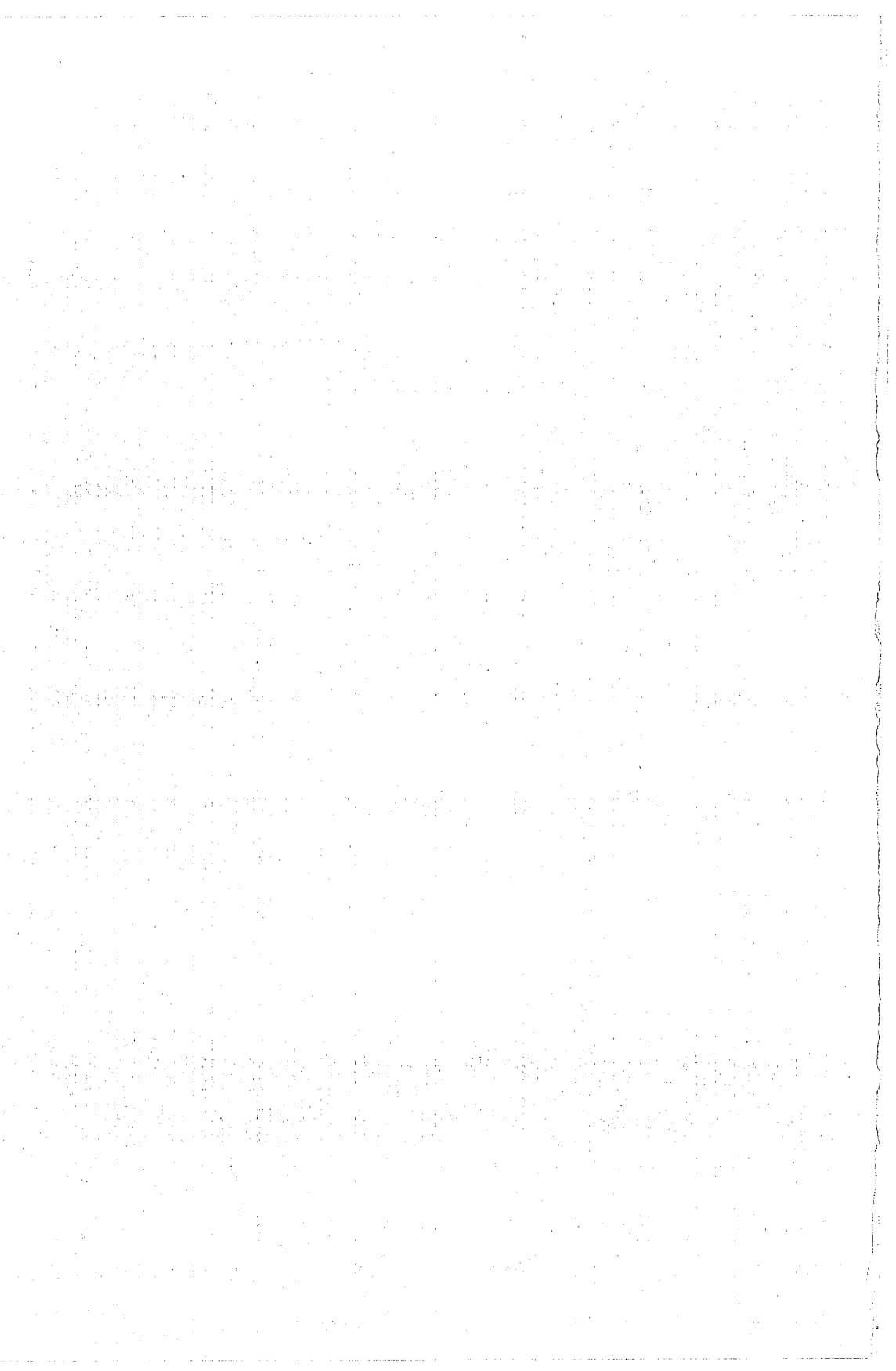


GEOLOGY STUDIES

Volume 22, Part 3—July 1976

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Brigham Young University Geology Studies

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Aspects of Coal Geology, Northwest Colorado Plateau
Some Geologic Aspects of Coal Accumulation, Alteration, and Mining
In Western North America: A Symposium

Papers prepared for presentation at a symposium at the annual meeting of the Coal Geology Division of the Geological Society of America, Salt Lake City, Utah, October 20, 1975, and adjunct papers pertinent to the annual field trip, October 17-19, 1975, in the Western Book Cliffs, Castle Valley, and parts of the Wasatch Plateau, Utah. *The Field Guide and Road Log* appears as Volume 22, Part 2—October 1975, *Brigham Young University Geology Studies*.

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Emery Coal Field, Utah

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ABSTRACT.—The Emery coal field is located partly in Sevier County and partly in Emery County in central Utah and has at times been called the Castle Valley field. The center of the field is about 60 miles south of Price and 50 miles east of Salina. The coal beds are found cropping out in the cliffs of the Ferron Sandstone (Upper Cretaceous) and dip gently in a westward direction. Distinction should be made between this coal and that in the Blackhawk Formation (Mesaverde) in the Wasatch Plateau coal field. Blackhawk coal lies above the Ferron and its outcrops are further to the west.

