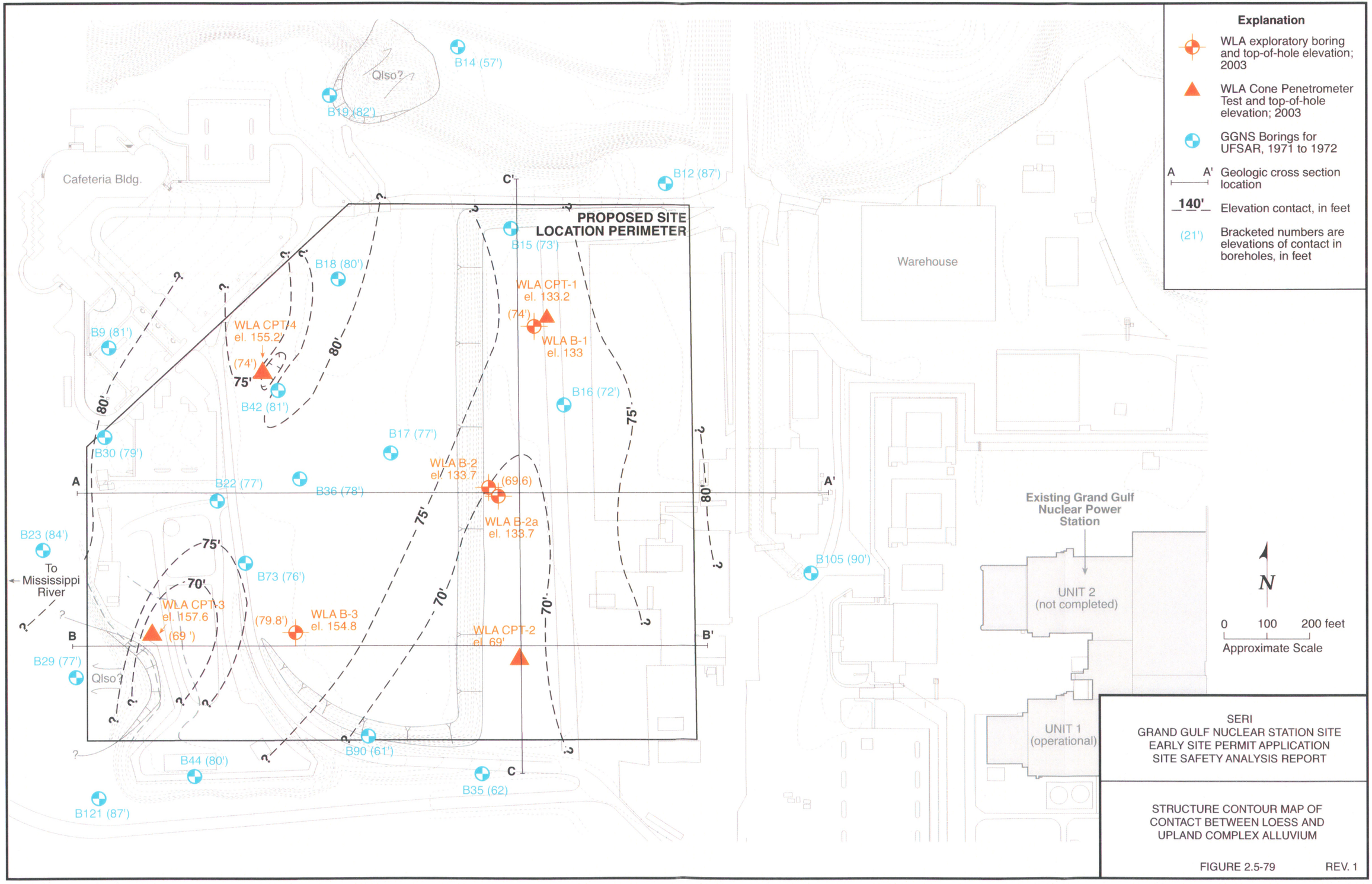

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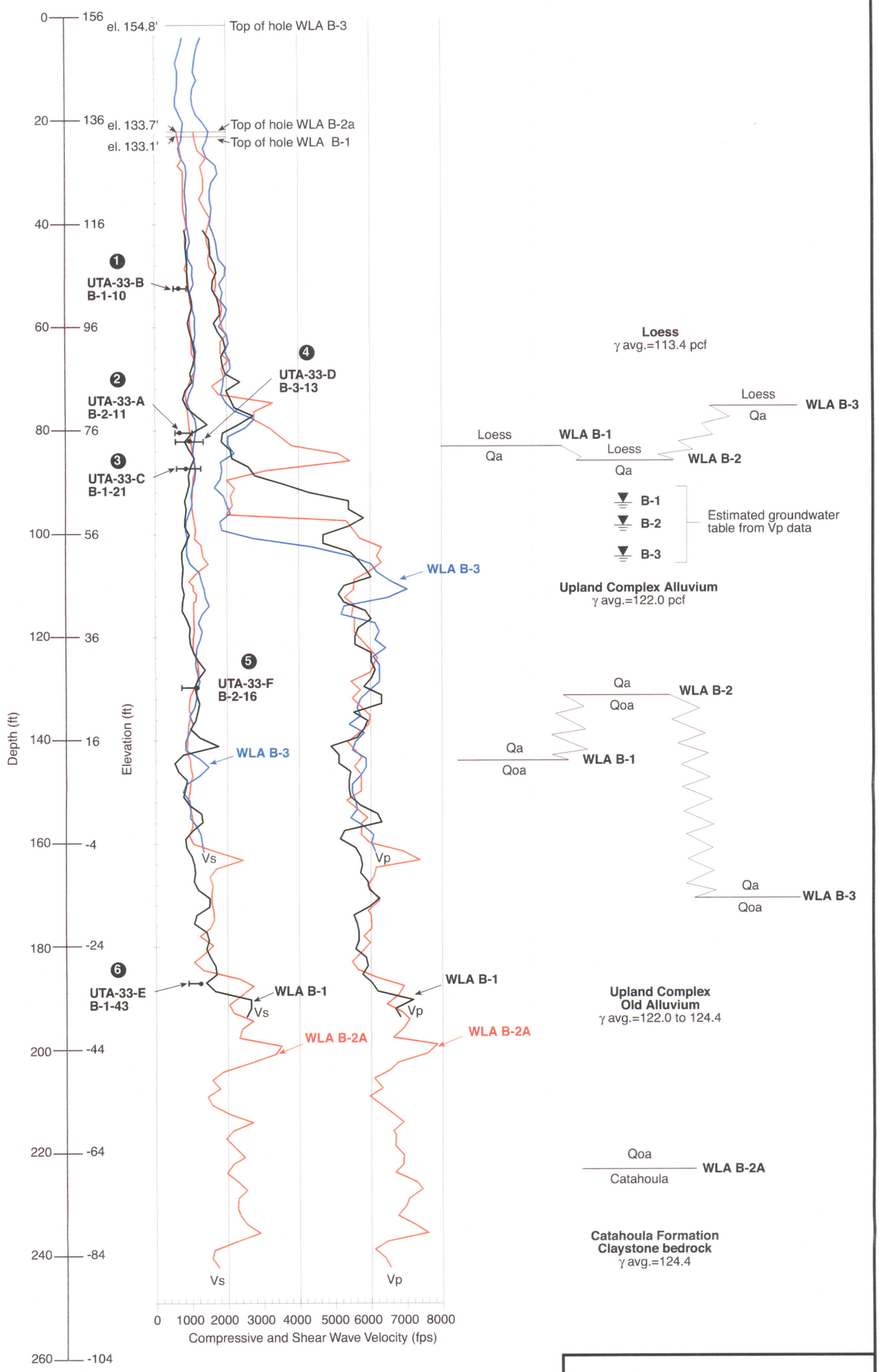
STRUCTURE CONTOUR MAP OF CONTACT BETWEEN LOESS AND UPLAND COMPLEX ALLUVIUM

FIGURE 2.5-79 REV. 1



Explanation

1 Location of UTEXAS dynamic test sample, and sample number UTA-33-B-B-1-10.

⊢● Range of laboratory determined shear wave velocity for UTEXAS test specimens. The range reflects variation in velocity under different confining pressures. Circle points indicate velocity determined at estimated in situ confining stress levels.

γ avg. Estimated average in situ unit weight for geologic layer, in pounds per cubic foot.

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SUMMARY OF P-S VELOCITY PROFILES

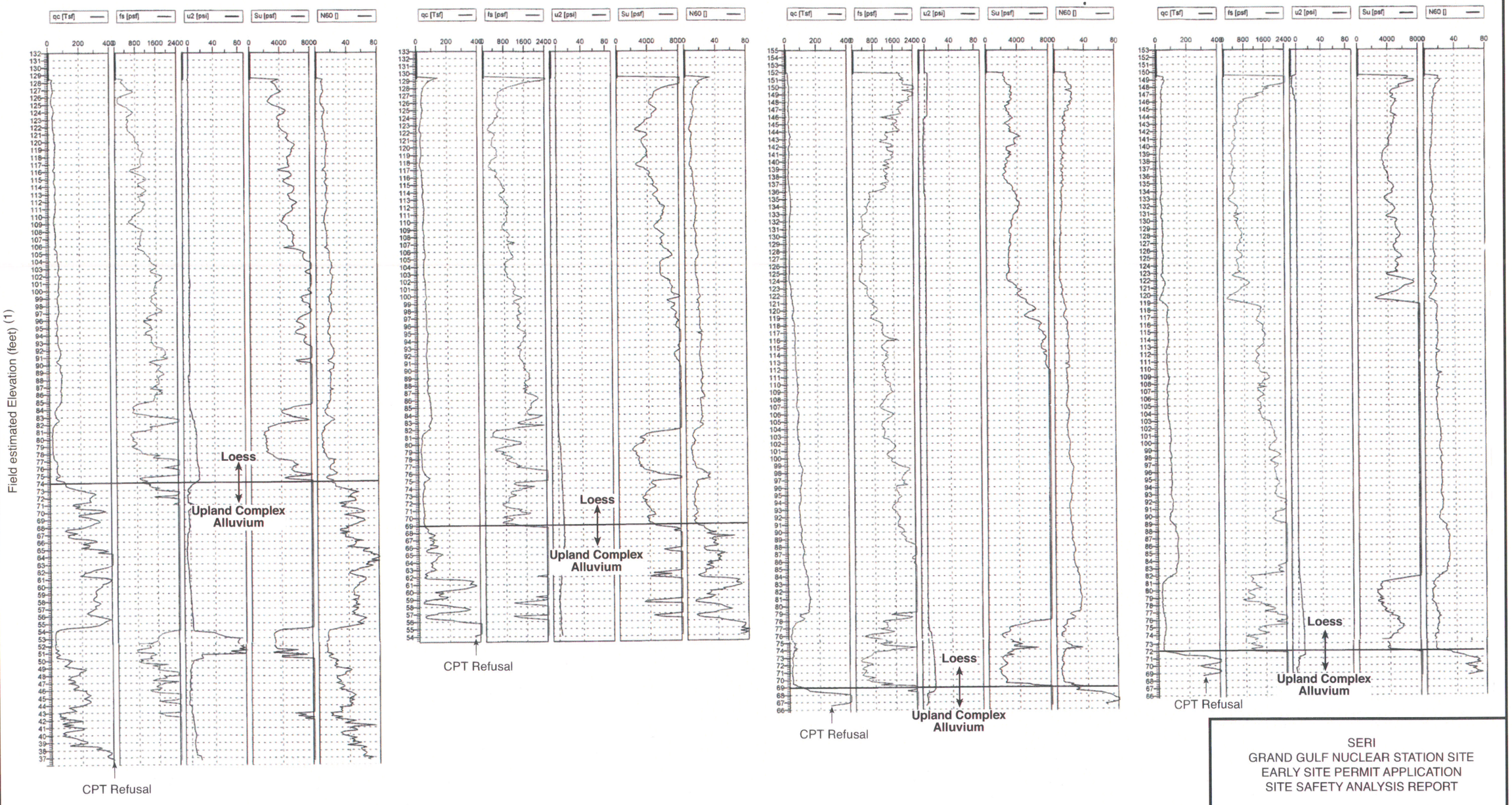
FIGURE 2.5-80 REV. 1

WLA CPT-1 Top of hole elevation 133.2 feet

WLA CPT-2 Top of hole elevation 133.9 feet

WLA CPT-3 Top of hole elevation 157.6 feet

WLA CPT-4 Top of hole elevation 155.2 feet



Note: (1) Field estimated elevations are shown on logs. Actual surveyed top of hole elevations are noted at the top of the logs, and supersede the field estimated elevations.

