

River Bend Station, Unit 3
COL Application
Part 2, FSAR

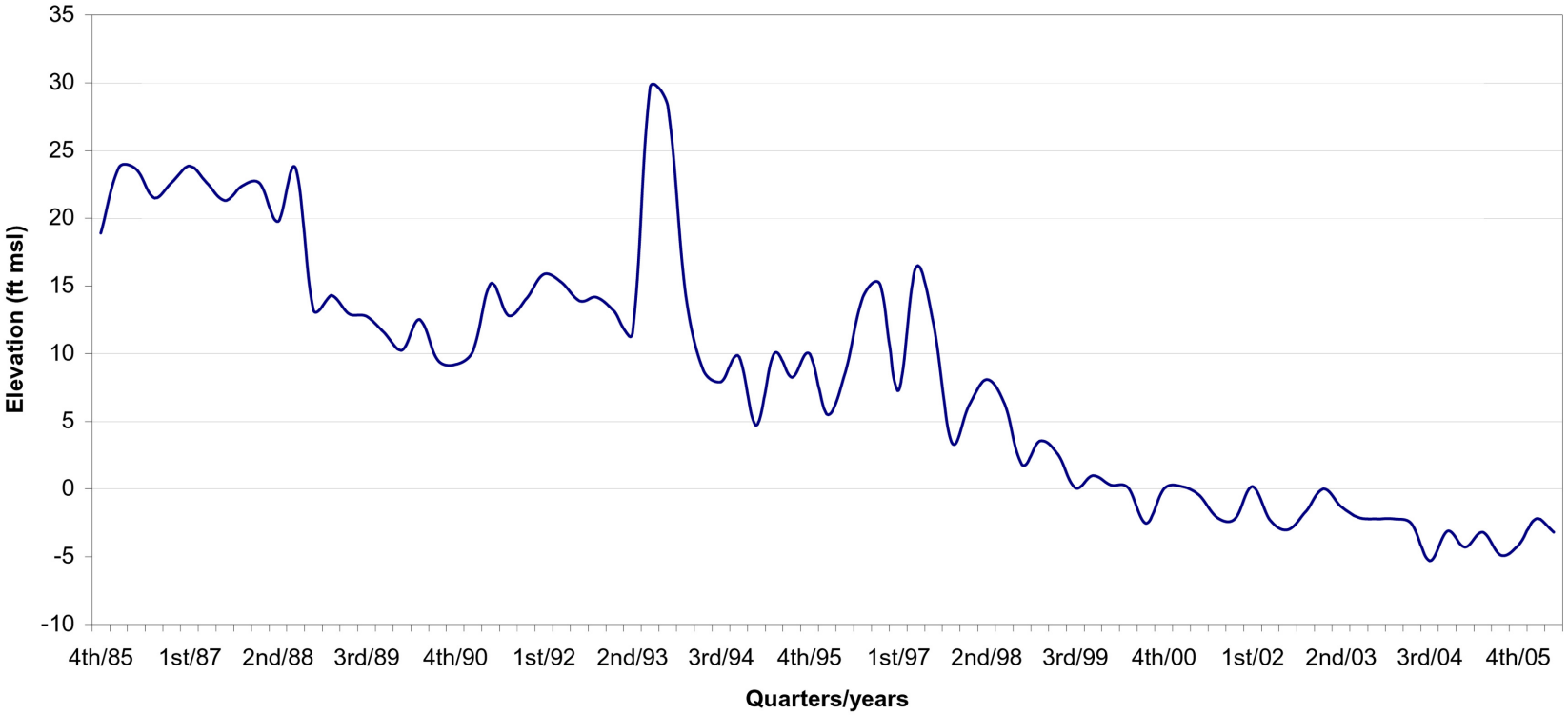


Figure 2.5.4-201. Groundwater Levels Zone 3 Aquifer

River Bend Station, Unit 3
COL Application
Part 2, FSAR

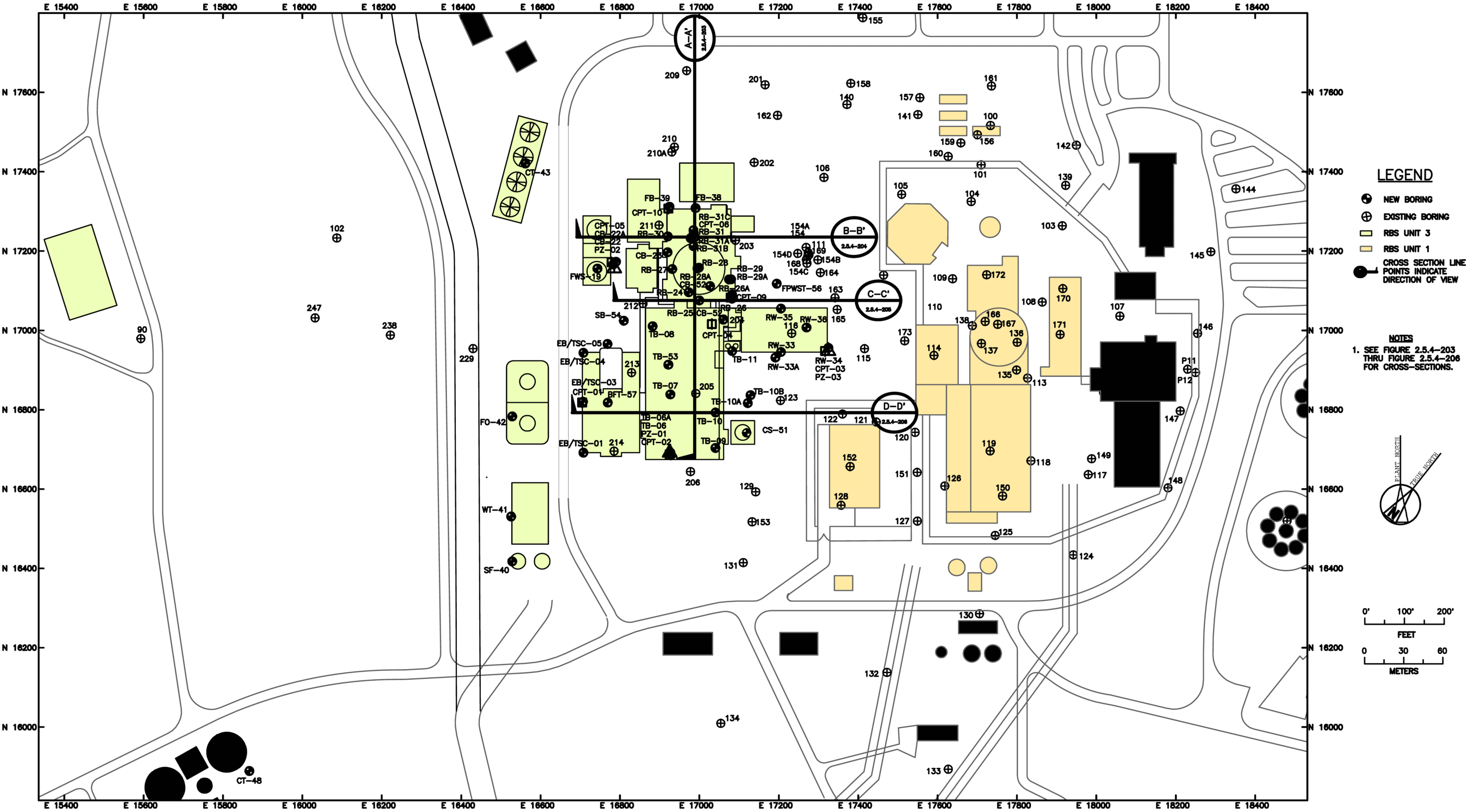


Figure 2.5.4-202. Subsurface Investigation Plan

River Bend Station, Unit 3
COL Application
Part 2, FSAR

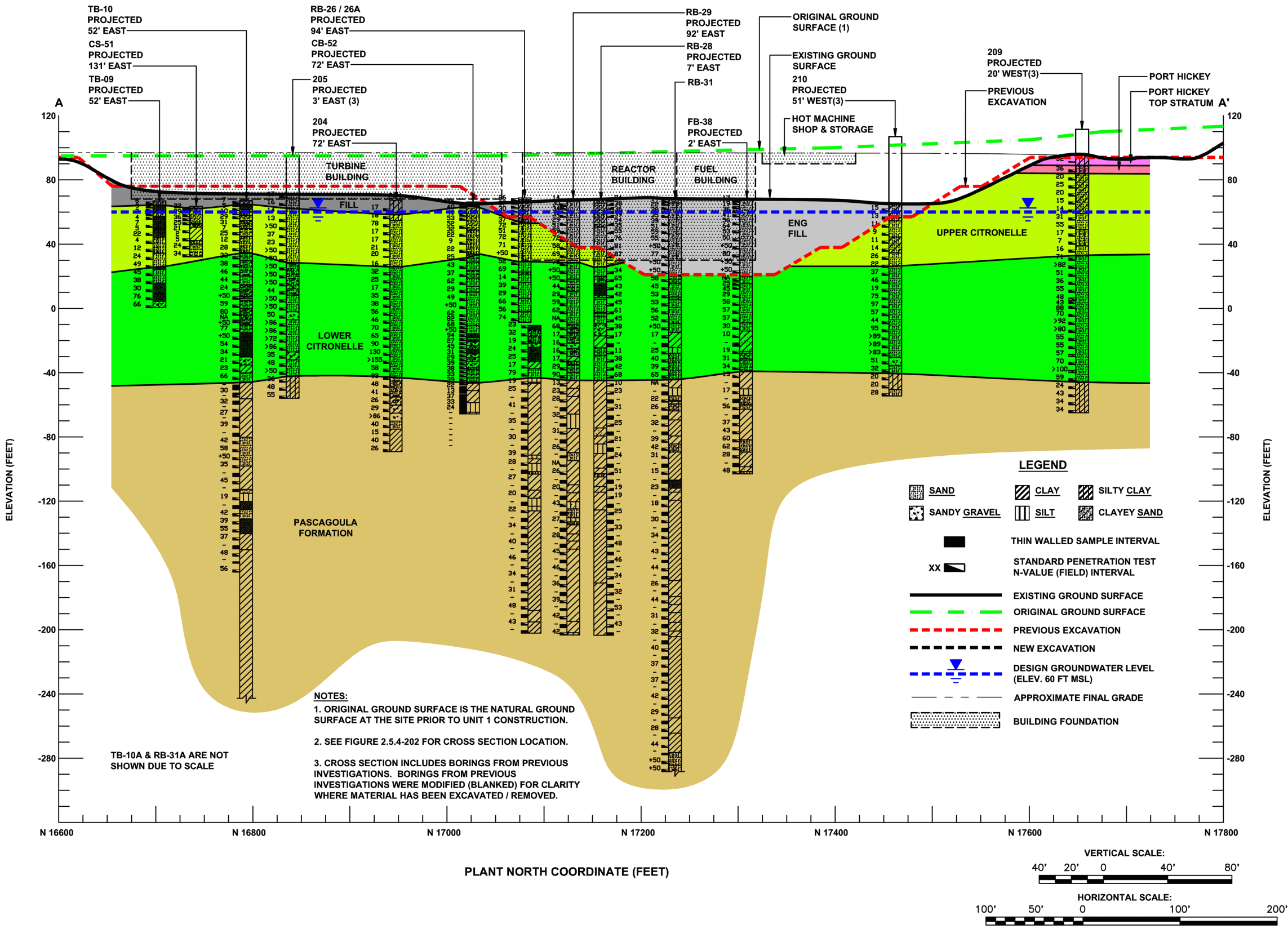


Figure 2.5.4-203. Cross Section A-A' Through RBS Unit 3 Site Location

River Bend Station, Unit 3
COL Application
