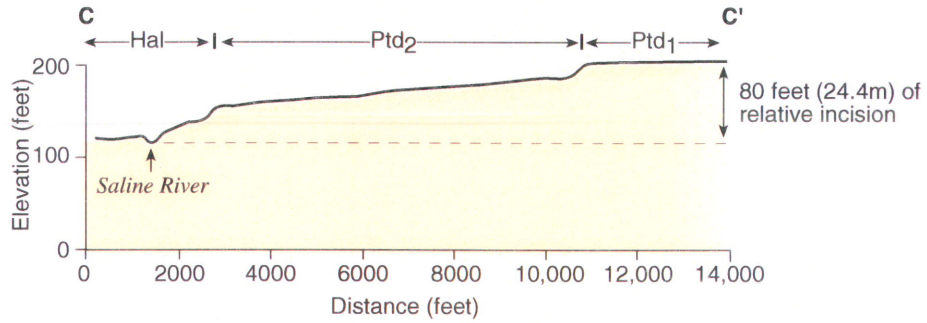
Estimated incision rates along Saline River

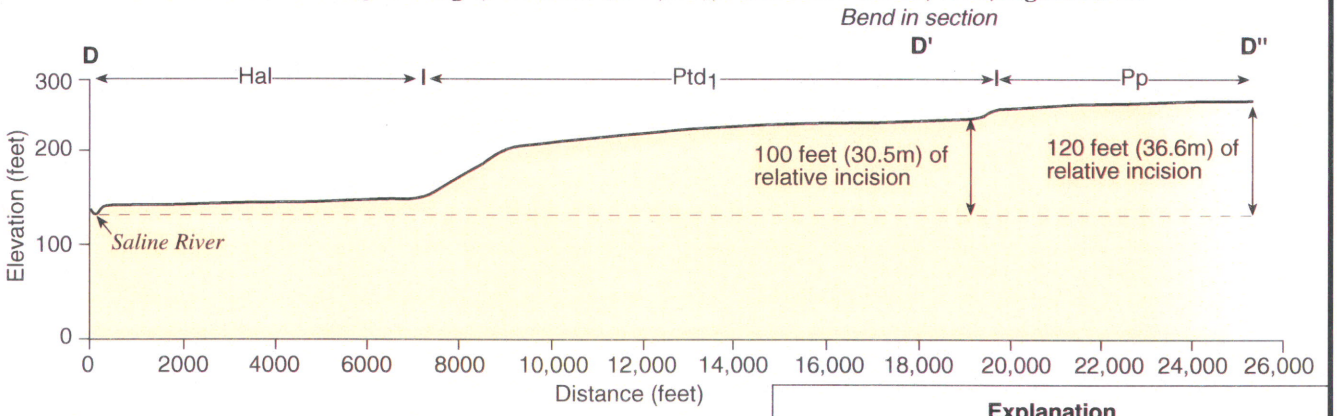
Datum	Amount of Incision	Estimated Age Range (Ka)*	Infered Incision Rate (mm/yr)
Intermediate Complex	225 ft (69 m)	800-1300	0.05-0.09
Praire Complex	120 ft (37 m)	70-120	0.3-0.5
Deweyville Terraces	80-100 ft (24-31 m)	18-30	0.8-1.7

* Age estimates for Intermediate Complex, Praire Complex, and Deweyville Terraces from Saucier, 1994.

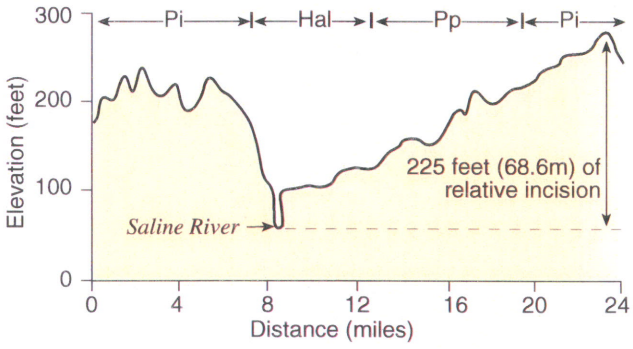
Section located on Herbine Quadrangle, Arkansas (1:24,000), Saucier and Smith, 1986, Figure 2.5-20



Section located on Rison Quadrangle, Arkansas (1:24,000), Saucier and Smith, 1986, Figure 2.5-20



Section is a part of cross section E-E' (Figure 2.5-21)



Explanation

Hal	Holocene alluvium
Ptd(1,2)	Pleistocene Deweyville Complex terraces
Pp	Pleistocene Prairie Complex
Pi	Pleistocene Intermediate Complex

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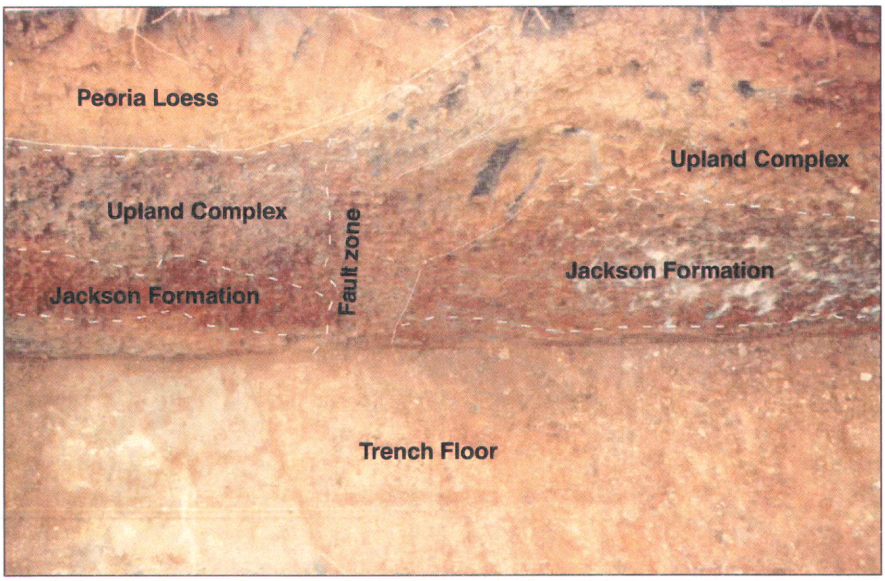
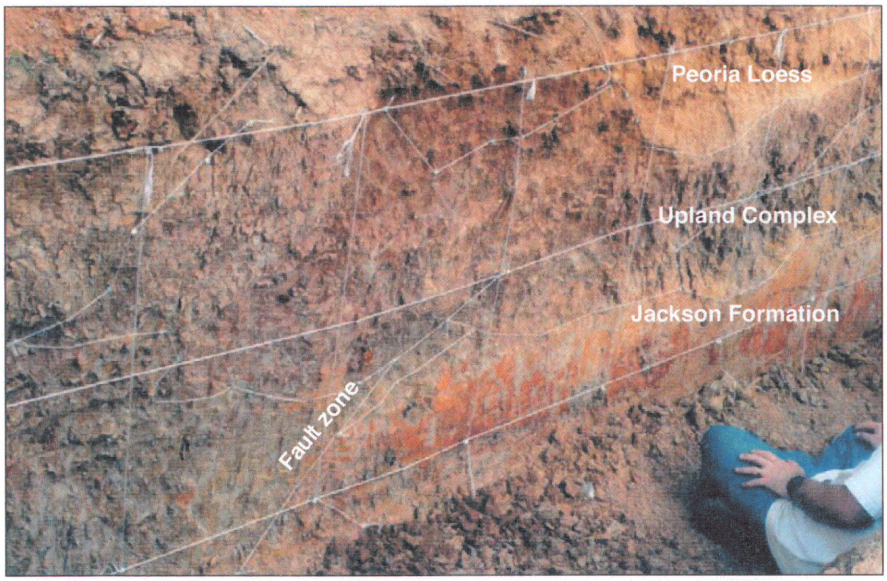
CROSS SECTIONS USED TO INFER INCISION RATE AND UPLIFT RATE