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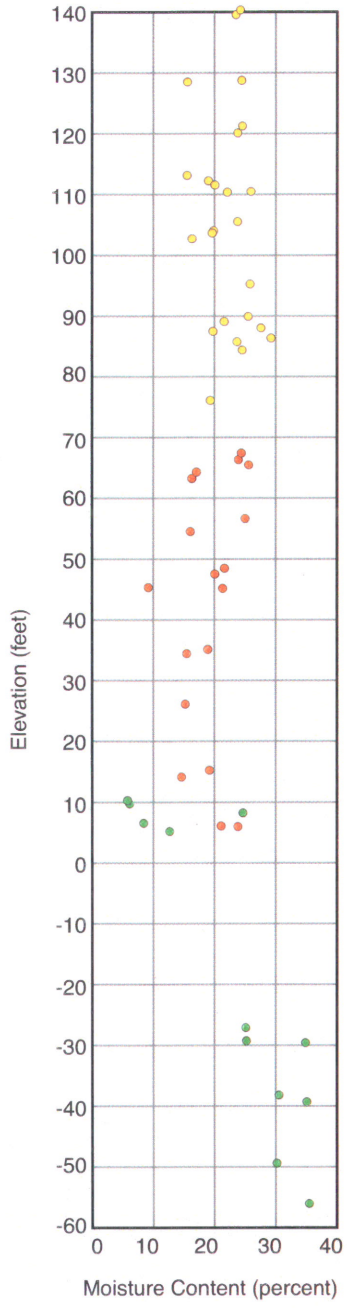
CONE PENETROMETER TEST (CPT)
SUMMARY LOGS

FIGURE 2.5-81 REV. 1



Explanation

- Loess
- Alluvium
- Old Alluvium

Upland Complex

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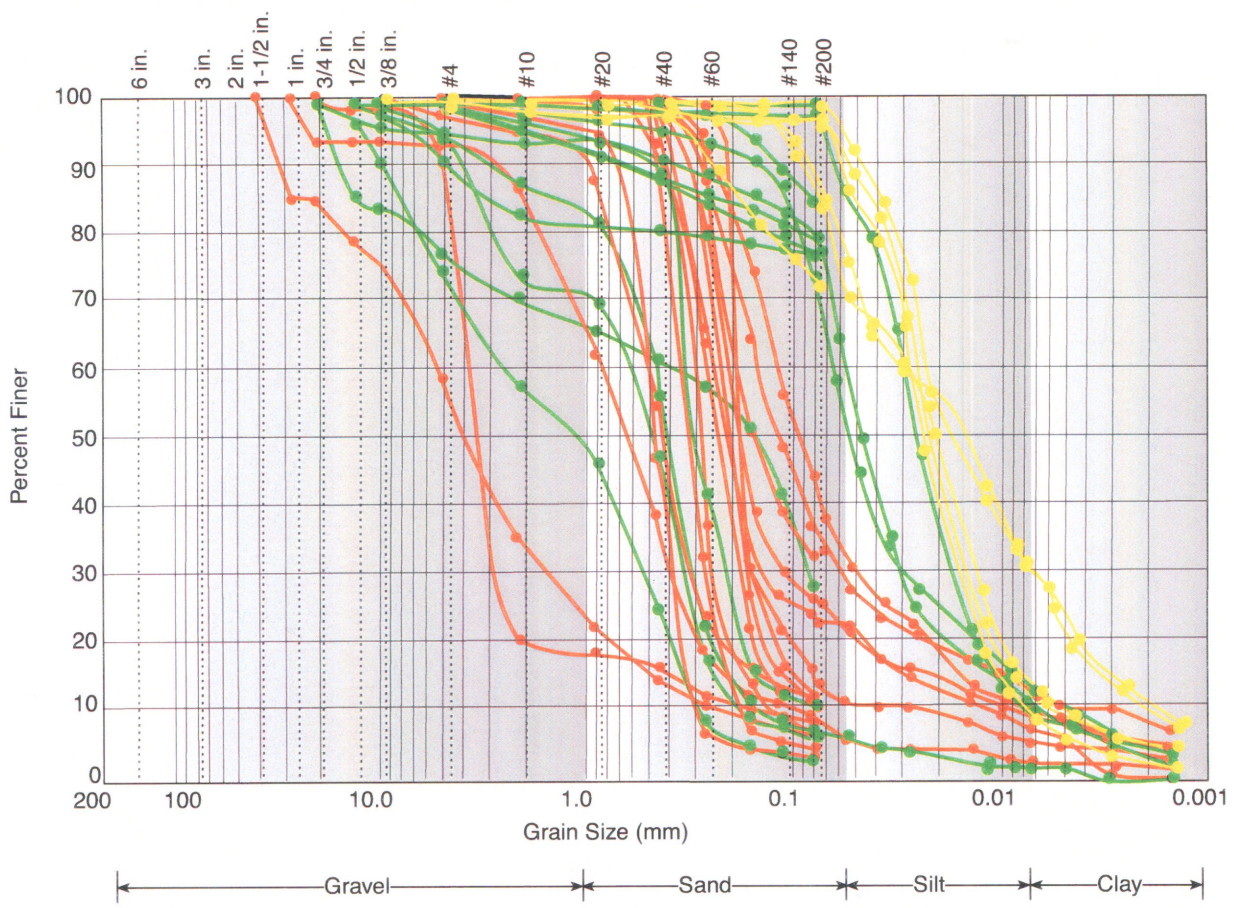
MOISTURE CONTENT OF GEOLOGIC UNITS

FIGURE 2.5-82 REV. 1



Explanation

- Loess
- Alluvium
- Old alluvium

Upland Complex

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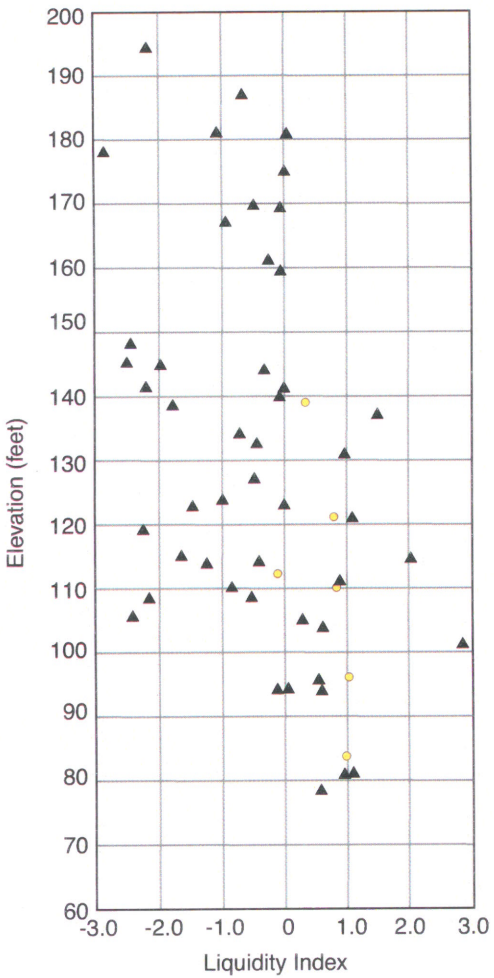
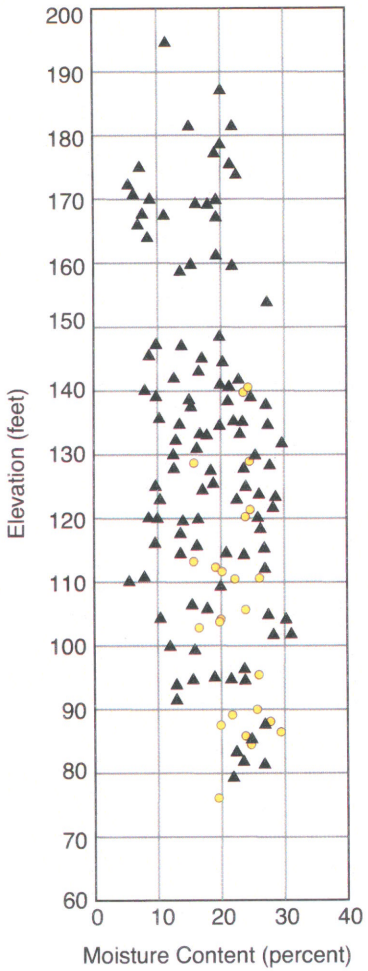
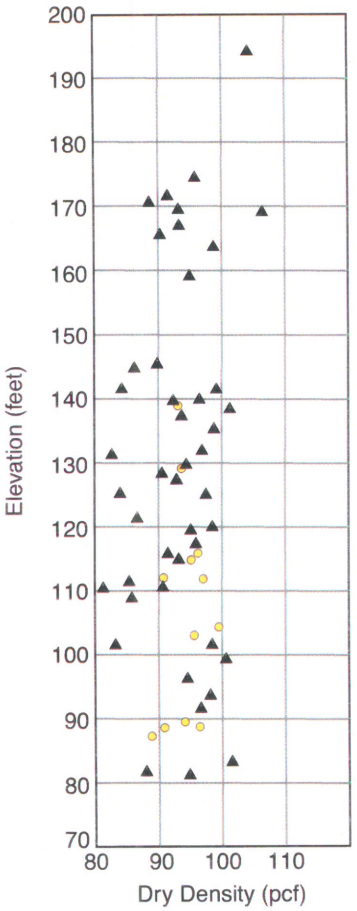
SIEVE ANALYSES GRAIN SIZE PLOTS

FIGURE 2.5-83 REV. 1







Explanation

- ▲ UFSAR data - Loess
- ○ ESP data - Loess

Note: pcf= pounds per cubic foot.

