value" apparently does not contemplate that an allowance for plant processing costs will be provided. Nor, in our opinion, should royalty be calculated "at the point of shipment to market"; the royalty should not be computed on completely refined products. Royalty should be payable only on the value of oil recovered from the retort, and suitable allowance for plant processing costs should be provided.

(*b*) Subparagraph (d), in our opinion, removes the incentive for efficiency on the part of the lessee, and eliminates any expectation that profits will markedly increase as the shale oil operation gets underway. This sliding-scale provision would discourage the growth of an oil shale industry.

6. *Section 3172.9. Other Provisions.*—(*a*) (d) The Secretary shall have exclusive rights to publish research information developed by the lessee.

(*b*) (e) The oil shale lease must provide that the United States will acquire title to all inventions made during the research term of the lease.

(*c*) The provisions of (d) and (e) are contrary to the competitive spirit of our form of economy, and, it is further emphasized, would act as a deterrent to the commencement of an oil shale industry—the temptation would obviously be present for one to wait for somebody else to do the research work.

The lessee should only be required to furnish to the Secretary, on a confidential basis, a limited amount of data to indicate the lessee's *bona-fides* and his prudence and efficiency in conducting research. Patents obtained by the lessee should be held and licensed by him in just the same manner as any other patents.

7. *Proposed Exchange Regulations (43 CFR, Subpart 2244) Section 2244.1-7 (c)(3).*—It does not seem reasonable for the applicant to have to enter into a written agreement covering the particulars named as to his own privately-owned shale lands, as a prerequisite to the consummation of the exchange sought by him.

D. Conclusions:

1. All leases shall be awarded on the basis of the highest cash bonus offered in sealed bids.

2. Primary lease term shall be fifteen years and as long thereafter as production is obtained, or additional operations for developing production are carried on continuously.

3. Annual lease rental should be established at $2 an acre.

4. Royalty should be established on a sliding scale basis of 5% to 7½%; to encourage early development, the royalty should be at the rate of 5% of the value of products recovered and sold during the first ten years of the lease term, then increased ½% annually until the 7½% maximum is reached.

5. Lease should reflect that royalty is payable only on the value of oil recovered from the retort, and sold; and suitable allowance for plant processing costs should be provided.

6. No single lease shall cover more than 5,760 acres, and each shall be in compact form.

7. No individual nor company shall hold an aggregate of more than 23,040 net acres, on a national basis.

8. No acreage shall be offered for lease when it is known to the Government that the acreage is burdened with mining claims.

9. When it is discovered that leased lands are burdened with mining claims, all lease terms and obligations shall be suspended until the claims are eliminated; in such cases the lessee and the Government shall cooperatively act promptly and diligently to dispose of the claims.

10. Lessee should have the right to relinquish all or any part of a lease at any time.

11. Operators should be permitted to participate in joint leasing bids.

12. Leases should contain the right to unitize or cooperate in development contracts for either exploratory or development operations.

13. Leases should include customary "force majeure" provisions.

14. Overriding royalties in excess of 2½% should be prohibited.

15. "Multiple use" as it pertains to oil shale development should be clarified, particularly with regard to the "in situ" method versus "mining operations under oil shale leases," and with regard to the "in situ" method when used in operations under conventional oil and gas leases.

XIII. Pennzoil Company

We are firmly convinced that the national public interest in the economic development of the natural resources of this country will be advanced by the development of oil shale reserves within the private sector of the economy, subject to reasonable regulations in the public interest. The development of natural re-