FIGURE 2.5-23 REV. 1



A) Photo of Trench 4 showing fault zone within Saline River source zone. Exposed fault possibly deforms Peoria Loess. Photo provided by R. Cox, 2003.



B) Photo of Trench 5 showing deformed Eocene Jackson Formation and possible deformation of Peoria Loess. Photo provided by R. Cox, 2003.

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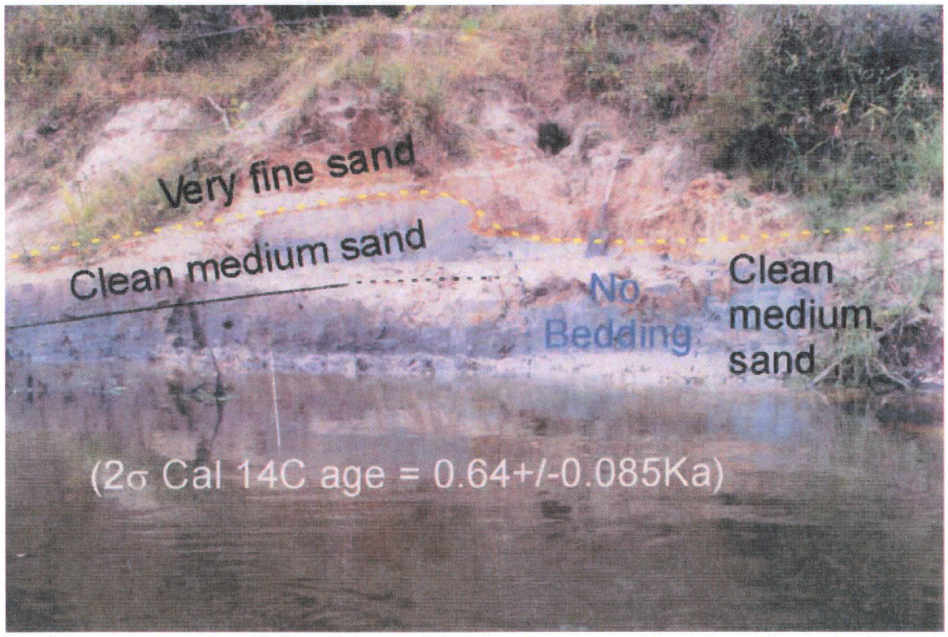
TRENCH EXPOSURES OF THE SALINE RIVER FAULT ZONE NEAR MONTICELLO, ARKANSAS

FIGURE 2.5-24 REV. 1

A) Subtle anticline (shown by yellow dashed line) exposed in banks of Saline River. Deweyville terrace surface approximately 20 feet above the river is in the background. Photograph provided by Randy Cox.



B) Close up view of Holocene sediments involved in folding. Photograph provided by Randy Cox.

Note: Site described in Cox et al. (2002).

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SALINE RIVER CUT BANK EXPOSURE
ALONG THE SALINE RIVER LINEAMENT

FIGURE 2.5-25 REV. 1

Note: small white features are sand blows.
From Cox, 2003.

0 0.6 mile

Scale

N

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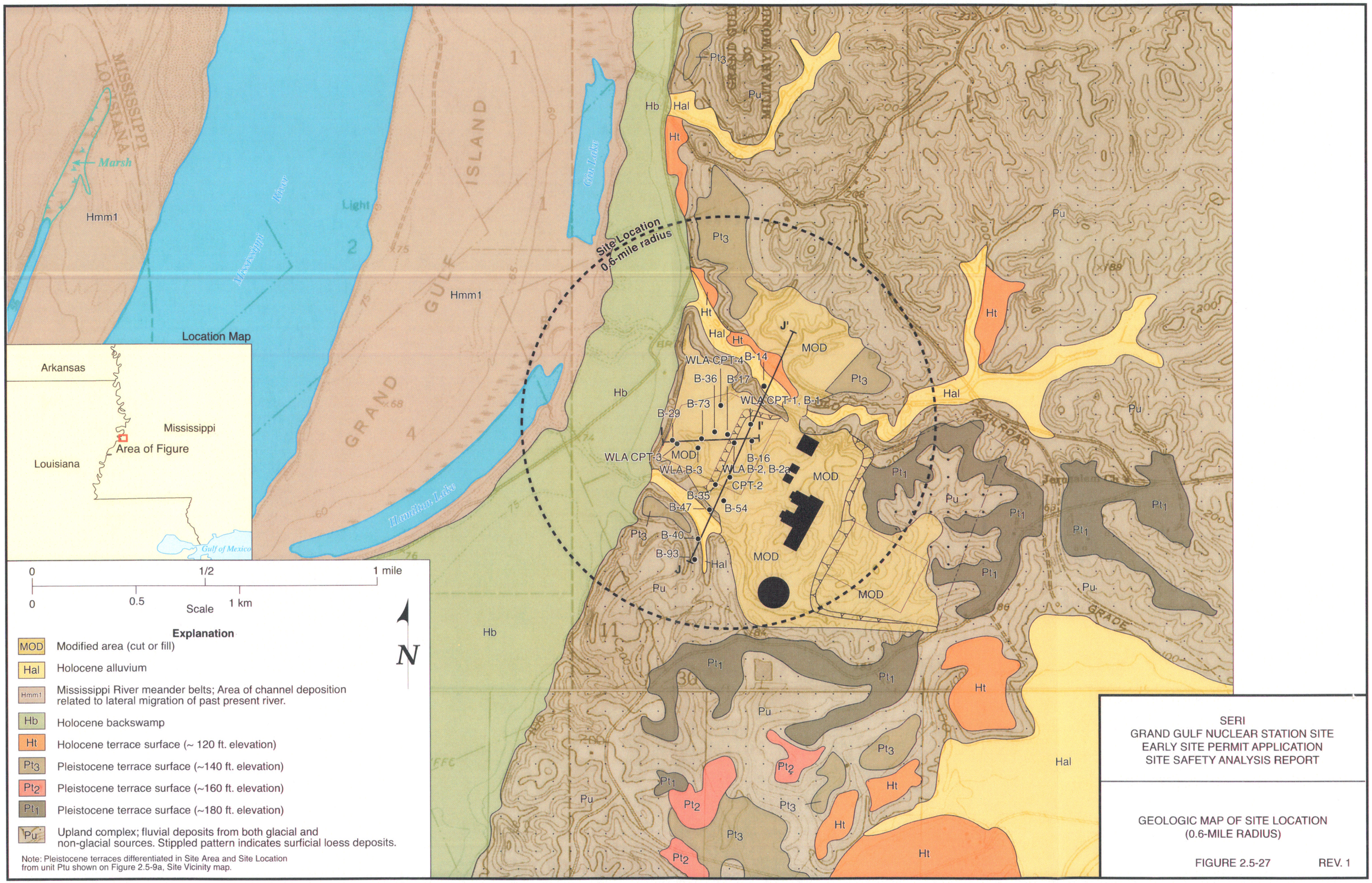
AERIAL PHOTOGRAPH OF LIQUEFACTION FEATURES NEAR MONTROSE, ASHLEY COUNTY, ARKANSAS

