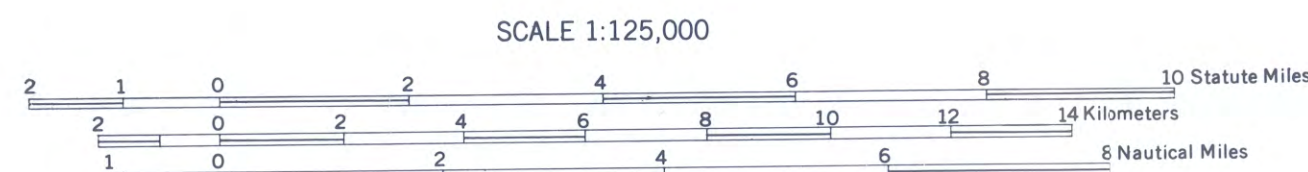


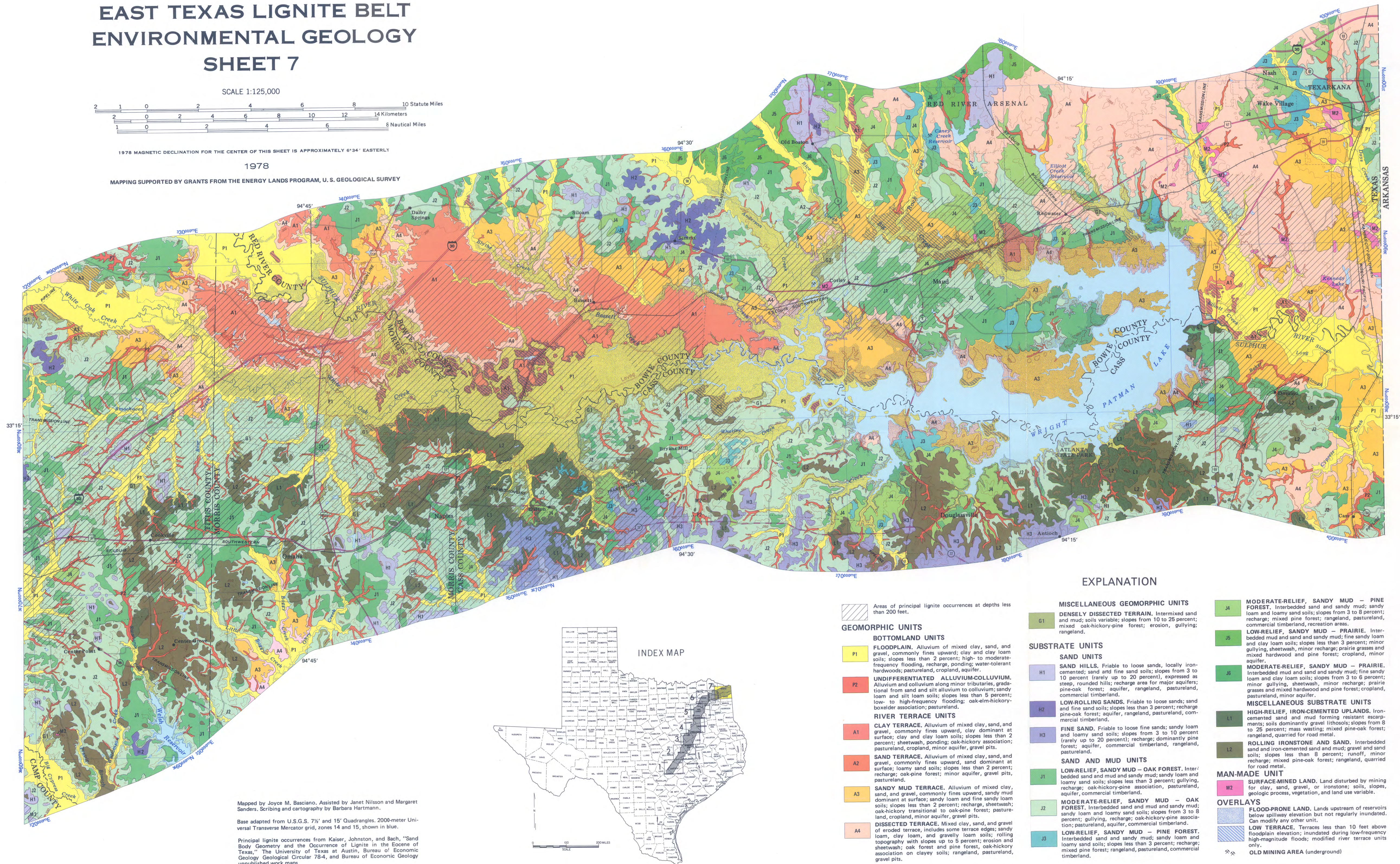
EAST TEXAS LIGNITE BELT ENVIRONMENTAL GEOLOGY SHEET 7



1978 MAGNETIC DECLINATION FOR THE CENTER OF THIS SHEET IS APPROXIMATELY 6°34' EASTERLY

1978

MAPPING SUPPORTED BY GRANTS FROM THE ENERGY LANDS PROGRAM, U. S. GEOLOGICAL SURVEY



EXPLANATION

 Areas of principal lignite occurrences at depths less than 200 feet.

GEOMORPHIC UNITS

BOTTOMLAND UNITS

P1	FLOODPLAIN. Alluvium of mixed clay, sand, and gravel, commonly fines upward; clay and clay loam soils; slopes less than 2 percent; high- to moderate-frequency flooding, recharge, ponding; water-tolerant hardwoods; pastureland, cropland, aquifer.
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P2 **UNDIFFERENTIATED ALLUVIUM-COLLUVIUM.** Alluvium and colluvium along minor tributaries, gradational from sand and silt alluvium to colluvium; sandy loam and silt loam soils; slopes less than 5 percent; low- to high-frequency flooding; oak-elm-hickory-boxelder association; pastureland.

