

EXPLANATION

FOR LEASABLE MINERAL AND WATERPOWER LAND CLASSIFICATION MAPS

RELEASED IN OPEN FILE

Only the land classification categories present in the quadrangle are colored in the explanation and on the map; an asterisk (*) preceding a colored classification category in the explanation indicates that the category includes all land in the quadrangle and so, to reduce clutter, the color is omitted from the map. Categories not colored in the explanation are not present in the quadrangle. All withdrawn lands are prospectively valuable for the mineral for which they are withdrawn. LAND CLASSIFICATION APPLIES ONLY TO PUBLIC LANDS WITHIN CATEGORY BOUNDARIES. Leasable minerals are coal, oil and gas, and oil shale; phosphates, or phosphate rock; chlorides, sulfates, carbonates, borates, and silicates or nitrates of potassium and of sodium; sulfur in Louisiana and New Mexico; and native asphalt, solid and semisolid bitumen, and bituminous rock (including oil-impregnated rock or sands from which oil is recoverable only by special treatment after the deposit is mined or quarried). However, all minerals are leasable on Federal acquired lands and restricted allotted and tribal Indian lands. Leasable mineral outcrops are not shown. A SYMBOL PRECEDING A MINERAL NAME ON THE SELECTED MINERALS LIST INDICATES THE MINERAL IS PRESENT IN THE MAP AREA. Active mines are not differentiated from inactive mines, the size and grade of the mineral occurrence are not indicated, and names are given hereon for only a few of the mines.

MINERAL LAND CLASSIFICATION

WITHDRAWN LANDS--Showing withdrawal number and date (month-day-year)

Coal	Phosphate
Oil shale	Potassium

CLASSIFIED LANDS

Coal	Potassium
Phosphate	Sodium

PROSPECTIVELY VALUABLE LANDS--Hachures (where present) and/or color are on valuable side of boundary

AREAS DESIGNATED FOR COAL LEASING--Showing name and effective date (month-day-year)

KNOWN LEASING AREAS--Showing name and effective date (month-day-year)
Note: Not all areas have been assigned names

KNOWN RECOVERABLE COAL RESOURCE AREA (KRGRA)

KNOWN GEOLOGIC STRUCTURE OF PRODUCING OIL AND GAS FIELD (KGS)

KNOWN GEOTHERMAL RESOURCES AREA (KGRA)

KNOWN OIL SHALE LEASING AREA

KNOWN PHOSPHATE LEASING AREA

KNOWN POTASSIUM LEASING AREA

KNOWN SODIUM LEASING AREA

WATERPOWER LAND CLASSIFICATION

CLASSIFIED OR WITHDRAWN FOR WATERPOWER OR RESERVOIR SITES

DESCRIPTION OF MAP SYMBOLS

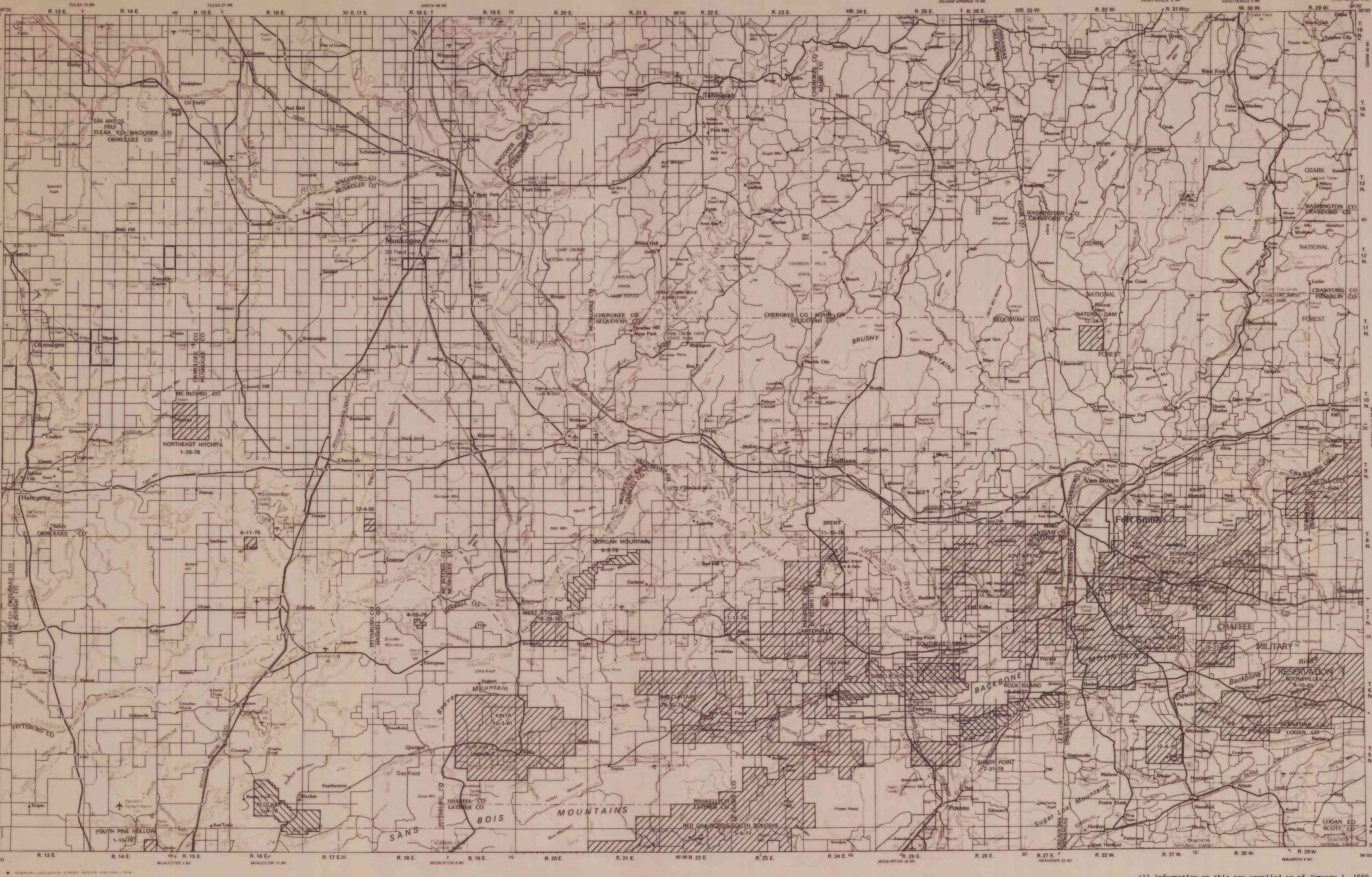
SELECTED MINERALS--Symbol shows location of mineral occurrence to the nearest 40-acre tract; multiple occurrences of a mineral within a quarter section (160 acres; 64.75 hectares) are not differentiated from a single occurrence. For cartographic reasons mineral occurrence may be shown by a dot and a leader to the symbol in parentheses.