The lower third of the Ferron Sandstone is a gray, fine-grained, calcareous marine sandstone and siltstone that weathers to yellow-gray and forms a decided cliff. The upper two-thirds is alternating thick to massive sandstone, shaly sandstone, and gray and carbonaceous shale and coal that forms ledges and slopes. The formation thickens southward from 250 to 900 feet and coal seams are developed along the outcrop for a distance of about 30 miles. The down-dip boundary of the coal field is taken at the Joes Valley-Paradise fault zone 4 to 8 miles west of the outcrops. The coal beds have been given letter designations, A to M, and appear in ascending order. These beds are lenticular and only a few can be considered commercial in any one area. The coal beds are all in the upper two-thirds of the formation and are distributed as follows: beds A to E in a lower 75 foot interval, beds F and G in the next 75 to 150 feet, and beds H to L in an upper zone of 75 to 125 feet. The M bed is located near the top of the unit a few feet below the Blue Gate Shale contact. The A, C, I, J, and M beds are the best prospects. The maximum coal seam thickness is about 15 feet, but in several instances two coal beds coalesce to form a much thicker body of coal.

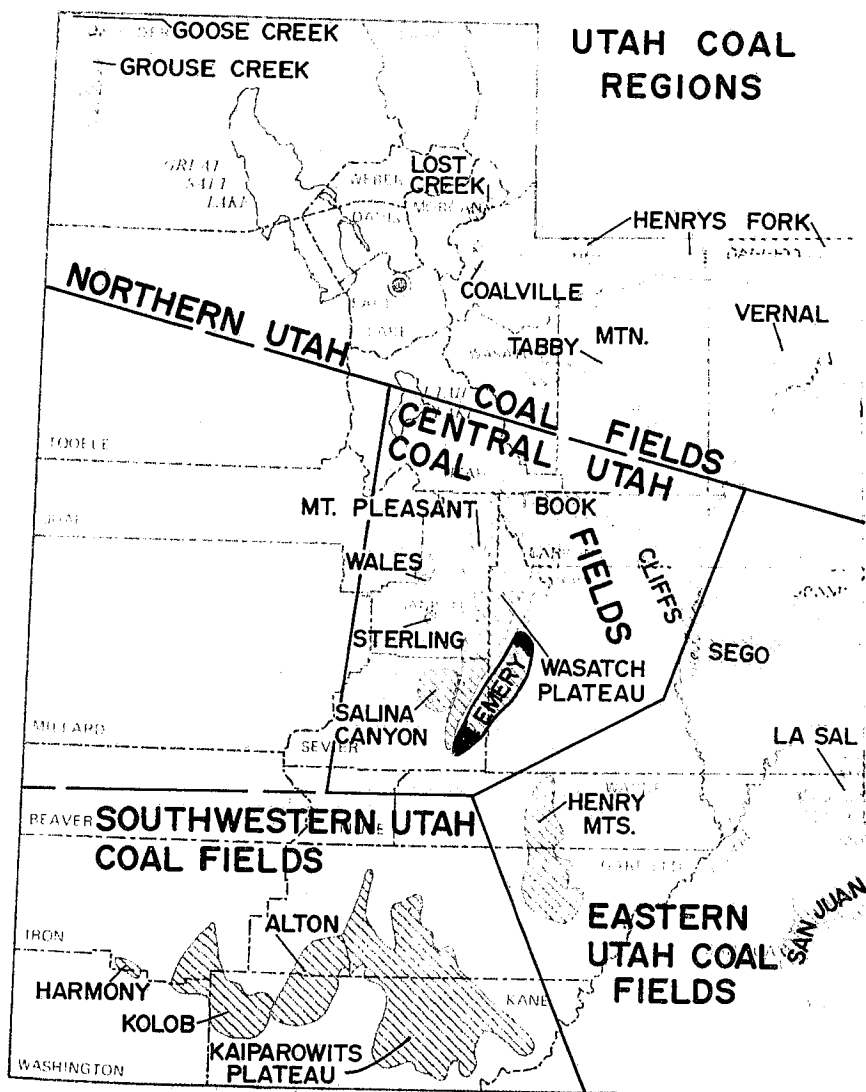
Analyses indicate a high-volatile C bituminous coal with some variance in proximate constituents from seam to seam. The lower seams are lower in sulfur and higher in ash than those in the upper zone. The change is not regular, however, and each bed and area has its own characteristics. The average of about forty-five as-received samples shows moisture 7.4%, volatile matter 38.0%, fixed carbon 45.7%, ash 8.9%, sulfur 0.99%, and Btu/lb. 11,424.

Since 1900, several mines have operated in the field but presently only the Emery Mine of Consolidation Coal Company is active. All mines have been underground operations and it is expected that most future development will follow this plan. There are, however, stripping opportunities that might eventually produce 200 million tons of coal. Original reserves of coal beds greater than 4 feet thick and found under less than 3,000 feet of cover amount to 1.4 billion tons. Seventy-five percent of these reserves is under less than 1,000 feet of cover. Through 1974, about 2 million tons of coal have been mined from the field.

REFERENCE CITED

- Doelling, H. H., 1972, Central Utah Coal Fields: Sevier-Sanpete, Wasatch Plateau, Book Cliffs and Emery: Utah Geological and Mineralogical Survey Monograph 3, p. 416-496.

Ed. Note: Due to various circumstances beyond the control of the author and the editors, no new manuscript could be prepared for this volume. However, the relatively recent, extensively detailed account of the Emery coal field in Doelling, 1972, p. 416-496, should give the reader an excellent, up-to-date report on this important field. Further, it should be noted that several of the figures presented by Edward Cotter in this volume were reproduced directly from or modified from the above cited work by Doelling (figs. 10, 11A, 11B, 12A, 12B and 12C, as well as Table 4) and can be consulted in Cotter's paper, and considerable information included in Cotter's chapter "Coal in the Ferron Sandstone" was summarized from this work.



TEXT-FIGURE 1.—Utah coal regions.