DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS INVESTIGATIONS SERIES
MAP I-1033-D

EXPLANATION

THICKNESS OF OVERBURDEN

- More than 900 m
- 600–900 m
- 300–600 m
- Less than 300 m

BOUNDARY BETWEEN OVERBURDEN UNITS

COAL ZONE—Drawn on base of lowest coal beds of Christensen coal zone, John Henry Member, Upper Cretaceous Straight Cliffs Formation; dashed where data relatively sparse

COAL ZONE—Drawn on base of lowest coal beds, Henderson coal zone, John Henry Member, Straight Cliffs Formation; dashed where data relatively sparse

COAL ZONE HORIZON—Christensen coal zone projected into area of little or no coal. Here data is meager and projection is based on stratigraphic position of carbonaceous mudstones and shales or a 91 to 106 m interval above the base of John Henry Member, Straight Cliffs Formation

FAULT—Bar and ball on downthrown side

STRIKE AND DIP OF BEDS

- Horizontal
- Inclined

AMOUNT OF OVERBURDEN ON CHRISTENSEN AND HENDERSON COAL ZONES

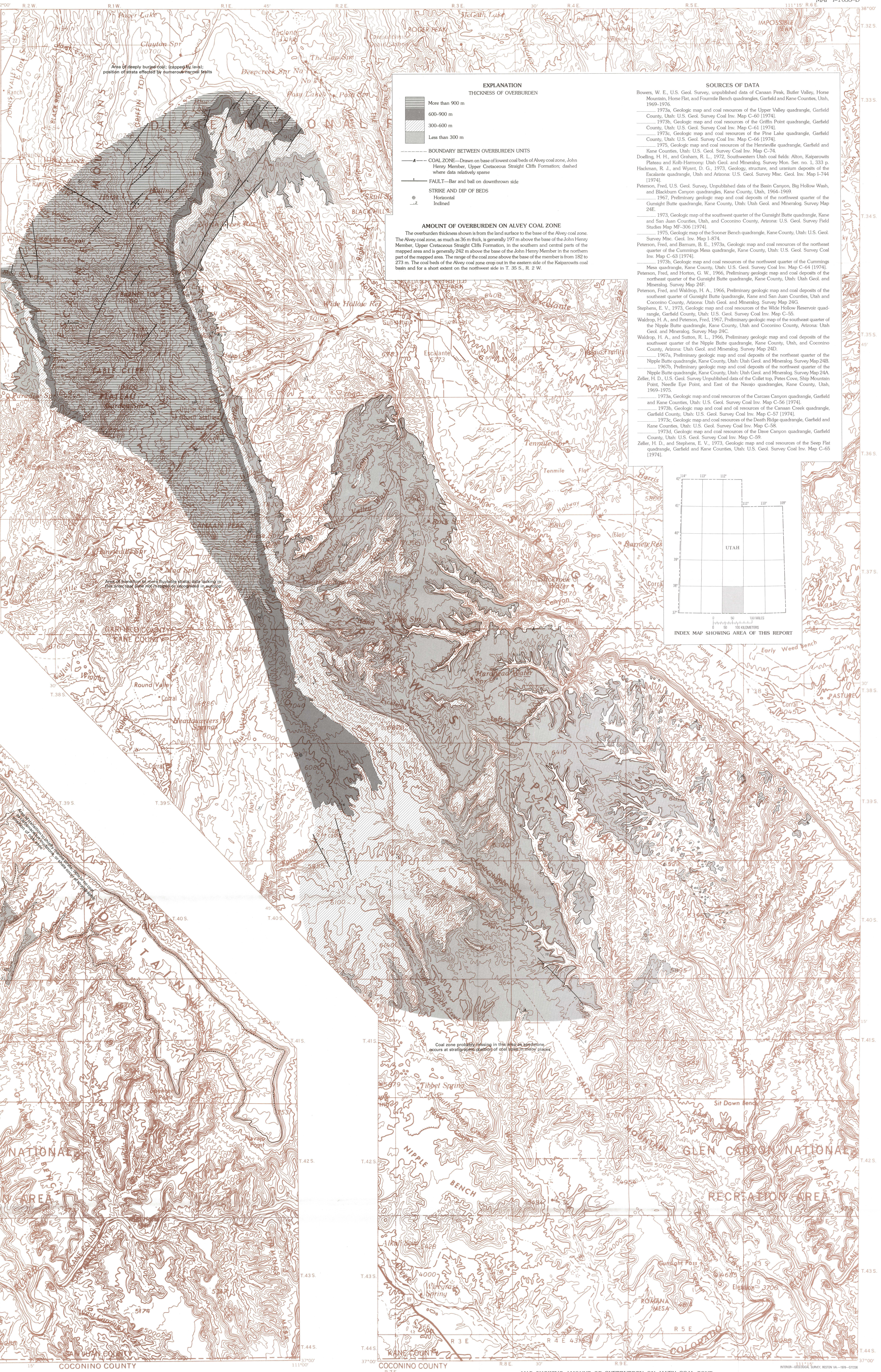
The overburden thickness shown is from the land surface to the base of either the Christensen or Henderson coal zone. The Christensen coal zone, as much as 30 m thick, is generally 90 m above the base of the John Henry Member, Straight Cliffs Formation, in the southern part of the mapped area, but the Christensen is about 150 m above the base of the member in the northeastern part of the mapped area. The range of this zone above the base of the member is from 85 to 167 m from south to north. The coal beds of the Christensen coal zone crop out on the eastern and southern sides of the Kaiparowits coal basin. The westward extent of these coal beds within the subsurface is approximately along the west limb of the syncline that underlies the Table Cliff Plateau and Canaan Peak.