FIGURE 2.5-26 REV. 1



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GEOLOGIC MAP OF SITE LOCATION
(0.6-MILE RADIUS)

FIGURE 2.5-27 REV. 1

Photo showing upper and lower graded surfaces and cut slope at proposed location of new facility. View in photograph is towards the east.

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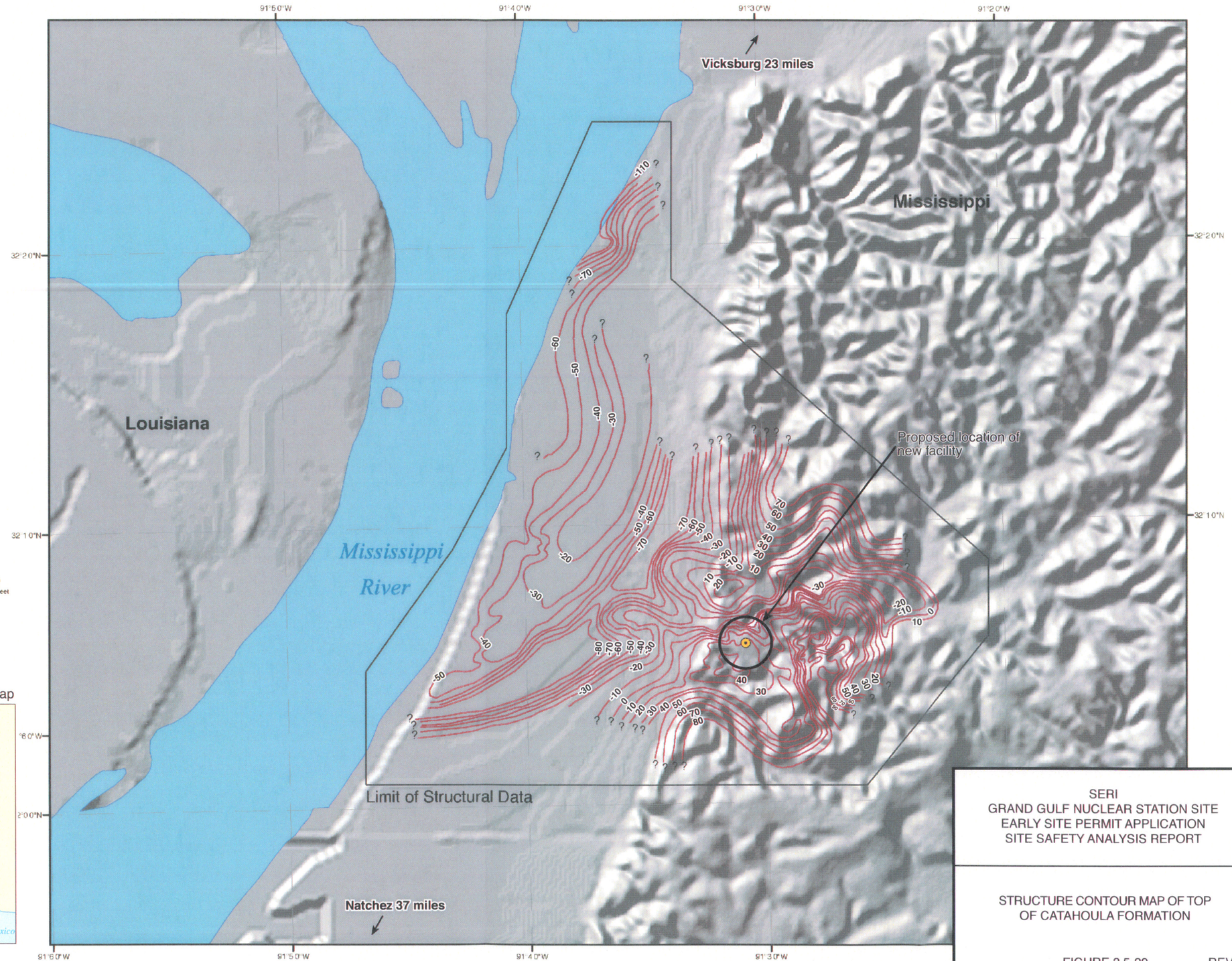
PHOTO OF PROPOSED LOCATION
OF NEW FACILITY

FIGURE 2.5-28 REV. 1

Explanation

Contour of top of Catahoula Formation; contour interval = 10 feet

Data source: Figure 2.5-30 of Ref. 16



N

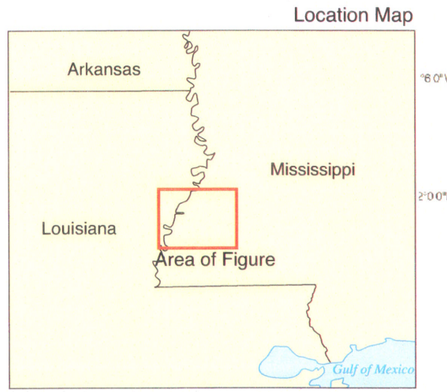
0 500 1,000 2,000 3,000 4,000 5,000 Feet

