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BY THE COMPTROLLER GENERAL  
Report To The Chairman, Subcommittee  
On Mines And Mining, House Committee  
On Interior And Insular Affairs  
OF THE UNITED STATES

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# Possible Ways To Streamline Existing Federal Energy Mineral Leasing Rules

GAO identified impediments stemming from present Federal energy mineral leasing rules that could be streamlined in preparing new legislation; in some cases GAO evaluated changes or modifications that might be implemented.



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Federal leasing laws and regulations vary considerably from one mineral to the next. GAO's analysis points out some of the various inconsistencies and suggests that existing rules be improved.



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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON D.C. 20548

B-201779

The Honorable James D. Santini  
Chairman, Subcommittee on Mines  
and Mining  
Committee on Interior and  
Insular Affairs  
House of Representatives

Dear Mr. Chairman:

This report responds to your May 27, 1980, request for information to assist in preparing possible new legislation to reduce regulatory impediments in Federal energy mineral leasing rules. Some overall issues are discussed below and a more detailed treatment, including answers to your specific questions, is included in appendix I.

In addition to the specific questions posed by your Subcommittee regarding coal, onshore oil and gas, oil shale, tar sands, and bentonite, you also asked us to include information on geothermal and offshore oil and gas. Also, we agreed to add other issues and observations based on our past or ongoing work or on other analysis we could complete in the time frame provided. It was agreed that in many cases we would limit ourselves to a discussion of the issues, rather than developing firm answers.

In the time permitted, an exhaustive response is not possible given the broad and complex nature of the subject matter. We did, however, identify impediments stemming from present leasing rules that might be conducive to streamlining, and in some cases evaluated changes or modifications that might be implemented. In doing this work, we drew primarily on our previous work as well as ongoing studies, but we also researched the work of others, and discussed many of the issues with cognizant Interior Department officials.

We hope the information developed will be useful to the Congress as well as to the new administration in considering any legislative or administrative initiatives to streamline Federal mineral leasing. In several of the

areas discussed we plan to pursue further studies.

OVERALL ISSUES

In developing this information, we found that one feature stood out--our Federal mineral leasing practices differ considerably from one mineral to the next with respect to such provisions as diligence, rents, and royalties, all of which can greatly influence decisions on development. For example, coal leases have specific production requirements as a means of assuring diligent development; geothermal leases do not require development, but instead offer financial incentives to encourage it; and onshore oil and gas leases use neither.

Some minerals, such as coal and offshore oil and gas, have specific legislative provisions dictating how leasing will be handled. At the other extreme, such as for oil shale and tar sands, most lease provisions are left entirely to the discretion of the Interior Department.

It is understandable that some leasing provisions, such as lease size and acreage limitations, might differ among minerals since the size of desired exploratory units and economies of scale can vary. For others, the reasons for differences are not so clear, and there may be opportunities to apply desirable provisions in one mineral leasing program to another. For example:

--Rents. Present annual rentals range from \$0.50 to \$3.00 an acre; some are fixed by law and some are not. It may be desirable to legislate a minimum--rather than fixed--rental to allow for upward adjustments for inflation, or to use accelerated rentals as an incentive for production.

--Diligence. Current oil shale lessees can apply development expenditures against their bids; geothermal lessees can apply development costs against rentals. This seems a logical way to encourage development, but no such incentives are provided to oil and gas or coal lessees in spite of widespread interest in accelerating production of these resources.

- Tract selection. Most minerals are leased when and where (and if) the Interior Department chooses to do so, with varying degrees of involvement from the private sector. The prominent exception to this is onshore oil and gas where virtually all land not withdrawn or otherwise restricted has been made available for leasing and exploration. In many cases, it does seem that more industry input into determining where and how much leasing should take place might increase exploration and development activity.
  
- Lease modification. Interior can unilaterally increase an existing coal lease by up to 160 acres if proposed by the lessee and found to be in the best interest of the United States. This concept may have merit for other minerals-- for example, to alleviate land exchange obstacles in oil shale areas, or as a device for consolidating small onshore oil and gas leases into an economic unit.
  
- Fair market value recovery. The extent of emphasis on and means of achieving fair market value recovery also varies considerably. Some minerals are leased competitively, and others noncompetitively; some for large sums to maximize Federal receipts, and others at a nominal fee to encourage development; some with fixed royalties, and some with fixed rentals. If mining claims and patents are brought into the picture, the disparity becomes even greater, with title to these minerals transferred for a nominal fee with no rents, royalties, or bid receipts. The reasons for the above differences are not readily apparent. Most likely, they reflect the primary motivation (e.g., increased exploration, increased production, subsidizing technology development, or increased Federal receipts) that prevailed at the time the legislation was passed.

The inconsistencies among laws and regulations in transferring Federal minerals to the private sector, as well as potential flaws, were also examined by the Office of Technology Assessment (OTA) in an April 1979 report, "Management

of Fuel and Nonfuel Minerals in Federal Land." OTA stated that the various Federal mineral disposal laws contain "significant gaps in coverage, treat physically similar lands or mineral deposits differently, and otherwise make distinctions that often seem arbitrary or are difficult to apply." OTA also pointed out that the existing laws provide very few effective requirements or incentives for diligent exploration, development, or production once mineral rights have been acquired.

Whether or not these inconsistent laws and regulations make sense depends largely on the objectives sought from a Federal leasing program. To our knowledge, no one has sorted out the various inconsistencies or fully analyzed their impact on the achievement of national objectives.

#### RELATED ISSUES

The framework for any reassessment of our present mineral leasing policies should probably include two other related issues, particularly with regard to their impact on domestic production potential. These are access to land problems in general and environmental considerations in particular.

As to the access issue, we expect to issue a report early in 1981 addressing the impact of access restrictions on onshore oil and gas leasing and proposing that more Federal lands be opened for exploration and development. Interior itself, using OTA estimates, has stated that of the 822 million acres of land for which the Government administers the mineral rights, about half are closed to mineral entry or restricted by statutory or administrative conditions. In addition, a March 1980 report by the American Petroleum Institute, "Major Legislative and Regulatory Impediments to Conventional and Synthetic Fuel Energy Development," also dealt with these concerns.

It is apparent that there has been considerable legislation directed at environmental protection in recent years, the total impact of which is probably unknown. The U.S. Geological Survey identified a list of 102 permits--many of them environmental in nature--needed to develop oil shale in the State of Colorado, and even then pointed out that the list should not necessarily be interpreted as complete.

Interior has traditionally pursued three basic mineral leasing objectives in administering its leasing programs:

- Orderly and timely resource development.
- Protection of the environment.
- Receipt of fair market value.

In addition, other objectives which have been or are being pursued include:

- Promoting domestic energy self-sufficiency.
- Promoting competition and discouraging monopolies in energy resource development.
- Maximizing government revenue.
- Meeting the current fiscal needs of government.

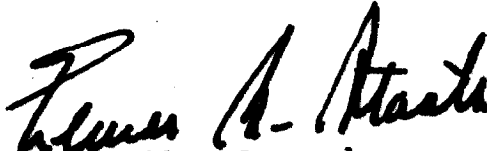
Balancing these sometimes competing objectives and creating more consistent laws and regulations call for clear guidance of a practical nature on what is really in the Nation's best interests. We believe regulatory reduction could be enhanced by a clearer statement by policy-makers of what objectives will be sought through Federal leasing in the years ahead, and by down-to-earth guidance on how often inconsistent and competing policies and objectives will be balanced. This should be a priority area of study leading to clarified objectives of what is being sought through Federal leasing.

A comparison of the basic mineral lease provisions for each type of mineral is shown in appendix II. Also, the documents on which our research was largely based are listed in appendix III. Our previous reports that are possibly germane to your questions are being provided separately; we will send you copies of the other reports as they are issued.

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As requested, we did not obtain comments on a draft of this report from the Department of the Interior. In addition, as agreed, we are furnishing copies of this report to other interested congressional committees and members and other parties.

Sincerely yours,

  
Comptroller General  
of the United States



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### ABBREVIATIONS

BLM	Bureau of Land Management
CRO-CDP	Coal Resource Occurrence-Coal Development Potential
EIS	Environmental impact statement
GAO	General Accounting Office
KGRA	Known geothermal resource area
KGS	Known geologic structure
NEPA	National Environmental Policy Act
OCS	Outer Continental Shelf
OTA	Office of Technology Assessment



DETAILS ON POSSIBLE WAYS TO STREAMLINE EXISTING  
FEDERAL ENERGY MINERAL LEASING RULES

COAL

Our country's major hope for increasing domestic energy production in the near term is coal. Much of the undeveloped coal in this country is under public ownership. The United States either owns the land outright or holds the subsurface rights to vast undeveloped areas in the United States. The Departments of Interior and Agriculture manage the majority of such lands--637 million acres.