Part 2, FSAR

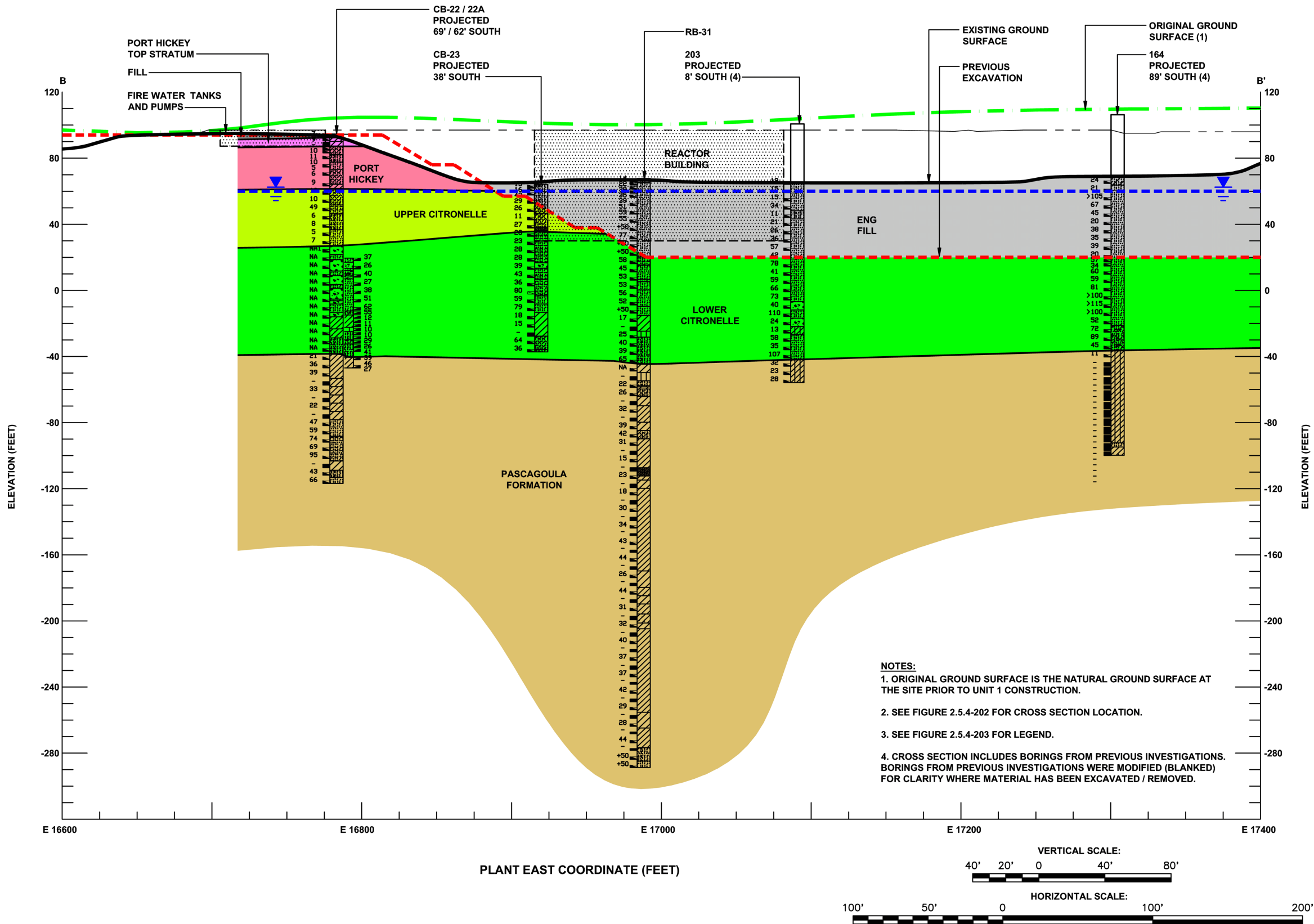


Figure 2.5.4-204. Cross Section B-B' Through RBS Unit 3 Site Location

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

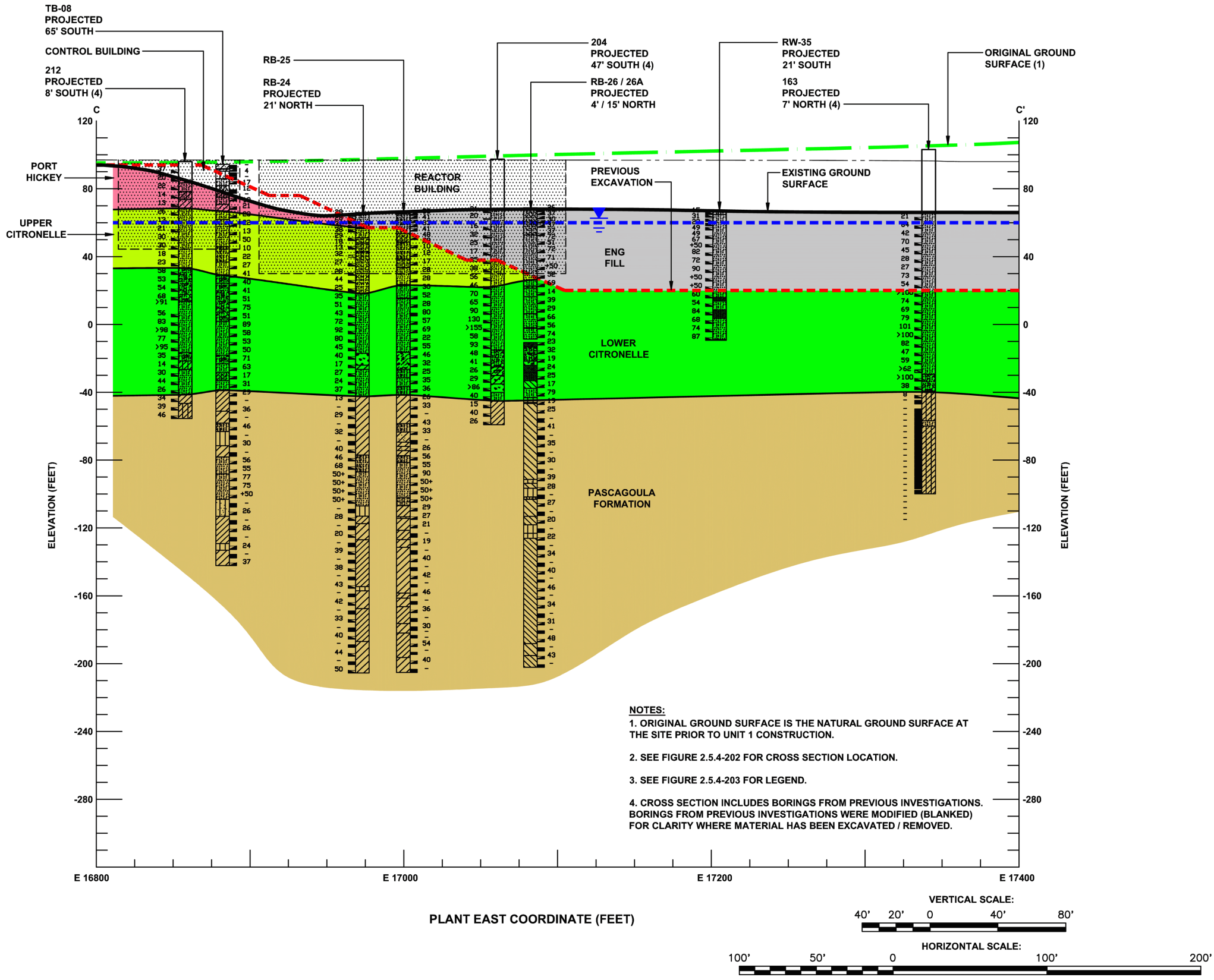


Figure 2.5.4-205. Cross Section C-C' Through RBS Unit 3 Site Location

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

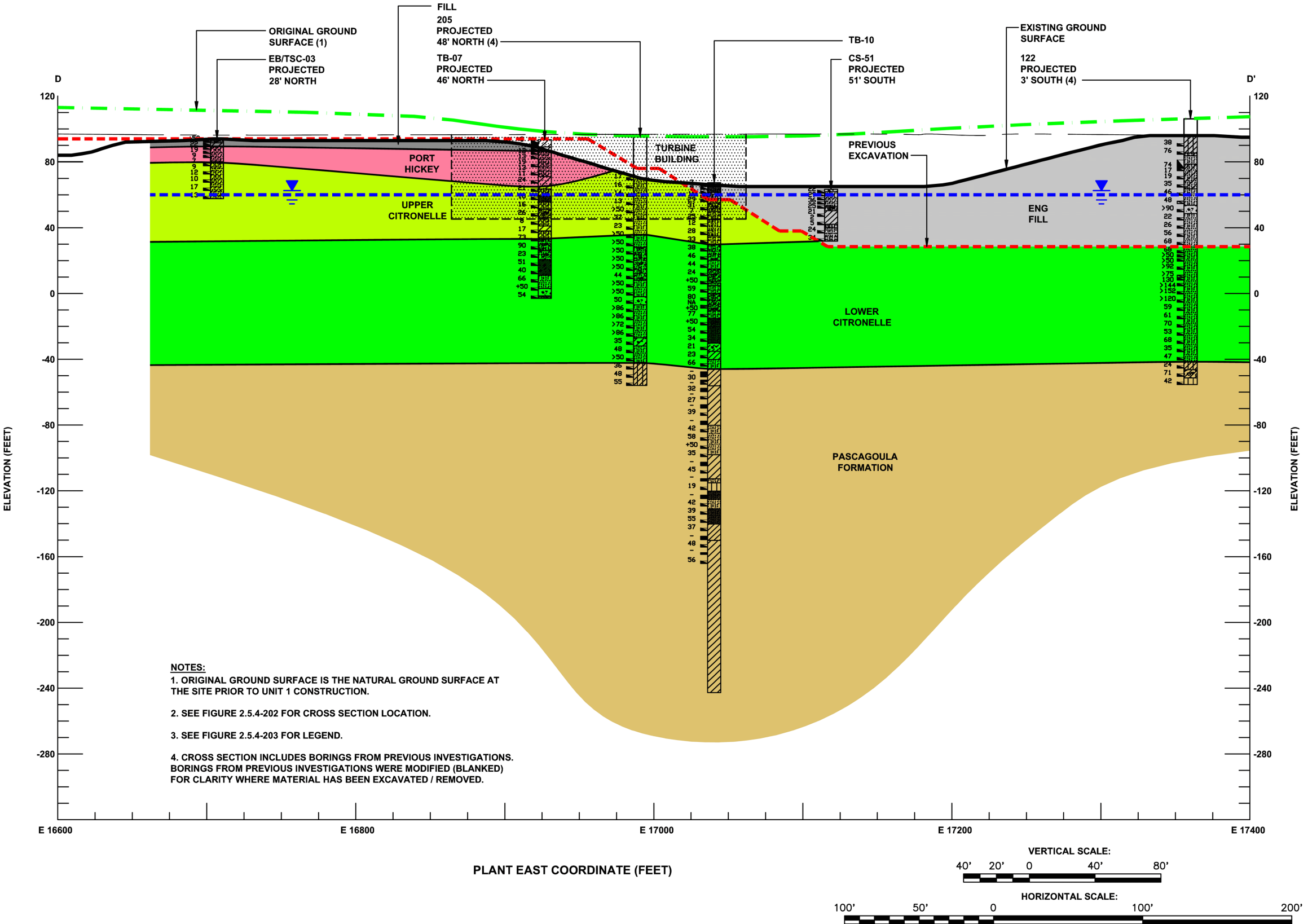
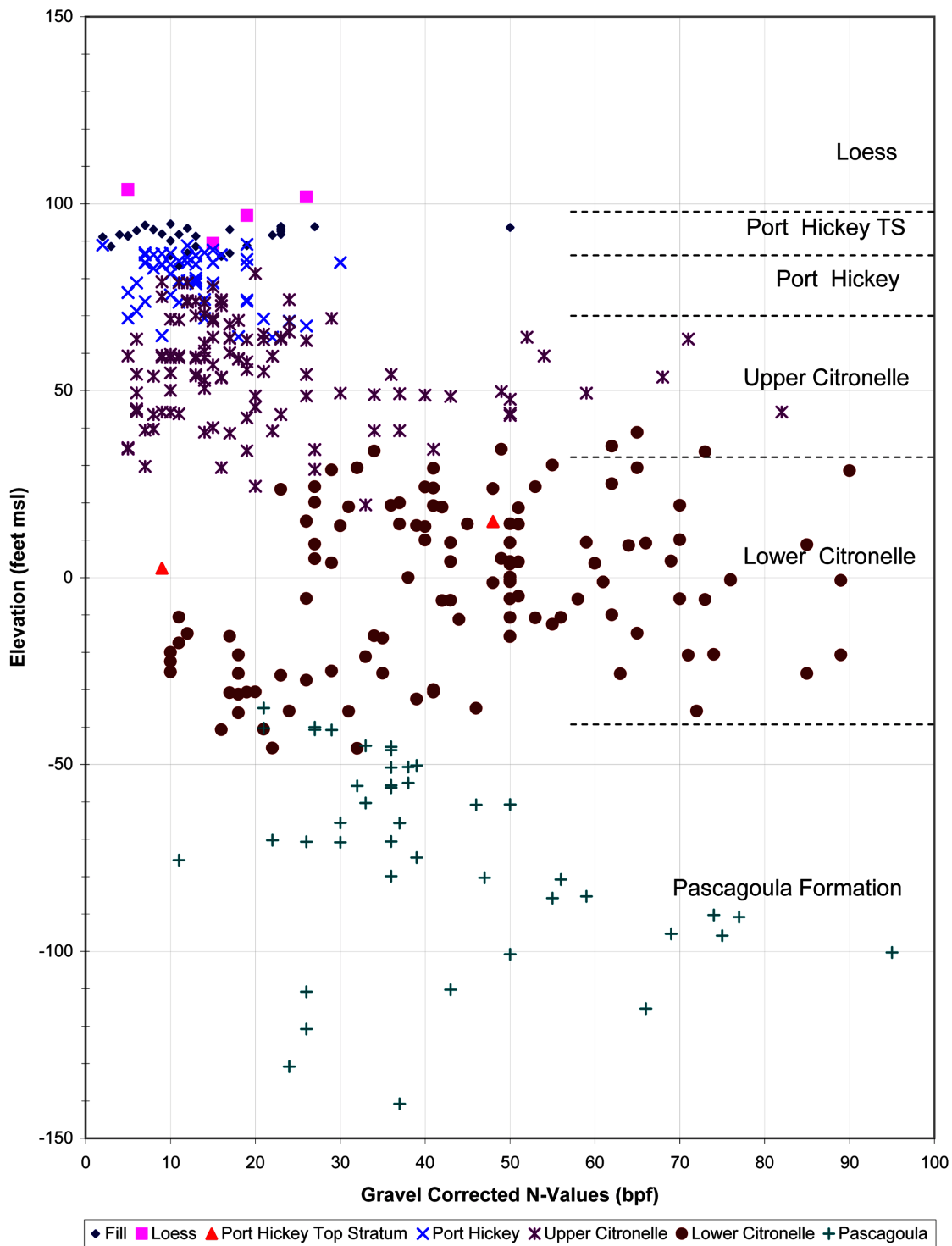


Figure 2.5.4-206. Cross Section D-D' Through RBS Unit 3 Site Location