0 250 500 1,000 Meters

1" = 2,000

Scale

Location Map



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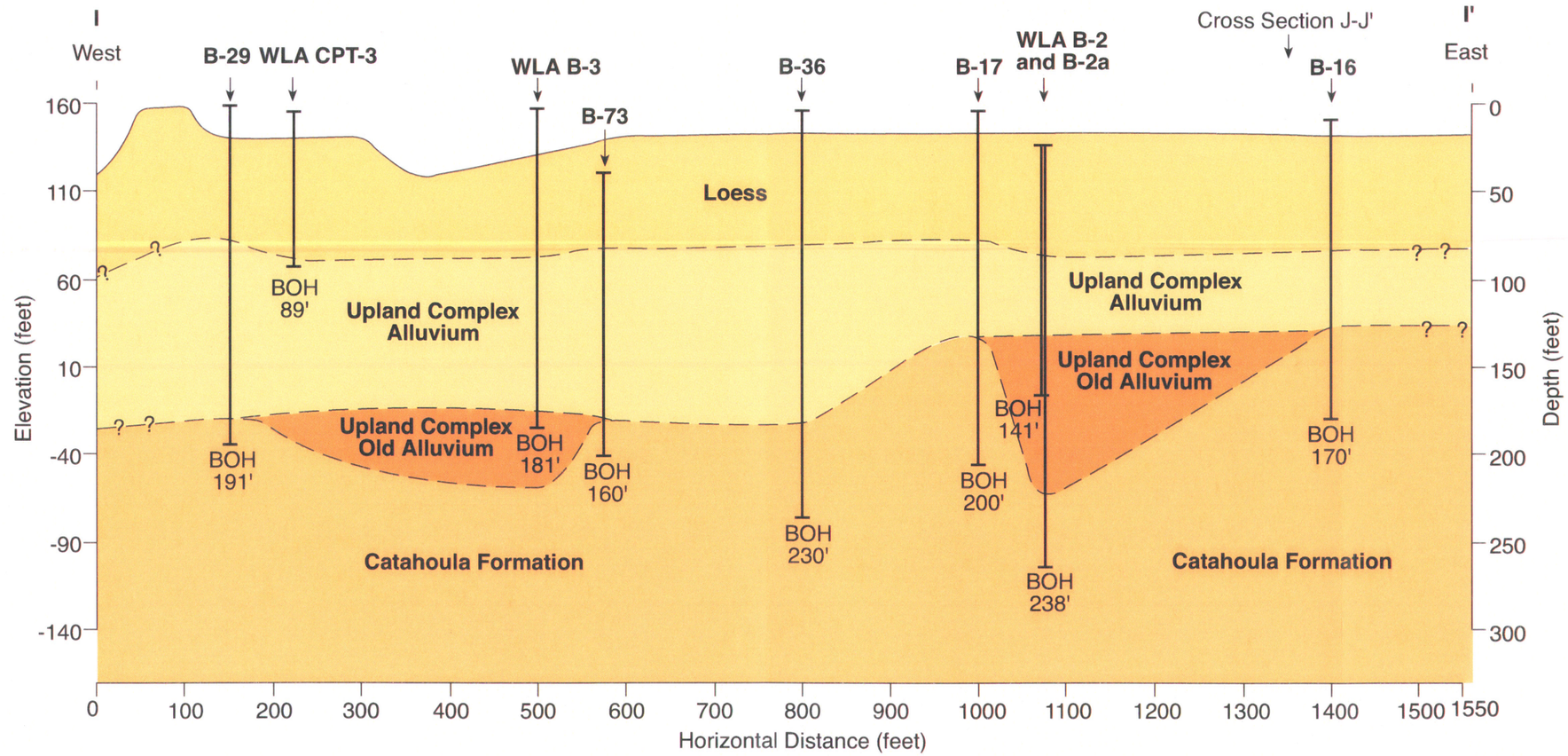
STRUCTURE CONTOUR MAP OF TOP OF CATAHOULA FORMATION

FIGURE 2.5-29 REV. 1



Note: Boring elevations above or below ground surface where projected to plane of section, or due to surface modifications.

Vertical exaggeration=2x

Location of cross section shown on Figure 2.5-27

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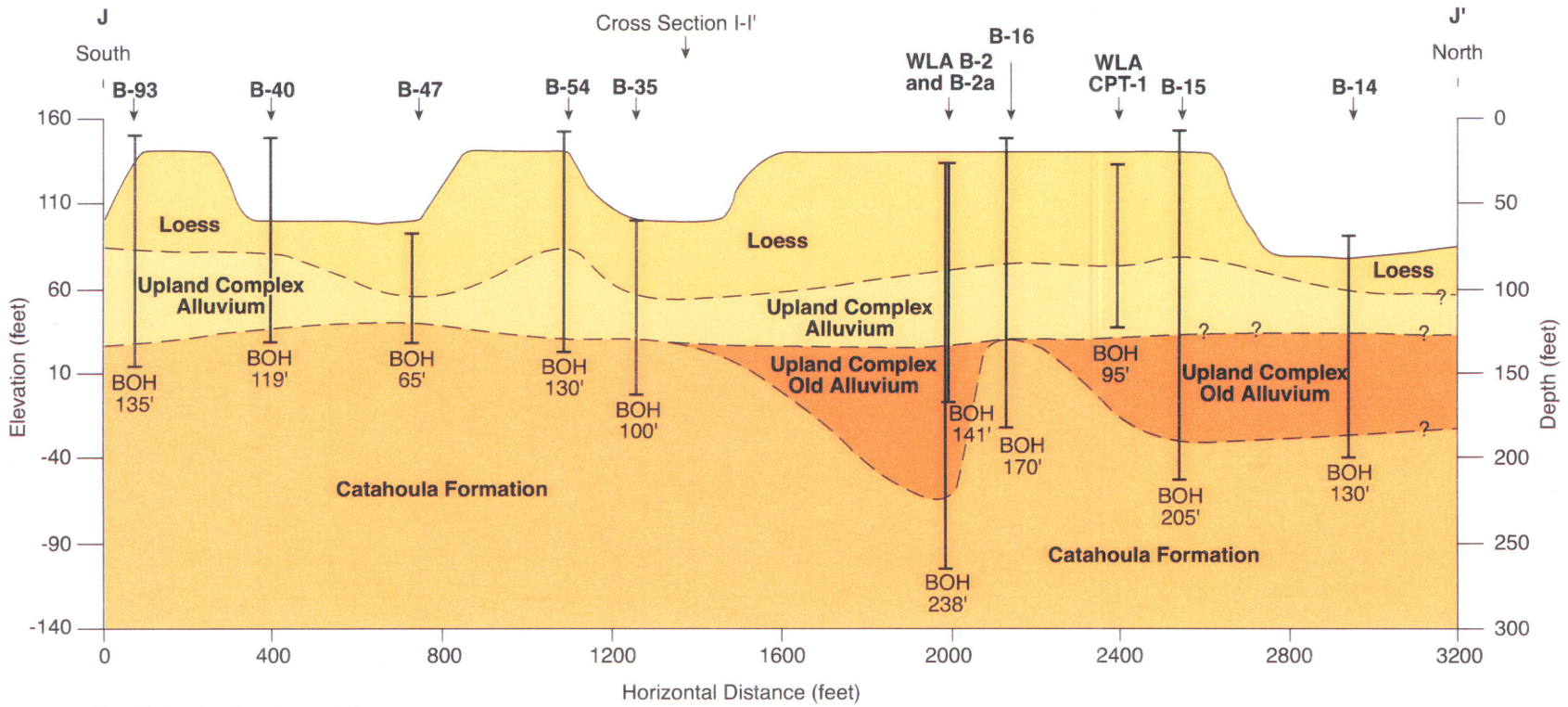
CROSS SECTION I-I' OF SITE LOCATION

FIGURE 2.5-30 REV. 1



Note: Boring elevations above or below ground surface where projected to plane of section, or due to surface modifications.