Thus, Federal coal leasing policies hold an important key to whether this country will be able to bridge the gap between dependence on foreign oil and reliance on inexhaustible resources in the future. These policies have been established by laws and regulations resulting in a leasing system that is very complex and difficult and costly to administer. As a result, despite the vastness of the resources, Federal lands may not play the role they could play in meeting the Nation's future needs for coal. This was the basic message of our recent report looking into Interior's first attempt to implement its new coal program in the Green River-Hams Fork region of Colorado and Wyoming. 1/ An earlier report identified and analyzed a broad range of issues affecting development and implementation of the new program and called for close scrutiny by the Congress during its early stages. 2/

A recurrent theme in the two above-cited reports, as well as in a report just issued on coal mapping problems, 3/ is the criticality--yet the absence--of sufficient coal data necessitated by Interior's approach to new leasing. Because of serious data gathering problems, we have advocated a less cumbersome approach--including more input from industry so that

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1/"A Shortfall in Leasing Coal From Federal Lands: What Effect on National Energy Goals?" EMD-80-87, Aug. 22, 1980.

2/"Issues Facing the Future of Federal Coal Leasing," EMD-79-47, June 25, 1979.

3/"Mapping Problems May Undermine Plans For New Federal Coal Leasing," EMD-81-30, Dec. 12, 1980.

Interior can focus its limited planning and data-gathering efforts on areas having the greatest interest and potential.

Other ongoing and planned studies likewise focus on streamlining opportunities and also tie into some of the specific questions you asked, which are presented below.

1. Is the existing statutory limit of 160-acre coal lease modification appropriate?

The 1976 Coal Leasing Amendments Act allows an existing lessee to get up to 160 acres of additional contiguous coal lands upon a finding by the Secretary of the Interior that it would be in the best interest of the United States. In no case can such a modification be for more acres than the original lease. In 1978, this provision was expanded to include lands which corner on the original lease.

We asked Interior officials for their experience(s) which would show a need for changing this provision. We were told that there have been very few requests for such modifications and that they were unaware of any problems caused by the limit.

It is unknown at this point if more requests would have been submitted if the limit were higher.

Interior did not believe this limit should be changed. In their opinion this requirement allows Interior to maintain the integrity of the competitive leasing program. Also, a remedy exists for existing lessees to obtain adjacent Federal leases by applying for an emergency lease, or lessees can nominate a desired tract for competitive leasing if the tract fits into existing Interior plans. In addition, more Federal lands should be made available for leasing as a result of Interior's new coal leasing program. This also could open up additional land which may be needed by existing lessees.

2. Should the land use plans be legislatively made to exempt NEPA requirements without the writing of multiple documents until the filing of a mining plan?

Should the land use plans required in the 1976 act fulfill the NEPA requirements for leasing, or should the multiple EIS process continue?

Presently, Interior interprets the National Environmental Policy Act (NEPA) as requiring individual environmental

impact statements (EIS's) on (1) the land use planning process, (2) individual lease sales, and (3) mine plans on each lease, or a total of three EIS's.

We were told by Interior officials that a NEPA subcommittee has been established with representatives from the Bureau of Land Management (BLM) and the Office of Surface Mining to resolve problems of duplication. BLM officials are hopeful that Interior can go to the use of two EIS's. The present proposal is to have a broad EIS prepared at the land use planning stage. Then, based on the fact that assumptions used for this EIS are valid, a more specific EIS would be done for specific lease sales. In their view, this is the most important time for an EIS. BLM is hopeful that this effort to get the EIS's needed down to two will be resolved internally within 1 year. This will mean that a mine plan could be approved without a full EIS, although a supplemental EIS might be needed for a few of the larger mines. Further, it is their view that to do less than these two proposed EIS's would not be consistent with NEPA.

We believe this proposal is a step in the right direction.

3. Does the 10-year requirement for existing leases to be in production in commercial quantities make financing and development on a 10-year lease too difficult?

Production in commercial quantities by 10 years after lease issuance is a requirement of all new and existing leases per the 1976 Coal Leasing Amendments Act.

We have suggested that diligence criteria should not be absolute in order to have the flexibility to maintain leases which will be developed in a timely manner consistent with market needs. <sup>1/</sup> Since there is no such flexibility for new coal leases, the Congress should consider an exception mechanism for legitimate developers of coal.

Since coal leasing has not resumed yet, Interior staff stated that there is no experience upon which to make a judgment on the 10-year requirement on new leases. For pre-1976

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<sup>1/</sup>"Issues Facing the Future of Federal Coal Leasing," EMD-79-47, June 25, 1979.

leases, there is already a provision in the law for one 5-year extension. Interior is presently preparing a Secretarial Issue Document setting guidelines for such extensions. We were informed that if a pre-1976 lease is near production it will probably be granted the extension.

It is not clear whether extension authority will be needed for new coal leases. Interior plans to analyze this issue 2 years into the new coal leasing program. The 10-year producing mine requirement might create a problem when assembling land for marginal mines. But a bigger problem anticipated by Interior will be the financing of synfuel coal mines. Neither problem is certain but the 1982 Powder River synfuel leases will provide a testing ground for the latter.

4. Is the submission of an operation and reclamation plan within 3 years from lease issuance a necessary requirement?

This is a requirement from the 1976 Coal Leasing Amendments Act which also requires a production schedule that would exhaust the coal deposit in 40 years.

We have previously questioned whether this is an effective way to guarantee diligence. <sup>1/</sup> There are many uncertainties affecting the kind of information and costs that go into the preparation of a mine plan, particularly when the coal is uncommitted and the necessary permits have not been obtained or approved. Under these conditions, this requirement might cause lessees to hastily prepare a mine plan of little or no use to the Government or a prospective coal customer. Also, the regulation may not provide enough flexibility for Interior to continue a lease when a lessee encounters legitimate problems in developing a mine plan. In addition, it may present a problem for big synfuel projects. Such projects may have financing problems which in turn will push mine development decisions beyond the 3-year requirement.

5. What alternative diligence requirements are available?

Existing diligent development requirements were established by the 1976 act and through the Interior regulation

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<sup>1/</sup>"Issues Facing the Future of Federal Coal Leasing," EMD-79-47. June 25, 1979, pp. 82-86.

process. These requirements are: (1) a lessee must have mined at least one percent of the logical mining unit reserves of his lease within 10 years for leases issued subsequent to Aug. 4, 1976; (2) a lessee may pay advance royalties on the lease, based on a production schedule that would exhaust the deposit in 40 years in lieu of continued operation subsequent to achieving diligent development; and (3) the lessee is required to submit a production and reclamation plan within 3 years of lease issuance based on 40-year depletion of the deposit.

We have previously stated that consideration should be given to evaluating diligent development criteria in terms of whether they are sufficiently flexible to allow Interior to make sound judgments as to which leases should and should not be cancelled. A main objective should be to establish a balance between timely and orderly production of coal consistent with market needs and to avoid premature cancellation of leases.

Several alternatives to existing criteria should be explored. For example, diligent development could be viewed as the meeting of certain milestones with respect to exploration, environmental analysis, mine plan submission, attempts to market the coal, and production startup. Alternatively, rather than being tied to an arbitrary fixed timeframe, market forces could play a larger role in determining a reasonable timeframe for the lease. These alternatives would require close monitoring of lease development activities and place the Government in a more informed position as to the likelihood of industry meeting Federal coal production goals.

Another alternative might involve economic incentives. For example, an escalating rental scale could be put in effect as long as a lease was not producing coal. Some observers believe this measure would assure a reasonable return to the public and leave to the lessees' discretion the choice of when to submit a mine plan for approval. Depending on market conditions, a lessee could decide to cancel the lease if projected cumulative rental payments and lease development costs outweighed projected benefits (long-term profitability) from developing the lease. Other economic incentives include minimum investment requirements, minimum royalties, and tax adjustments. These and other alternatives might provide a mechanism for making lease management activities more related to market conditions than the present system of arbitrary production periods.

In addition to our views on diligent development alternatives, we have identified two problems with the present requirements which may create uneconomical and inefficient mining practices. These problems relate to metallurgical coal and the 40-year mine plan.

#### Metallurgical coal

Many public and private sector officials are concerned about potential resource misallocation that the 40-year requirement could cause. They argue that western metallurgical coal--a critical resource input into the production of coke, which is used to convert eastern iron ore into raw steel <sup>1</sup>-- may be depleted too quickly or burned inefficiently as steam coal because of this requirement and the failure of existing regulations to take market demand into account.

Metallurgical coal demand is driven by steel economics and world steel market conditions, and not diligent development standards. This requirement could adversely affect the efficiency and competitiveness of America's steel industry because of several factors, most important of which is that mining rates and development investment schedules are directly related to world steel prices and production costs. We plan to study issues relating to leasing of metallurgical coal in the near future.