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**



**Figure 2.5.4-207. Gravel-Corrected Field N-Values,
Borings Outside Excavation**

River Bend Station, Unit 3
COL Application
Part 2, FSAR

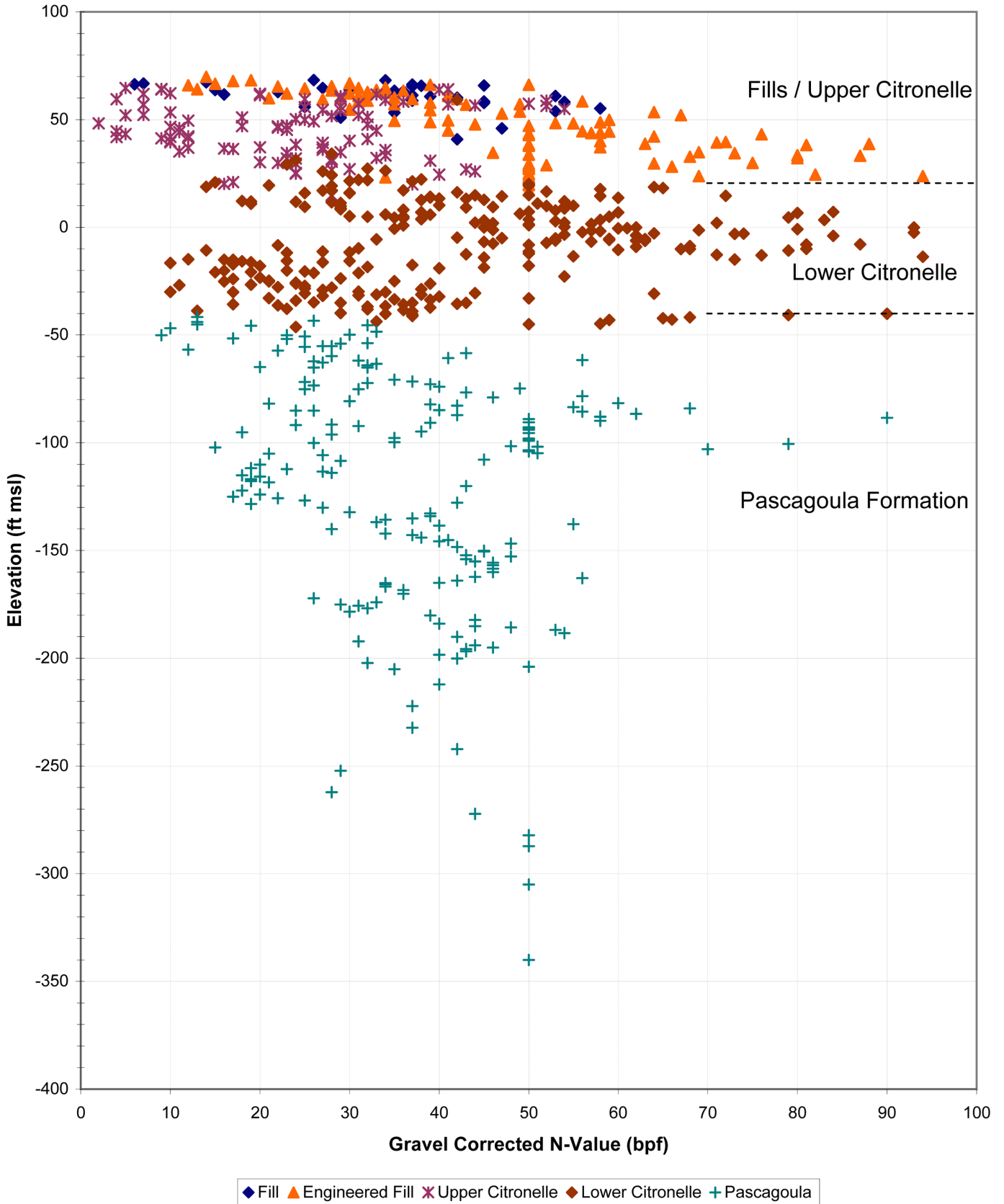


Figure 2.5.4-208. Gravel-Corrected Field N-Values,
Borings Inside Excavation

Revision 0

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Reactor and Fuel Buildings

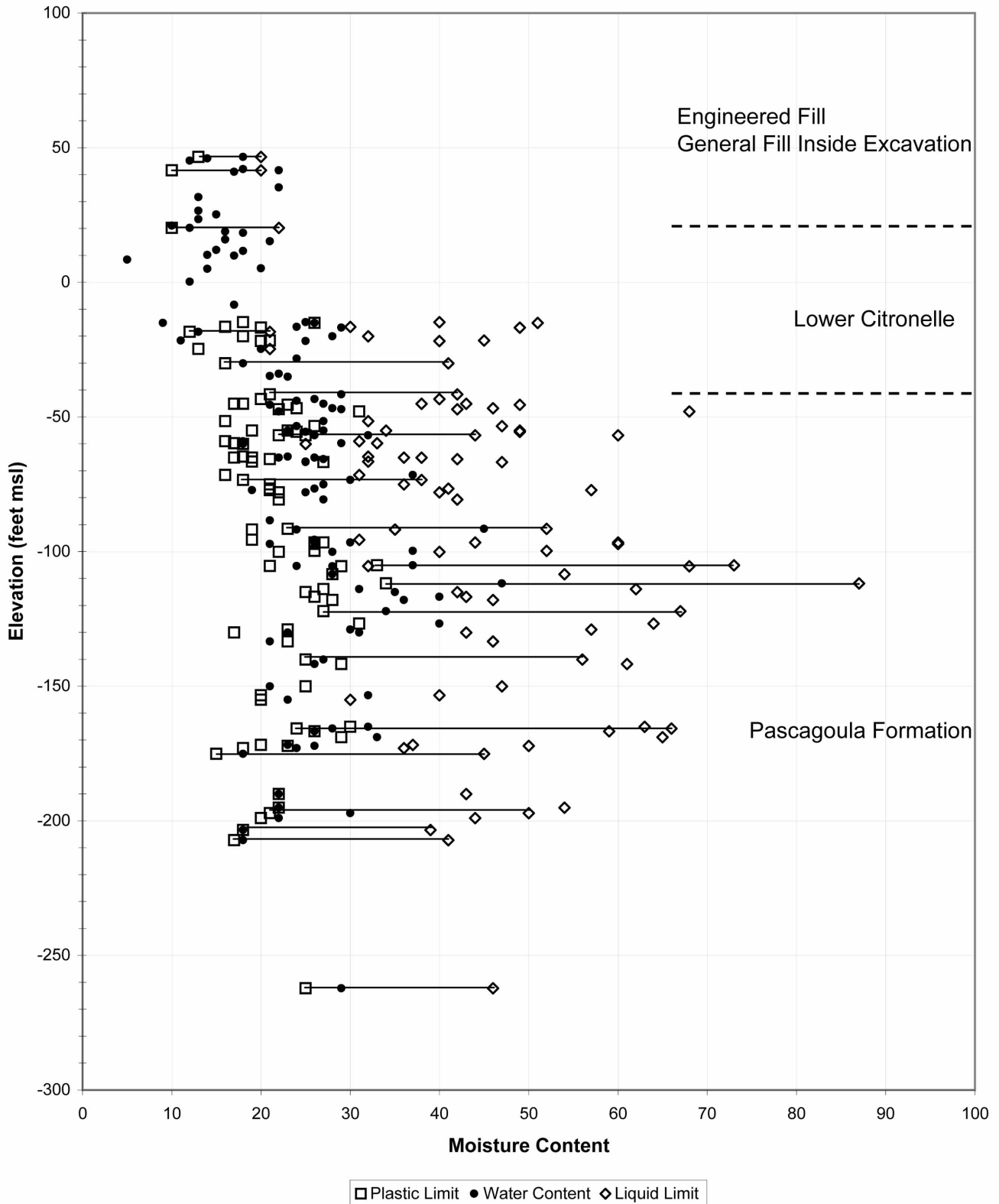


Figure 2.5.4-209. Natural Moisture Content and Atterberg Limits (Sheet 1 of 4)

