricated by the flow of drilling fluid down the center of the drill string, and that, because the drilling fluid is a nontoxic substance consisting of water and a small amount of bentonite clay, the loss of drilling fluid is not a significant occurrence. Other benefits of the core drilling method derive from the fact that a solid core of rock material is periodically removed up the center of the drill string, thus enabling the driller to make a careful examination of the character of the material being drilled and allowing the driller to lower a temperature probe down the center of the drill string to accurately determine the temperature at the bottom of the hole.

In response to appellants' contention that BLM has not adequately discussed the environmental impacts of a possible blowout, BLM reiterates that no fluids can be produced from these temperature-gradient wells. Thus, the only possibility of a blowout occurring would be if a high-pressure geothermal resource were accidentally drilled into and could not be controlled. Because the drilling permits require that the temperature at the bottom of the hole be constantly monitored, it is unlikely that such high-pressure geothermal resources will be accidentally encountered. Permit stipulations require temperature measurements at 30-foot intervals as the temperature increases above 175 degrees Fahrenheit and mandate that all drilling stop if a temperature of 212 degrees Fahrenheit is reached. Any further work on the hole must be approved by BLM. BLM notes that, as stated in the 1984 EA, high-pressure systems are unlikely to be encountered in the present drilling because, if such systems existed, they would be expected to produce hot springs at the surface due to the fractured nature of the local rock, and no such hot springs are present around Crater Lake National Park.

BLM also emphasizes that, in the unlikely event a high-pressure formation is encountered, several systems of blowout protection are provided on the core drilling rig as required by the drilling permits. These include blowout protection devices attached to the surface casing cemented inside the hole such as blind rams, pipe rams, and an annular preventor which can close off the hole whether the drill string is in or out. These blowout preventors can be activated hydraulically even during a complete power failure, and high-pressure nitrogen bottles are available for emergency back-up pressure. Additionally, an adjustable choke is installed which allows the controlled bleed off of excess pressure while measures are taken to control the high-pressure zone by pumping cold water, heavy mud, or cement down the hole. This blowout prevention system is rated for much higher pressures than are capable of existing in the fractured rocks at the depths being drilled.

BLM argues that the comments of appellants' petroleum engineer are not relevant here because his experience appears to be with large diameter wells drilled by rotary drilling equipment in oil and gas operations and not core drilled temperature-gradient wells. Drilling in such oil and gas operations requires higher volumes of drilling fluid which fluid also provides added protection from well blowout, conditions totally different from those pre-sented by core drilling. BLM states that the extremely low possibility of a blowout during the drilling of a temperature-gradient hole is corroborated by the fact that no blowouts have ever occurred in the drilling of such wells. BLM notes that the blowouts referred to by appellants occurred in actual testing or production wells, not temperature-gradient wells, and that these were brought under control.

As to appellants' concern about the possible subsurface interzonal migration of fluids, BLM argues that the leases and drilling permits require CECI immediately to seal off any aquifer which is encountered. BLM points out that the possibility of interzonal migration of fluids was discussed both in the 1984 EA and in the 1987 EA. The 1984 EA established mitigation measures to prevent interaquifer contamination by requiring that zones of fluid loss be sealed, and these mitigation measures were reiterated in the 1987 EA and incorporated into the drilling permit approval conditions. Furthermore, BLM notes that, in response to the Sierra Club's comments to the 1987 EA, BLM explained that the operator would be able to tell if aquifers had been encountered even without circulation of drilling fluid.

In summary, BLM argues that the 1984 EA and 1987 EA properly identified and considered the environmental impacts of the proposed action and demonstrated that the impacts would be insignificant. Additionally the terms of the leases and drilling permits restrict and mitigate the impacts of the proposal so that any adverse environmental impacts are compensated for. Accordingly, BLM asserts that it properly determined that no EIS was necessary.

BLM further stresses that, although there currently exists much speculation as to whether thermal springs enter into the bed of Crater Lake and it likely will be years before any conclusions can be reached as to the nature and interconnection of any hydrothermal component of Crater Lake, BLM has demonstrated that no impact on the lake would occur even given the worst possible scenario. BLM cites the "Analysis of the Hydrologic Effect of Proposed Test Drilling in the Winema National Forest Near Crater Lake, Oregon," attached to the 1987 EA. That analysis was based on a study of the hydrology of the Crater Lake area, including the creation of a computer model for use in the simulation of impacts. BLM notes the report's conclusion that it was impossible for drilling fluids to reach the lake under any circumstances and that, at most, a transient pressure wave might reach the vicinity of the lake.