#### 40-year mine plan

The depletion requirement states that the mining plan for each logical mining unit must provide for the unit to be mined out in not more than 40 years. Interior has not determined at what point in time the 40-year depletion requirement starts. Therefore, the current 3-year mine plan requirement, together with the requirement that mines be producing in 10 years suggests that it might take 7 years after mine plan approval before a logical mining unit might start producing. This could reduce the mine life to

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<sup>1</sup>/Slightly more than 6 percent of domestic raw steel is currently produced in seven western states--California, Arizona, Colorado, Utah, Washington, Oregon, and Hawaii--and substantial deposits of metallurgical coal have been estimated by the Bureau of Mines to occur in Colorado and Utah.



33 years, if the 40-year depletion period begins at the time of mining plan approval. Such a mine life could be less than the productive life of a large-scale western coal mine. This indicates the need for a review of the reasonableness of the 40-year depletion requirement and clarification of when the period begins.

Another possible adverse effect of the 40-year depletion requirement could be that the coal deposit might not support economic development within the 40 years. Economics and engineering conditions dictate the speed of depletion schedules in the private sector--not rigid, fixed schedules. As previously stated, Congress should consider an exception mechanism for legitimate developers of coal.

6. Are the acreage limits of 25,000 acres for logical mining units realistic?

It seems unlikely that the 25,000 acre limitation will cause industry any problems, although we have not addressed the question in our past work. However, we did note a related problem created by the logical mining unit criteria.

The 1976 Coal Leasing Amendments Act defines a logical mining unit as an "area of land in which the coal resources can be developed in an efficient, economical, and orderly manner \* \* \*." It may consist of one or more Federal leaseholds, and may include non-Federal adjacent lands which are under the effective control of a single operator. The logical mining unit must be able to be developed and operated as a single operation and be contiguous.

Therefore, by law, Interior may not include in a single logical mining unit a noncontiguous lease which geologically might otherwise be included. Therefore a lessee who holds title to both a logical mining unit and a noncontiguous but nearby lease may mine such leases out of sequence in order to meet the 40-year depletion requirement. This could raise the cost of mining unnecessarily or might make such a lessee relinquish the nearby lease.

Therefore, it appears that more flexibility is needed in establishing logical mining units.

7. Is more flexibility needed in the 12-1/2-percent minimum royalty for surface mining, particularly with eastern coal?

The Secretary of the Interior has directed the Geological Survey to study the effects of the 12-1/2-percent royalty rate on eastern coal. This study has not been completed.

However, Interior staff stated that this provision has caused problems with certain eastern coal mines and with some in the West. Private leases adjacent to Federal leases and held as an integral part of a mine operation often base their royalty rates on the Federal rate. The 12-1/2-percent rate has thus caused a number of mining operations to become uneconomical. Interior has granted exceptions to the 12-1/2-percent royalty rate for up to 3 years for surface mines because of this problem.

For underground mines, the royalty rate was set by Interior at 8 percent. The agency is presently studying whether this should be lowered to 5 percent. Royalty rate exceptions have been granted for some underground mines also.

Thus, Interior has some flexibility by being able to allow exceptions on royalty rates. While, additional flexibility in the law does not seem to be needed at the present time, it would appear that additional study is warranted.

8. Is it more appropriate to have the Justice Department review each coal lease or to periodically review the competitive nature of coal leasing?

The current reviews of competition are done by the Justice Department after an individual lease sale. There have been 20 short-term leases issued since passage of the 1976 Amendments Act. Of these, only two have experienced delay because of such reviews. In both cases, however, competition was not the reason for delay. These leases were delayed because of section 2(c) of the Mineral Leasing Act of 1920 which prohibits ownership of Federal coal leases by railroads. The lessees in both cases were subsidiaries that were operated independently of the stock-holding railroads.

The record thus far does not enable us to arrive at a definitive answer to your question; however, it would appear that some consideration should be given to allowing periodic analysis of the competitive nature of coal leasing in addition

to the individual lease sale review. This should guide Interior on the number and timing of coal leases so as to respond to Justice's findings.

9. Should the State revenue share of bonus and royalties be raised from 50 percent to 70 percent, and could this be used as a basis for putting a limit on severance taxes?

The Congressional Research Service has prepared a report on limiting State coal severance taxes 1/ and also an issue brief. 2/ The report notes that if a severance tax ceiling is enacted into law, States are likely to quickly set their taxes at that level--even those States which presently have a lower rate or none at all. If this occurred, high costs would indeed be passed on to consumers.

The issue brief notes that the main argument for limiting State coal severance taxes has been the assertion that the high rates charged by Montana and Wyoming place an undue burden on utility consumers in other States--consumers who have no voice in deciding on the rate. However, this brief compares severance taxes on oil, gas, and coal related to the end use products, which shows that Montana's coal severance tax imposes about the same or less of a burden on other States than those of oil or gas. This brief also raises serious questions with regard to States' rights to tax.

Thus, your question appears to be a matter for the Congress to study further.

10. Is Federal coal exploration, section 8A, working through the USGS (CRO-CDP) mapping, or should this Federal exploration be replaced with incentives for private exploration? What are options for private exploration?

The Federal coal exploration/mapping program of the U.S. Geological Survey is not working. The maps from this program are inaccurate, unreliable, and inappropriate for planning.

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1/"Sufficiency of Proposed 12.5 Percent Ceiling On Coal Severance Tax In Covering The Costs Of Producing Coal," Oct. 21, 1980.

2/"Energy: Limiting State Coal Severance Taxes," Issue Brief No. IB80060, updated Aug. 26, 1980.

Also the maps were sometimes not ready when BLM made land use planning decisions for coal leasing. A detailed analysis of this program is provided in GAO's report, "Mapping Problems May Undermine Plans for New Federal Coal Leasing" (EMD-80-108, December 12, 1980).

Our June 1979 issues report identified a number of concerns regarding private exploration under existing law and regulations. 1/ Constraints imposed by these laws and regulations could discourage private sector investments in exploration projects on Federal coal lands, and therefore increase the risk of future production shortfalls.

Our recent "shortfall report" noted specific disincentives for private exploration. 2/ For example, coal companies have no assurance when obtaining an exploration license that they will actually be able to bid on the explored tract if it is put up for lease. A decision by Interior, one way or the other, at the time the exploration licenses are granted, would give industry added incentive to invest in exploration activity.

Experts have identified some alternatives for private exploration of coal, although they have not been evaluated in terms of their effect on competition, new entrants, and their relative benefits and costs compared to existing exploration programs. Alternatives include:

- Competitive sale of exploration rights in unexplored areas and the right to a lease after a mine plan has been approved by the Government.
- Application of exploration expenditures as bidding right credits toward future lease sales.
- Deferment of lease sale bonus bid payments until after a mine plan has been approved and production has begun.

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1/ "Issues Facing The Future Of Federal Coal Leasing," EMD-79-47, June 25, 1979, Ch. 6, pp. 14-19.

2/ "A Shortfall in Leasing Coal from Federal Lands: What Effect on National Energy Goals?" EMD-80-87, Aug. 22, 1980.

We plan to initiate a study of exploration activity (or lack of it) on unleased Federal coal lands, particularly looking at the possible effect this might have on future coal needs. A key consideration will be whether incentives for private exploration might be in the national interest.

#### ONSHORE OIL AND GAS

Aspects of the onshore oil and gas leasing system have been criticized by both Government and industry. Criticism has tended to concentrate on the following perceived deficiencies:

- Failure of the predominantly noncompetitive system to achieve fair market value,
- Large-scale speculation in the lottery system, which encourages fraudulent activities and causes delays in getting the land in the hands of the developers,
- Inability of the system to require diligent development,
- Bureaucratic red tape,
- Severe environmental restrictions.

We have also periodically presented our views on flaws in the system. On March 14, 1980, we issued a report to Representative Richard Cheney commenting on the administration's legislation to modify oil and gas leasing. 1/ We pointed out the uncertainties and risks in making wholesale changes to the present system without a sound forecast of their likely impact, particularly since the present system has in many respects been quite successful. On June 2, 1980, we made similar observations on Senate Amendment No. 1684 (which was subsequently reported out of Committee as S. 1637). 2/

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1/"Impact of Making the Onshore Oil and Gas Leasing System More Competitive," EMD-80-60, March 14, 1980.

2/"Impact of an All Competitive Onshore Oil and Gas Leasing System," EMD-80-79, June 2, 1980.

Our recent work has thus focused on proposals for completely changing the system, rather than modifying it. We did issue one report recommending certain changes to the lottery system to correct potential irregularities. 1/ These changes were implemented by Interior this past year.