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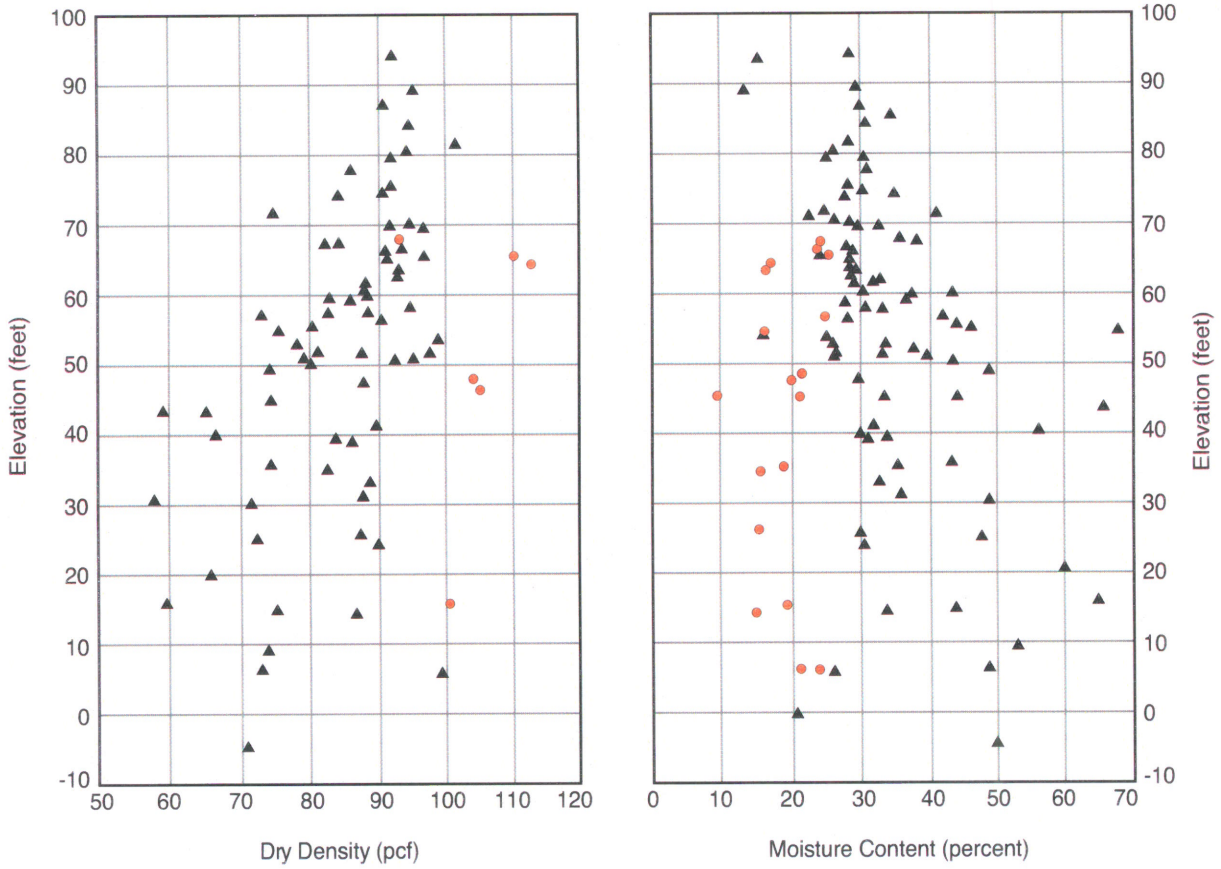
COMPARISON OF
STATIC PROPERTIES OF LOESS

FIGURE 2.5-84 REV. 1



Explanation

- ▲ UFSAR data - "Terrace Alluvium"
- ● ESP data - Upland Complex Alluvium

Note: pcf = pounds per cubic foot.

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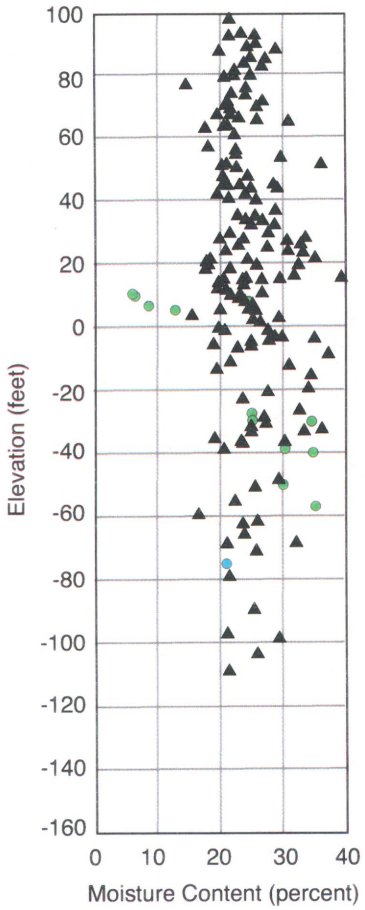
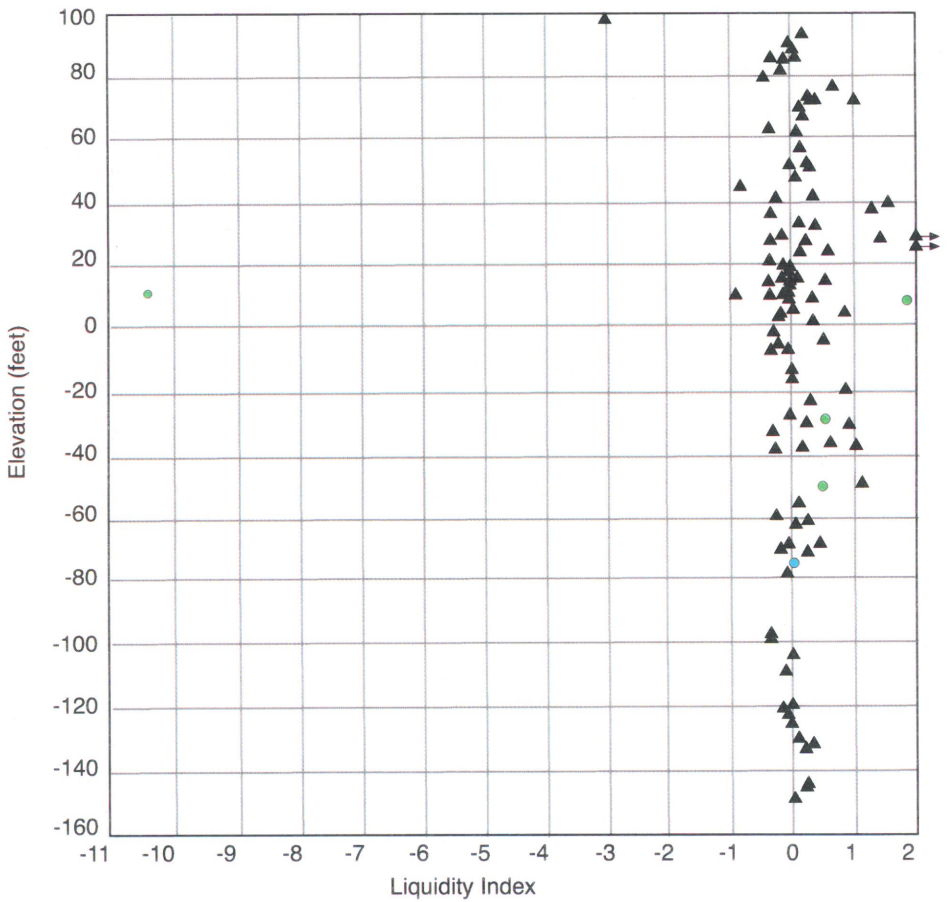
COMPARISON OF STATIC PROPERTIES
OF UPLAND COMPLEX ALLUVIUM

FIGURE 2.5-85 REV. 1





Explanation

- Upland Complex - old alluvium (ESP)
- Catahoula (ESP)
- Catahoula (UFSAR)

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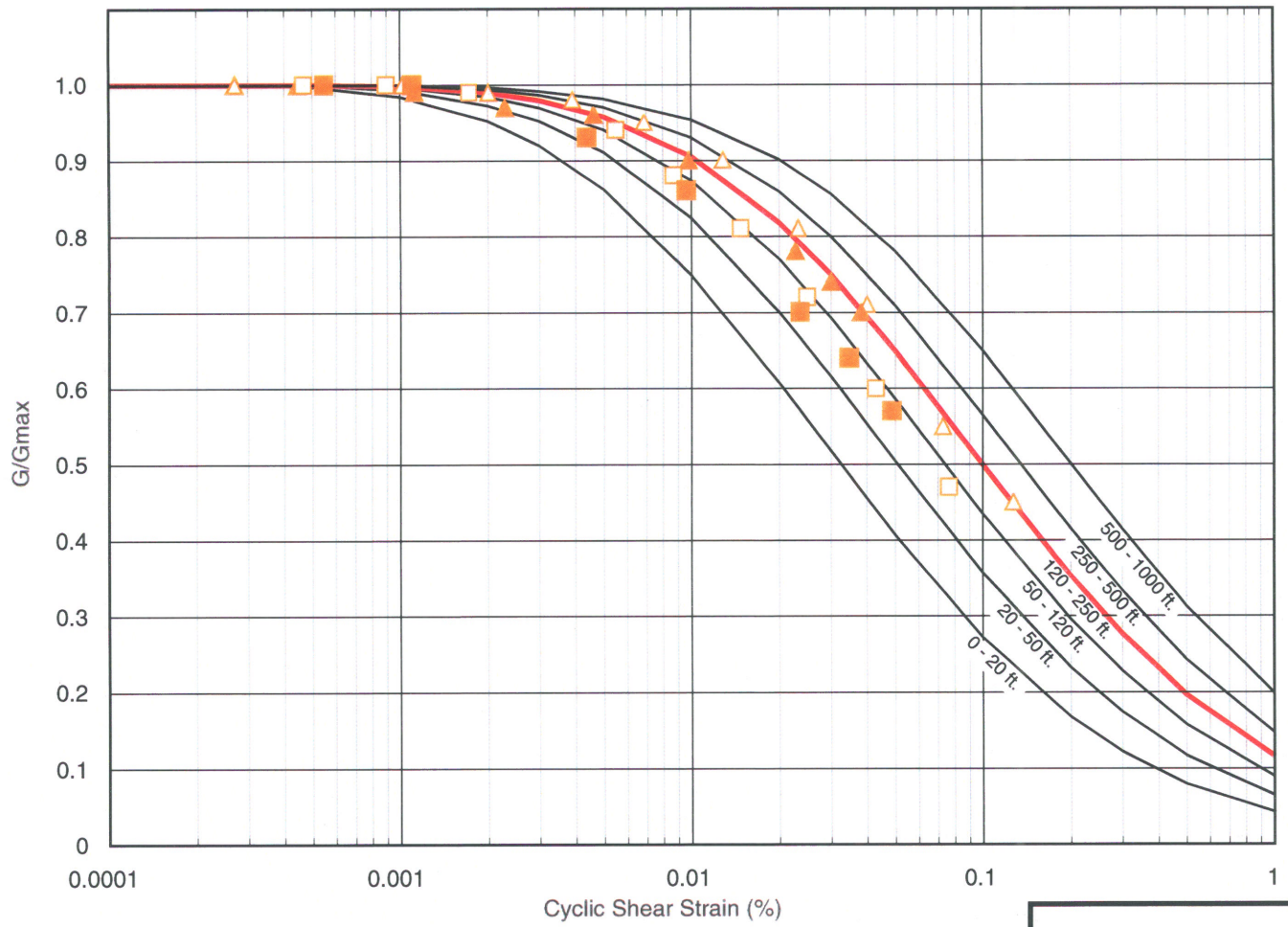
COMPARISON OF STATIC PROPERTIES
OF UPLAND COMPLEX OLD ALLUVIUM