BLM counters appellants' argument that production of geothermal fluids might result in a reduction of pressure in the thermal waters going into Crater Lake by first noting that this hypothetical worst-case scenario discusses actual geothermal production, and thus has no relevance to the present circumstances where production of geothermal fluid is prohibited. BLM

further states that the possible effects of production of geothermal fluids will be considered in the context of an application to drill into a geother-mal resource and test the fluid. At that time further NEPA review will take place, and a determination will be made as to whether that proposed action requires preparation of an EIS.

BLM argues that appellants have failed to demonstrate that BLM's action is "highly controversial" within the meaning of 40 CFR 1508.27(b)(4). BLM contends that appellants' case is based entirely on unfounded speculation and references to public concern instead of credible testimony or factual or scientific evidence that there is any possibility that the present proposal would actually affect Crater Lake. BLM notes that recommendations made by the NPS were incorporated in the 1987 EA and that the NPS has raised no objections to the proposed action. Accordingly, BLM argues that no controversy over the impacts of the project exist, and its decision not to prepare an EIS fully complies with NEPA.

In short, BLM concludes that the terms and conditions of the leases and drilling permits have completely mitigated any possible effect the drilling of temperature-gradient holes could have on Crater Lake, and that appellants have failed to meet their burden of demonstrating error in BLM's decision. BLM asks the Board to affirm its decision to amend CECI's drilling permits to allow the drilling of geothermal temperature-gradient holes to a depth of 5,500 feet with fluid loss to the subsurface.

[1] NEPA requires that an agency prepare an EIS if approval of the proposed action constitutes a major Federal action "significantly affecting the quality of the human environment." 42 U.S.C. | 4332(2)(c) (1982). The Board has established the following standards for reviewing a decision that no EIS is necessary:

> A determination that a proposed action will not have a significant impact on the quality of the human environment will be affirmed on appeal if the record establishes that a careful review of environmental problems has been made, relevant environmental concerns have been identified, and the final determination is reasonable in light of the environmental analysis. Utah Wilderness Association, 80 IBLA 64, 91 I.D. 165 (1984). The party challenging the determination must show it was premised on a clear error of law, a demonstrable error of fact, or that the analysis failed to consider a substantial environmental question of material significance to the action for which the analysis was prepared. See generally id.; United States v. Albert O. Husman, 81 IBLA 271, 274 (1984); see also Curtin Mitchell, 82 IBLA 275 (1984); In re Otter Slide Timber Sale, 75 IBLA 380 (1983). Mere differences of opinion provide no basis for reversal if BLM's decision is reasonable and is supported by the record on appeal. See generally Oregon Shores Conservation Coalition, 83 IBLA 1 (1984).

Glacier-Two Medicine Alliance, 88 IBLA 133, 140-41 (1985). Applying these standards, we find that appellants have failed to demonstrate that BLM's determination that no EIS must be prepared violates NEPA.

The record contains ample support for BLM's conclusion that the drilling of the temperature-gradient core holes to a depth of 5,500 feet with loss of drilling fluid to the subsurface will not significantly affect the environment. BLM recognized the possibility of interzonal migration of fluids in the wells and provided for the sealing of the encountered zones as mitigation to compensate for the possible adverse effects of such an occurrence. "Where a proposal is modified prior to implementation, by adding specific mitigation measures which compensate for any possible adverse environmental impacts stemming from the original proposal, the statutory threshold of significant environmental effects is not crossed and an EIS is not required." Tulkisarmute Native Community Council, 88 IBLA 210, 216 (1985); see also Cabinet Mountains Wilderness/Scotchman's Peak Grizzly Bears v. Peterson, 685 F.2d 678 (D.C. Cir. 1982).