We have a review underway examining the impediments to oil and gas development (land withdrawals, lease application delays, permits to drill, and so on) which will be issued in early 1981. We will provide you a copy when it is issued. Another review is scheduled to begin in early 1981 to examine production delays--environmental and other permits, rights-of-way, etc. We also plan to examine the adequacy of industry diligence, and the impact of Federal leasing decisions on the development of State and private lands.

As we have reported in the past, there are many different ways to go in changing the leasing system, the ramifications of which are generally uncertain, and for which the perceived merits vary, depending on the objective sought.

Following are our responses to your specific questions.

1. Should there be authority for the Secretary to bill a lessee for late rental and royalty payments without automatic expiration of a lease?

The Mineral Leasing Act (30 U.S.C. 188(b)) provides that upon failure of a lessee to pay the rental on or before the anniversary date of a nonproducing lease, the lease shall automatically terminate. Section (c) of the Act states that if payment is received within 20 days of its due date, and Interior finds that the late payment was justifiable or not due to a lack of reasonable diligence on the part of the lessee, the lease can be reinstated. The BLM state offices make the initial determination in these cases, and that determination can then be appealed to the Interior Board of Land Appeals. After 20 days, Interior has no discretion whatever in reinstating the lease.

In our audit work, we have not encountered this particular problem of cancellations and reinstatements of leases. However, Interior estimated that only about a dozen leases are

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1/ "Onshore Oil and Gas Leasing--Who Wins the Lottery?"  
EMD-79-41, April 13, 1979.

cancelled each year for exceeding the 20-day grace period, and of these about five lessees will seek congressional relief.

The Interior staff also pointed out that the provision applies only to rental payments on nonproducing leases, not to royalty payments, because Interior must take a producing lessee to court to cancel his lease.

As to corrective action, Interior staff felt that it might be appropriate to extend the grace period from 20 to 30 days, in light of possible slower mail delivery today. They also felt that eliminating the need for a diligence determination for payments received within the grace period would reduce the administrative burden on Interior. They did not think it appropriate for Interior to have to send late-payment notices to lessees because of the thousands of leases Interior administers.

2. What changes are needed so the Secretary may broaden the definition of a known geologic structure yet confine a KGS to an area that has very high or known potential for production?

The Mineral Leasing Act (30 U.S.C. 226(b)) states that lands must be leased competitively if they are "within any known geological structure of a producing oil or gas field." Land not on a known geological structure (KGS) must, by law, be leased noncompetitively, and the vast majority of land is leased noncompetitively. Increasing the competitive acreage is advocated by some as a means of realizing fair market value (increased revenues), and reducing speculator involvement. We have pointed out 1/that this is not necessarily the case, and that mass changes in the existing system have several potential disadvantages.

The Mineral Leasing Act does not define a known geologic structure, but Interior, over the years, has defined it as a trap in which an accumulation of oil and gas has taken place, and which has been discovered and found to be productive. We were told that Interior's Office of the Solicitor has determined that it has no discretion in enlarging the boundaries

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1/"Impact of Making the Onshore Oil and Gas Leasing System More Competitive," EMD-80-60, Mar. 14, 1980.

until production warrants, even though its original determination of the boundaries may be somewhat subjective, particularly in a newly discovered field. Thus, for example, Interior felt it was unable to lease some of the undeveloped lands competitively on Fort Chaffee when they were opened up for leasing, even though there were many producing wells adjacent to Fort Chaffee. Not all the lands were close enough to production to be presumed productive.

Also, under this definition, new promising areas such as the Overthrust Belt in the Rocky Mountains are available noncompetitively until discoveries are made. Thus, redefining a KGS or arbitrarily expanding it could enlarge existing KGS's, but this would still not bring in other promising but undeveloped areas.

Deletion of the phrase "producing oil or gas field" and perhaps the word "known" would probably give the geologists sufficient flexibility to map out a "likely" or "possible" area for competitive leasing. This would have enabled designating the Fort Chaffee area as a competitive area, but might have left the western Overthrust Belt as a noncompetitive area. The Overthrust Belt experience suggests that most of the land around a discovery well is already noncompetitively leased prior to drilling, but the potential for more Fort Chaffee-type situations certainly exists in presently withdrawn areas which might eventually be opened up for leasing. However, there also may be a question as to whether an area such as the Overthrust Belt would have been explored and developed at all if it had not been available noncompetitively.

The problems with which Interior and others have grappled are such things as:

- An expansion of KGS's still limits competitive bidding to previous discoveries, which generally consist of land which was previously leased and is likely to be re-leased only for enhanced recovery or new exploratory drilling, such as at deeper levels. It will not encompass high-potential lands which are undeveloped.
- How to define and identify "potential" areas, particularly in the case of difficult-to-discover stratigraphic traps.

Interior does identify "prospectively valuable" oil and gas land in the United States, but using this classification



would result in a greatly expanded competitive leasing system, raising the competitive acreage from 18 million to nearly 400 million acres.

The three most frequently cited means of increasing competitive leasing, short of an all-competitive system, are

- arbitrary expansion of a KGS, which would not include high-potential, but undiscovered, deposits;
- use of a producing-province concept, which would essentially make all productive areas subject to competitive leasing, and
- providing for competitive bidding based on competitive interest, which would bring in high-potential areas.

Tract selection based on competitive interest may seem a desirable approach because it would not restrict competitive bidding to proven production, but, as we reported previously, it may work to the disadvantage of the independent producer, may discourage exploration, and might also be a cumbersome procedure for Interior to administer.

Thus, no means of modifying the KGS seems to be totally problem-free. Other possible means of achieving the objectives of an expanded KGS include increases in rents, royalties, and/or filing fees--possibly accompanied by restrictions on overriding royalties--and restrictions on assignments. Situations such as Fort Chaffee could be partially alleviated by offering the tracts via the lottery system rather than the first-come, first-serve, over-the-counter system.

A point of concern to us has always been the fact that, according to Interior, 97.6 percent of all KGS land is lying unleased. The reason for this has not been examined, but it may be that

- the oil and gas deposits are essentially exhausted,
- much of our noncompetitively leased acreage is of interest only to the "gambler" type of speculator who is not willing to compete, or
- the tract nomination process or some other aspect of the competitive system itself discourages participation.

3. Should authority be given to give less than a 2-year extension for a noncompetitive oil and gas lease if drilling requirements are met?

Present law (30 U.S.C. 226(e)) provides for an automatic 2-year lease extension if drilling is underway at the end of the lease's primary term. There is no incentive to continue drilling once the extension is obtained, creating the potential for lessees to take advantage of this provision by temporarily drilling merely to get the extension. We are not aware of any analysis or statistics indicating whether it really is a problem and, if so, the extent of it.

The administration's bill (H.R. 6882) proposed deleting this automatic 2-year extension, but Interior indicated it would nonetheless not terminate a lease if active drilling was underway.

The Rocky Mountain Mineral Law Foundation also considered this problem in 1969. Rather than totally eliminating the provision, however, it concluded that oil and gas leases should be extended

"when good faith drilling operations are commenced prior to the end of the primary term of the lease and shall continue so long as drilling operations are continued with due diligence with no cessation of more than thirty consecutive days, and if production is obtained, so long thereafter as oil and gas is produced in paying quantities \* \* \*."

The main distinctions among this proposal, Interior's, and the present law are that:

- Under present law, active drilling on the last day of a lease period results automatically in a 2-year extension regardless of subsequent drilling activity.
- The Mineral Law Foundation proposal would result in an extension if drilling was underway at the end of the lease period, but the extension would apparently continue only so long as the drilling continued.
- Interior's proposal would result in extensions at the discretion of the Secretary.

The Foundation stated that its provision would be in accordance with general practices, but that it would entail greater Federal supervision of drilling activities.

We see no reason why a provision such as proposed by the Foundation would not be desirable. We believe it would be preferable to H.R. 6882, on the one hand, in that the lessee would be more confident in knowing just what actions would or would not result in a lease extension. Interior's proposal, on the other hand, might result in more equitable treatment of the lessee if he had to suspend (versus terminate) drilling activities because of weather or other circumstances beyond his control.

A blend of both features may therefore be desirable, and it may also be desirable to pursue with the Geological Survey its ability to effectively monitor lessee drilling activity. We plan to look more closely into this and other issues in our upcoming diligence study.

4. What provisions could be made for changes for royalties on noncompetitive leasing?

The Mineral Leasing Act (30 U.S.C. 226(c)) fixes noncompetitive royalties at 12-1/2-percent of production. Many changes could be made, depending on whether the preferred objective is Federal revenues or production. We see no compelling reason for a competitive lease to have a different royalty rate than a noncompetitive lease. It may be desirable to make them the same.

Adjusting royalties according to operating costs or the operator's profit have been suggested, but the difficulty of administering this warrants further study before taking any action. The State of California has reported promising results with this system in its geothermal leasing.