Metallics			
Aluminum	Cobalt	Manganese	Thorium
Antimony	Columbium and Tantalum	Mercury	Tin
Arsenic	Copper	Molybdenum	Titaniferous iron
Beryllium	Gallium	Nickel	Titanium
Bismuth	Germanium	Platinum group	Tungsten
Cadmium	Gold	Rare earths	Uranium
Cesium and Rubidium	Iron	Silver	Vanadium
Chromium	Lead	Selenium	Zinc
		Tellurium	Zirconium and Hafnium
Nonmetallics			
Abrasives	Clay, refractory	Iodine	Olivine
Alumite	Diatomite	Kaolin	Quartz
Asbestos	Dumortierite	Kyanite group	Serpentine
Barite	Feldspar	Limestone	Silica sand
Bentonite	Fluorspar	Lithium minerals	Strontium minerals
Borates	Fuller's earth	Magnesite	Sulfur
Bromine	Gem and ornamental stones	Magnesium sulfate	Talc, Soapstone
Brucite	Graphite	Meerschaum	Vermiculite
Calcite, optical	Gypsum	Mica	Volcanic ash, Pumice, Perlite
Calcium chloride	Helium	Mineral pigments	Wollastonite
Carbon dioxide		Nephelite	Zirconite

SYMBOL COMBINATIONS--Certain symbols (silver, lead, and zinc, or uranium and vanadium) are combined into a single symbol to show several minerals at the same locality as shown in three examples below. Where individual symbols cannot be combined into a single symbol or where cartographic reasons dictate, occurrences of several minerals at the same locality are shown by a dot at the locality and a leader to the composite symbol or series of symbols in parentheses as shown in fourth example below.

* Copper, gold, lead, zinc
x Chromium, cobalt, nickel
x Uranium and vanadium
--(+@)--Silver, lead, zinc, and bismuth at same location
MINE OR PROSPECT WHERE MINERAL IS KNOWN--Mine or prospect is shown by a mineral symbol at the location or by a dot at the location and a leader to the symbol or symbols in parentheses.
x Carville mine--Uranium mine at location of symbol
--(+F) Eureka mine--Gold, silver, lead, zinc, and fluorspar mine at location of dot
WIDESPREAD MINERAL OCCURRENCES--An area of numerous or widespread occurrences of one or more minerals is shown by a dotted outline and a symbol or symbols. A single occurrence of another mineral or minerals within such an area is shown by a dot at the locality and a leader to the symbol or symbols in parentheses. An overlapping area of mineral occurrence is outlined by a short dashed line.

OTHER SYMBOLS
x Leasable mineral mine
x Mine or prospect where mineral is not known
+ Pit (bentonite, caliche, or clay)
x Gravel or sand pit
diamond Quarry



LEASABLE MINERAL AND WATERPOWER LAND CLASSIFICATION MAP
OF THE FORT SMITH QUADRANGLE, ARKANSAS, OKLAHOMA

LANDS WITHDRAWN, CLASSIFIED, AND PROSPECTIVELY VALUABLE FOR LEASABLE MINERALS;
OCCURRENCES OF OTHER SELECTED MINERALS; AND LANDS WITHDRAWN OR
CLASSIFIED FOR WATERPOWER AND RESERVOIR SITES

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* Prospectively valuable land classifications are not shown in Arkansas.

U. S. Geological Survey
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This map has not been edited for
conformity with Geological Survey
editorial standards or stratigraphic
nomenclature.