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

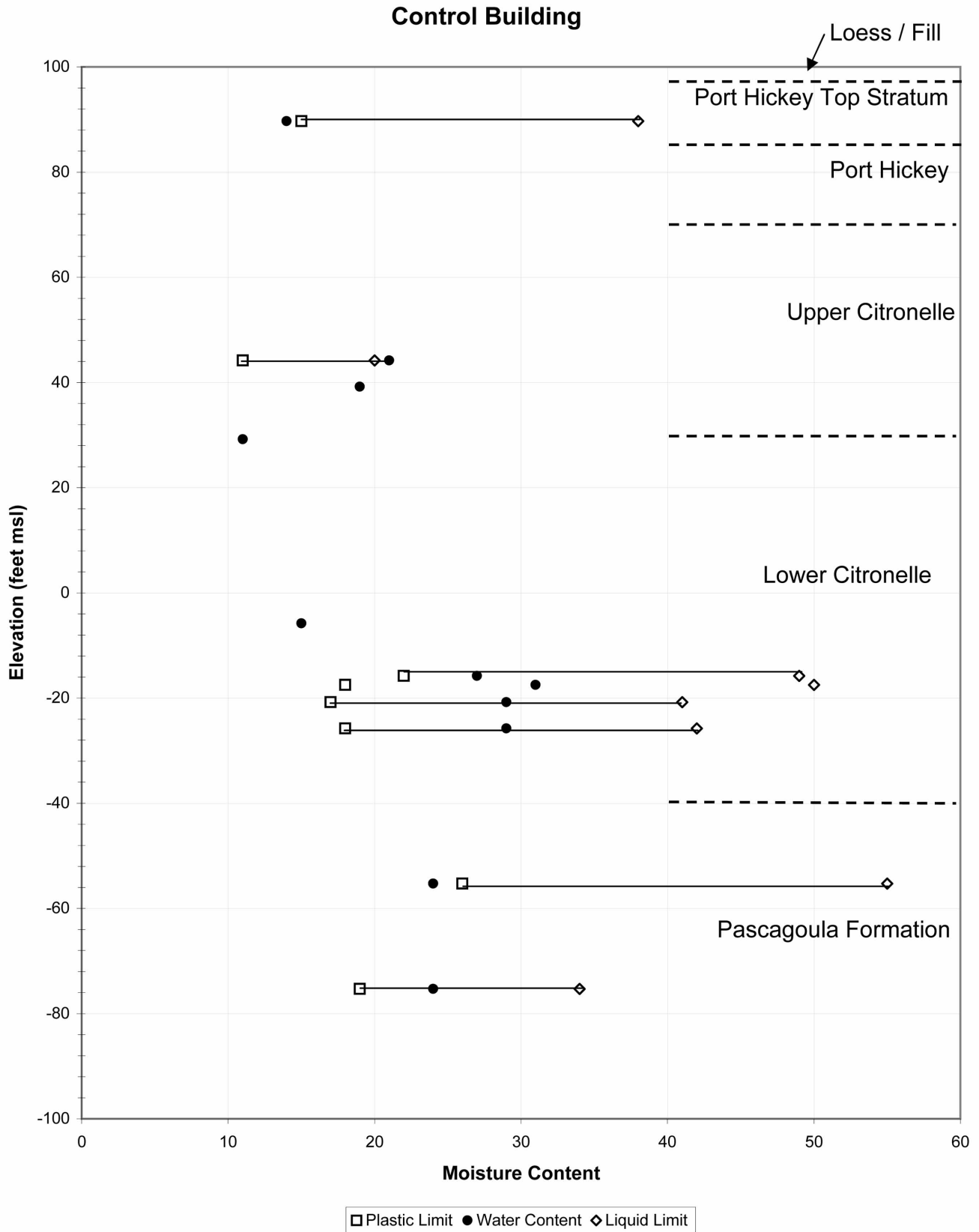


Figure 2.5.4-209. Natural Moisture Content and Atterberg Limits (Sheet 2 of 4)

Revision 0

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

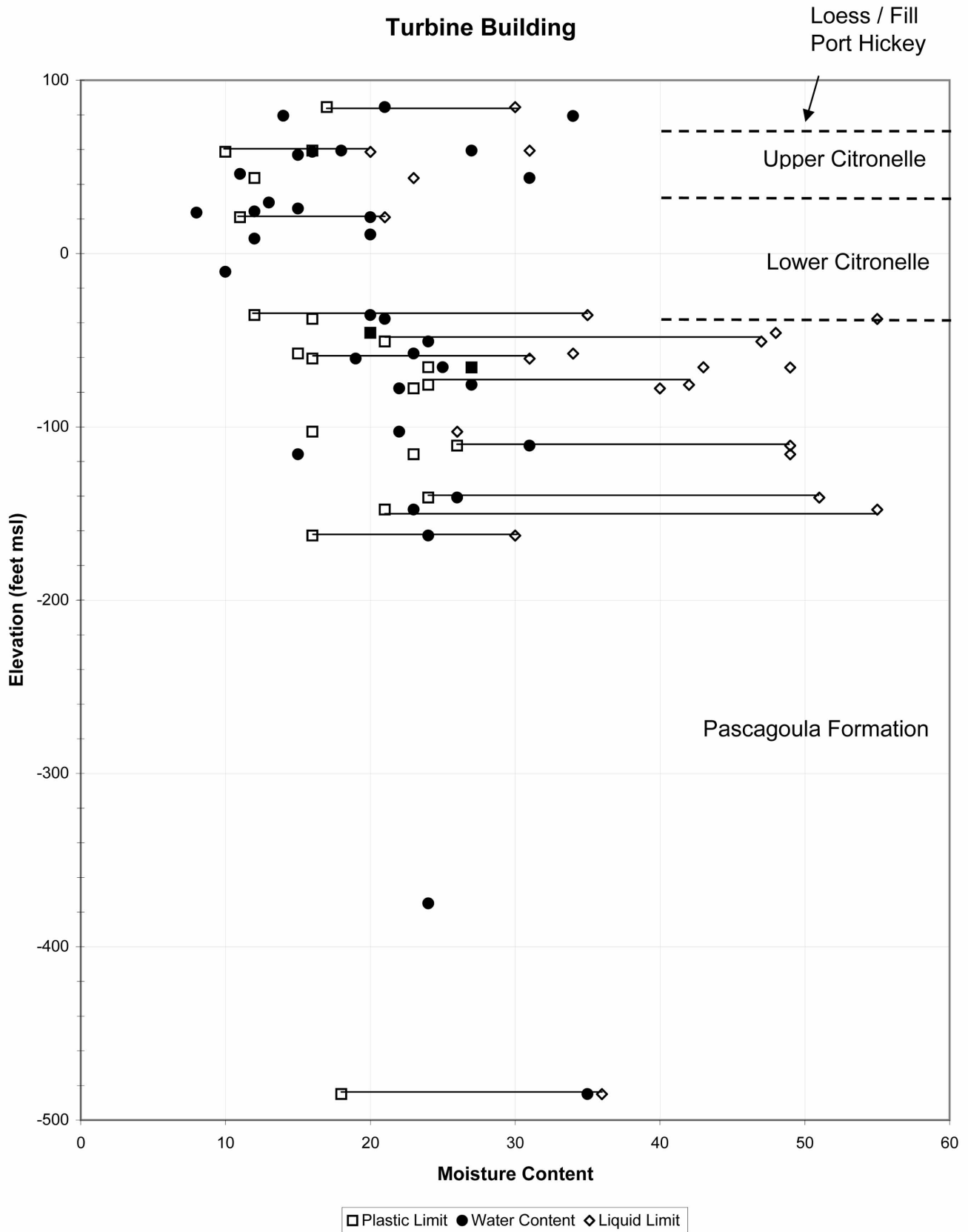


Figure 2.5.4-209. Natural Moisture Content and Atterberg Limits (Sheet 3 of 4)