FIGURE 2.5-86 REV. 1



Explanation

120 - 250 ft. Selected curve

Loess

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
△	RC-2	4.32 ksf	B-2-11	59 feet
▲	TS-2	4.32 ksf	B-2-11	59 feet
□	RC-1	2.30 ksf	B-1-10	30 feet
■	TS-1	2.30 ksf	B-1-10	30 feet

Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

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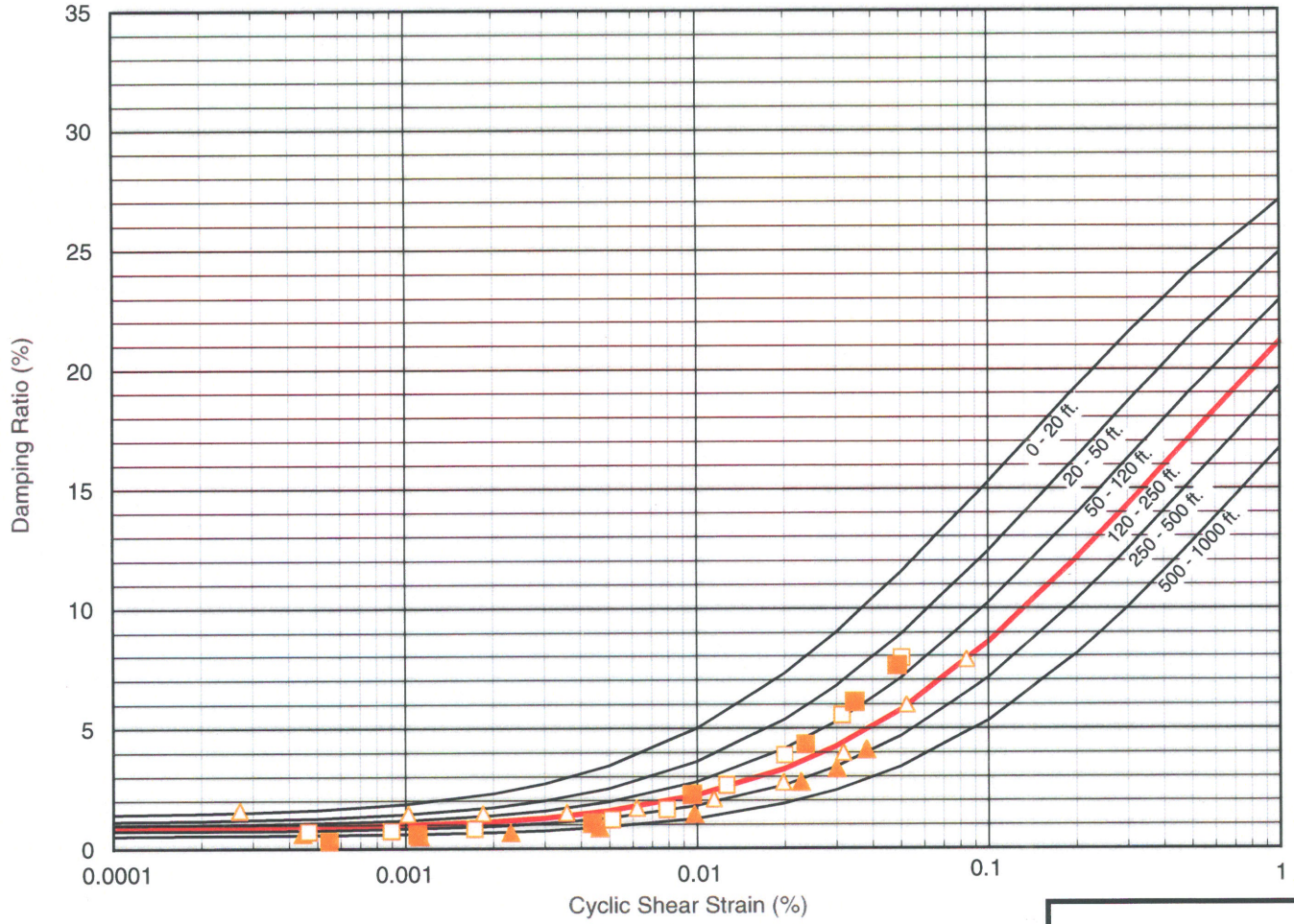
SHEAR MODULUS REDUCTON CURVES FOR LOESS

FIGURE 2.5-87 REV. 1



Explanation

120 - 250 ft. Selected curve
Loess

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
△	RC-2	4.32 ksf	B-2-11	59 feet
▲	TS-2	4.32 ksf	B-2-11	59 feet
□	RC-1	2.30 ksf	B-1-10	30 feet
■	TS-1	2.30 ksf	B-1-10	30 feet

Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

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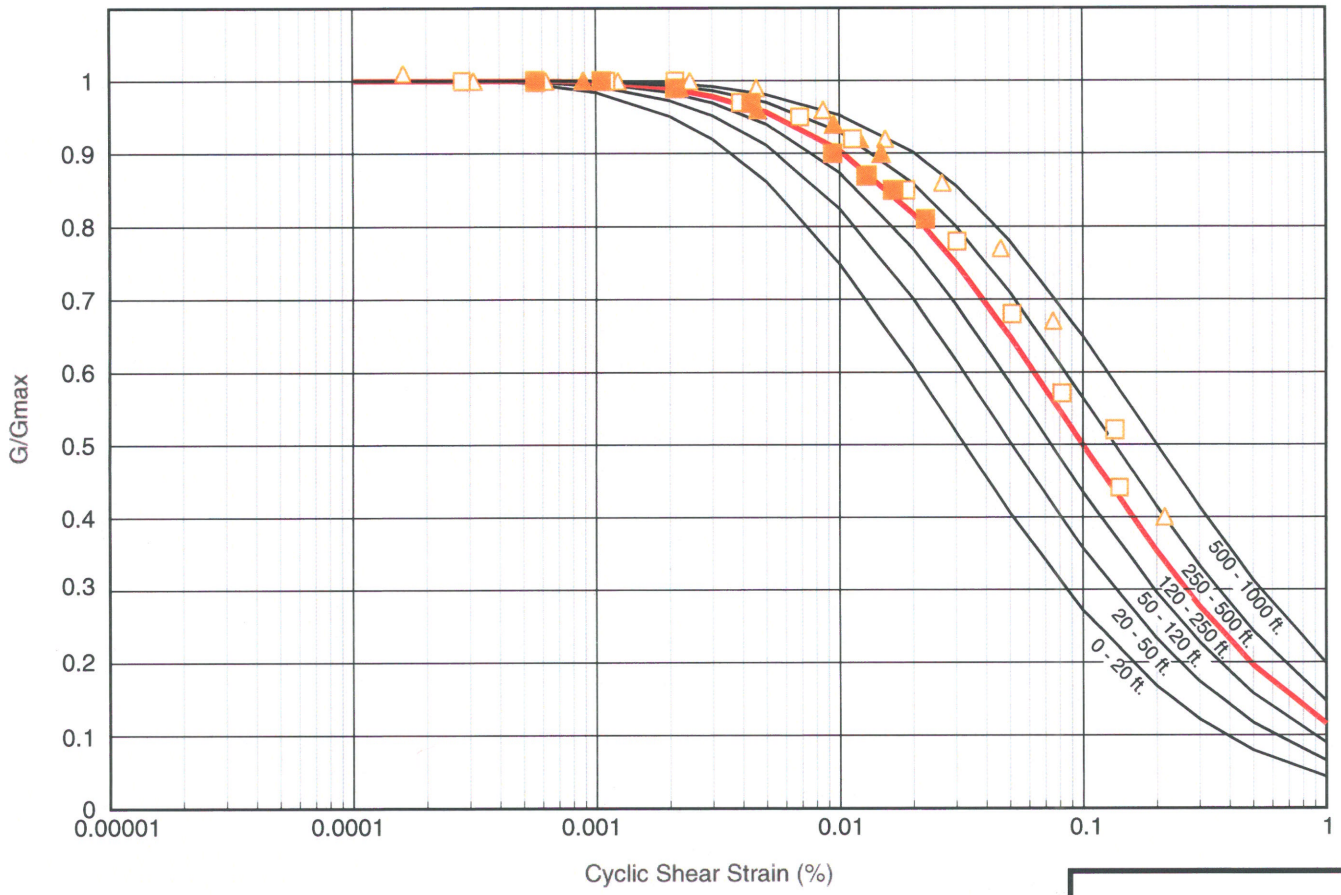
DAMPING RATIO CURVES
FOR LOESS

FIGURE 2.5-88 REV. 1



Explanation

120 - 250 ft. Selected curve

Loess

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
△	RC-2	17.28 ksf	B-2-11	59 feet
▲	TS-2	17.28 ksf	B-2-11	59 feet
□	RC-1	9.22 ksf	B-1-10	30 feet
■	TS-1	9.22 ksf	B-1-10	30 feet

Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

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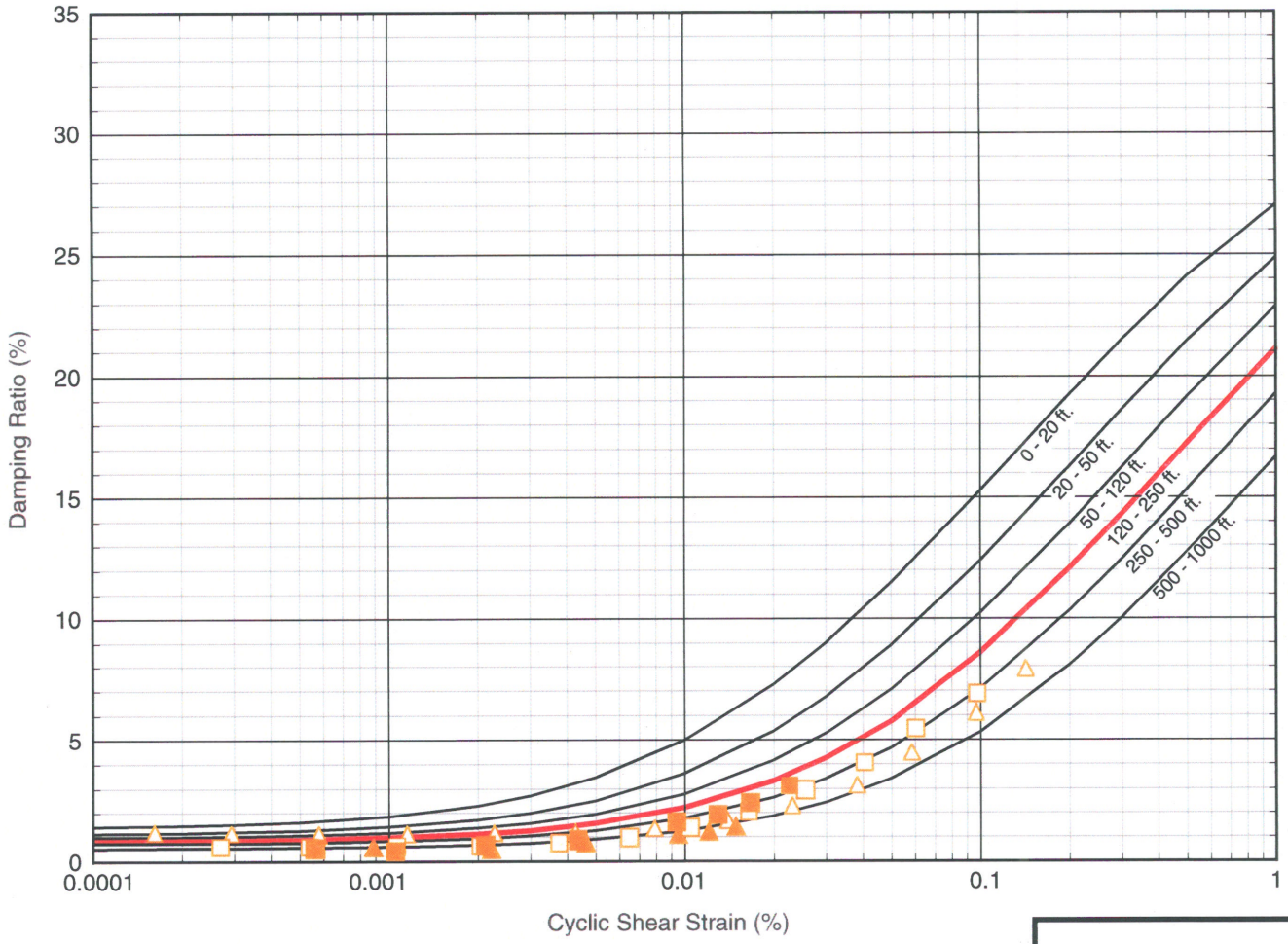
SHEAR MODULUS REDUCTON CURVES
FOR LOESS AT 4X CONFINING STRESS

