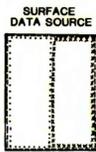
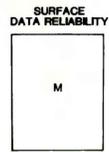


UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY



Refer to Appendix I for point to point subsurface data sources.

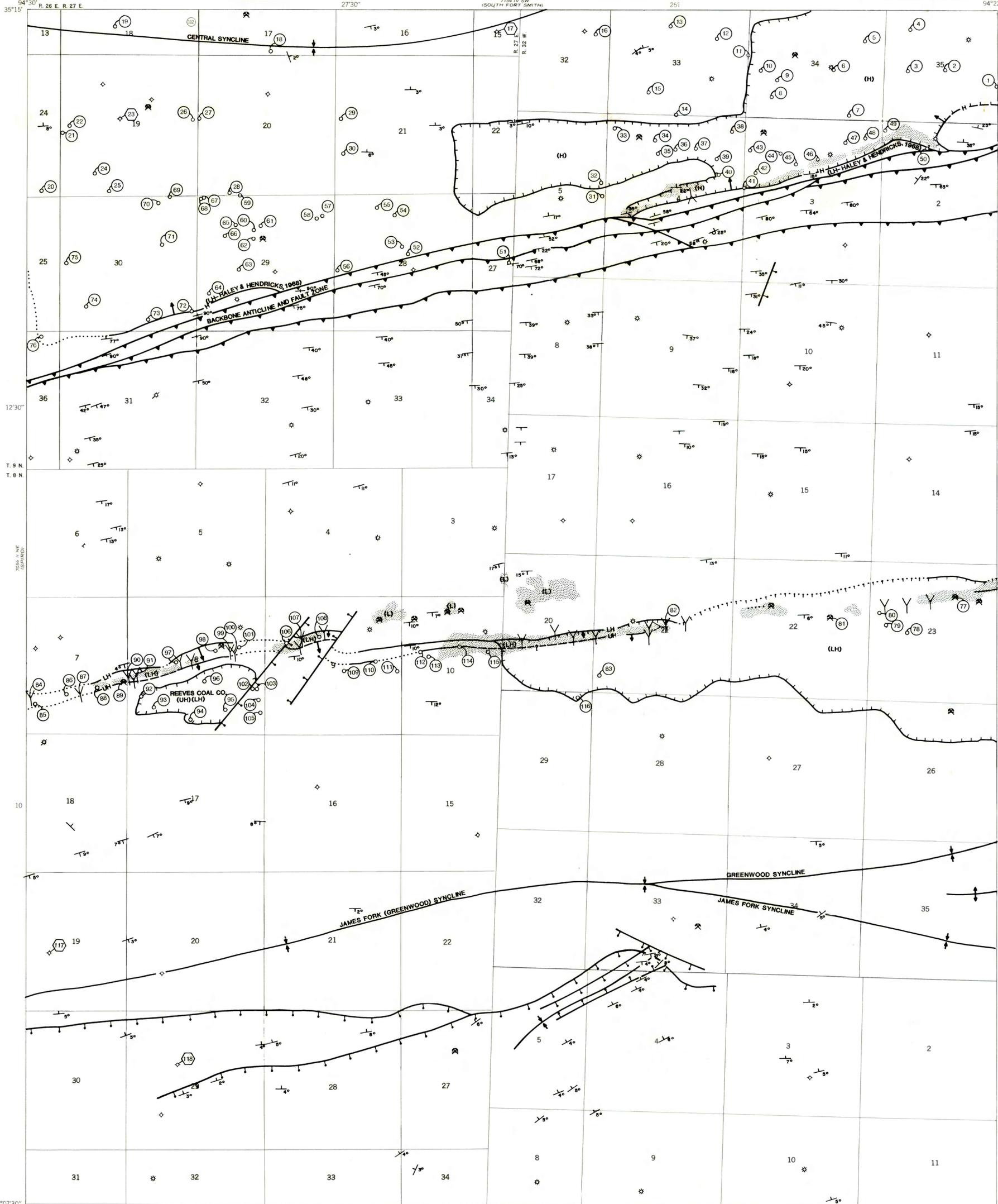
HALEY, B. R., AND HENDRICKS, T. A., 1968; KNECHTEL, M. M., 1949; AGBE-DAVIES, V. F., 1978; THOM, W. T., 1935; HENDRICKS, T. A., AND PARKS, B., 1950



Refer to Appendix I for point to point subsurface data reliability

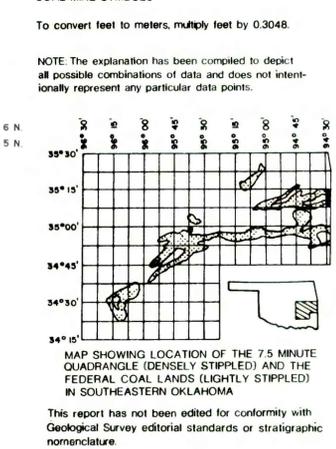
M - MEDIUM, detailed mapped prior to modern topographic base map.