It may also be desirable to examine possible limitations on overriding royalties. At present there is no restriction on overriding royalties for oil production unless the well's production is 15 barrels a day or less (in which case a 5-percent overriding royalty is still permitted). There is no overriding royalty limitation on gas production (43 CFR 3103.3-6).

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In addition to the specific oil and gas questions you raised, other often cited problems with the present oil and gas leasing system are

--fraud and other abuse of the lottery system,

--unit agreements,

- fair market value recovery,
- lease size, and
- diligence.

These are discussed below.

#### Lottery system abuses

The lottery system has long been criticized as being subject to abuse and encouraging the participation of certain speculators whose primary contribution is to delay, and increase the cost of, development. This was a chief reason for Interior's recent regulatory changes and legislative proposal. Possible lottery manipulation has been reported on by GAO as well.

On June 16, 1980, Interior implemented several regulatory changes designed to minimize unfair manipulation of the lottery. As of now, it remains to be seen whether further changes might be needed.

The problem of the so-called speculator is compounded by the fact that most actions taken against him could also hurt independent oil producers, and those landmen and other oil affiliates who serve a useful purpose in oil development.

There are other means that might be employed to reduce speculator involvement, including:

- Increased rentals or filing fees, which would probably not dissuade a serious developer as much as they would a speculator.
- Tighter restrictions on assignments and/or overriding royalties.
- Very high rents that could be partially or totally credited against developmental expenses. This concept was, in fact, used on the oil shale prototype leasing program. It could, however, be a significant administrative burden for Interior unless it were simplified so as to not require extensive verification of development costs.

Unit agreements

Unit agreements are essentially a joint venture wherein several lessees combine their leases and operate them as though they were one. This creates an economical unit for development, and allows several lessees to share the risk and cost.

They are, however, allegedly formed on occasion solely to extend the length of the lease. Unit agreements last 5 years, and another 2-year extension can be obtained for lands when they are dropped from the unit.

We believe any legislative action to assure developer diligence should examine the relative merits--and possible means to control abuses--of these extensions.

Assignments, relinquishments, and unit agreement segregations

One problem which the administration addressed in H.R. 6882 was the splitting up of leases by assignments. Subject to approval by the Secretary of the Interior, a lessee now can sell, i.e., "assign," either part of his interest in his lease, or part of the acreage--the latter case in effect creating a new lease. Much lease-splitting is attributed to speculators and lease brokers. This results in

- more leases for Interior to administer,
- smaller leases that must often be reassembled to be developed,
- complicated ownership patterns, and
- overriding royalties.

Presently, leases are broken up into tracts as small as 40 acres. The administration's bill would have given the Secretary authority to disapprove an assignment of less than 640 acres. Without suggesting the merits of a particular acreage limit, we do feel that some such additional restriction is desirable.

A lessee is also presently authorized to turn back a portion of his lease if he so desires. This has the same

lease-splitting effect as an assignment. In addition, the unit agreements can have the same effect. Once a discovery is made on a unit, a producing area is formed and the remaining area is "segregated" out, which can split leases within the unit. As we reported to Congressman Cheney, we found indications that partial lease assignments may be declining while segregations may be rising. 1/

Any legislative attempt to control lease-splitting should also consider all such practices that contribute to lease-splitting.

#### Fair market value recovery

Possibly the biggest criticism of noncompetitive leasing over the years has been its alleged failure to achieve fair market value. Noncompetitive leases are obtained by the lessee for a \$10 filing fee plus rental, but it seems widely accepted that many of them could have drawn substantial competitive bids, and are sometimes resold at a substantial gain. The extent of this, however, is essentially unknown.

A competitive system is the generally prescribed solution to this problem but, as we discussed in our report to Congressman Cheney and in our recent testimony before your Subcommittee, the uncertain impacts of such a major change are such that it must be approached with caution.

In the interim, there are other means that might be considered in achieving a closer approximation of fair market value:

- Increased rents.
- Increased royalties.
- Increased filing fees. (Filing fees would normally be based on recovery of the related administrative costs.)

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1/"Impact of Making the Onshore Oil and Gas Leasing System More Competitive," EMD-80-60, Mar. 14, 1980.

Lease size

Competitive leases are limited by law to 640 acres; there is no such legal limit on noncompetitive leases.

It seems almost universally acknowledged that the lease size should be enlarged to make it easier to assemble a piece of land large enough to explore or develop. Different figures are cited but, as an example, a Federal Trade Commission report suggested about 10,000 acres may be desirable for a producing unit and 20,000 acres for an exploratory unit. The average lease size today is about 880 acres.

The Interior Department recently raised--by regulation--the noncompetitive lease size from 2,560 acres to 10,240 acres, and submitted legislation to increase competitive leases from 640 to 2,560 acres.

It should be noted that while it is generally agreed that the tract size should be enlarged, and it is a relatively simple matter to write regulations or legislation authorizing it, it is not such a simple matter to achieve. Much of the land is already leased. With the leases expiring periodically and being re-leased, it is difficult to establish a larger lease without holding the land until a larger tract can be assembled and offered. Thus, tract consolidation is going to require some time, whether by the developer after lease issuance, or by the Government before lease issuance.

A second problem, unique to competitive land, is the limitation placed on the tract size by the KGS. According to Interior, there were 2,700 KGS's covering 18.1 million acres in 1978, or 6,600 acres each. (These figures are distorted by Kansas and Oklahoma, which seem to have extremely large KGS's.) KGS's in the Rocky Mountain States tend to be smaller--for example, 2,300 acres in Wyoming and 5,800 in Montana. However, some KGS's are rather small; many are as small as 640 acres, and we have noted in our audit work competitive leases as small as 2-1/2 acres.

Thus, any attempt to significantly increase lease size will also have to address the problem of how to consolidate existing leases and, in the case of competitive leases, address the fact that the KGS designation may be limiting tract enlargement potential. It may be desirable, therefore, to limit KGS's to a minimum of, say, four sections ( $\pm$  2560 acres), or some other appropriate figure. But as discussed on page 13, the impact of this would be far from certain.

Diligence

It is felt by many that the oil and gas industry is reluctant to develop its leases to the full extent of its ability. The main evidence cited for this is the large number of leases with no drilling activity, and the fact that most drilling takes place near the end of the lease term.

As a result, several suggestions have been considered over the years to encourage lessees to act sooner. These include

- shorter lease terms,
- restrictions on the lease extension provisions (discussed previously),
- higher rentals,
- accelerated rentals, and
- mandatory drilling.

By law (30 U.S.C. 226(e)), a noncompetitive lease runs for 10 years and a competitive lease for 5. Interior has proposed reducing this to 5 years for both. Interior also proposes to eliminate the now automatic 2-year extension if drilling is underway, as discussed on page 15. We believe there could be merit in reducing the lease period from 10 to 5 years only if there is assurance that a diligent lessee will not lose his lease.

Industry points out that compliance with Government permitting and other "red tape," accumulation of sufficient acreage, and geophysical exploration can take more than 5 years. It may be desirable, therefore, to recognize that diligent development consists of more than drilling, and/or include enough flexibility in the law to ensure that a diligent lessee is not wrongfully deprived of his lease. In addition, it is possible there are a good many leases, currently held by speculators, which legitimate developers do not consider as having potential.

We believe that expediting lease development is a desirable goal, and we plan to do work in the coming year to address this problem.



Other matters

There have, of course, been many other changes proposed to the onshore oil and gas leasing system; those discussed above are the ones heard most frequently. Others include establishing new bidding systems, allowing noncompetitive tract applicants to file as many times as they wish, reuniting severed surface and subsurface title, and using prospecting permits. Some of these are discussed in the documents listed in the bibliography.

Interior Department officials also feel the following streamlining changes might be needed.

1. 30 U.S.C. 181 provides that citizens of other countries can invest in oil and gas leases through corporate stock holdings only if they are citizens of a country that grants similar reciprocity to U.S. citizens in their country. As a result, any of the large multinational oil companies could be in violation of this law and their leases technically subject to cancellation. Interior has recently received a protest on these grounds.
2. 30 U.S.C. 181 also prohibits oil and gas leasing within the limits of any incorporated city, town, or village. Apparently some communities would like to issue leases inside their limits, and this should be permissible at the option of the community involved.

OIL SHALE

Oil shale, which has remained undeveloped for so many years, is now beginning to be a near-term source of oil. If all of the problems affecting oil shale commercialization are ever solved, our western oil shale deposits have vast potential.

At present, there are very few legal restrictions on oil shale development. Oil shale leasing is based on the provisions of 30 U.S.C. 241 which

--limit the size of each lease to 5,120 acres,

--set the annual rental at 50 cents an acre, and

--limit each lessee to one lease.