FIGURE 2.5-89 REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

120 - 250 ft. Selected curve

Loess

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
△	RC-2	17.28 ksf	B-2-11	59 feet
▲	TS-2	17.28 ksf	B-2-11	59 feet
□	RC-1	9.22 ksf	B-1-10	30 feet
■	TS-1	9.22 ksf	B-1-10	30 feet

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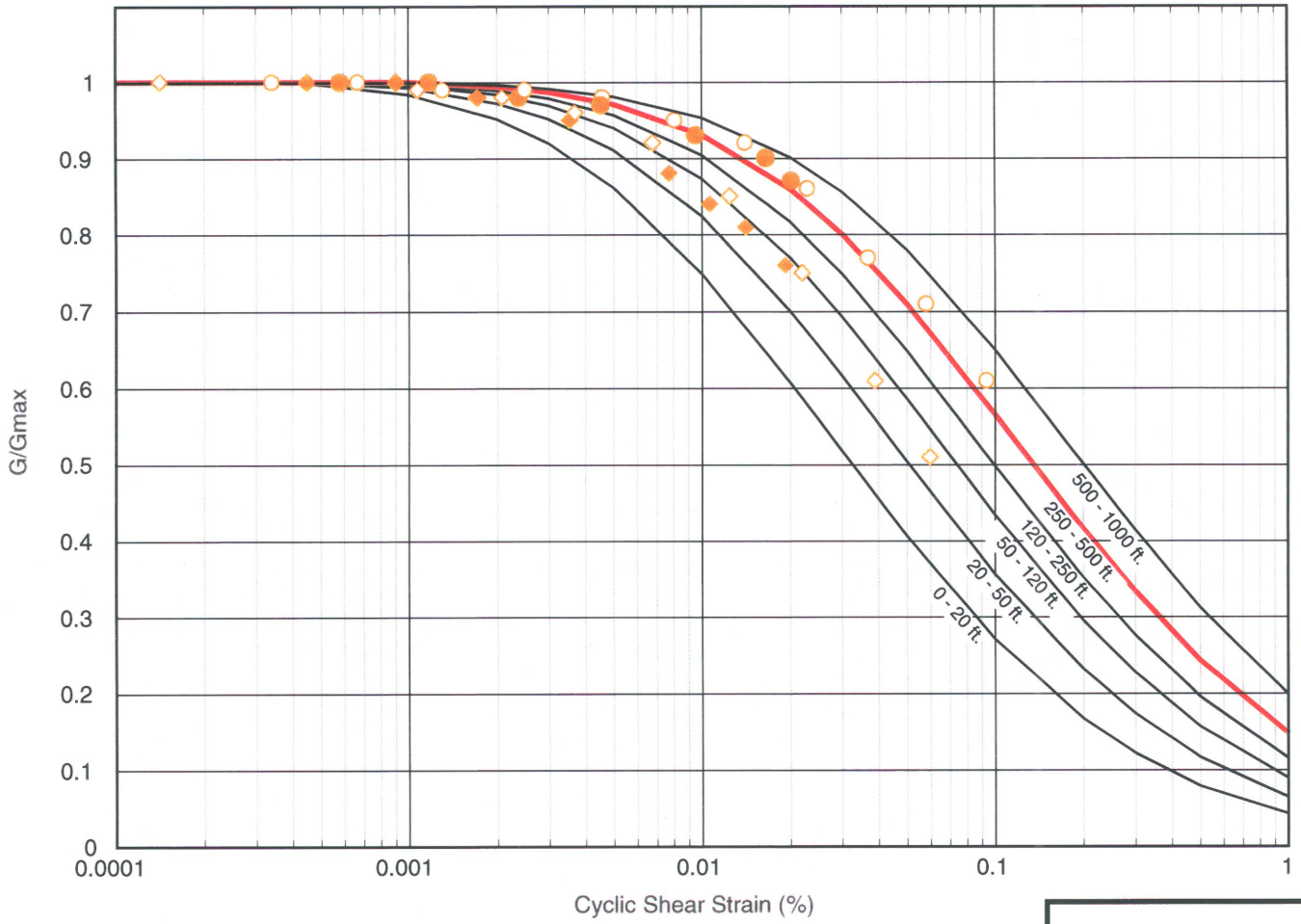
DAMPING RATIO CURVES
FOR LOESS AT 4X CONFINING STRESS

FIGURE 2.5-90 REV. 1



Explanation

Selected curve
250- 500 ft.

Alluvium

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
○	RC-3	7.92 ksf	B-1-21	65 feet
●	TS-3	7.92 ksf	B-1-21	65 feet
◇	RC-4	8.64 ksf	B-3-13	81 feet
◆	TS-4	8.64 ksf	B-3-13	81 feet

Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

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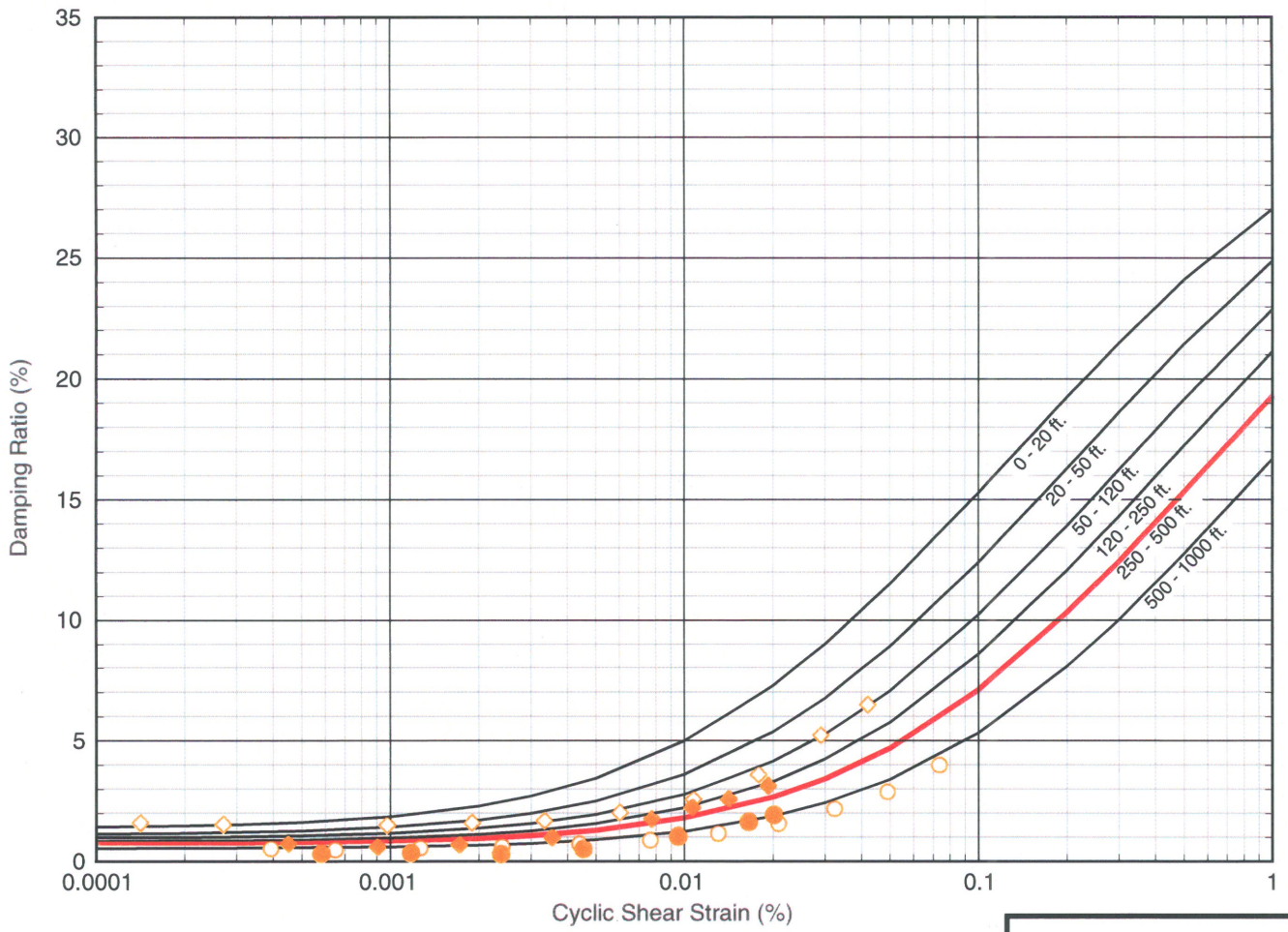
SHEAR MODULUS REDUCTION CURVES
FOR UPLAND COMPLEX ALLUVIUM

FIGURE 2.5-91 REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

250- 500 ft. Selected curve

Alluvium

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
○	RC-3	7.92 ksf	B-1-21	65 feet
●	TS-3	7.92 ksf	B-1-21	65 feet
◇	RC-4	8.64 ksf	B-3-13	81 feet
◆	TS-4	8.64 ksf	B-3-13	81 feet