The Henderson coal zone, as much as 15 m thick, is generally 45 m above the base of the John Henry Member, Straight Cliffs Formation. The range of this zone above the base is, however, from 17 to 61 m. The coal beds of the Henderson coal zone crop out on the western side of the Kaiparowits coal basin from Round Valley northwest to the area of Tropic, west of the mapped area. The coal beds in the Henderson occur chiefly west of the syncline that underlies the Table Cliff Plateau and Canaan Peak; however, stratigraphic position of a few thin, local coal beds indicate the zone probably extends east of the syncline in the subsurface.

Base from U.S. Geological Survey, Escalante 1:250,000, 1956–70

APPROXIMATE MEAN DECLINATION, 1978

MAP SHOWING AMOUNT OF OVERBURDEN ON CHRISTENSEN AND HENDERSON COAL ZONES



EXPLANATION

THICKNESS OF OVERBURDEN

- More than 900 m
- 600–900 m
- 300–600 m
- Less than 300 m

BOUNDARY BETWEEN OVERBURDEN UNITS

COAL ZONE—Drawn on base of lowest coal beds of Alvey coal zone, John Henry Member, Upper Cretaceous Straight Cliffs Formation; dashed where data relatively sparse

FAULT—Bar and ball on downthrown side

STRIKE AND DIP OF BEDS

- Horizontal
- Inclined

AMOUNT OF OVERBURDEN ON ALVEY COAL ZONE

The overburden thickness shown is from the land surface to the base of the Alvey coal zone. The Alvey coal zone, as much as 36 m thick, is generally 197 m above the base of the John Henry Member, Upper Cretaceous Straight Cliffs Formation, in the southern and central parts of the mapped area and is generally 242 m above the base of the John Henry Member in the northern part of the mapped area. The range of the coal zone above the base of the member is from 182 to 273 m. The coal beds of the Alvey coal zone crop out in the eastern side of the Kaiparowits coal basin and for a short extent on the northwest side in T. 35 S., R. 2 W.

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INDEX MAP SHOWING AREA OF THIS REPORT

MAP SHOWING AMOUNT OF OVERBURDEN ON ALVEY COAL ZONE

INTERIOR—GEOLOGICAL SURVEY, RESTON VA.—1978—G77236

Compiled in 1976

SCALE 1:125 000

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAPS SHOWING AMOUNT OF OVERBURDEN ON MAJOR COAL ZONES IN THE KAIPAROWITS COAL BASIN, UTAH

By
Dan E. Hansen
1978

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