Virtually all other basic lease provisions, such as royalty rate, lease term, bidding system, competitive versus noncompetitive leasing, and the like, are left to the discretion of the Interior Department. In spite of this flexibility, certain legal problems have arisen. These include the legal uncertainties in effecting land exchanges, and the problems of disposal of spent shale.

Following are our responses to your specific questions and some additional issues are discussed beginning on p. 27.

1. What proposals have been made for multiple mineral leasing (sodium, aluminum, and oil shale)?

On May 27, 1980, Interior announced that it intended to encourage multiple mineral leasing on oil shale lands. Additional tracts will be leased under the Prototype Program, and at least one will be delineated for multiple mineral development.

Interior contends that it presently has the authority to issue multiple mineral leases, although some, including ourselves 1/ have disagreed. Interior said it will seek legislative confirmation of this authority, but will proceed with multiple mineral leasing regardless, since it believes it already has sufficient authority to do so.

Senate Bill 3050, introduced on behalf of the administration on August 21, 1980, would have specifically authorized multiple mineral leasing. We believe, as reported in September 1979, that such a provision is desirable. The potential for problems exists if two or more leasable minerals are commingled or if locatable minerals and leasable minerals coexist.

The desirability of multiple mineral development is emphasized by the fact that some firms are actively developing multiple mineral processing techniques.

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1/"Legal and Administrative Obstacles to Extracting Other Minerals From Oil Shale," EMD-79-65, Sep. 5, 1979.

2. Should oil shale acreage limits be expanded?

Although a 5,120-acre tract in the Piceance or Uinta Basins could contain vast amounts of oil--up to 400,000 barrels an acre--too small a tract can have a severe impact on ultimate recovery. Parts of the tract must be set aside for plant and equipment, as must land for waste disposal under most extraction technologies. This has a progressively bigger impact on total recovery the smaller the tract is. Projected costs for developing an oil shale industry are very high, and industry needs some economies of scale to make the venture attractive. The acreage limitation, plus the limit of only one lease per lessee, may be dampening industry's future prospects for success.

Here also, Interior announced recently that it would seek legislation to enable larger leases and more than one lease per lessee. These changes were also included in S. 3050 which retained 5,120 acres as the basic lease size, but permitted larger sizes when deemed appropriate for long-term commercial operations. The bill also modified the present restriction of one lease per lessee to permit four leases nationwide, and two in any one State, and also a third lease per State if both other leases are producing, and one of the two is within 10 years of being exhausted. We believe this approach is a step in the right direction. The Office of Technology Assessment estimates \$35 billion for a 1-million-barrel-a-day industry. A developer will therefore need enough production over a sustained period of time to make this type of investment attractive.

3. Should dawsonite be included in an oil shale lease? Have there been legislative proposals to do this?

We believe that dawsonite, the material containing aluminum, would best be developed in a multimineral lease. See our comments to the question above and our report. 1/

4. Are royalty, rental, and lease term requirements flexible enough?

Strictly speaking, it may not be appropriate to say that there are many lease terms. Present law restricts leases to

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1/"Legal and Administrative Obstacles to Extracting Other Minerals From Oil Shale," EMD-79-65, Sep. 5, 1979.

5,120 acres, and specifies an annual rental of 50 cents an acre. The other lease provisions were established by Interior for the Prototype Program, and may be subject to change in any future leasing.

The tract size was discussed earlier. The rental should be viewed from the standpoint of fair market value and any impact on development. From the latter perspective, it is not clear that an increase would have any impact because development is generally considered to be primarily constrained by economic and technological considerations.

Royalties in the Prototype Program are based on the richness of the shale processed and the type of technology employed. Our work has not addressed the merits of this royalty system or the adequacy of the rates, but Interior certainly has all the flexibility it needs for this and most lease terms, as 30 U.S.C. 241 states:

--"Leases may be for indeterminate periods \* \* \*."

--"\* \* \* the lessee shall pay to the United States such royalties as shall be specified in the lease \* \* \*"

Essentially all other provisions are left to the discretion of the Department of the Interior.

5. What legislative proposals have been made for off-lease-site disposal of tailings?

Off-site disposal has been a problem. Federal lease tract "C-a" in Colorado was originally leased as an open pit operation with off-site disposal but had to convert to modified in-situ after a ruling that Interior did not have the authority to authorize off-tract disposal.

Two pieces of legislation were introduced in the last session of Congress to rectify this problem. S. 3050, discussed earlier, provided for an additional lease (or leases) for such things as spent shale disposal and plant and other facilities. The companion bill in the House, H.R. 7941, contained the same provision.

We believe such legislation is desirable. Some of the richest oil shale areas appear conducive to surface mining, which would be a much more efficient way to develop it in terms of total resource recovery. It would be unfortunate if surface mining was not given full consideration.

6. Should special exchange authority be given to the Secretary?

Something apparently needs to be done. Land exchanges have proven to be very time consuming, and for this reason Interior has announced it will give little emphasis to exchanges in the future. Land exchanges are required by section 206 of the Federal Land Policy and Management Act to be within 25 percent of each other in value, with the difference to be made up in cash.

An examination of a surface ownership map of the Piceance Basin will readily show several odd-sized tracts of land which could almost certainly be developed more efficiently if reconfigured. However, the prospects of realizing exchanges do not seem to be good, based on past experience and Interior's stated policy.

We believe the following matters should be explored to alleviate land exchange difficulties:

--Interior's tract valuation criteria.

--Exchange requirements under the Federal Land Policy and Management Act.

We discussed the problem of land exchange with Interior Department officials, who felt that a definitive criterion for determining the value of tracts might be useful in simplifying exchanges. They also pointed out that the private landholders might also be able to rectify their problems through nominating and obtaining adjacent leases of Federal land through the normal leasing process. This, of course, cannot be done until there is a leasing program in place.

Other oil shale matters

Pending legislation addresses most of the more frequently cited oil shale problems directly related to leasing. Land exchanges, discussed above, are another. Still another key question is availability, but Interior has announced it intends to have a full-scale leasing program in effect within 2 years, and no legislation would be needed in any event.

Other questions include:

- Whether it is desirable or necessary for two departments (Interior and Energy) to manage their own oil shale lands.
- Whether, with most Federal acreage still unleased, the opportunity may still exist to consider a radical departure from present leasing procedures. For example, a more efficient, orderly development of the areas subject to surface mining might be achievable if it were developed as one project rather than many separate leases.
- Whether legislation might be needed to resolve any conflicts between those holding conventional oil and gas leases and those holding oil shale leases. The simultaneous development of these resources by separate developers will likely create problems.

We hope to explore some of these issues in the coming year.

#### TAR SANDS

Tar sands generally have the same problems as those of oil shale--availability for leasing, need for a proven technology, water availability, and so forth.

One unique problem, and a cause of the lack of availability, is the legal problem that has been encountered in distinguishing between a tar sands deposit and a conventional oil and gas deposit. This is addressed by legislation introduced on behalf of the administration in the 96th Congress. Essentially, H.R. 7242 would have removed tar sands from the special oil shale and tar sands leasing provision (30 U.S.C. 241) and made them subject to conventional competitive oil and gas leasing provisions.

Following is our response to your specific questions.

1. Are the acreage limits and royalty rates too inflexible?

The present limitation on tar sands (30 U.S.C. 241(a)) is 7,680 acres per State, with a maximum limit of 5,120 acres per lease. H.R. 7242 would have made tar sands subject to the oil and gas acreage limitations, which are generally 246,080

acres per State, except that the Secretary would have been entitled to lower this for leases in areas designated as containing tar sands. Tar sands would have been subject to competitive leasing, but the bill retained the maximum lease size of 5,120 acres.

Responsible Interior Department officials feel the present acreage limitations are not overly restrictive, and that the maximum lease size should generally be sufficient for development--economies of scale not being the problem they are with oil shale. There should therefore be no objection to provisions such as were contained in H.R. 7242, as they would have granted further discretion.

H.R. 7242, as introduced, would have considerably reduced any flexibility for setting royalty rates, but the bill as passed by the House restored maximum flexibility. The proposed section 39(b) limited royalty reduction to pre-development decisions, but the existing section 39(a) would be available for post-development decisions.

One possible inequity of H.R. 7242 in this regard is the impact it would have had on conventional oil and gas deposits in tar sands areas. They would have become subject to competitive lease terms, such as increased rents and royalties and shorter lease terms, even though not lying on a KGS. Conversely, though, they might have qualified for the royalty waivers contained in H.R. 7242.

Some flexibility in bidding could also have been lost under H.R. 7242. Apparently 30 U.S.C. 226(b) has been interpreted as restricting the type of bidding used. Most recent legislative proposals (H.R. 6882, H.R. 4373, and S. 1637 as reported) have specified other bidding systems. Present tar sands bidding systems under 30 U.S.C. 241 are unrestricted. If such flexibility is sought, it may be desirable to so specify in any legislation that brings tar sands under Section 226.

