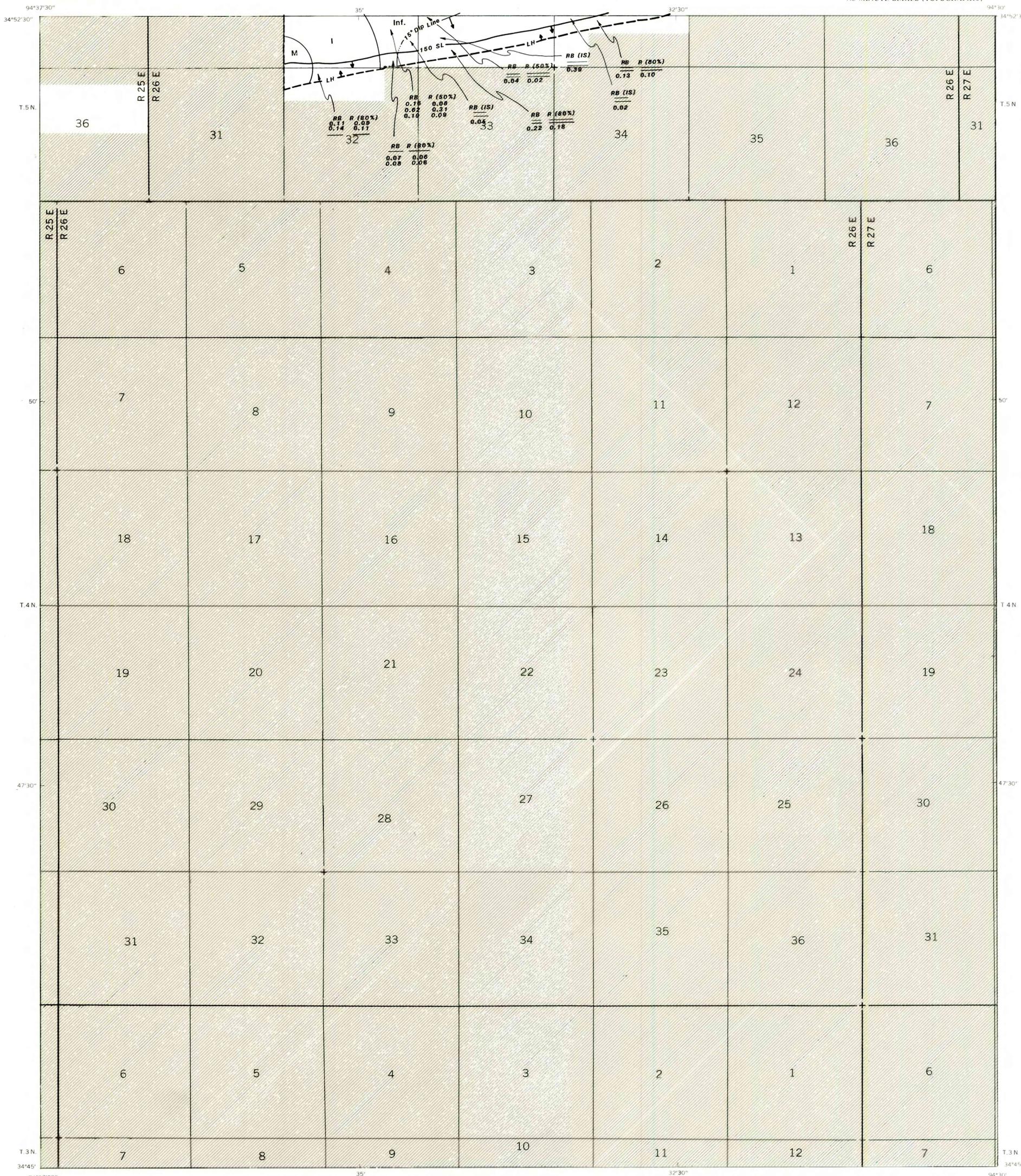


UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SE 1/4 OF THE HEAVENER 15' QUADRANGLE  
OKLAHOMA  
7.5 MINUTE SERIES (TOPOGRAPHIC)



NOTE: The explanation has been compiled to depict all possible combinations of data and does not intentionally represent any particular data point.