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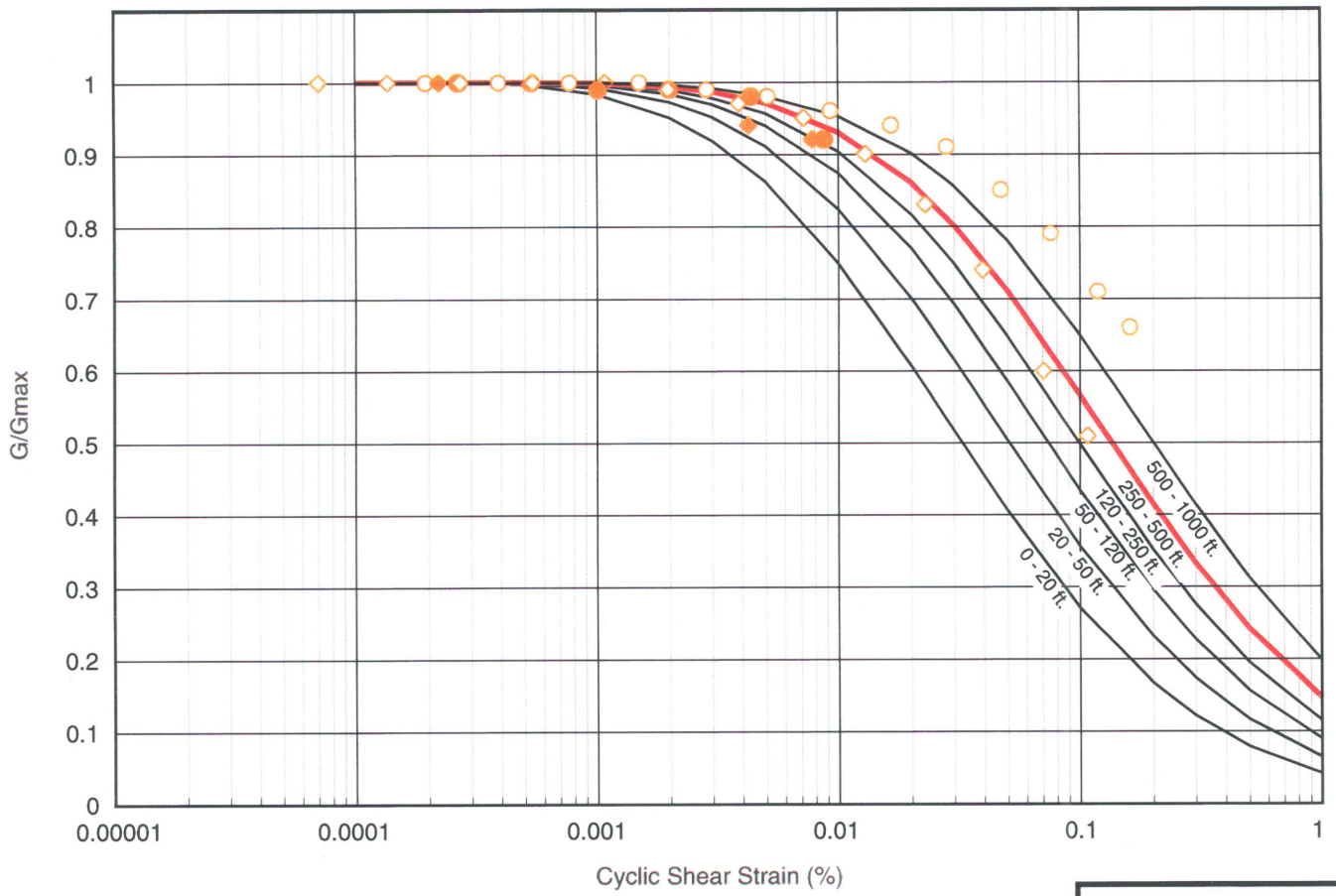
DAMPING RATIO CURVES
FOR UPLAND COMPLEX ALLUVIUM

FIGURE 2.5-92 REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

250- 500 ft. Selected curve

Alluvium

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
○	RC-3	7.92 ksf	B-1-21	65 feet
●	TS-3	7.92 ksf	B-1-21	65 feet
◇	RC-4	8.64 ksf	B-3-13	81 feet
◆	TS-4	8.64 ksf	B-3-13	81 feet

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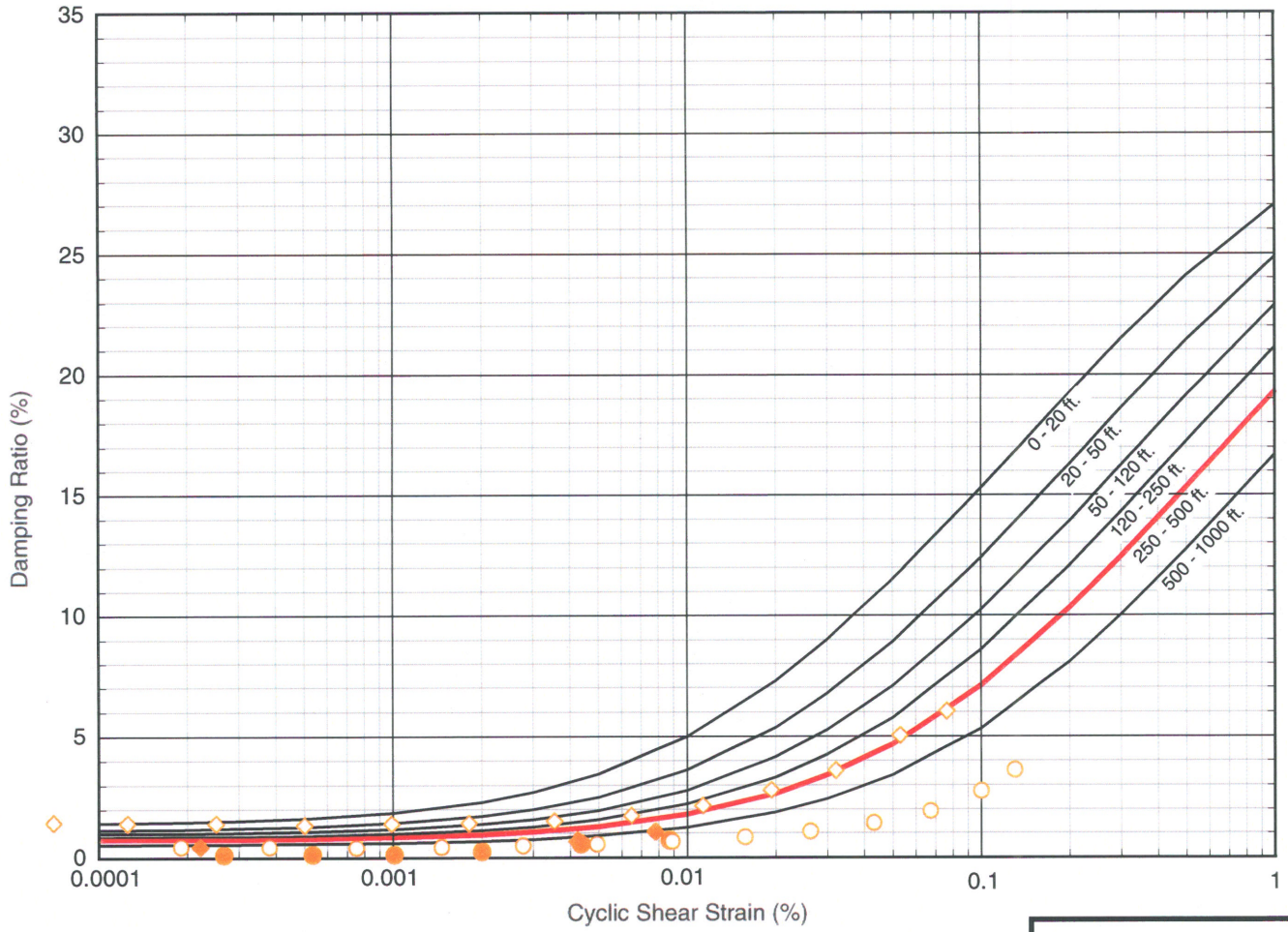
SHEAR MODULUS REDUCTION CURVES
FOR UPLAND COMPLEX ALLUVIUM
AT 4X CONFINING STRESS

FIGURE 2.5-93 REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

250- 500 ft. Selected curve

Alluvium

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
○	RC-3	7.92 ksf	B-1-21	65 feet
●	TS-3	7.92 ksf	B-1-21	65 feet
◇	RC-4	8.64 ksf	B-3-13	81 feet
◆	TS-4	8.64 ksf	B-3-13	81 feet

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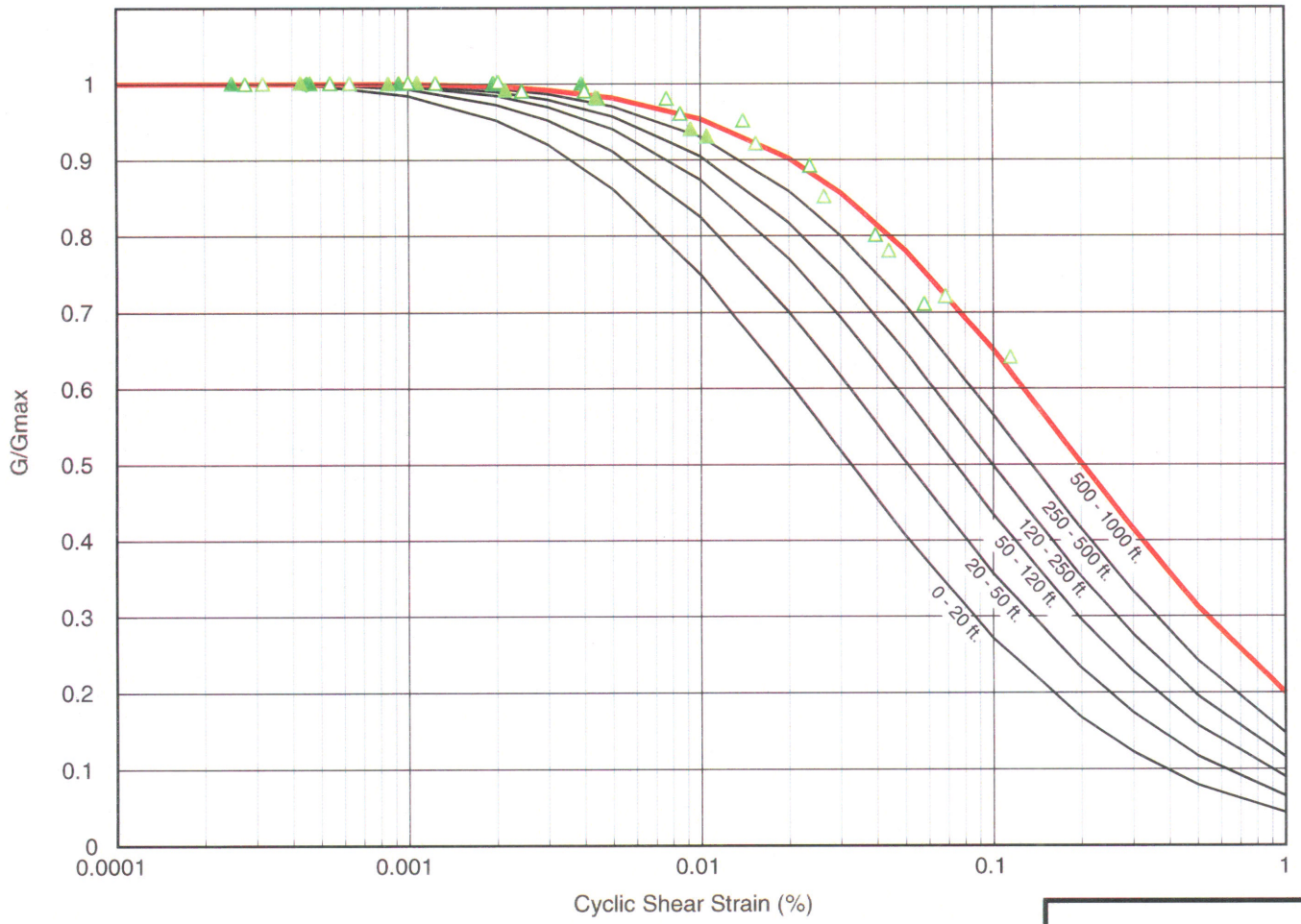
DAMPING RATIO CURVES
FOR UPLAND COMPLEX ALLUVIUM
AT 4X CONFINING STRESS

