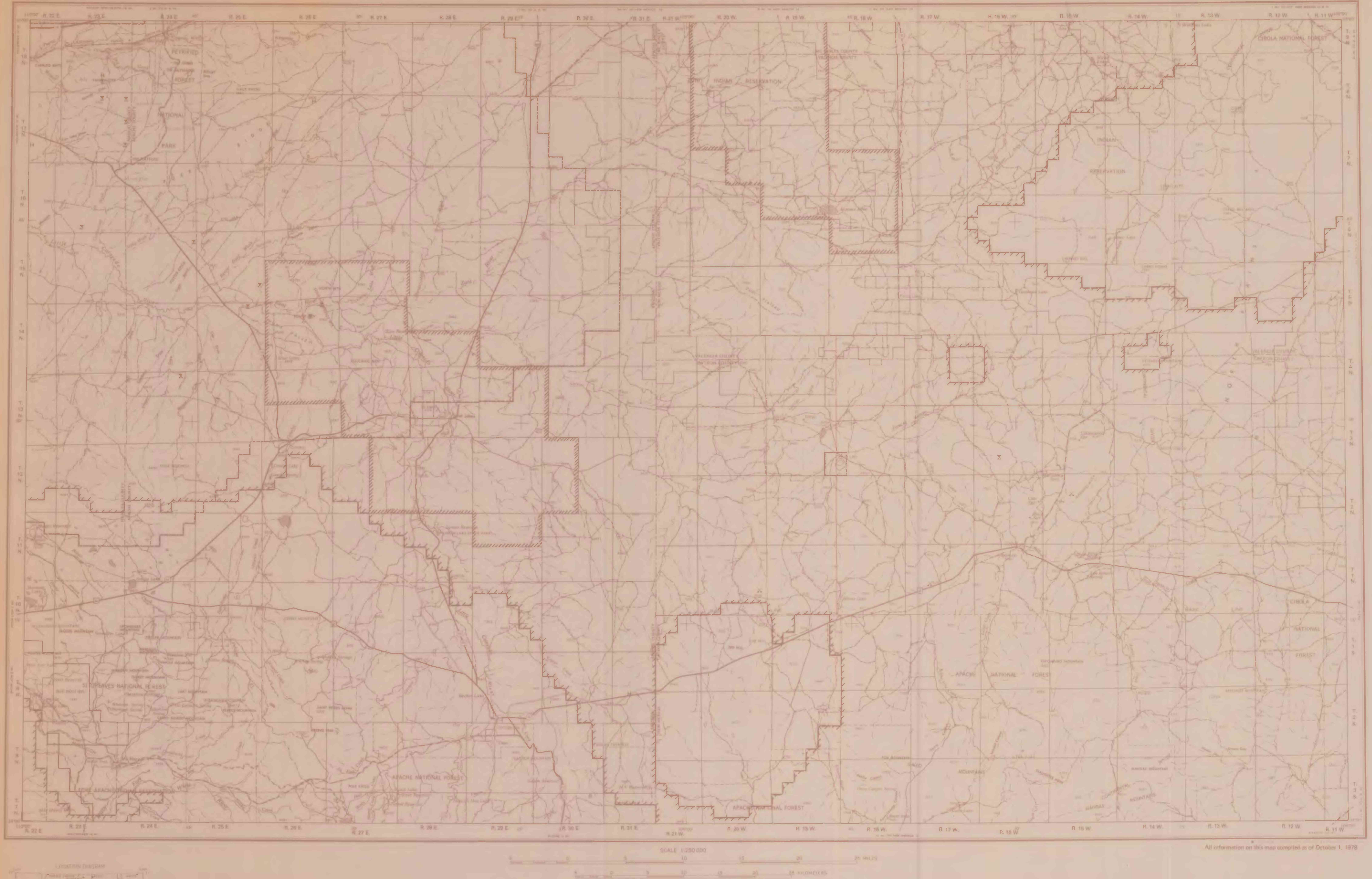
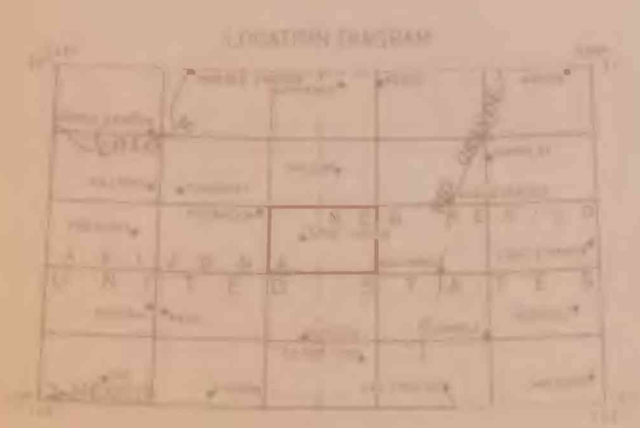
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SAINT JOHNS

OPEN FILE REPORT 79-731



All information on this map compiled as of October 1, 1978



LEASABLE MINERAL AND WATERPOWER LAND CLASSIFICATION MAP
OF THE SAINT JOHNS QUADRANGLE, ARIZONA, NEW MEXICO

LANDS WITHDRAWN, CLASSIFIED, AND PROSPECTIVELY VALUABLE FOR LEASABLE MINERALS,
OCCURRENCES OF OTHER SELECTED MINERALS, AND LANDS WITHDRAWN OR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

Compiled by

D.A. DeCicco and E.D. Patterson

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

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 All withdrawn lands are prospectively valuable for the mineral for which they are withdrawn.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

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

▭ Asphaltic materials
▭ Coal
▨ Geothermal resources
▨ Oil and gas
▭ Oil shale
▨ Phosphate
▭ Potassium
▭ Sodium

CLASSIFIED LANDS

▭ Coal
▭ Phosphate
▭ Oil shale
▭ Sodium

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

▭ Known recoverable coal resource area (KRCRA)

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

▭ 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
Antimony
Arsenic
Beryllium
Bismuth
Cadmium
Cesium and Rubidium
Chromium
Cobalt
Columbium and Tantalum
Copper
Gallium
Germanium
Gold
Iron
Lead
Manganese
Mercury
Molybdenum
Nickel
Platinum group
Rare earths
Silver
Selenium
Tellurium
Thorium
Tin
Titaniferous iron
Titanium
Tungsten
⧗ Uranium
Vanadium
Zinc
Zirconium and Hafnium

Nonmetallics

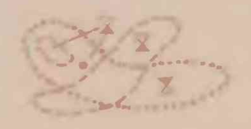
Abrasives
Alunite
Asbestos
Barite
Bentonite
Borates
Bromine
Brucite
Calcite, optical
Calcium chloride
Carbon dioxide
Clay, refractory
Diatomite
Dumortierite
Feldspar
Fluorspar
Fuller's earth
Gem and ornamental stones
Graphite
Gypsum
H Helium
Iodine
Kaolin
Kyanite group
Limestone
Lithium minerals
Magnesite
Magnesium sulfate
Meerschaum
Mica
Mineral pigments
Nephelite
Olivine
Quartz
Serpentine
Silica sand
Strontium minerals
Sulfur
Talc, Soapstone
Vermiculite
Volcanic ash, Pumice, Perlite
Wollastonite
Zeolite

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
⤫ Chromium, cobalt, nickel
⧗ 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.

⧗ Carlile 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

⚒ Leasable mineral mine
✕ Mine or prospect where mineral is not known
+ Pit (bentonite or clay)
✕ Gravel or sand pit
○ Quarry