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Outside Nuclear Island

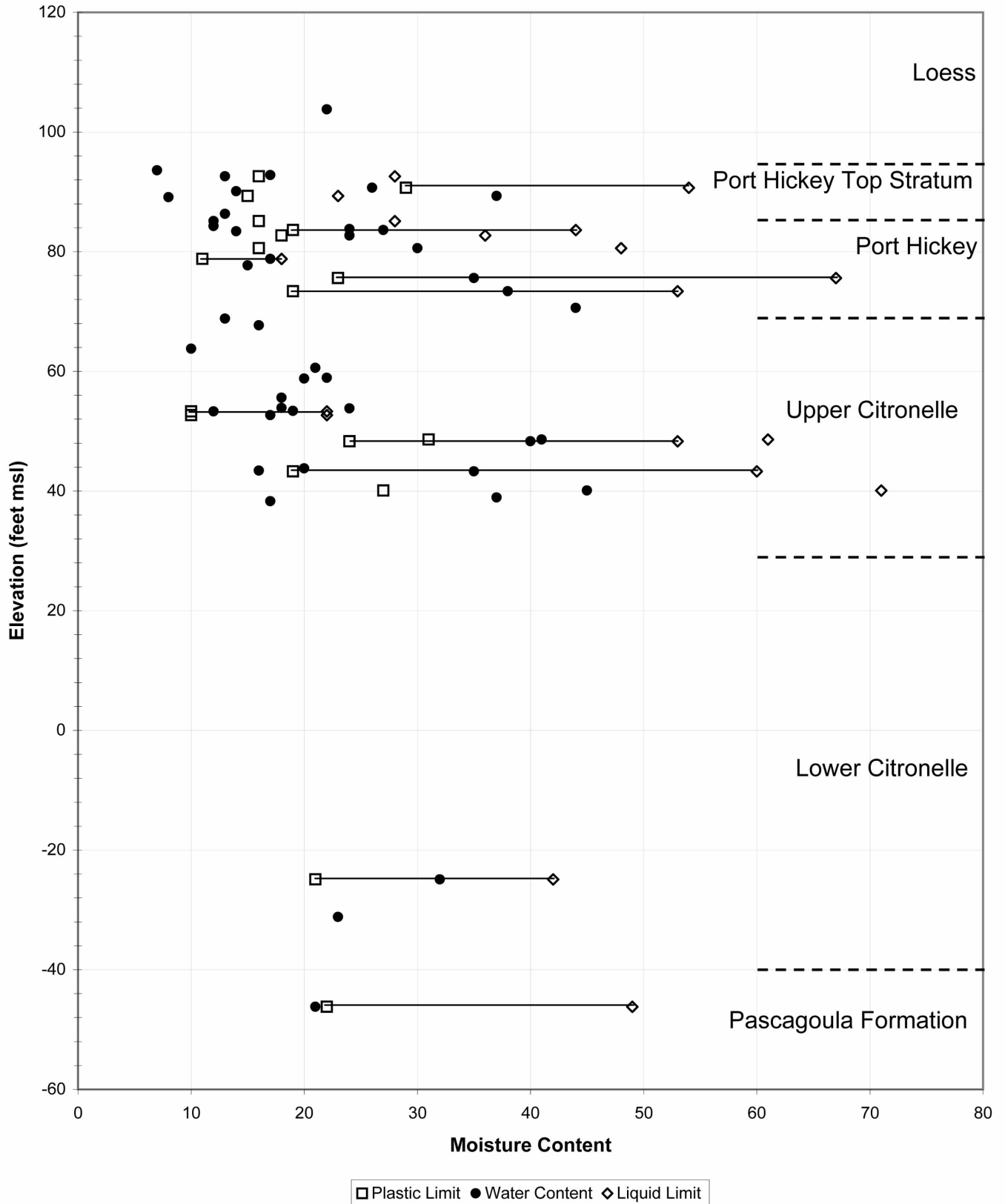
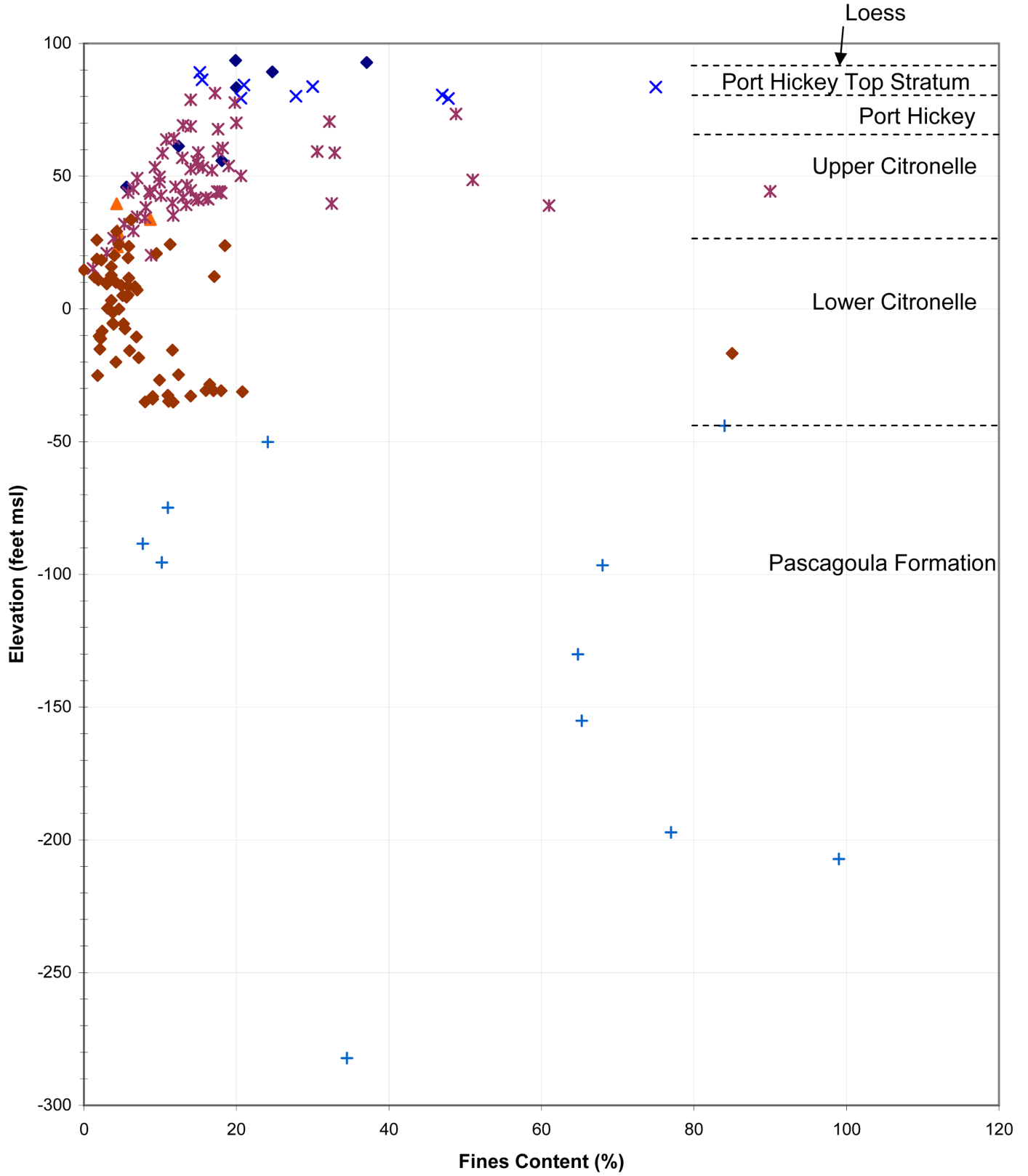


Figure 2.5.4-209. Natural Moisture Content and Atterberg Limits (Sheet 4 of 4)

River Bend Station, Unit 3
 COL Application
 Part 2, FSAR

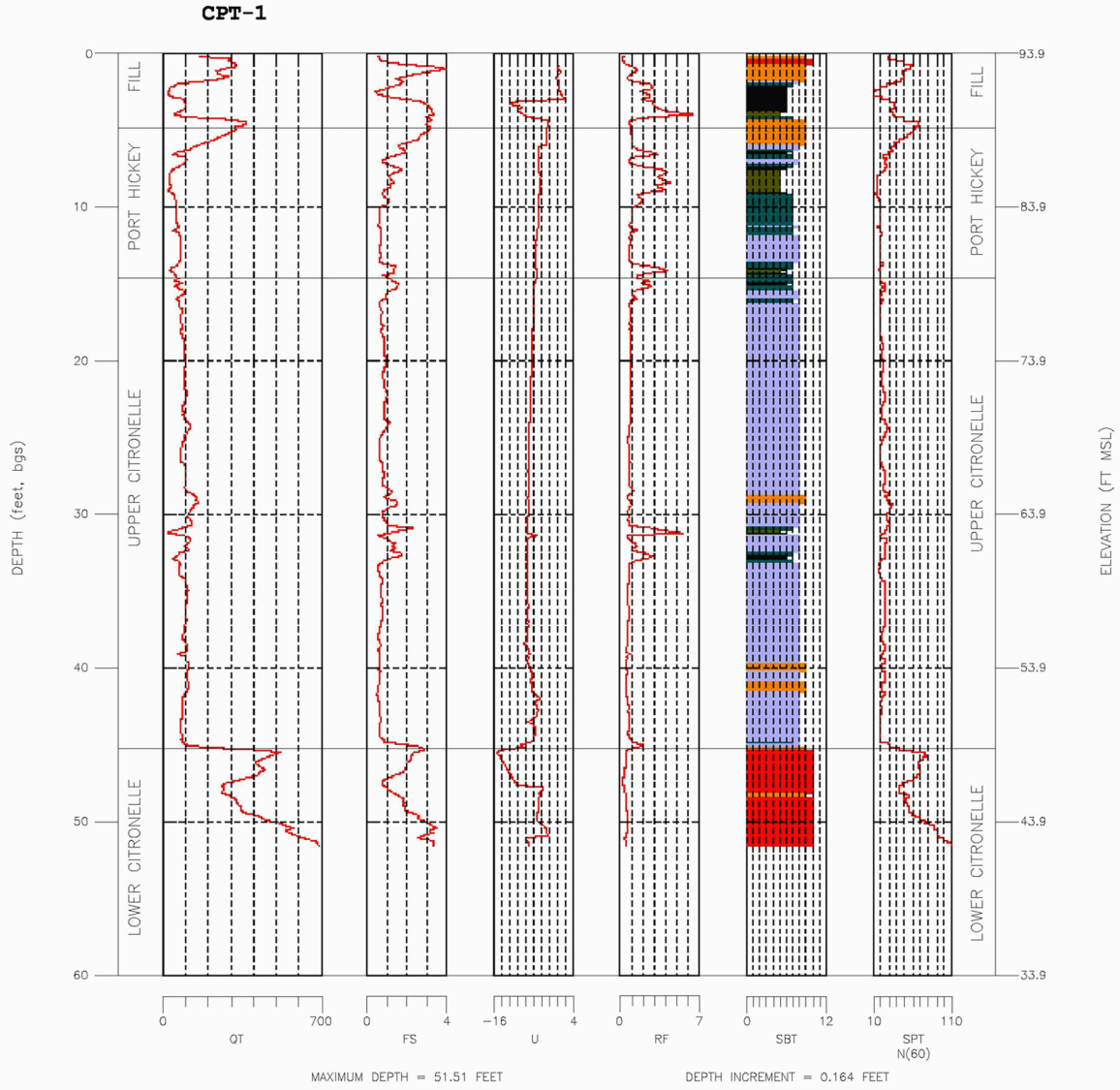


◆ Fill ▲ Engineered Fill × Port Hickey * Upper Citronelle ◆ Lower Citronelle + Pascagoula

Figure 2.5.4-210. Fines Content

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (+) 12. SAND TO CLAYEY SAND (+) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