FIGURE 2.5-94 REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

500-1000 ft. Selected curve

Old Alluvium

	UTA Test No.	Confining Stress	Sample No.	Sample Depth
△	RC-6	12.96 ksf	B-2-11	165 feet
▲	TS-6	12.96 ksf	B-2-11	165 feet
△	RC-5	10.37 ksf	B-2-11	109 feet
▲	TS-5	10.37 ksf	B-2-11	109 feet

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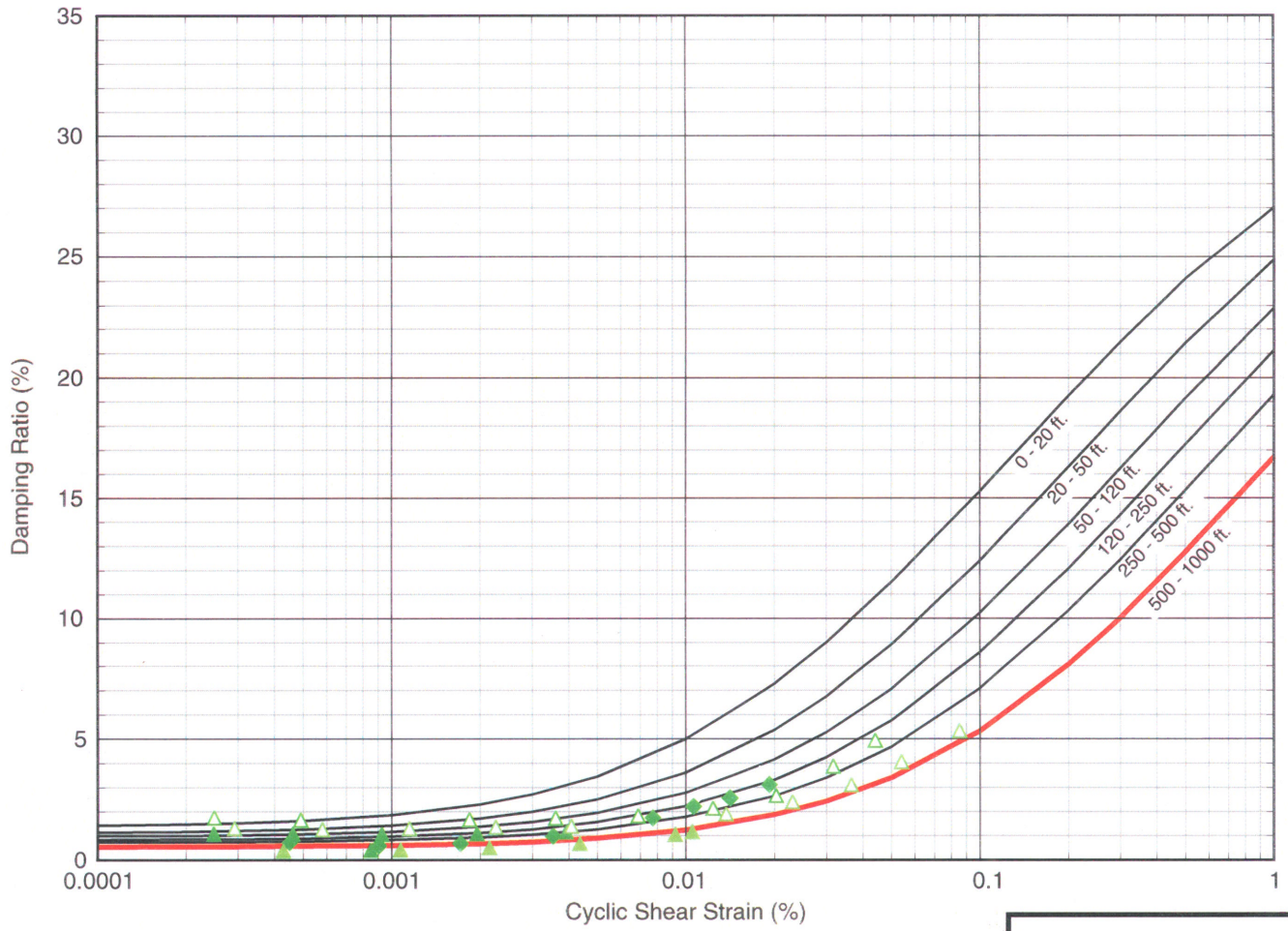
SHEAR MODULUS REDUCTION CURVES
FOR OLD ALLUVIUM

FIGURE 2.5-95

REV. 1



Notes: 1. ksf = kips per square foot.
2. RC = Resonant Column test.
3. TS = Torsional Shear test.

Explanation

500- 1000 ft. Selected curve

Old Alluvium

UTA Test No.	Confining Stress	Sample No.	Sample Depth
△ RC-6	12.96 ksf	B-1-43	165 feet
▲ TS-6	12.96 ksf	B-1-43	165 feet
△ RC-5	10.37 ksf	B-2-16	109 feet
▲ TS-5	10.37 ksf	B-2-16	109 feet

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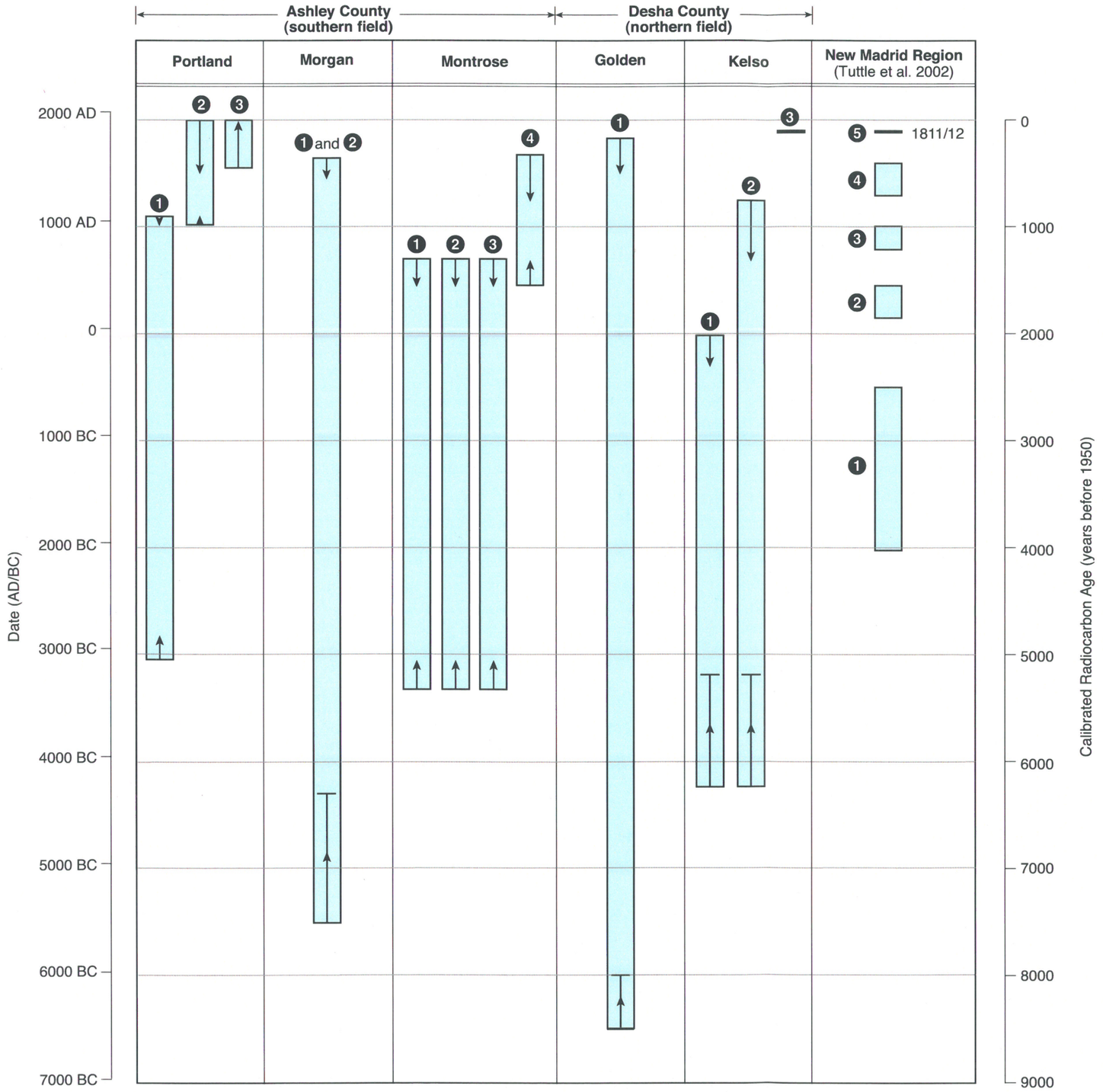
DAMPING RATIO CURVES
FOR OLD ALLUVIUM

FIGURE 2.5-96

REV. 1



Explanation

- Minimum limiting radiocarbon age
- Maximum limiting radiocarbon age
- Maximum limiting age by luminescence
- Maximum age range of event based on minimum and maximum limiting ages
- Event number identified at specific site
- 1811 - 1812 earthquake

Notes: 1. Radiocarbon and luminescence data for Cox et al., 2004, and Cox personal communication, 2004.
2. Stratigraphic data from Cox et al., 2004, and Cox and Larsen, 2004.