Similarly, we must reject appellants' assertion that BLM improperly failed to consider the risk of a blowout. Although appellants cite to a "briefing paper" attached to the 1984 EA in support of the contention that BLM did not analyze the risk of a blowout, other documentation attached to the EA confirms that the potential for a blowout affecting any flow of hydrothermal fluids into Crater Lake was considered. Thus, in response to a BLM request for advice regarding questions raised by the National Park Service in this regard, the Director, Geological Survey, advised BLM:

> The potential for affecting the flow of hydrothermal fluids into Crater Lake is clearly very small under phase 2 operations. A properly completed temperature-gradient hole will not produce any fluids and, therefore, could not divert fluid from flowing to the lake, even assuming that a hydrothermal system exists under the lease area and assuming that it is connected to the hydrothermal system feeding the lake. If high temperatures are encountered in these drill holes, there is potential for a blowout. Normal drilling procedures, however, should be able to control eruption potential derived from a hot column of fluids, especially since, according to regulations, drilling of temperature-gradient holes must be abandoned if mud temperatures exceed 79° C. There is unlikely to be much overpressure in the system, otherwise, there would be hot springs flowing at the surface.

(Letter of Aug. 15, 1984, attached to Decision Record (Administrative Record, document #15) at 24). This conclusion was included in the EA prepared by BLM (Administrative Record, document #15 at 39). Notwithstanding the improbability of a blowout resulting from a temperature-gradient well, BLM established extensive mitigating procedures for dealing with that event in the unlikely circumstance of its occurrence. The blowout prevention measures incorporated by BLM into the drilling permits have not been shown inadequate to mitigate any foreseeable consequences of a blowout of the temperature-gradient wells. Because BLM clearly identified the potential risks of both the interzonal migration of fluids and a possible blowout, and provided specific mitigating measures to minimize or eliminate the potential adverse effects of those events, BLM's finding of no significant impact must be affirmed.

Finally, appellants have failed to demonstrate that the project's effects on the quality of human environment are likely to be highly controversial, thus mandating preparation of an EIS. 40 CFR 1508.27(b)(4). Appellants have based their argument that the project is controversial on opposition to the drilling expressed in various newspaper articles and editorials. However, the fact that opposition exists does not make the proposed action controversial, because the existence of public opposition cannot "topple the balance in favor of preparing an EIS." Tulkisarmute Native Community Council, supra at 219. The term "controversial" refers to cases "where a substantial dispute exists as to the size, nature, or effect of a major Federal action rather than to the existence of opposition to a use." Rucker v. Willis, 484 F.2d 158, 162 (4th Cir. 1973); see also Glacier-Two Medicine Alliance, supra at 143-44. Appellants have presented no evidence that qualified experts disagree over the effects of the amendment of the two drilling permits, and, thus, have not shown that controversy over the proposal exists.

Appellants filed a supplemental statement of reasons with the Board on December 12, 1988. The filing of a supplemental statement of reasons is allowed by regulation within 30 days after the notice of appeal is filed. 43 CFR 4.412(a). The time for filing any document (except a notice of appeal) may be extended by the Board pursuant to a request filed within the time allowed. 43 CFR 4.22(f). Appellants have neither requested nor received any extension from this Board. To the extent the supplemental brief may be construed as a request for extension to permit further briefing, this request is properly denied as untimely. Expedited consideration of this appeal has been requested and, by order dated July 13, 1988, the Board has agreed to advance this case on its calendar to the extent practicable. In these circumstances, acceptance of a supplemental brief at this late date with the consequent delay in consideration of the case 6/ can only be justified if some compelling error of law previously overlooked or a discovery of material facts not previously known which might dictate a different result has been presented.

Appellants have not crossed this threshold. Although research is ongoing into the existence of hydrothermal input into Crater Lake, the potential existence of such hydrothermal input does not, for the reasons discussed above, invalidate the FONSI for the temperature-gradient holes at issue in this appeal. Further, the Geothermal Steam Act Amendments of 1988, P.L. 100-43, 102 Stat. 1766, cited by appellants, does not justify modifying the decision of BLM. Crater Lake National Park is recognized in sections 2 and 6 of the Act as a "significant thermal feature." 102 Stat. 1766, 1769. Section 6(d) of the Act further requires modifications of geothermal drilling permits to include stipulations necessary to protect such significant thermal features. 102 Stat. 1770. We find that BLM has complied with this requirement by imposing stipulations appropriate to the temperature-gradient holes authorized by the drill permits.

6/ Consideration of the supplemental brief would necessitate further delay to allow adverse parties to file an answer. See 43 CFR 4.414.

Accordingly, we uphold BLM's decision that no EIS is required and its approval of the amendments to CECI's drilling permits.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

C. Randall Grant, Jr.
Administrative Judge

I concur:

Anita Vogt
Administrative Judge
Alternate Member