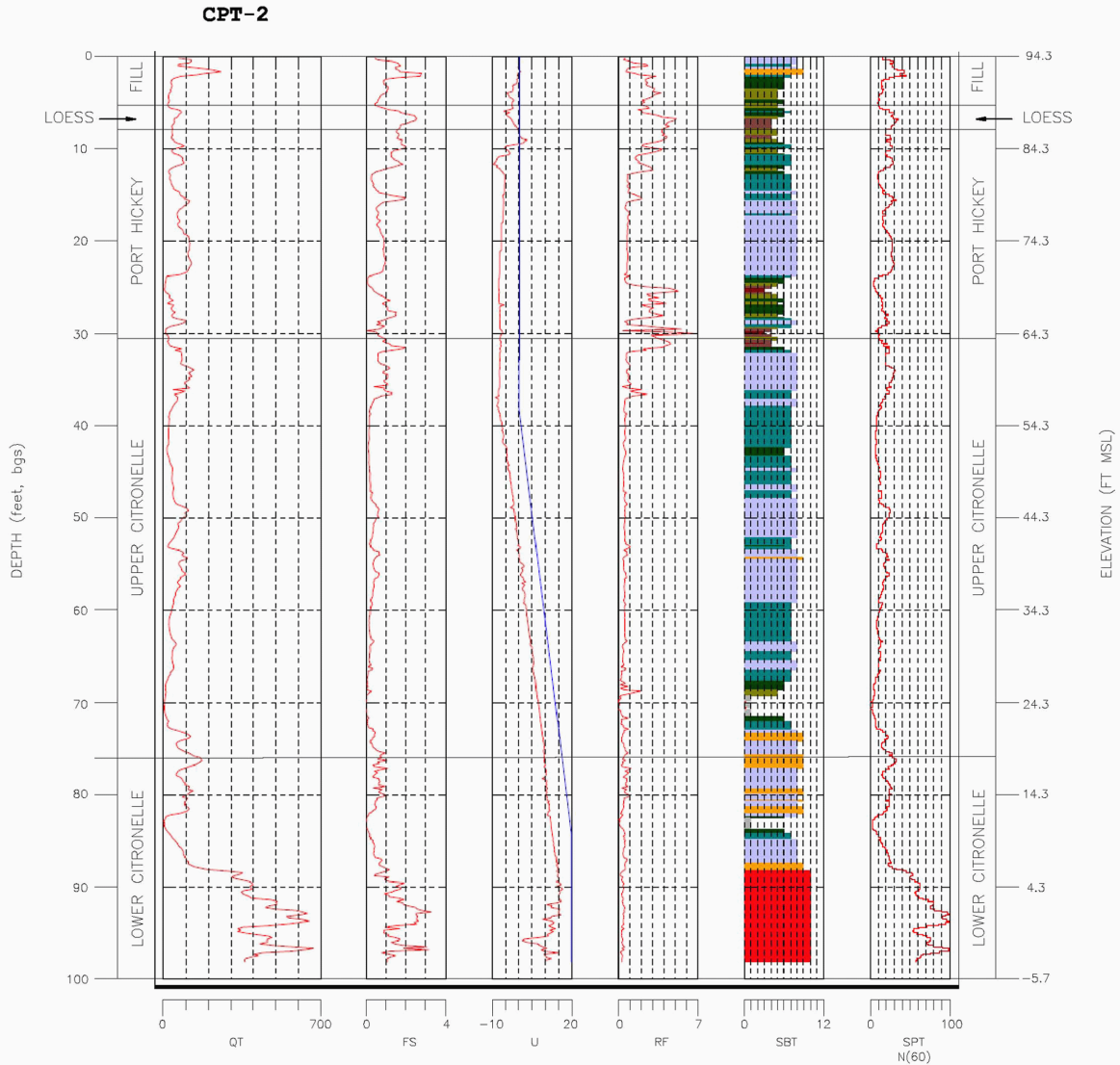
EXPLANATION

- | | |
|---|---|
| <p>QT CORRECTED TIP RESISTANCE (TSF)</p> <p>FS SLEEVE FRICTION (TSF)</p> <p>U PORE PRESSURE (PSI)</p> | <p>RF FRICTION RATIO FS/QT (%)</p> <p>SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY</p> <p>SBT SOIL BEHAVIOR TYPE</p> |
|---|---|

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 1 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



MAXIMUM DEPTH = 98.2 FEET DEPTH INCREMENT = 0.164 FEET

SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

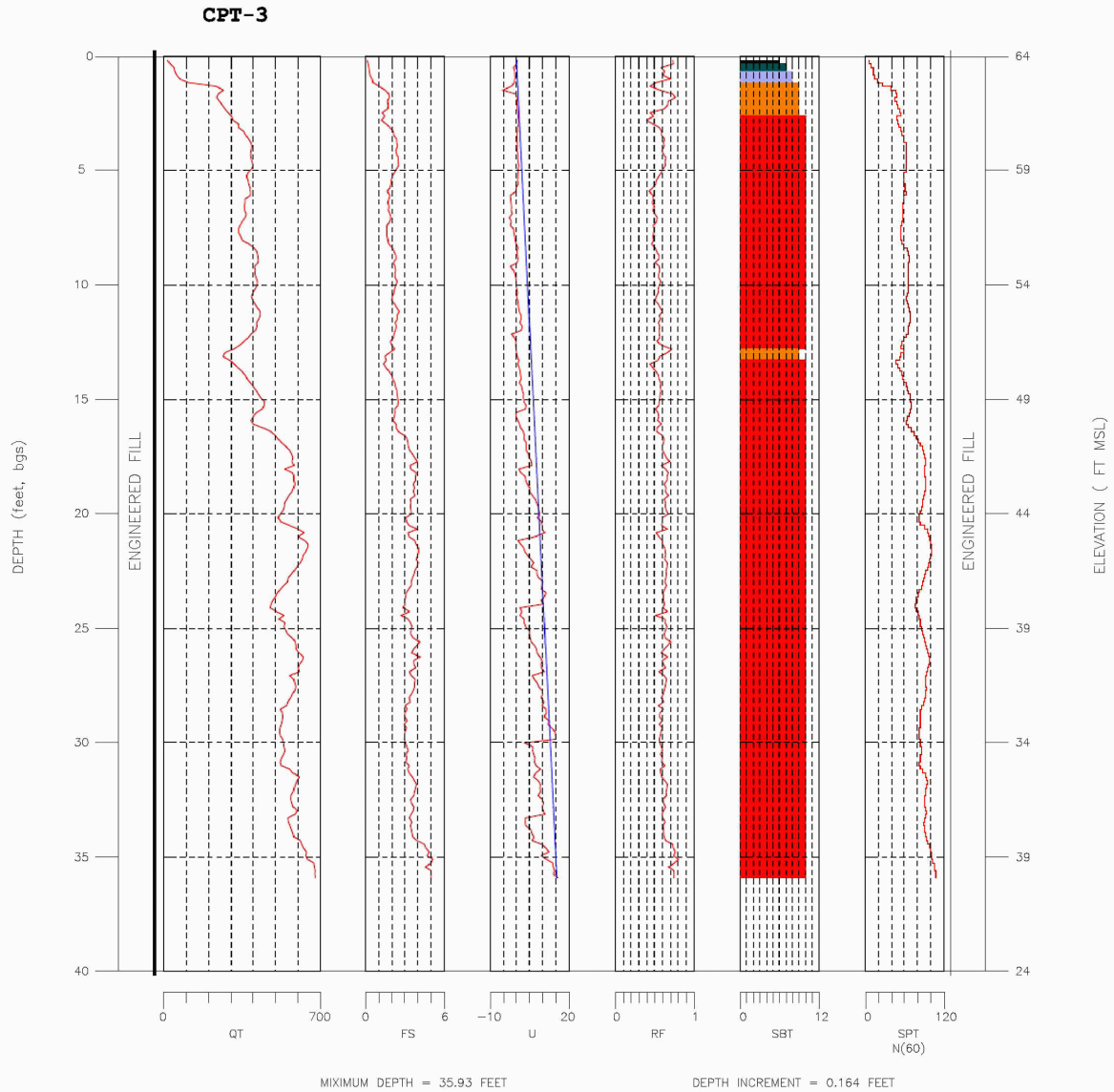
EXPLANATION

- | | |
|--|--|
| <ul style="list-style-type: none"> QT CORRECTED TIP RESISTANCE (TSF) FS SLEEVE FRICTION (TSF) U PORE PRESSURE (PSI) | <ul style="list-style-type: none"> RF FRICTION RATIO FS/QT (%) SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY SBT SOIL BEHAVIOR TYPE |
|--|--|

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 2 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

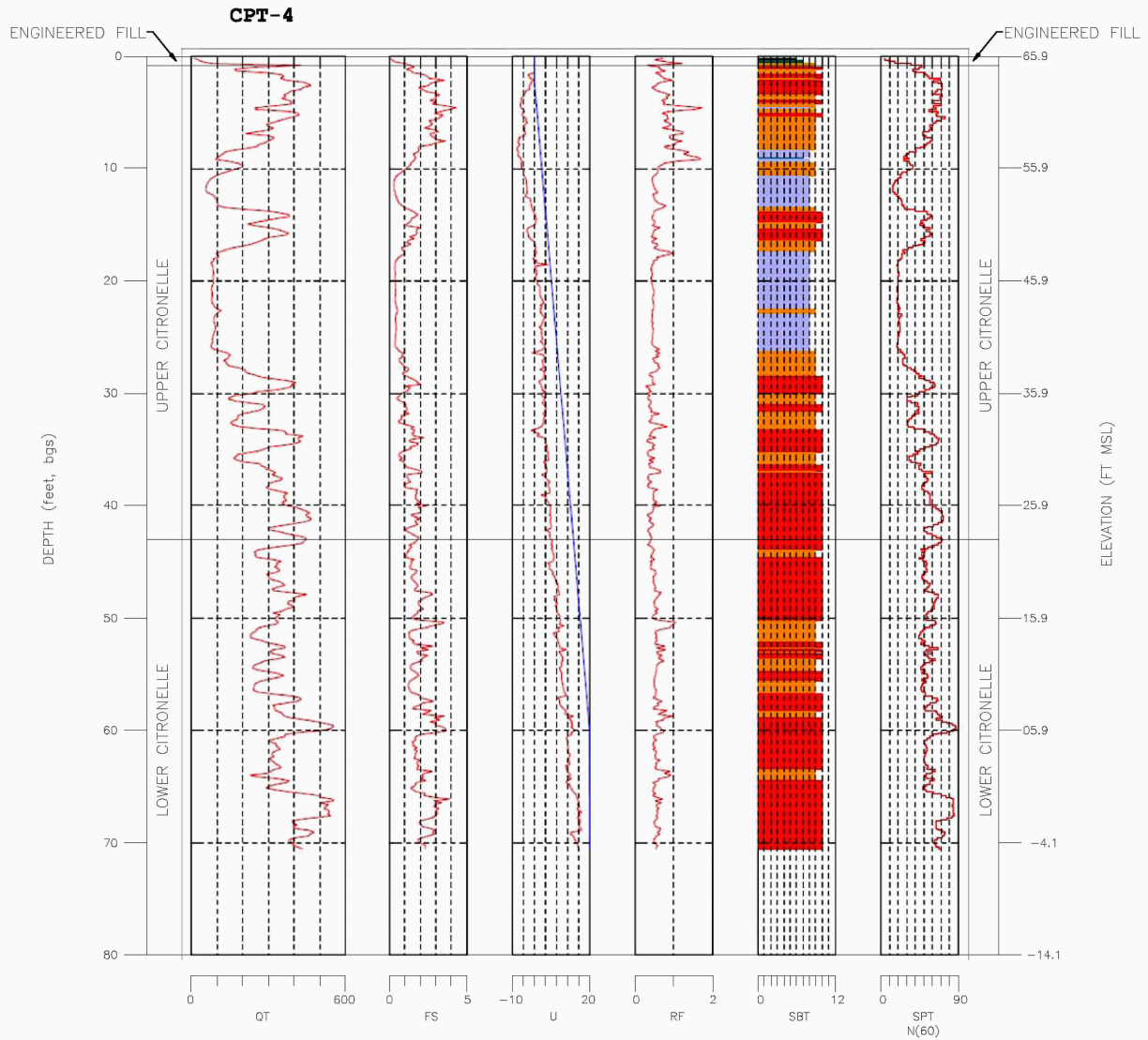
EXPLANATION

- | | | |
|-----------------------------------|---|---|
| QT CORRECTED TIP RESISTANCE (TSF) | RF FRICTION RATIO FS/QT (%) | SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY |
| FS SLEEVE FRICTION (TSF) | SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY | SBT SOIL BEHAVIOR TYPE |
| U PORE PRESSURE (PSI) | | |

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 3 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



MIXIMUM DEPTH = 70.2 FEET

DEPTH INCREMENT = 0.164 FEET

SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (+) 12. SAND TO CLAYEY SAND (+) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