RIVER TERRACE UNITS

A1 **CLAY TERRACE.** Alluvium of mixed clay, sand, and gravel, commonly fines upward, clay dominant at surface; clay and clay loam soils; slopes less than 2 percent; sheetwash, ponding; oak-hickory association; pastureland, cropland, minor aquifer, gravel pits.

A2 SAND TERRACE. Alluvium of mixed clay, sand, and gravel, commonly fines upward, sand dominant at surface; loamy sand soils; slopes less than 2 percent; recharge; oak-pine forest; minor aquifer, gravel pits, pastureland

A3 SANDY MUD TERRACE. Alluvium of mixed clay sand, and gravel, commonly fines upward, sandy mud dominant at surface; sandy loam and fine sandy loam soils; slopes less than 2 percent; recharge, sheetwash; sub-hickory, transitional to oak-pine forest; pasture

A4 **DISSECTED TERRACE.** Mixed clay, sand, and gravel of eroded terrace, includes some terrace edges; sandy loam, clay loam, and gravelly loam soils; rolling topography, with slopes up to 5 percent; erosion and

topography with slopes up to 5 percent; creek and
sheetwash; oak forest and pine forest, oak-hickory
association on clayey soils; rangeland, pastureland
gravel pits.

MISCELLANEOUS GEOMORPHIC UNITS

G1 **DENSELY DISSECTED TERRAIN.** Intermixed sand and mud; soils variable; slopes from 10 to 25 percent; mixed oak-hickory-pine forest; erosion, gullyng; rangeland.

SUBSTRATE UNITS

SAND UNITS

H1 **SAND HILLS.** Friable to loose sands, locally iron-cemented; sand and fine sand soils; slopes from 3 to 10 percent (rarely up to 20 percent), expressed as steep, rounded hills; recharge area for major aquifers; pine-oak forest; aquifer, rangeland, pastureland, commercial timberland.

H2	LOW-ROLLING SANDS. Friable to loose sands; sand and fine sand soils; slopes less than 3 percent; recharge pine-oak forest; aquifer, rangeland, pastureland, commercial timberland.
	FINE SAND. Friable to loose fine sands; sandy loam

H3 and loamy sand soils; slopes from 3 to 10 percent (rarely up to 20 percent); recharge; dominantly pine forest; aquifer, commercial timberland, rangeland, pastureland.

J1 **LOW-RELIEF, SANDY MUD – OAK FOREST.** Interbedded sand and mud and sandy mud; sandy loam and loamy sand soils; slopes less than 3 percent; gullying, recharge: oak-hickory-pine association, pastureland,

J2 MODERATE-RELIEF, SANDY MUD - OAK FOREST. Interbedded sand and mud and sandy mud; sandy loam and loamy sand soils; slopes from 3 to 8 percent. Little or no vegetation; pine associates.

J3 LOW-RELIEF, SANDY MUD - PINE FOREST. Interbedded sand and sandy mud; sandy loam and loamy sand soils; slopes less than 3 percent; recharge;

mixed pine forest; rangeland, pastureland, commercial timberland.

J4 MODERATE-RELIEF, SANDY MUD - PINE FOREST. Interbedded sand and sandy mud; sandy loam and loamy sand soils; slopes from 3 to 8 percent; recharge; mixed pine forest; rangeland, pastureland, commercial timberland, recreation areas.

J5 LOW-RELIEF, SANDY MUD – PRAIRIE. Interbedded mud and sand and sandy mud; fine sandy loam and clay loam soils; slopes less than 3 percent; minor gullying, sheetwash, minor recharge; prairie grasses and mixed hardwood and pine forest; cropland, minor

J6 MODERATE-RELIEF, SANDY MUD – PRAIRIE. Interbedded mud and sand and sandy mud; fine sandy loam and clay loam soils; slopes from 3 to 6 percent; minor gullying, sheetwash, minor recharge; prairie

MISCELLANEOUS SUBSTRATE UNITS


L1 HIGH-RELIEF, IRON-CEMENTED UPLANDS. Iron-cemented sand and mud forming resistant escarpments; soils dominantly gravel lithosols; slopes from 8 to 25 percent; mass wasting; mixed pine-oak forest; rangeland, quarried for road metal.


L2 ROLLING IRONSTONE AND SAND. Interbedded sand and iron-cemented sand and mud; gravel and sand soils; slopes less than 8 percent; runoff, minor recharge; mixed pine-oak forest; rangeland, quarried

MAN-MADE UNIT

M2 **SURFACE-MINED LAND.** Land disturbed by mining for clay, sand, gravel, or ironstone; soils, slopes geologic process, vegetation, and land use variable.

OVERLAYS

 **FLOOD-PRONE LAND.** Lands upstream of reservoir below spillway elevation but not regularly inundated. Can modify any other unit.


 **LOW TERRACE.** Terraces less than 10 feet above floodplain elevation; inundated during low-frequency, high-magnitude floods; modified river terrace unit only.

OLD WINSTON PARK (EAST) (cont.)

MAN-MADE UNIT

M2 **SURFACE-MINED LAND.** Land disturbed by mining for clay, sand, gravel, or ironstone; soils, slopes, geologic process, vegetation, and land use variable.

LOW TERRACE. Terraces less than 10 feet above floodplain elevation; inundated during low-frequency floods (100-year return period).

 **OLD MINING AREA** (underground)