Vertical exaggeration=4x

Location of cross section shown on Figure 2.5-27

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CROSS SECTION J-J' OF SITE LOCATION

FIGURE 2.5-31 REV. 1

Explanation

Grand Gulf Site

Contour of top of Upland Complex Deposits; contour interval = 10 feet

Data source: Figure 2.5-28 of Ref. 16

N

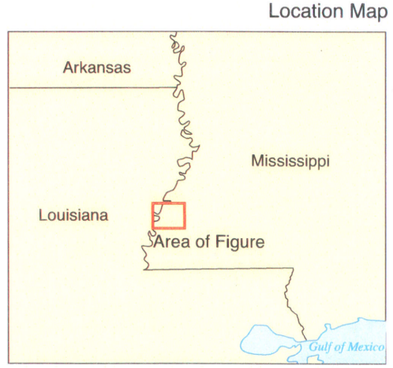
0 250 500 1,000 1,500 2,000 2,500 Feet

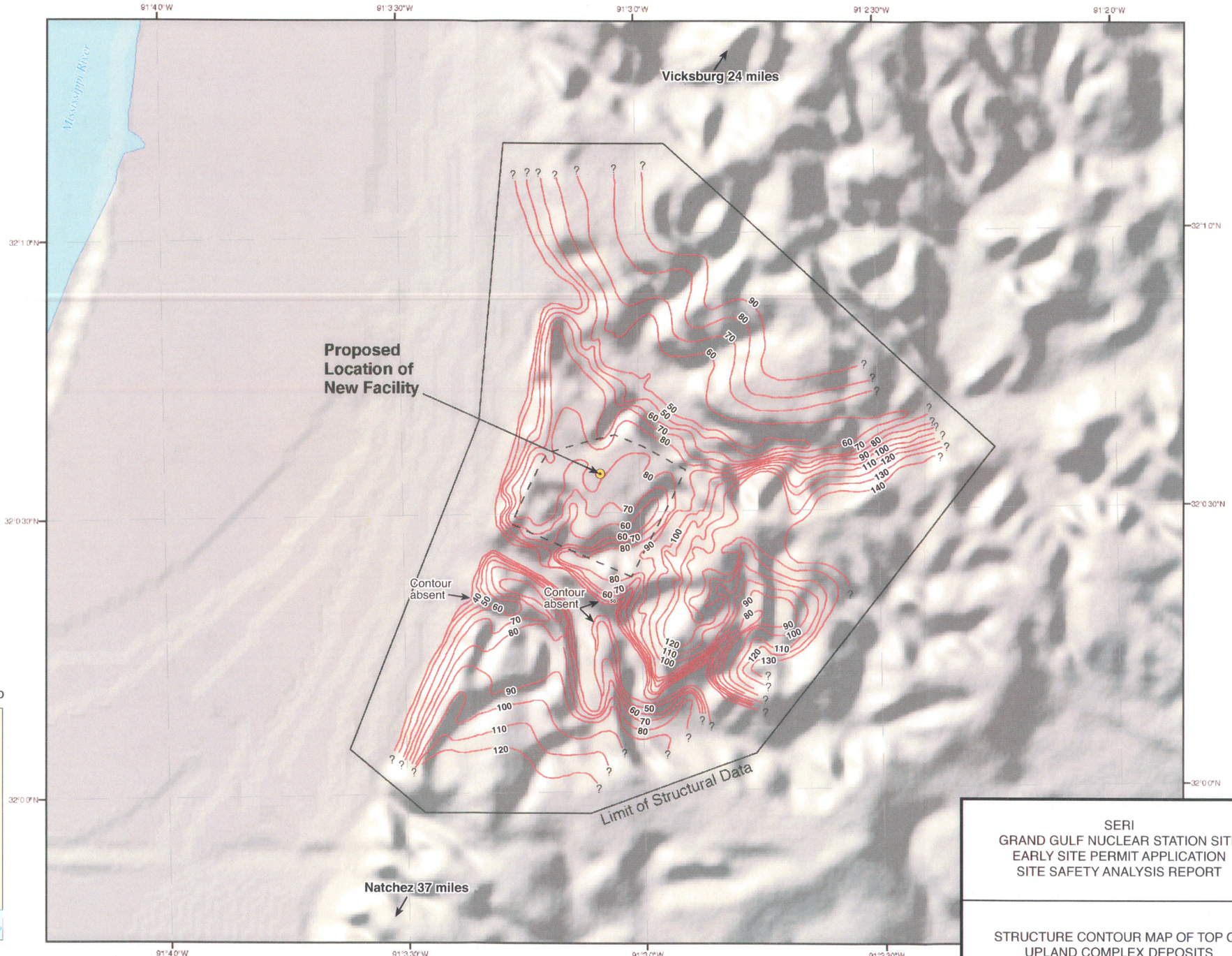
0 50 100 200 300 400 500 Meters

1" = 1,000

Scale

Location Map





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STRUCTURE CONTOUR MAP OF TOP OF UPLAND COMPLEX DEPOSITS

FIGURE 2.5-32 REV. 1

Photo showing example of possible Pleistocene terrace surface (elevation approximately 200 feet) in Site Area. Photo taken on south side of Bayou Pierre, near Port Gibson.

