STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
UTAH GEOLOGICAL AND MINERAL SURVEY
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COALBED METHANE RESOURCE MAP CASTLEGATE D BED, BOOK CLIFFS COAL FIELD UTAH

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IDENTIFIED RESOURCE AREA BOUNDARY

FAVORABLE RECOVERY AREA

DRILL HOLE SAMPLE

COAL FIELD OUTCROP

5 METHANE CONTENT CC/GM
CONTOUR INTERVAL 0.5 CC/GM

SCALE 1:100,000

KILOMETERS 0 1 2 3 4 5
MILES 0 1 2 3

MN GN 0d 19' 6 mils 15d 267 mils
DECLINATION DIAGRAM

STUDY AREA LOCATION

Castlegate D Bed Thickness Has Been Measured Between 1.3 Feet and 18.5 Feet (Average – 8.5 Feet)
(H.H.Doelling, Central Utah Coal Fields, UGMS Monograph Series No.3, 1972)
Topographic Base Taken From U.S.G.S. 1:100,000 Metric Series: Price, Utah and Huntington, Utah

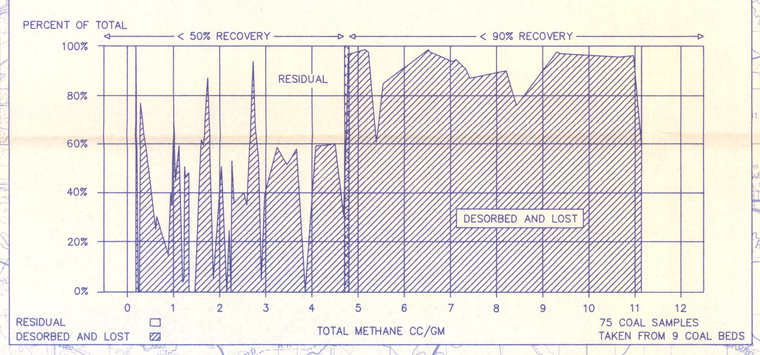
NO DATA AVAILABLE

UNKNOWN METHANE POTENTIAL

NO DATA AVAILABLE

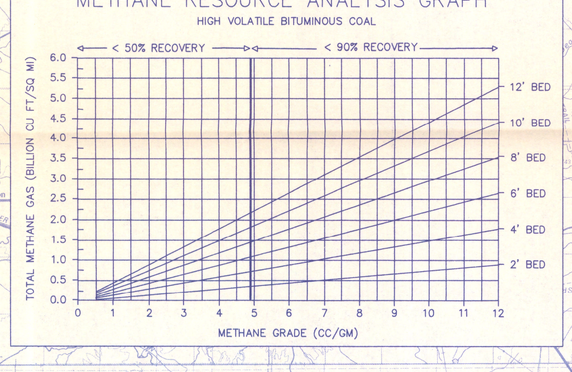
6.0 6.0 6.0 2.5 2.5 2.5

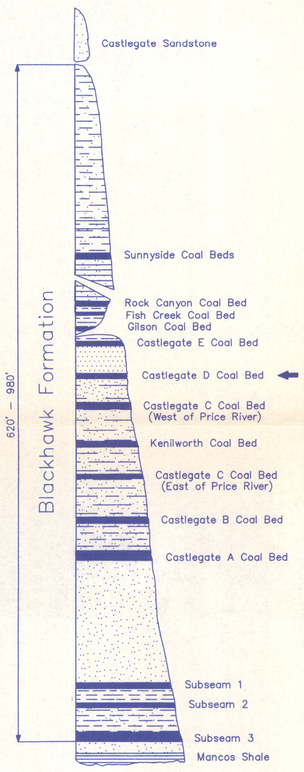
BOOK CLIFFS COALBED METHANE GRAPH



METHANE RESOURCE ANALYSIS GRAPH

HIGH VOLATILE BITUMINOUS COAL





Generalized Composite Section Of The Blackhawk Formation In The Book Cliffs, Utah

(Adapted from Hucka, B.P., in edit, Hardness of Utah Coals, Utah Geological and Mineral Survey)

Book Cliffs Coalbed Methane Graph

This graph is based upon seventy-five coal samples which were collected from nine coalbeds over a ten-year period. The results of the sampling program are shown as "Desorbed and Lost" vs. "Residual" gas percentages of the total gas from each individual sample. The terminology is based upon the U. S. Bureau of Mines coalbed methane sampling methodology as outlined in U.S.B.M. RI# 8515. The hatched line at approximately 4.8 cc/gm highlights the marked change in the relative percentage of desorbed and residual methane and designates the lower boundary of the methane resource area.

Methane Resource Analysis Graph

This graph converts methane content in cc/gm and coalbed thickness to total methane content of the coalbed in billions of cu.ft./sq.mi. The conversion is based upon the specific gravity (1.32 gm/cc) of high volatile bituminous coal.

The 4.8 cc/gm resource boundary has been added to this graph to illustrate the coals with high recovery potential for methane.

Generalized Composite Section of the Blackhawk Formation in the Book Cliffs, Utah

This section represents the vertical relationships of the coalbeds in the Book Cliffs. This complete section, with measurable coal resources, does not exist at any one location. It is a composite of the western, central and eastern Book Cliffs Blackhawk Fm. lithology. The arrow indicates the coalbed which is represented on this map.

Coalbed Methane Resource Map

This resource estimate map shows the location of drill core samples and the resultant methane contents in the Castlegate D bed. The samples were collected by the Utah Geological and Mineral Survey independently and as part of a cooperative agreement with the U. S. Department of Energy. The individual sample results are documented in the Utah Geological and Mineral Survey Open-File Report #88, 1986, "Utah Coal Core Methane Desorption Project, Final Report" by Archie D. Smith.

The generalized resource boundary is based upon a four-mile radius of influence. Local sampling experience in the Book Cliffs supports the use of this four-mile radius. With the addition of future methane information, this radius of influence should be recalculated.

The designation of a favorable recovery area (stippled area) displays the interpretation of the coalbed methane graph. This area should yield the greatest methane recovery.

111 00' 110 45' 110 30' 110 15'
39 52'30" 39 45' 39 30' 39 15'