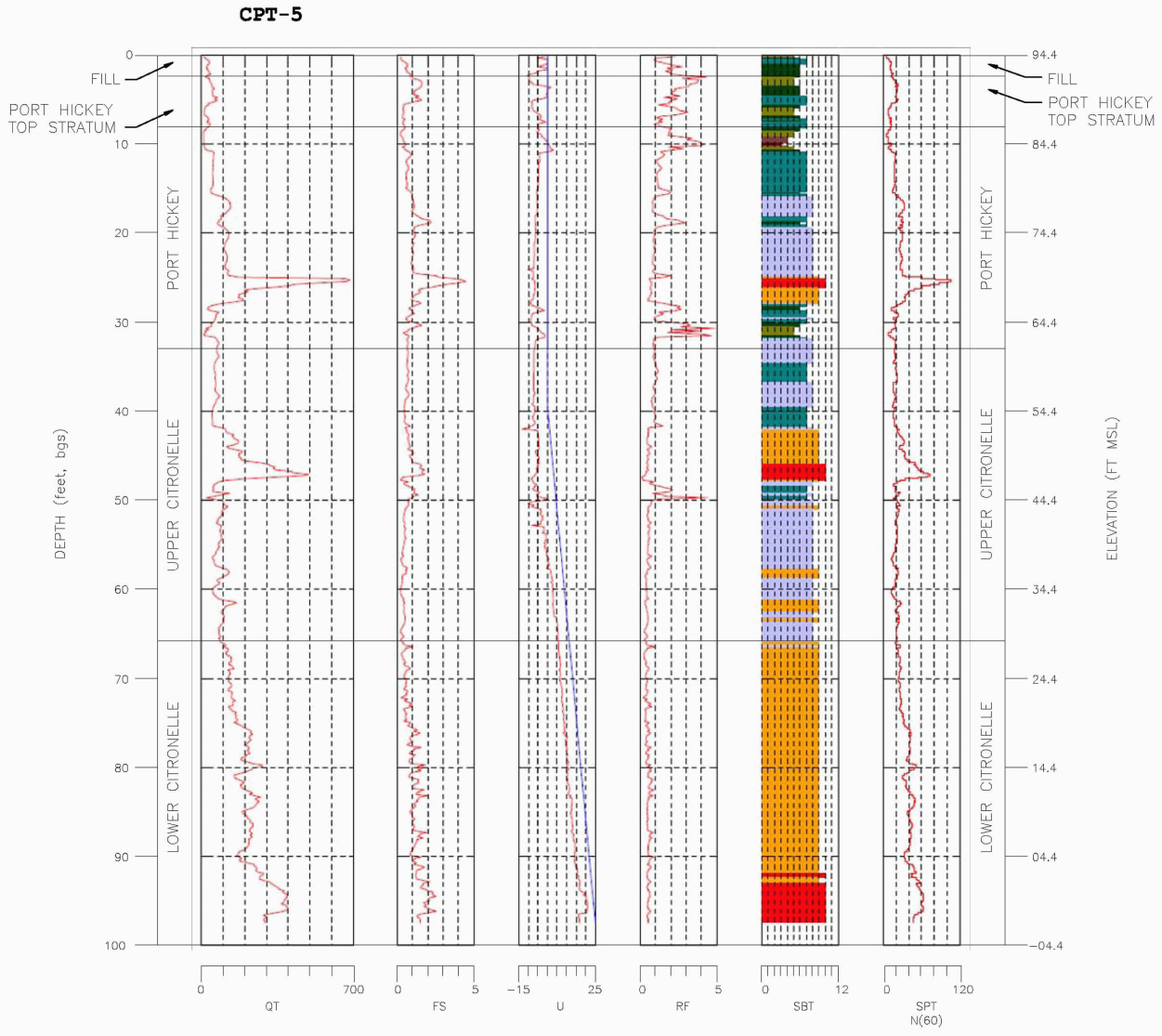
EXPLANATION

- | | | | |
|----|--------------------------------|-----------|---|
| QT | CORRECTED TIP RESISTANCE (TSF) | RF | FRICTION RATIO FS/QT (%) |
| FS | SLEEVE FRICTION (TSF) | SPT N(60) | STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY |
| U | PORE PRESSURE (PSI) | SBT | SOIL BEHAVIOR TYPE |

Figure 2.5.4-211. Cone Penetrometer Test Summary Logs (Sheet 4 of 9)

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

EXPLANATION

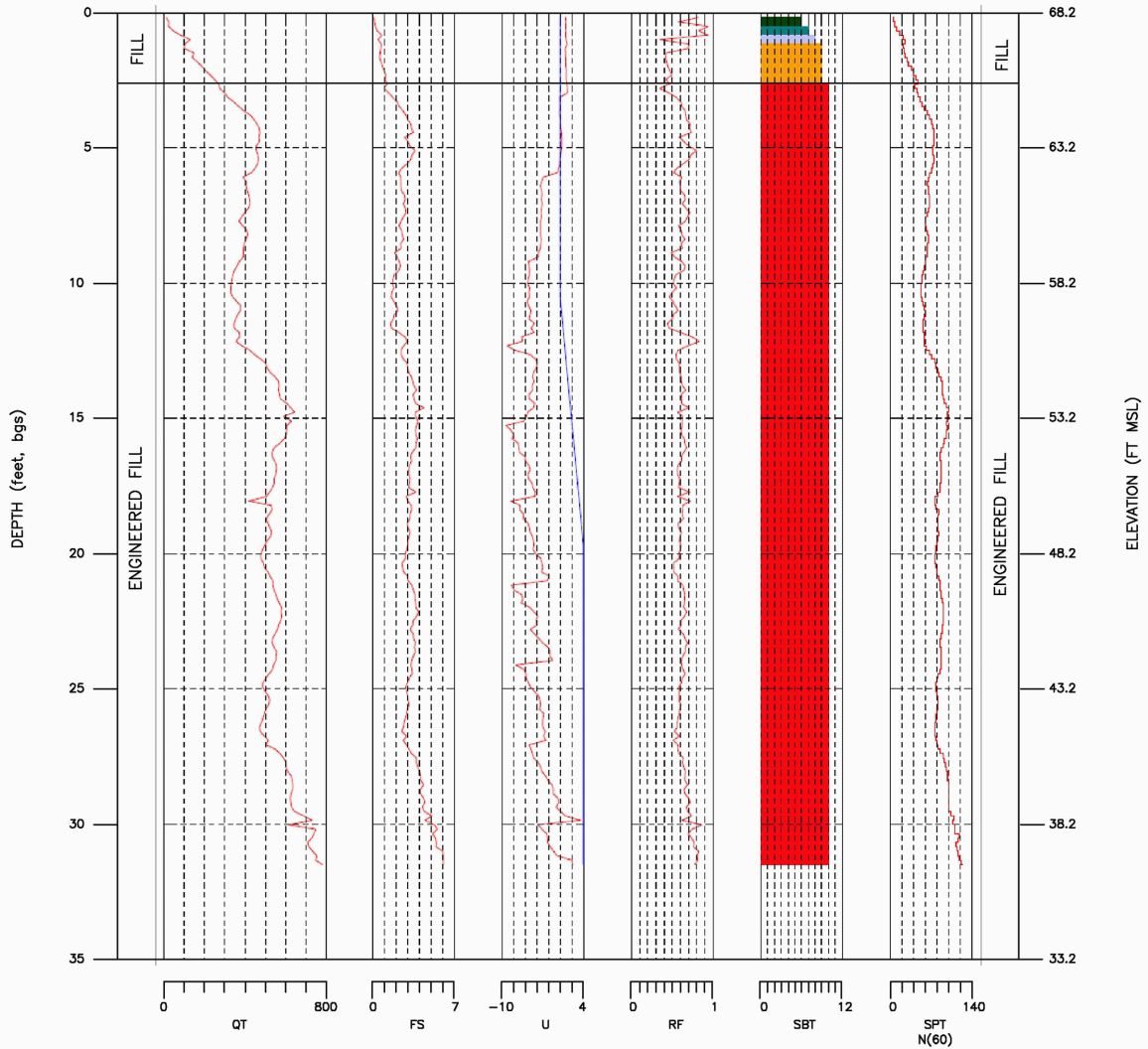
- | | |
|--|--|
| <ul style="list-style-type: none"> QT CORRECTED TIP RESISTANCE (TSF) FS SLEEVE FRICTION (TSF) U PORE PRESSURE (PSI) | <ul style="list-style-type: none"> RF FRICTION RATIO FS/QT (%) SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY SBT SOIL BEHAVIOR TYPE |
|--|--|

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 5 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR

CPT-6



MIXIMUM DEPTH = 31.60 FEET

DEPTH INCREMENT = 0.164 FEET

SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

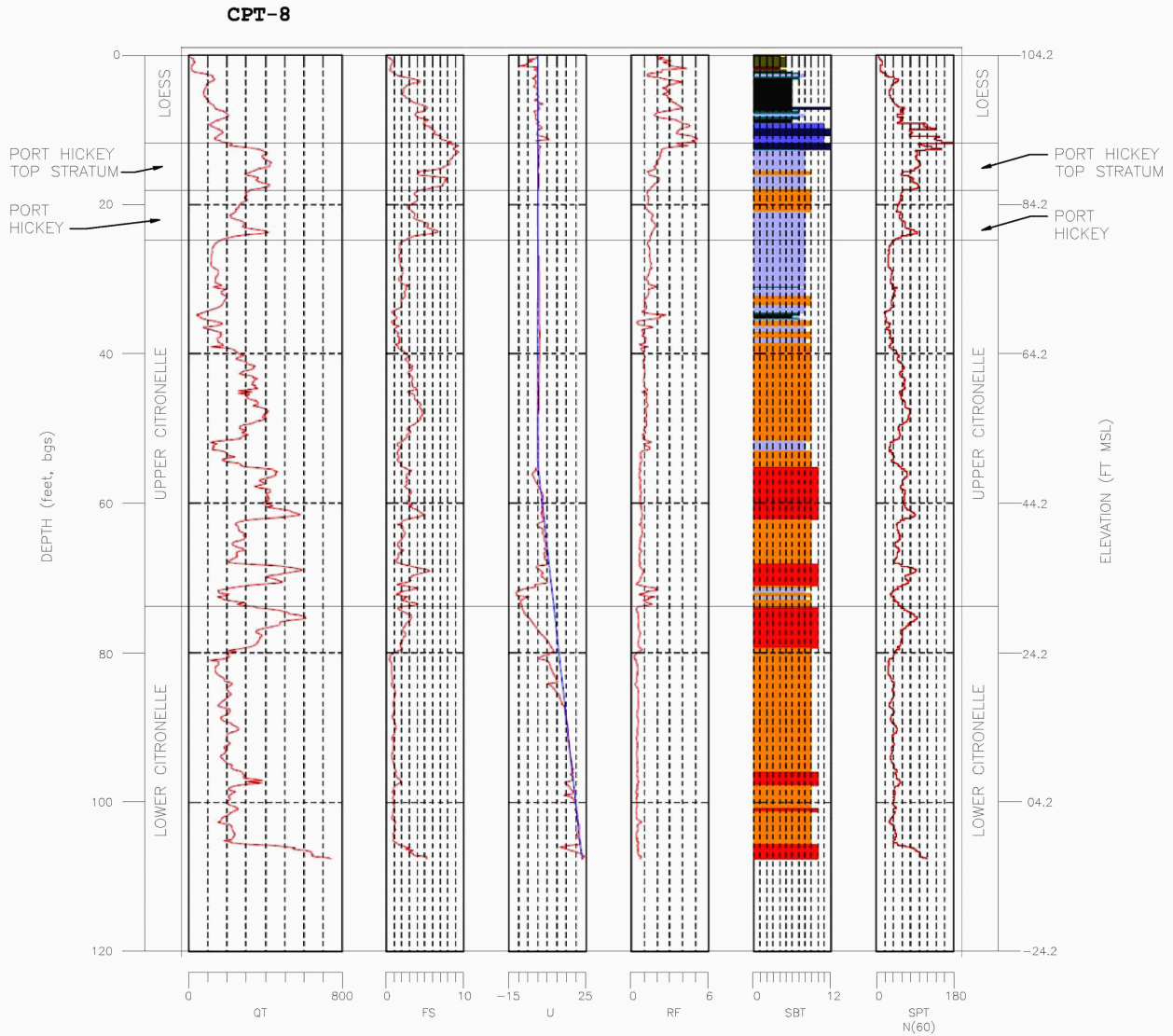
EXPLANATION

- | | |
|---|---|
| <p>QT CORRECTED TIP RESISTANCE (TSF)</p> <p>FS SLEEVE FRICTION (TSF)</p> <p>U PORE PRESSURE (PSI)</p> | <p>RF FRICTION RATIO FS/QT (%)</p> <p>SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY</p> <p>SBT SOIL BEHAVIOR TYPE</p> |
|---|---|