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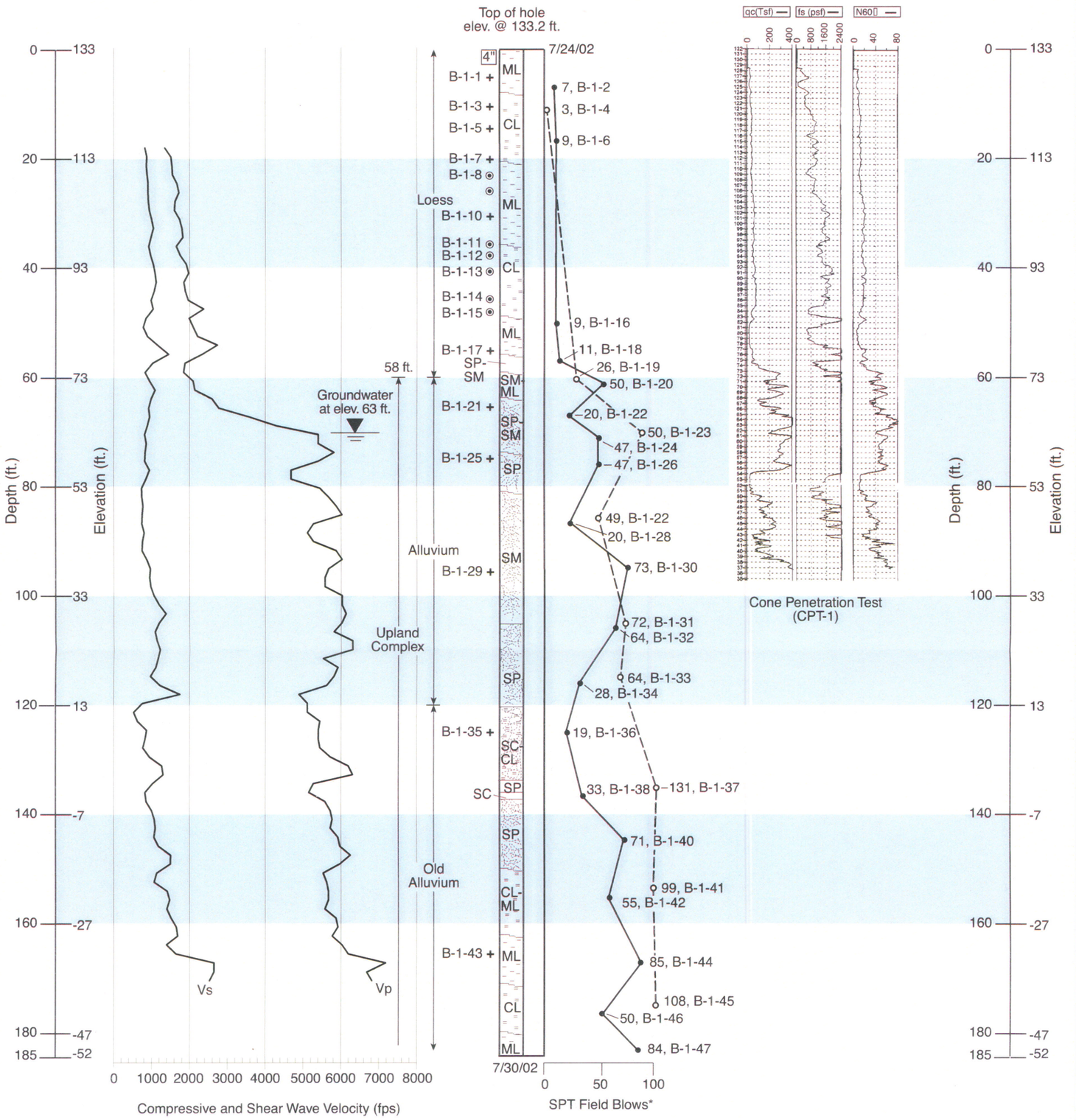
PHOTO OF POSSIBLE PLEISTOCENE
TERRACE IN SITE AREA

FIGURE 2.5-33 REV. 1



Notes: 1. Downhole geophysics in bald hole preformed by T. Martin of Geovision.

2. Groundwater level interpreted from geophysical log.

3. Vs = Shear Wave Velocity
Vp = Compressional Wave Velocity

4. CPT-1 is located approximately 10 feet northeast of B-1.

*Blows determined with a 140 lb. hammer, 30" drop.

Explanation

- • SPT sampler
- ◉ SPT sampler (pushed)
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby Sampler (pushed)
- 4" Mud rotary hole diameter

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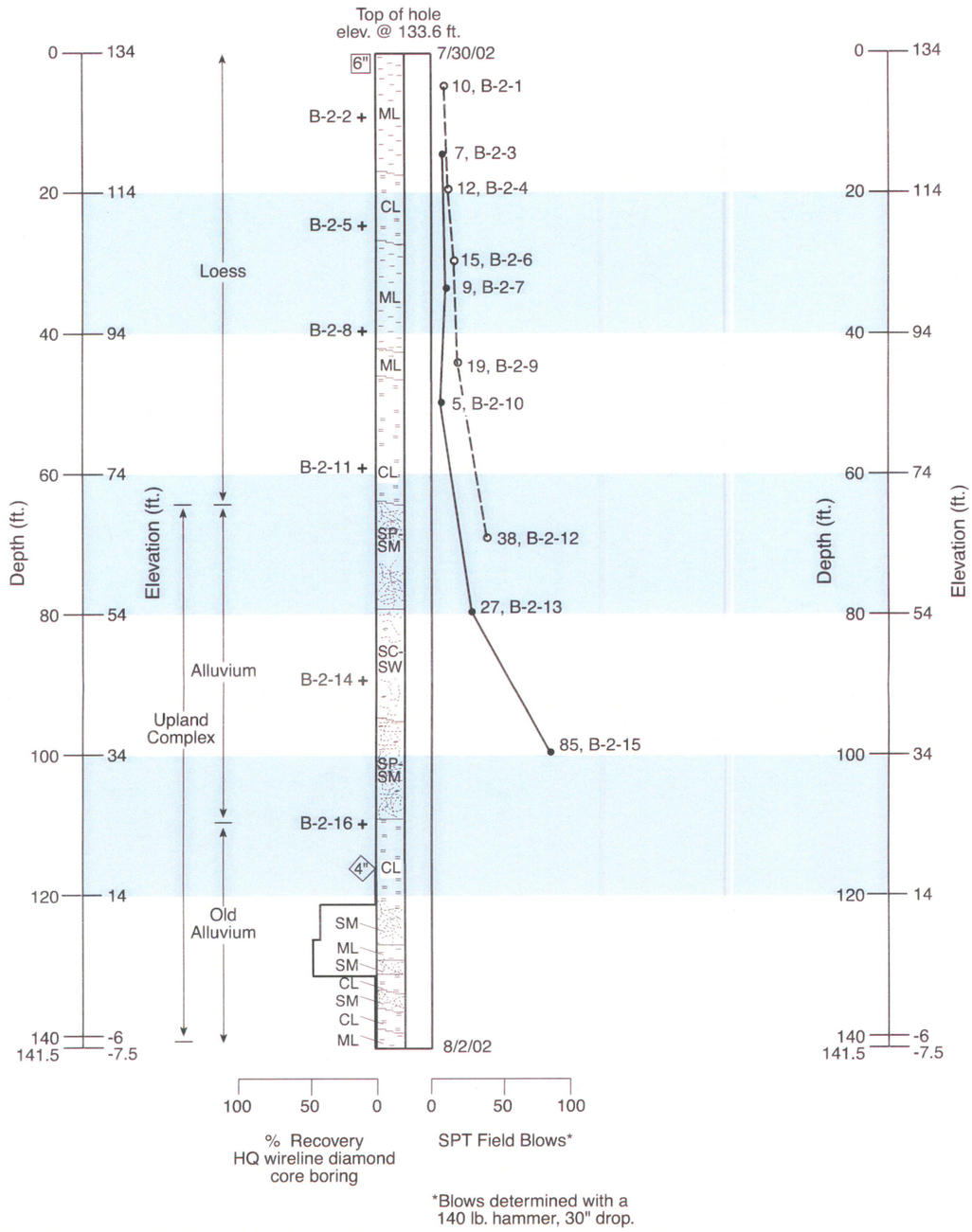
BORING SUMMARY SHEET,
BORING 1