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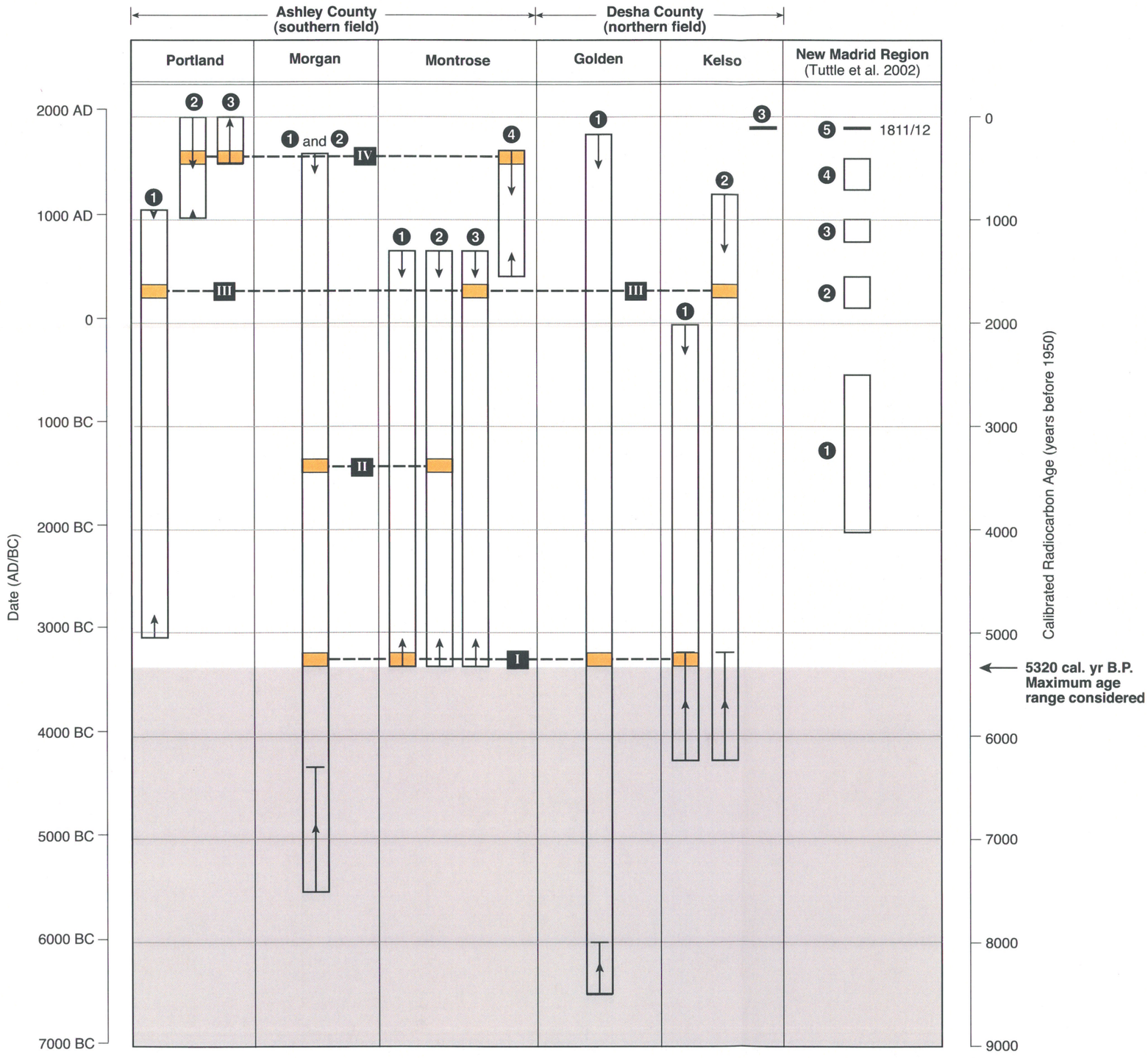
SUMMARY OF SALINE RIVER AND NEW MADRID PALEOLIQUEFACTION DATA

FIGURE 2.5-97 REV. 1



Explanation

- 1811 - 1812 earthquake
- Minimum limiting radiocarbon age
- Maximum limiting radiocarbon age
- Maximum limiting age by luminescence
- Maximum age range of event based on minimum and maximum limiting ages
- Scenario-based age range
- Event number identified at specific site
- Scenario event number and inferred correlation

Notes:
1. Radiocarbon and luminescence data for Cox et al., 2004, and Cox personal communication, 2004.
2. Stratigraphic data from Cox et al., 2004, and Cox and Larsen, 2004.
3. Inferred events shown by colored boxes are not intended to represent precise ages of events. These inferred events are shown only to illustrate a permissible correlation within the maximum age range 1700 to 5320 ybp.

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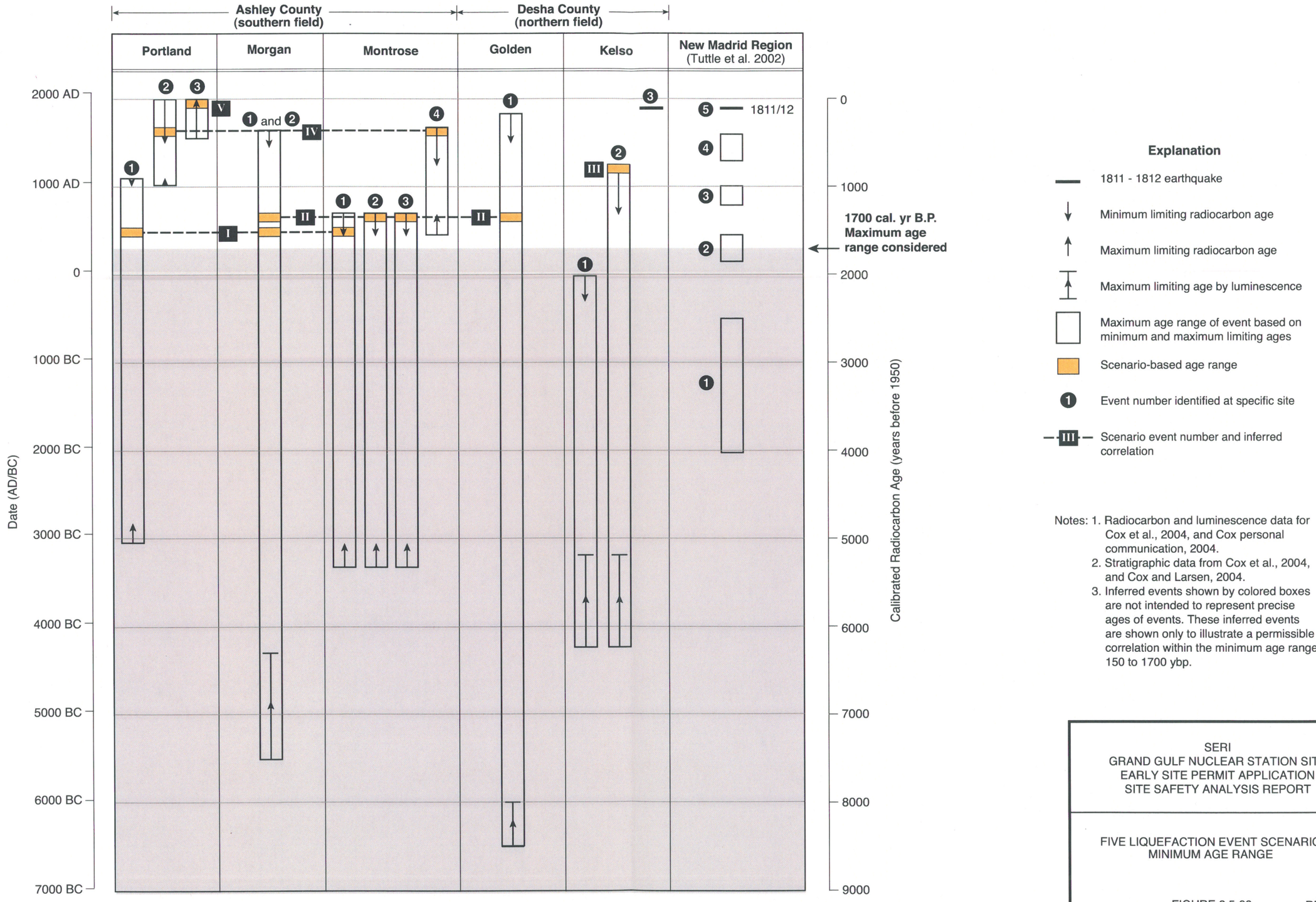
FOUR LIQUEFACTION EVENT SCENARIO MAXIMUM AGE RANGE

FIGURE 2.5-98 REV. 1



Notes: 1. Radiocarbon and luminescence data for Cox et al., 2004, and Cox personal communication, 2004.
2. Stratigraphic data from Cox et al., 2004, and Cox and Larsen, 2004.
3. Inferred events shown by colored boxes are not intended to represent precise ages of events. These inferred events are shown only to illustrate a permissible correlation within the minimum age range 150 to 1700 ybp.

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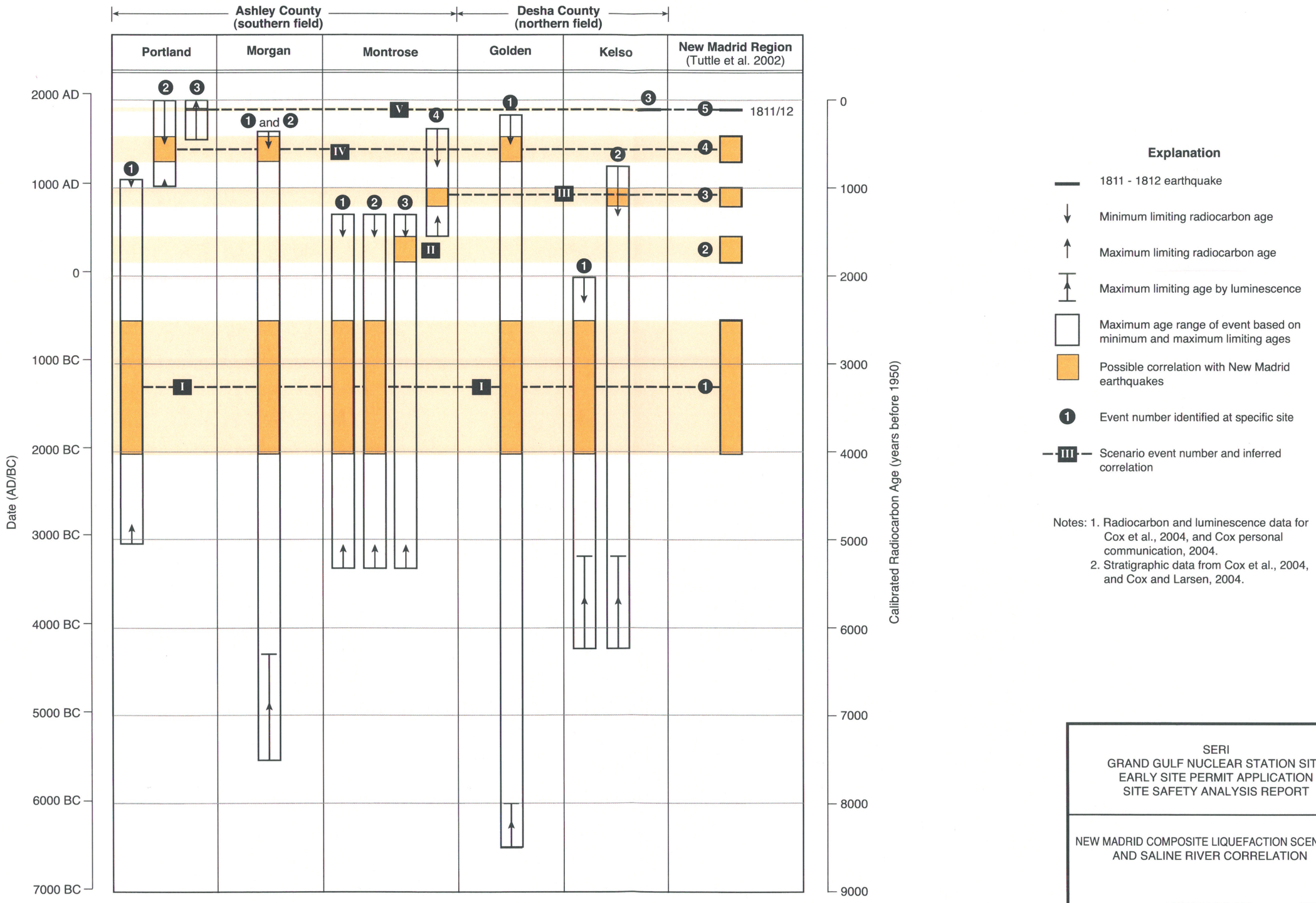
FIVE LIQUEFACTION EVENT SCENARIO
MINIMUM AGE RANGE

FIGURE 2.5-99 REV. 1



Notes: 1. Radiocarbon and luminescence data for Cox et al., 2004, and Cox personal communication, 2004.
2. Stratigraphic data from Cox et al., 2004, and Cox and Larsen, 2004.

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NEW MADRID COMPOSITE LIQUEFACTION SCENARIO AND SALINE RIVER CORRELATION

FIGURE 2.5-100 REV. 1