2. What grandfather provisions for prior existing oil and gas leases in tar sands are necessary?

The Interior Department has concluded that grandfather provisions are not an issue if legislation such as H.R. 7242 is passed that provides for combined hydrocarbon leases. Interior's present plan, if legislation is not enacted, is to offer a noncompetitive tar sands lease to existing holders

of conventional oil and gas leases, but only in those areas selected for development. Oil and gas leaseholders in areas not selected for development will not be afforded this opportunity.

Since Interior advised us that the tar sands areas thus far have limited oil and gas production, consideration might also be given to discontinuing conventional leases in that area and gradually replacing them with tar sands leases as the oil and gas leases expire. Interior would then have almost unrestricted flexibility in setting up a leasing program.

#### NON-FUEL MINERALS

Non-fuel minerals are developed under either the Mining Law of 1872 (locatable minerals) or the Mineral Leasing Act of 1920 (leasable minerals). Both laws assume that minerals occur in identifiable, i.e., "discrete") geological deposits. There were few problems as long as discrete deposits were mined or little attention was paid to less valuable intermingled minerals. However, as more complex deposits are mined and advances in recovery technology increase the value of the mixed mineral deposits, it becomes more difficult to determine whether some mineral deposits should be developed under the 1872 law or the 1920 law. Thus, conflicts between the two mineral disposition systems may become more frequent. The Multiple Mineral Development Act of 1954 permits separate development of both leasable and locatable mineral deposits on the same tract of land. This Act, however, does not address the problem of intermingled locatable and leasable minerals.

Currently, Interior determines locatability versus leasability of a sodium mineral by examining (1) the importance of the sodium to the stability of the mineral and (2) the chief value for which the mineral would be developed. Neither of these criteria for leasability is explicitly stated as public policy.

We have issued one report which addresses problems with extracting non-fuel minerals from oil shale. <sup>1/</sup> Another report will be issued this spring addressing the lack of a coherent mineral policy. We have not done any specific work on bentonite and therefore cannot take a position on your questions.

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<sup>1/</sup>"Legal and Administrative Obstacles to Extracting Other Minerals From Oil Shale," EMD-79-65, Sept. 5, 1979.



Following are our responses to your specific questions.

1. Should this mineral (bentonite) which is associated with exploration drilling be leased, since it is easily found in stratiform deposits?

The fact that bentonite is found in stratiform deposits has no bearing on its leasability under current leasing policy. Bentonite is found in both a sodium silicate and sodium carbonate compound form. The Mineral Leasing Act says that sodium silicate is a leasable mineral and sodium carbonate is a locatable mineral. Thus, the multiple forms of bentonite have created a problem. Interior has tried to treat bentonite as a leasable mineral. However, Interior's Office of Hearings and Appeals found in several decisions that bentonite is a locatable mineral. BLM is protesting this finding to the Interior Board of Land Appeals.

We have not made a determination of whether or not this mineral should be leased.

2. Are the deposits (for bentonite) so encumbered with existing mining claims that it would be impossible to lease?

Because of the recent Interior Office of Hearings and Appeals decision, bentonite is presently considered a locatable mineral. Therefore, unless the law is changed, bentonite cannot be leased.

Mining claims are generally not filed for specific minerals, and Interior does not develop an inventory of claims by mineral. Therefore, an exact number of claims for bentonite cannot be determined. However, hundreds of claims were identified as "bentonite claims" because of the dispute over whether they were locatable or leasable. Unknown deposits of bentonite may already be subject to existing mining claims. The extent of this occurrence is not determinable.

3. Have legislative proposals been made to include unclaimed bentonite under the 1920 Act?

No legislative proposals have been made specifically to make bentonite leasable or to clarify ambiguous language in the 1920 act regarding this or other sodium minerals. The issue is handled on a case-by-case basis by Interior, as discussed earlier. However, proposals for a single leasing system for all minerals would eliminate this problem, and Interior has made such proposals repeatedly in the past.

GEOHERMAL

The Geothermal Steam Act of 1970 (P.L. 91-581) authorized the Secretary of the Interior to issue leases for the development and use of geothermal steam and associated geothermal resources. Leases can be issued either competitively or non-competitively. Lands within a known geothermal resources area are leased to the highest responsible qualified bidder; other lands are noncompetitively leased to the first qualified person making application. The primary lease term is 10 years, with 40 year extensions granted for production in commercial quantities.

A lessee is required to pay an annual rental of not less than \$1 per acre; and a royalty of not less than 10 percent or more than 15 percent is payable with the beginning of production, along with a royalty of not less than 5 percent on the value of any byproduct of production. The Secretary is authorized to waive, suspend, or reduce the rental or royalty for any lease in the interests of conservation and to encourage development. To encourage the orderly and timely development of geothermal leases, BLM regulations contain a provision for escalating the rental, beginning with the sixth year and for each year thereafter until the beginning of production. An additional \$1 per acre or fraction thereof is added to the rental paid the preceding year.

Leases are limited by law to not more than 2,560 acres, except where departure is necessary for irregular subdivision(s). In any one State, a lessee cannot have geothermal leases exceeding 20,480 acres. Beginning Dec. 25, 1985, the law authorizes the Secretary of the Interior to increase the maximum lease holdings in any one State to 51,200 acres.

Several bills were introduced in the 96th Congress to amend the Geothermal Steam Act of 1970, mostly to streamline leasing and permitting procedures.

While your request did not include any specific questions on geothermal leasing, it was agreed we would provide observations where we felt they were related to your concerns. They follow.

Diligence provisions

In our report entitled "How To Speed Development of Geothermal Energy on Federal Lands" (EMD-80-13), dated Oct. 26,

1979, we noted that existing geothermal leasing regulations provide various incentives for early exploration and development which include:

- Rental fees on the leased acreage will be increased after the fifth year if there is no production.
- Rental fees will be eliminated once production begins.
- Certain expenditures for diligent exploration in the first 5 years may be credited against rental fees after the fifth year. (For succeeding years, however, the regulations provide a formula for computing the minimum expenditures necessary to qualify as a diligent exploration.)

Interior officials feel it is difficult to say whether the diligence provisions are adequate because few of the leases have reached the escalation point (after the fifth year the minimum expenditure is twice the rent) and even if the rental is stiffened it might have little effect because exploration costs are so high. Several developers told us that diligence requirements were relatively unimportant in terms of other problems they must face.

While we generally support strict diligence provisions for the development of Federal resources, it is not clear in the case of geothermal that such diligence will potentially affect the speed of resource development. The rationale is that geothermal development is primarily constrained by economic and technological considerations. Nevertheless, we believe the diligence provisions in recent legislative proposals are reasonable and should assist in geothermal development.

#### KGRA designations

Our work identified the KGRA designation process as a major impediment to development. Known Geothermal Resource Areas (KGRA's) are leased competitively; other areas are leased noncompetitively. An area is designated a KGRA based on geology or competitive interest.

Industry spokesmen believe the competitive interest criterion is resulting in KGRA designations for many lands where the geothermal resource is presently unknown. They also believe that the possibility of a pending lease application

being refused is impeding exploration because the land might be designated as a KGRA.

We have advocated using a KGRA definition similar to the KGS definition used for oil and gas--limiting it to an area which has been drilled and demonstrated to be capable of commercial production. H.R. 6080 and S. 1388 included essentially this definition. S. 1388 retained the competitive interest feature, but did require that lands under a noncompetitive lease application could not be designated a KGRA more than 18 months after an application has been made.

#### Unilateral readjustment of lease terms

Section 8(a) of the 1970 act presently authorizes the Secretary of the Interior to unilaterally readjust the terms of any lease 10 years after production begins. Industry officials told us that this provision has led to caution and restraint by many companies (primarily utilities) who are reluctant to invest in the construction of a powerplant under such conditions. They favor, instead, a readjustment of these terms 30 years from the time construction of a plant is finished to allow for amortization of costs.

The Interagency Geothermal Coordinating Council has recommended eliminating the subsection 8(a) provision on the basis that it is both an impediment to geothermal development and redundant to other provisions in the Steam Act. It is noted that subsection 8(b) of the Act already authorizes the Secretary to adjust rentals and royalties on geothermal leases every 20 years after production begins. In addition, section 24 of the Act gives the Secretary blanket authority to establish rules and regulations to protect the public interest, conserve natural resources, and protect water and other environmental qualities.

H.R. 6080 and S. 1388 both would have changed the provision of section 8(a) to go into effect after 20, instead of 10, years.

#### Acreage limitations

Our 1979 report identified the limitation of 20,480 acres per lessee as an impediment to development because

--it limits major developers to one project at a time,

- there are probably not enough companies capable of developing the resources to be able to lease all the land under this restriction,
- the size overly restricts exploration plans, and
- larger resources are needed to make capital expenditures economical.