FIGURE 2.5-34 REV. 1



Explanation

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby Sampler (pushed)
- 6" Mud rotary hole diameter
- 4" Wireline corehole diameter

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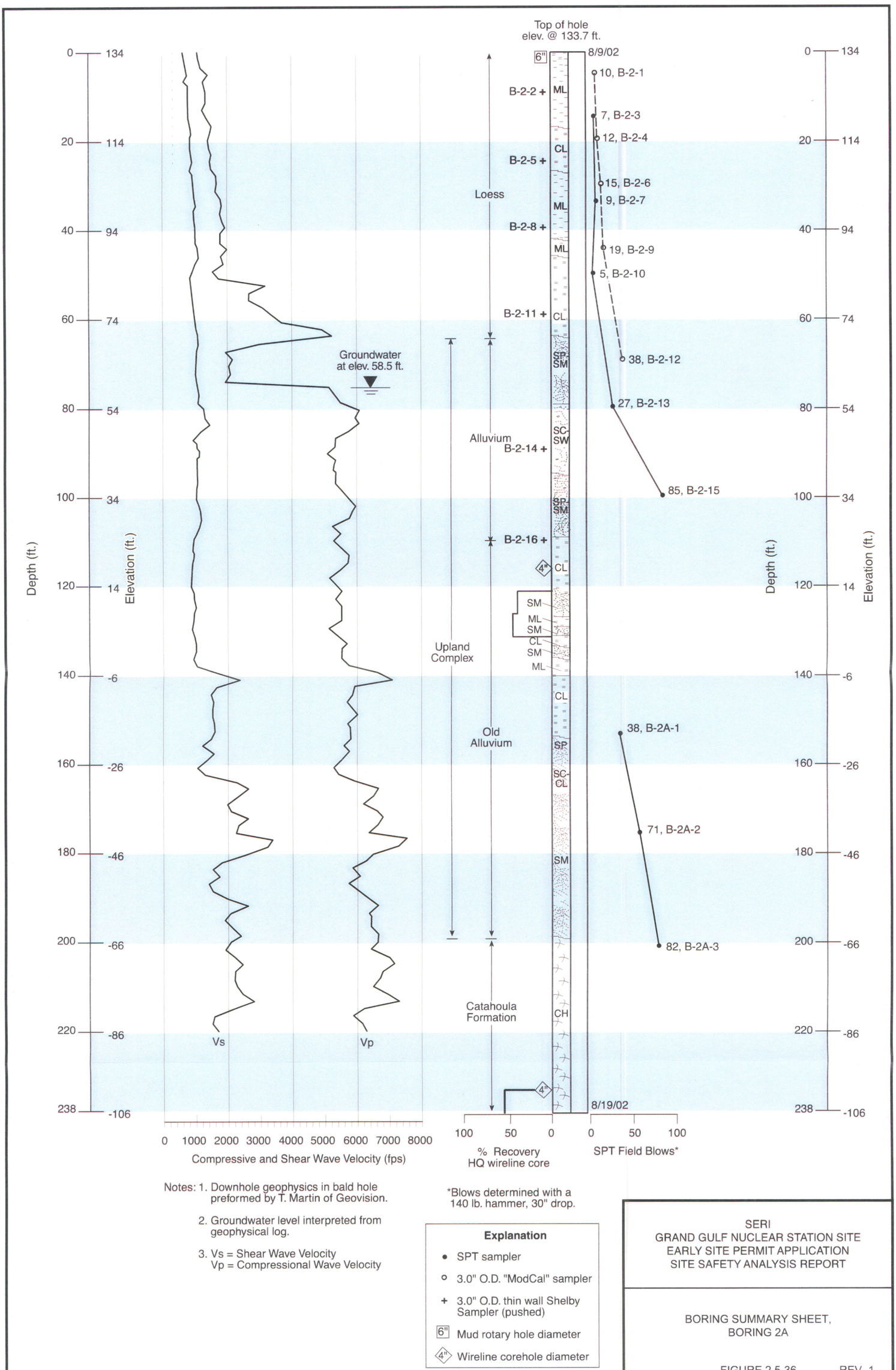
BORING SUMMARY SHEET,
BORING 2

FIGURE 2.5-35 REV. 1



Notes: 1. Downhole geophysics in bald hole preformed by T. Martin of Geovision.

2. Groundwater level interpreted from geophysical log.

3. Vs = Shear Wave Velocity
Vp = Compressional Wave Velocity

*Blows determined with a 140 lb. hammer, 30" drop.

Explanation

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby Sampler (pushed)
- 6" Mud rotary hole diameter
- 4" Wireline corehole diameter

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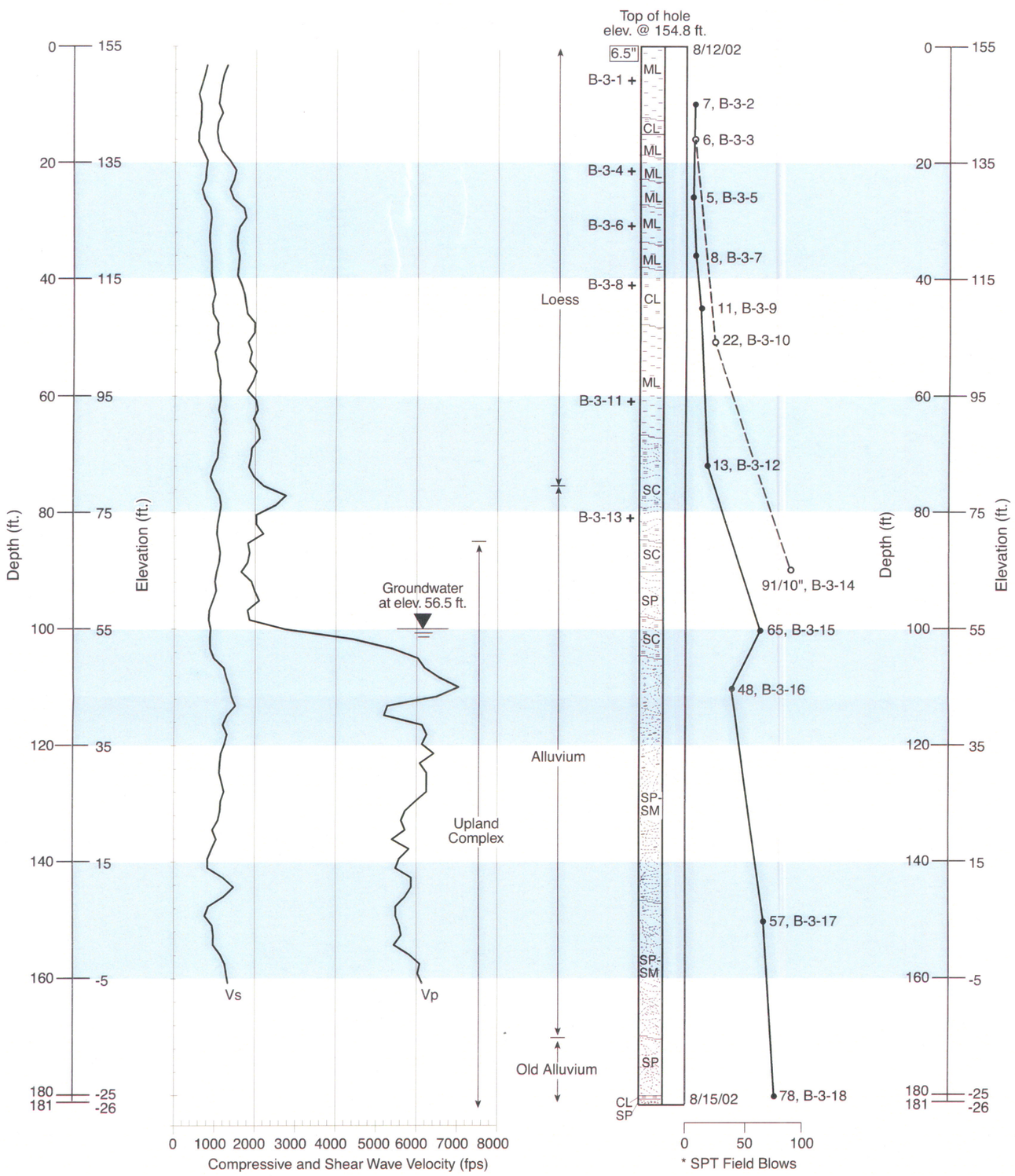
BORING SUMMARY SHEET,
BORING 2A

