

tive and uncertain values of oil shale as compared with the known values of trona deposits in Wyoming, it is submitted that the purpose of the withdrawal would be met if the withdrawal were to apply solely to the known oil shale lands in Colorado (the Piceance Creek basin) and Utah (the Uinta basin) and the oil shale area in Wyoming other than the Sweetwater County trona lands. The map attached hereto as Exhibit A shows the respective oil shale areas in the three states. The Department of the Interior News Release dated May 7, 1967 states (page 2) that the richest oil shales are believed to be those in the Piceance Creek basin where there are some 770,000 acres containing 25 gallon-per-ton shale in thicknesses of 15 feet or more. According to the Department of the Interior's Memorandum dated January 26, 1967 to the Land Office Managers of Cheyenne, Denver and Salt Lake, the oil shale in the center of the Piceance basin has a thickness of up to 2,000 feet.

The contrast is even more marked if one examines the data published in an article entitled "Shale Oil—the Problems and the Prospects" (*The Oil and Gas Journal*, March 9, 1964, p. 65) from which the following table can be compiled:

	Oil shale area (square miles)	Number of barrels (billion)
Colorado.....		
Utah.....		
Wyoming.....	1,500	1,000
	5,400	430
	9,600	43

Thus, in an area 6.4 times as large in square miles, Wyoming is expected to produce less than 1/23 of the total number of barrels as Colorado. This suggests the comparison (as a matter of illustration rather than scientific accuracy) that the oil shale seams in Wyoming may be 1/150 of the magnitude of those in Colorado. The comparative figures for Utah are also striking. Wyoming's area is almost twice as big, yet it produces only 1/10 the number of barrels, suggesting as a comparison (on the same basis as above) that the seams in Wyoming are only 1/20 the size of those in Utah. Furthermore, Mr. Edward Weinberg, Deputy Solicitor of the Department of the Interior, in his statement before the Senate Subcommittee on Antitrust and Monopoly of the Committee of the Judiciary on April 20, 1967 sets forth statistics showing that less than 1.5% of the total number of oil shale claims for which patents were issued in Wyoming, Utah and Colorado covered lands in Wyoming. Finally, Geological Survey Circular 523, *supra*, states (p. 13) that Wyoming contains only some 30 billion barrels out of a total of some 600 billion barrels (or 5%) of the deposits in the three state area yielding 25-65 gallons of oil per ton.

The Wyoming trona area is depicted on the map attached hereto as Exhibit B, the source of which is Geological Survey Professional Paper 496-A by W. H. Bradley at page A-3. The prime trona area, however, is in Sweetwater County and it is proposed that just this portion of the trona area be excluded from the proposed oil shale withdrawal. Excluding such a limited area from the proposed oil shale withdrawal would hardly interfere with the purpose of the oil shale withdrawal, particularly when the quantity and nature of the Wyoming oil shale reserves are compared with those in the other two states.

C. *The non-withdrawal of the Sweetwater County, Wyoming trona lands will not materially impair the oil shale development.*—Aside from the feasibility or practicality of oil shale development in Wyoming, it appears unnecessary to cause the Sweetwater County, Wyoming trona lands to be withdrawn inasmuch as the oil shale seams immediately adjacent to the trona seams are of minor significance when contrasted with the seams in high grade oil shale areas (e.g. the 2,000 foot thick seams in Colorado). In our trona operations in Sweetwater County we have not encountered any commercially exploitable oil shale. Our experience is supported by the view of J. Cordell Moore, Assistant Secretary of the Department of the Interior, who, in a letter dated March 22, 1967, to Representative William H. Harrison of Wyoming, a copy of which is attached as Exhibit C, notes that Dr. William T. Pecora, Director of the United States Geological Survey, has explained that "trona operations in Wyoming under previously issued sodium leases are conducted in relatively clean trona beds" whereas in Colorado in the Piceance Creek basin the sodium minerals "are in-