We suggested the limitation be raised to 51,200 acres, as was introduced in H.R. 740. Both H.R. 6080 and S. 1388 also contained similar language.

#### THE OUTER CONTINENTAL SHELF

The Outer Continental Shelf (OCS) is estimated to contain 30-60 percent of our remaining domestic resources in oil and gas. In 1979, the OCS contributed 9 percent of total domestic oil supplies and 24 percent of domestic natural gas. It has been estimated that undiscovered recoverable resources for all OCS areas are 12.5 to 38 billion barrels of oil and 61.5 to 139 trillion cubic feet of natural gas.

All OCS lease sales are conducted under a competitive bidding system. The minimum acceptable bid for any OCS lease is \$25 per acre, with a 16-2/3-percent royalty. While Interior has usually used a 16-2/3-percent royalty as the minimum, it could by law use as little as a 12.5-percent royalty.

A lease normally consists of an area (tract) not to exceed 5,760 acres. Statute allows larger lease sizes where it is found that "a larger area is necessary to comprise a reasonable economic production unit." The lease is usually for a 5-year period (or 10 years for some parts of Alaska because of extreme and sensitive environments) with automatic extensions if drilling or production is taking place. An annual rental is assessed for each tract at \$3.00 per acre.

OCS post-lease activities, managed by several Federal departments or agencies, are primarily directed by statute at protection of the marine environment and its inhabitants, which conflicts with other statutory goals to expedite oil and gas development.

Compounding the problem of expeditious oil and gas development on the OCS are 1) inconsistent or nonspecific time frames directing Federal departments or agencies to act on

proposals requiring permits, 2) inconsistent time frames between Federal agencies and affected coastal zone States in notifying applicants of approval or disapproval of proposed OCS activity, and 3) inconsistent permitting policies by some Federal agencies at the various regional offices.

One of our forthcoming reports will discuss OCS post-leasing problems in detail. It is expected to be released in early 1981. Also, we will publish a report addressing pre-leasing problems of the OCS at about the same time. Both of these reports are being prepared at the request of the ranking minority member of the former House Select Committee on the Outer Continental Shelf and are directed at identifying impediments to producing oil and gas from the OCS. 1/ These reports are closely related to the objectives of this request, and are expected to be issued in 1981. We will make copies available to you.

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1/The House Select Committee on the OCS met its objectives and was dissolved on July 31, 1980.

BASIC LEASE PROVISIONS FOR FEDERAL  
ENERGY MINERALS (note a)

<u>Mineral</u>	<u>Method of award</u>	<u>Maximum lease size (acres)</u>	<u>Basic term (years)</u>	<u>Extensions</u>	<u>Yearly rent</u>	<u>Royalty percentage</u>	<u>Diligence provisions</u>	<u>Acreage limitation</u>
Coal	Competitive bidding, 50% deferred bonus bids	25,000	20	10 years if producing, maximum 40 years	Discretion of DOI (NLT \$3/ acre)	Surface: NLT 12.5% Underground: (NLT 8%)	Produce within 10 years; deplete within 40 years; mine plan within 3 years	46,080/State 100,000 nationally
Onshore oil and gas, competitive	Competitive bidding	640	5	As long as producing 2 years for active drilling 2 years for forming or dropping from unit agreement	NLT 50¢/acre (\$2/acre)	NLT 12.5% (12.5-25%)	(lease provision permits mandatory drilling)	246,080 in public domain, plus (246,080 in acquired lands)
Onshore oil and gas, noncompetitive	1st qualified applicant	Discretion of DOI (10,240)	10	Same as above	NLT 50¢/acre (\$1/acre)	12.5%	(lease provision permits mandatory drilling)	Same as above
Oil shale	Discretion of DOI	5,120	Discretion of DOI	Discretion of DOI	50¢/acre	Discretion of DOI	Discretion of DOI	One lease nationwide
Tar sands	Discretion of DOI	5,120	Discretion of DOI	Discretion of DOI	50¢/acre	Discretion of DOI	Discretion of DOI	7,680/State
Geothermal	Competitive and non-competitive	2,560	10	As long as producing	NLT \$1/acre (\$2/acre)	10-15%	Accelerated rentals Credit of developmental costs	20,480/State
Offshore oil and gas	Competitive, various bidding systems	5,760	NTE 10 (5)	As long as producing 1 year extension if drilling	Discretion of DOI (\$3/acre)	NLT 12.5% (16 2/3%)	(Drilling or exploration can be required) (No new leases or extension of existing leases if not actively drilling)	None

a/The table shows legal provisions; regulatory modifications are shown parenthetically. Unique exceptions such as waiver or reduction of royalties are not shown.  
DOI--Department of the Interior.  
NLT--not less than.  
NTE--not to exceed.

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May 27, 1980

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Mr. J. Dexter Peach, Director  
 General Accounting Office  
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Dear Mr. Peach:

The Subcommittee on Mines and Mining would like your assistance in the preparation of legislation to reduce regulatory impediments to the development of leaseable Federal energy minerals. The hard reality of our precarious energy and mineral dependency may require vastly streamlined leasing procedures in the near future. Unnecessary or wasteful administrative steps can often be eliminated by small but significant changes in the law that both preserve a basically workable system yet eliminate procedural problems that have little value but to spawn unnecessary regulation.

This might well be a logical conclusion to GAO's work on individual Federal mineral problems and the overall work you are doing on the Minerals Management issue. Suggestions, recommendations, and additions are welcome. In order to coordinate the work format, I ask that you call Courtland Lee (225-1661) to arrange a staff meeting.

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I. Coal

Any legislative proposals and discussions concerning the 1976 Coal Leasing Amendments Act should consider these issues:

- Is the existing statutory limit of 160 acre coal lease modification appropriate?
- Should the land use plans be legislatively made to exempt NEPA requirements without the writing of multiple documents until the filing of a mining plan?
- Does the 10-year requirement for existing leases to be in production in commercial quantities make financing and development on a 10 year lease too difficult? What alternative diligence requirements are available?
- Is submission of an operation and reclamation plan within 3-years from lease issuance a necessary requirement?
- Should the land use plans required in the 1976 Act fulfill the NEPA requirements for leasing, or should the multiple EIS process continue?
- Is more flexibility needed in the 12½% minimum royalty for surface mining, particularly with eastern coal?
- Are the acreage limits of 25,000 acres for local mining units realistic?
- Is it more appropriate to have the Justice Department review each coal lease or to periodically review the competitive nature of coal leasing?

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- Should the state revenue share of bonus and royalties be raised from 50% to 70%, and could this be used as a basis for putting a limit on severance taxes?
- Is Federal coal exploration, Sec 8A, working through the USGS (CRO-CDP) mapping, or should this Federal exploration be replaced with incentives for private exploration?
- What are options for private exploration?

## II. Oil Shale

- What proposals have been made for multiple mineral leasing (sodium, aluminum, and oil shale)?
- Should oil shale acreage limits be expanded?
- Should dawsonite be included in an oil shale lease? Have there been legislative proposals to do this?
- Are royalty, rental, and lease term requirements flexible enough?
- What legislative proposals have been made for off-lease-site disposal of tailings?
- Should special exchange authority be given to the Secretary?

## III. Tar Sand

- In addition to Congressman Gunn McKay's proposal (H.R. 7242) other proposals to modify the definition in the Mineral Leasing Act for "native asphalt solid and semi-solid bitumen, and bituminous rock (including oil impregnated rocks or sands) from which oil is recoverable only by special treatment after the deposit is mined or quarried."



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- Are the acreage limits and royalty rates too inflexible?
- What grandfather provisions for prior existing oil and gas leases in tar sand areas are necessary?

#### IV. Oil and Gas

- Should there be authority for the Secretary to bill a lessee for late rental and royalty payments without automatic expiration of a lease?
- What changes are needed so the Secretary may broaden the definition of a known geologic structure, yet confine a KGS to an area that has very high or known potential for production?
- Should authority be given to give less than a 2 year extension for a noncompetitive oil and gas lease if drilling requirements are met?
- What proposals could be made for changes for royalties on noncompetitive leasing?

#### V. Bentonite and other

- Should this mineral which is associated with exploration drilling be leased, since it is easily found in stratiform deposits. Are the deposits so encumbered with existing mining claims that it would be impossible to lease?
- Have legislative proposals been made to include unclaimed bentonite under the 1920 Act?

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-- Are there other legislative proposals to clarify ambiguous language caused by sodium and potassium sulfates, carbonates, borates, silicates, or nitrates (30 USC 261, 281)?

Sincerely,

*James D. Santini*  
JAMES D. SANTINI, Chairman  
Subcommittee on Mines and Mining

JDS:clg

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