

The Secretary emphasized then and throughout our subsequent meetings that he wanted our independent unguided analysis. In later meetings he broadened his remarks to say he did not expect unanimity and welcomed divergent views as a guide to exercising his special responsibility.

Key departmental technical personnel were then presented by Assistant Secretary Kelly and spoke on:

"Future Place of Oil Shale in the Energy Mix," by V. E. McKelvey, of the U.S. Geological Survey.

"Legal Problems," by T. J. Cavanaugh of the Solicitor's Office.

"Technology of Hydrocarbon Fuels," by J. S. Rosenbaum of the Bureau of Mines.

We also were provided prepared statements for background purposes.²³

Subsequently, in our executive session, Secretary Udall asked us to select our own Chairman, and Joseph L. Fisher, one of those headquartered in Washington, was chosen. We then agreed that each would submit to the Chairman an outline of issues which he felt required resolution.²⁴ Responsibility for the numerous details of our work was placed in Eugene W. Standley, Staff Engineer to Assistant Secretary Kelly. He ably absorbed those headaches for us.

Before discussing the development of issues, let us look at our total schedule through filing of our "Interim Report" in February 1965. As noted, material was sent us by Chairmen Fisher and Kelly as well as by Secretary Udall. Before adjourning on July 7 we agreed to meet in September for a visit to the principal oil shale area of Colorado, Utah, and Wyoming.

We gathered via Denver and Grand Junction at Rifle, Colorado, about noon on Sunday, September 13, 1964, and participated briefly in the Open House being held that day by Socony Mobil and Humble and others operating the Anvil Point Oil Shale Research Center at Rifle, Colorado, with the Colorado School of Mines on facilities acquired through the school from the Department of the Interior. We then went to Bureau of Mines facilities and held an afternoon executive session with Secretaries Udall and Kelly and other Interior personnel present. In the evening we returned to Grand Junction. On Monday in a Navy plane the Board viewed the tremendous hydrocarbon energy area of the vicinity. We flew over the Union Oil Company's experimental site; the Anvil Points experiment station in the Naval Oil Shale Reserves No. 1 and No. 3; the sodium prospecting area; Sinclair Oil Company's *in situ* shale oil operation; and another area that is considered favorable for oil shale stripping operations. Proceeding on the extensive tour we flew over the Rangely Oil Field, the Hell's Hole Canyon area where exposures of oil shale in the Green River formation can be

²³ Material supplied before or at the initial meeting included:

- (1) *Background Data for Oil Shale Policy, March 1964*, prepared for Secretary Udall by the Bureau of Mines, Geological Survey and Office of Solicitor, 56 pp.
- (2) *The Oil Shale Policy Problem*, "a synopsis prepared for the opening meeting of the Department of the Interior Oil Shale Advisory Board, July 7, 1964," 46 pp.
- (3) "Summary of Suggestions from the Public for Oil Shale Program," Office of Assistant Secretary—Mineral Resources, April 12, 1964, 38 pp.
- (4) Map: "Oil Shale Deposits of the Piceance Creek Basin in Northwestern Colorado, D. of Int., B. of Mines," revised June 25, 1964.
- (5) Cowan, A. *Bibliography of Bureau of Mines Publications on Oil Shale and Shale Oil, 1917-1963*, Revised December 1963, Laramie Petroleum Research Center, H. M. Thorne, Research Director.

²⁴ Data received included:

- (1) Papers presented to the *Western Resources Conference*, Oil Shale Section, Boulder County, Colorado, July 17, 1964, including:
 - (a) Steele, "Basic Research in Appraising the Future of Shale Oil."
 - (b) Landsburg, "Factors in the Long-Range Competitive Setting of Shale Oil."
 - (c) Kelly, "Remarks of John M. Kelly, Assistant Secretary of the Interior—Mineral Resources, Before the Western Resources Conference."
 - (d) Jackson, "Legal, Political, and Administrative Problems in Oil Shale."
- (2) Gooding, "Interdepartmental Energy Study, Research and Development in the Petroleum Industry," September 27, 1963, 7 pp.
- (3) Calhoun, "Leasing for Oil Shale Development on Public Lands," memorandum, July 9, 1964, 9 pp.
- (4) Donnell, *Tertiary Geology and Oil Shale Resources of The Piceance Creek Basin Between the Colorado and White Rivers Northwestern Colorado*, Geological Survey Bull., 1082-L, GPO 1961.
- (5) Quarterly of the Colorado School of Mines, "First Symposium on Oil Shale," Vol. 59, No. 3, July 1964.
- (6) Thorne, Stanfield, Dinneen, and Murphy, *Oil Shale Technology: A Review*, U.S. Dep't of Interior, B. of Mines, Info. Circ. 8216, 1964, 24 pp.