EXPLANATION



NON-FEDERAL COAL LAND--Land for which the Federal Government does not own the coal rights.



TRACE OF COAL BED OUTCROP--Showing symbol of name of coal bed (as shown on Plate 1). Arrow points toward coalbearing area.



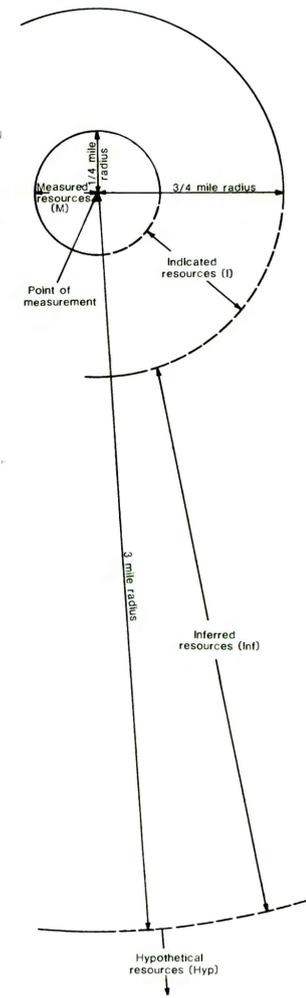
STRIPPING-LIMIT LINE--Boundary for surface mining (in this quadrangle, the 150-foot overburden isopach). Arrow points toward the area suitable for surface mining where the recovery factor is 80% and away from the area suitable for subsurface mining (down dip to the 3,000-foot-overburden isopach) where the recovery factor is 50%.



15° DIP LINE--Boundary between areas where dip of coal bed is greater than 15° and where dip is less than 15°. Reserve Base tonnages are calculated beyond limit; Reserve tonnages are not. Arrow points toward area where coal bed dip is greater than 15°. This area is considered suitable for in-situ gasification only.

Surface	Subsurface	In-situ
RB R (80%)	RB R (50%)	RB (IS)
—	0.78 0.39	— (Measured)
0.01 0.01	3.03 1.51	— (Indicated)
—	0.61 0.30	0.45 (Inferred)

IDENTIFIED AND HYPOTHETICAL COAL RESOURCES--Showing totals for Reserve Base (RB), Reserves (R), and Hypothetical (Hyp) resources in millions of short tons, for each section or part of section of non-leased Federal coal land, both within and beyond the stripping-limit line. Reserve (R) tonnage is calculated by multiplying the Reserve Base (RB) tonnage by the appropriate recovery factor. Reserve tonnages are not calculated from in-situ Reserve Base tonnages. Dash indicates no resource in that category. 0.00 indicates that there are resources less than 10,000 short tons, in that category.



BOUNDARY LINES--Enclosing areas of measured (M), indicated (I), inferred (Inf) parts of identified coal resources. Dashed where projected from adjacent quadrangles. Hypothetical (Hyp) coal resources are located beyond the inferred part of identified coal resources (more than 3 miles from a measurement point).

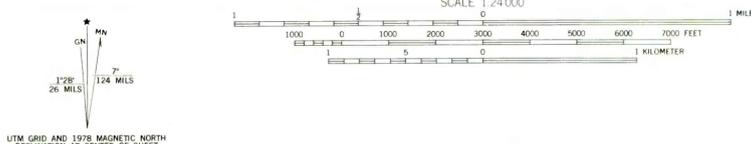
To convert short tons to metric tons, multiply short tons by 0.9072.

To convert feet to meters, multiply feet by 0.3048.

To convert miles to kilometers, multiply miles by 1.6093.

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

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.



FEDERAL COAL RESOURCE OCCURRENCE MAP OF THE SOUTHEAST QUARTER OF THE HEAVENER 15-MINUTE QUADRANGLE, LE FLORE COUNTY, OKLAHOMA

BY GEOLOGICAL SERVICES OF TULSA, INC., B. T. BRADY, USGS, AND J. L. QUERRY, BLM