FIGURE 2.5-36 REV. 1



Notes: 1. Downhole geophysics in bald hole preformed by T. Martin of Geovision.

2. Groundwater level interpreted from geophysical log.

3. Vs = Shear Wave Velocity
Vp = Compressional Wave Velocity

* Blows determined with a 140 lb. hammer, 30" drop.

Explanation

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby Sampler (pushed)
- 6.5" Mud rotary hole diameter

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BORING SUMMARY SHEET,
BORING 3

FIGURE 2.5-37 REV. 1

Explanation

- Grand Gulf Site
- Major city
- Major river
- Interstate highway
- State boundary

Fault Zones

- Quaternary/Holocene
- Possible Quaternary
- Miocene
- Cretaceous
- Mississippian/Pennsylvanian
- Proterozoic
- Undifferentiated
  - likely Paleozoic in North
  - likely Miocene-Pliocene in South

Seismic Activity (1777 - 1984)
(Seismicity for same period as EPRI, 1986)
Magnitude

- 3.3 - 3.9
- 4.0 - 4.9
- 5.0+

Seismic Activity (1985 - 2002)
(Seismicity for period since EPRI, 1986)
Magnitude

- 3.3 - 3.9
- 4.0 - 4.9
- 5.0+

Seismicity sources include USGS, NCEER, Center for Earthquake Research and Information.

- Fort Payne, Alabama earthquake, April 29, 2003, Mw=4.9

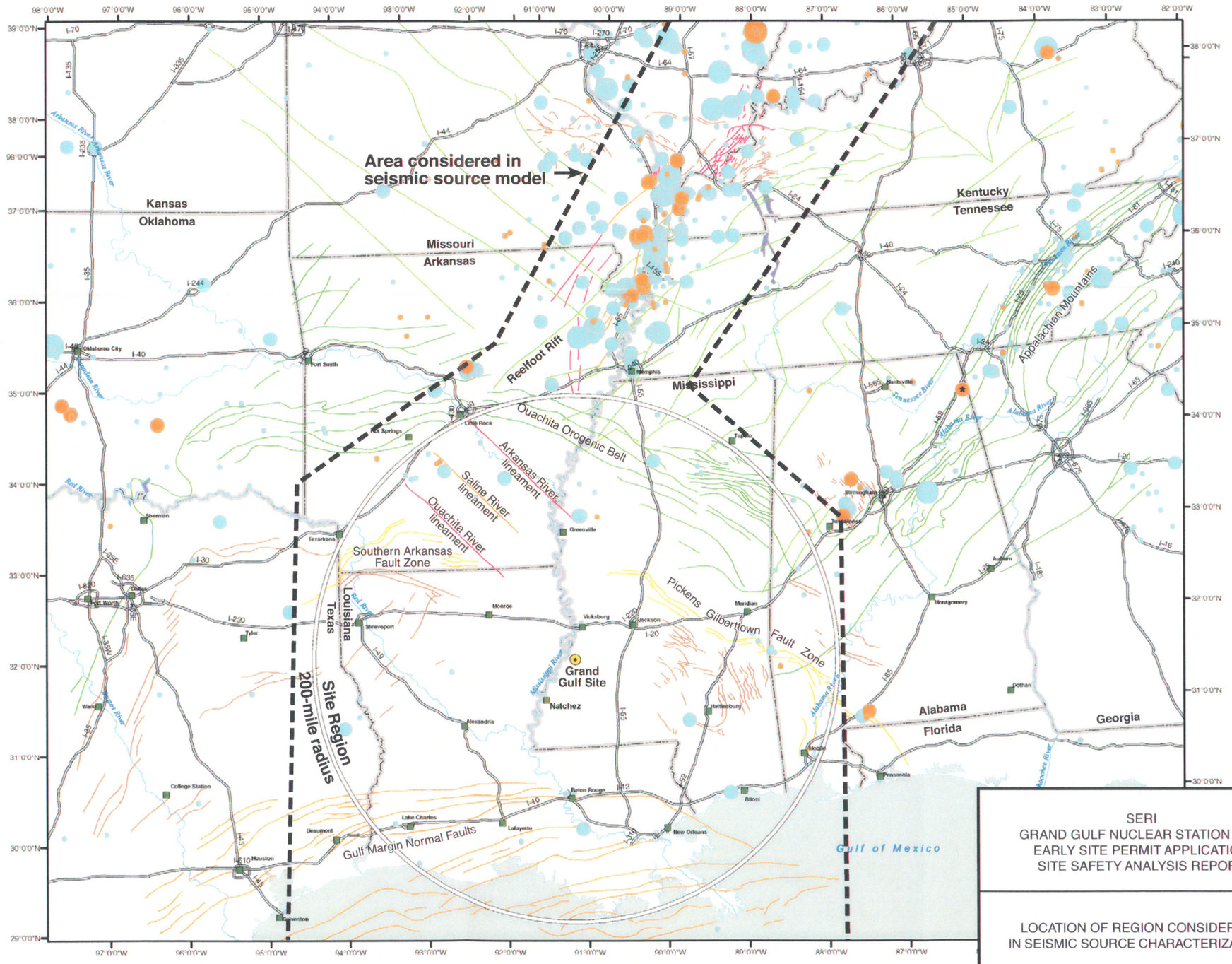
N

0 25 50 100 150 Miles

0 25 50 100 150 Kilometers

Scale

Location Map



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LOCATION OF REGION CONSIDERED IN SEISMIC SOURCE CHARACTERIZATION

FIGURE 2.5-38 REV. 1