HACKETT QUADRANGLE ARKANSAS-OKLAHOMA 7.5 MINUTE SERIES (TOPOGRAPHIC) 1944 GREENWOOD 13' QUADRANGLE



- EXPLANATION**
- Location or drilling well
 - Dry Hole
 - Gas Well
 - Oil Well
 - Oil & Gas Well
 - Abandoned Oil Well
 - Abandoned Gas Well
- WELL SYMBOLS**
- CL 548.1
 - R 280
 - CE 2(LUM)
 - R 58
 - CE 3(LM)
 - R 1128
 - (SS)
 - R 14
 - TD 10,528
- WELL LOGS** - Showing well data in feet. Letters designate either the coal bed name as listed below, or reference datum. * Indicates the suite of logs was insufficient to verify coal occurrence. Index number refers to hole on Plate 3 of CRO map. Index number not assigned to wells for which logs of the first 3000 foot (914.4m.) interval were not available or logged interval began below the base of the Hartshorne sandstone. Refer to Appendix II for additional information concerning wells not indexed.
- CL 915.0
 - R 845.0
 - C 1.0(L)
 - R 115.0
 - C 1.2(L)
 - R 289.8
 - R 37.0
 - C 7.0(LH)
 - R 37.0
 - TD 1296
- COAL TEST HOLE** - Showing drill-hole data in feet. Letters designate name of coal bed as listed below. Index number refers to hole on Plate 3 of CRO map.
- NR 14
 - C 4.8(LH)
 - NR 14
- COMPOSITE MINE SECTION** - Abandoned mine, showing rock interval and thickness of coal, in feet. Letters and numbers designate name of coal bed as listed below. Index number refers to section on Plate 3 of CRO map.
- Tabulation of Rock Coal Intervals shown on Plate 1, Sheet 2
 - CL - Ground level elevation
 - R - Rock interval
 - C - Coal interval (measured)
 - CE - Gross Coal interval (estimated from well log)
 - M - Mixed Coal & Rock
 - B - Bone Coal
 - NR - No record of lithology
 - NRE - No record of lithology, thickness estimated
 - TD - Total depth
- NOTE:** Thickness reported to tenths of feet only when resolution of data permitted.
- DRILL HOLE, MEASURED SECTION, AND COMPOSITE MEASURED SECTION DATA SYMBOLS**
- L - Local (unnamed) coal bed
 - UH - Upper Hartshorne Coal
 - LH - Lower Hartshorne Coal
 - H - Hartshorne Coal
- COAL BED SYMBOLS AND NAMES**

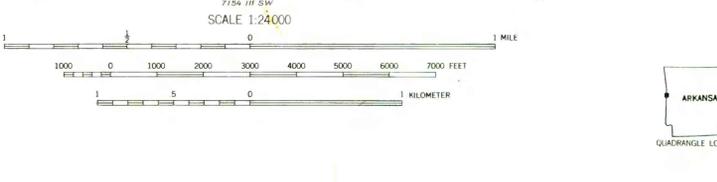
- TRACE OF COAL BED OUTCROP** - Showing thickness of coal in feet, measured at triangle. Letters designate name of coal bed as listed above. Arrow points toward the coal bearing area. Index number refers to section on Plate 3 of CRO map. Dotted line indicates outcrop covered by Quaternary Alluvium. Dashed line indicates inferred outcrop. Contacts have been adjusted to reflect topography.
- ANTICLINE**
- SYNCLINE**
- Strike and dip: \downarrow 25°; Vertical \uparrow 30°; Horizontal \odot 70°; Overturned \downarrow 75°
- FAULT** - Dashed where approximately located. Thrust faults have sawteeth on upthrown or overthrust side. Normal faults have bar and ball on downthrown side. Strike-slip faults have arrows showing relative horizontal movement.
- Coal mine active
 - Coal mine, inactive or abandoned
 - Slope entry, inactive or abandoned
 - Prospect pit
 - Subsurface coal mine showing name of mine and beds removed. Letters designate names of coal beds as listed above. Boundary is approximately located.
 - BUCK #1 (LM)
 - Surface coal mine showing name of beds removed. Letters designate names of coal beds as listed above. Boundary is approximately located.
- COAL MINE SYMBOLS**
- To convert feet to meters, multiply feet by 0.3048.
- NOTE:** The explanation has been compiled to depict all possible combinations of data and does not intentionally represent any particular data points.



This report was prepared under contract to the U.S. Geological Survey, and has not been edited for conformity with Geological Survey editorial standards or stratigraphic nomenclature. Opinions expressed herein do not necessarily represent those of the Geological Survey.

COMPILED IN 1980
This map intended for land-use planning purposes only

UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET



FEDERAL COAL RESOURCE OCCURRENCE MAP OF THE HACKETT 7.5-MINUTE QUADRANGLE, LEFLORE COUNTY, OKLAHOMA AND SEBASTIAN COUNTY, ARKANSAS
BY GEOLOGICAL SERVICES OF TULSA, INC., B. T. BRADY, USGS, AND J. L. QUERRY, BLM