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 6 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR



SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

EXPLANATION

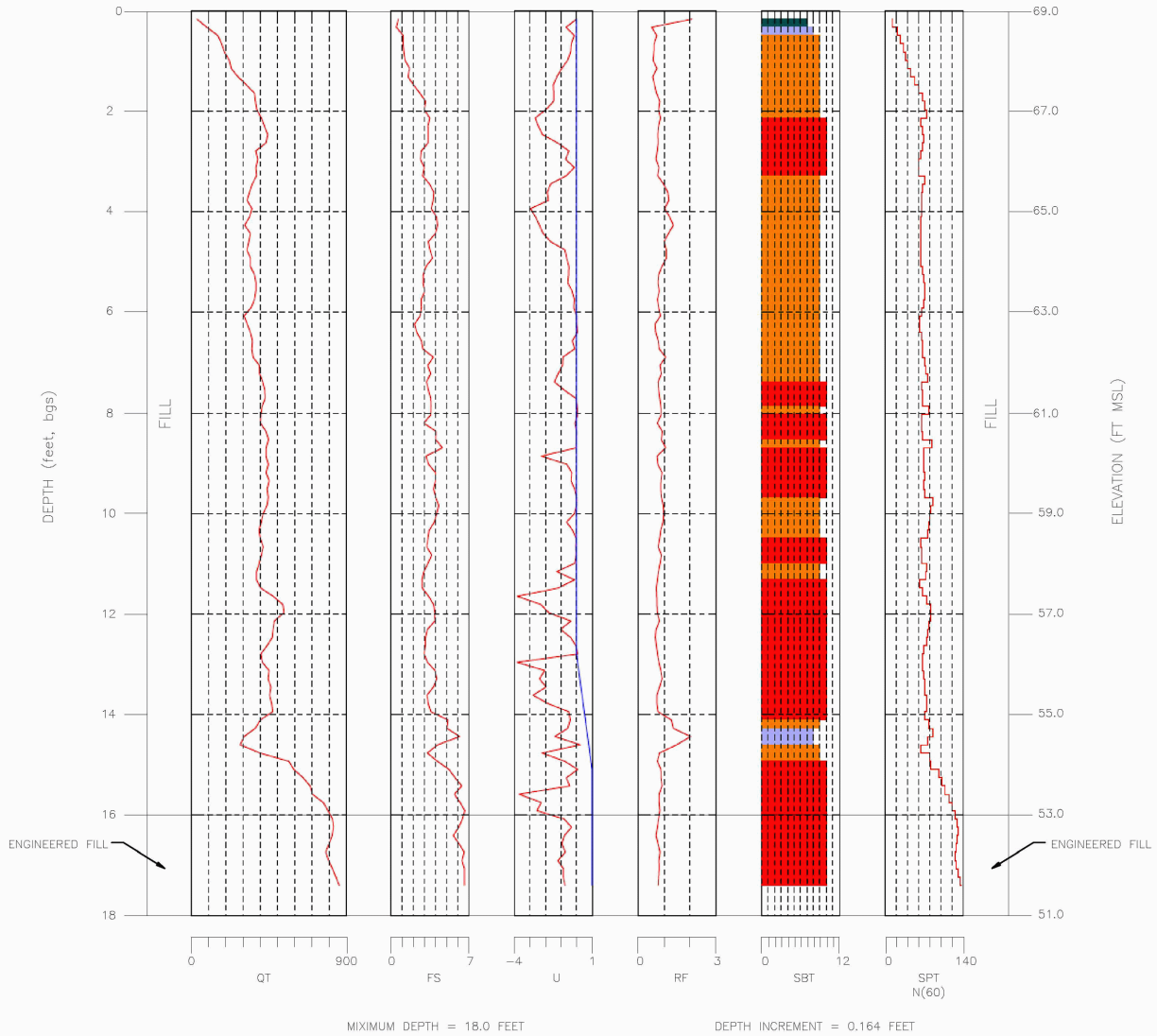
- | | |
|--|--|
| <ul style="list-style-type: none"> QT CORRECTED TIP RESISTANCE (TSF) FS SLEEVE FRICTION (TSF) U PORE PRESSURE (PSI) | <ul style="list-style-type: none"> RF FRICTION RATIO FS/QT (%) SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY SBT SOIL BEHAVIOR TYPE |
|--|--|

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 7 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR

CPT-9



SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

EXPLANATION

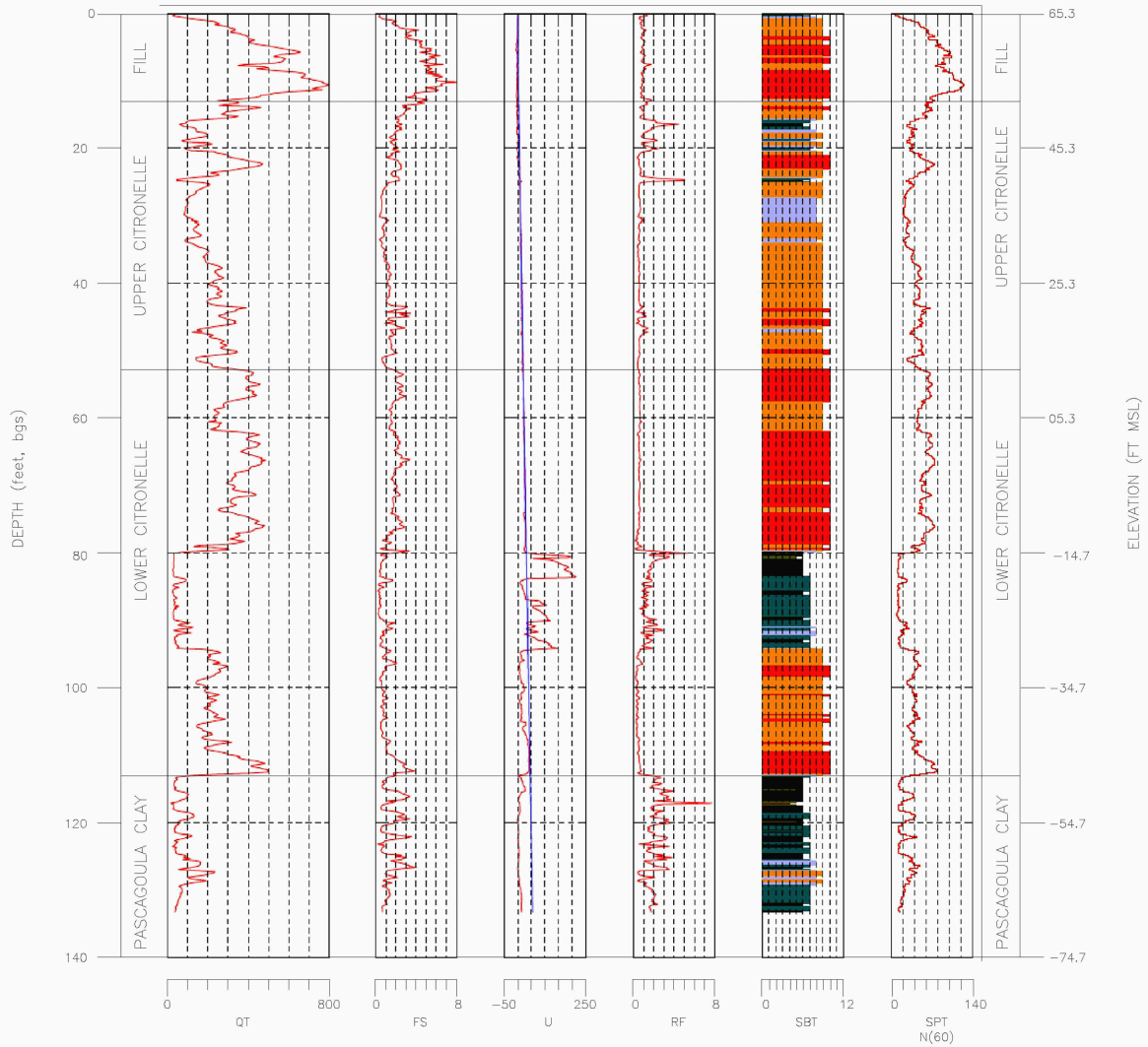
- | | | | |
|----|--------------------------------|-----|---|
| QT | CORRECTED TIP RESISTANCE (TSF) | RF | FRICTION RATIO FS/QT (%) |
| FS | SLEEVE FRICTION (TSF) | SPT | N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY |
| U | PORE PRESSURE (PSI) | SBT | SOIL BEHAVIOR TYPE |

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 8 of 9)**

Revision 0

River Bend Station, Unit 3 COL Application Part 2, FSAR

CPT-10



MIXIMUM DEPTH = 133.20 FEET

DEPTH INCREMENT = 0.164 FEET

SBT LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. SENSITIVE FINE GRAINED 2. ORGANIC MATERIAL 3. CLAY 4. SILTY CLAY TO CLAY 5. CLAYEY SILT TO SILTY CLAY 6. SANDY SILT TO CLAYEY SILT | <ul style="list-style-type: none"> 7. SILTY SAND TO SANDY SILT 8. SAND TO SILTY SAND 9. SAND 10. GRAVELLY SAND TO SAND 11. VERY STIFF FINE GRAINED (*) 12. SAND TO CLAYEY SAND (*) |
|--|--|

* SOIL BEHAVIOR TYPE AND SPT BASED ON DATA FROM UBC-1983

— STATIC WATER LEVEL

GROUND WATER NOT MEASURED DUE TO COLLAPSED HOLE.

EXPLANATION

- | | |
|-----------------------------------|---|
| QT CORRECTED TIP RESISTANCE (TSF) | RF FRICTION RATIO FS/QT (%) |
| FS SLEEVE FRICTION (TSF) | SPT N(60) STANDARD PENETRATION TEST N-VALUE AT 60% ENERGY |
| U PORE PRESSURE (PSI) | SBT SOIL BEHAVIOR TYPE |

**Figure 2.5.4-211. Cone Penetrometer Test Summary Logs
(Sheet 9 of 9)**

Revision 0

River Bend Station, Unit 3
COL Application
Part 2, FSAR



Figure 2.5.4-212. Photographed Sample of Loess

River Bend Station, Unit 3
COL Application
Part 2, FSAR

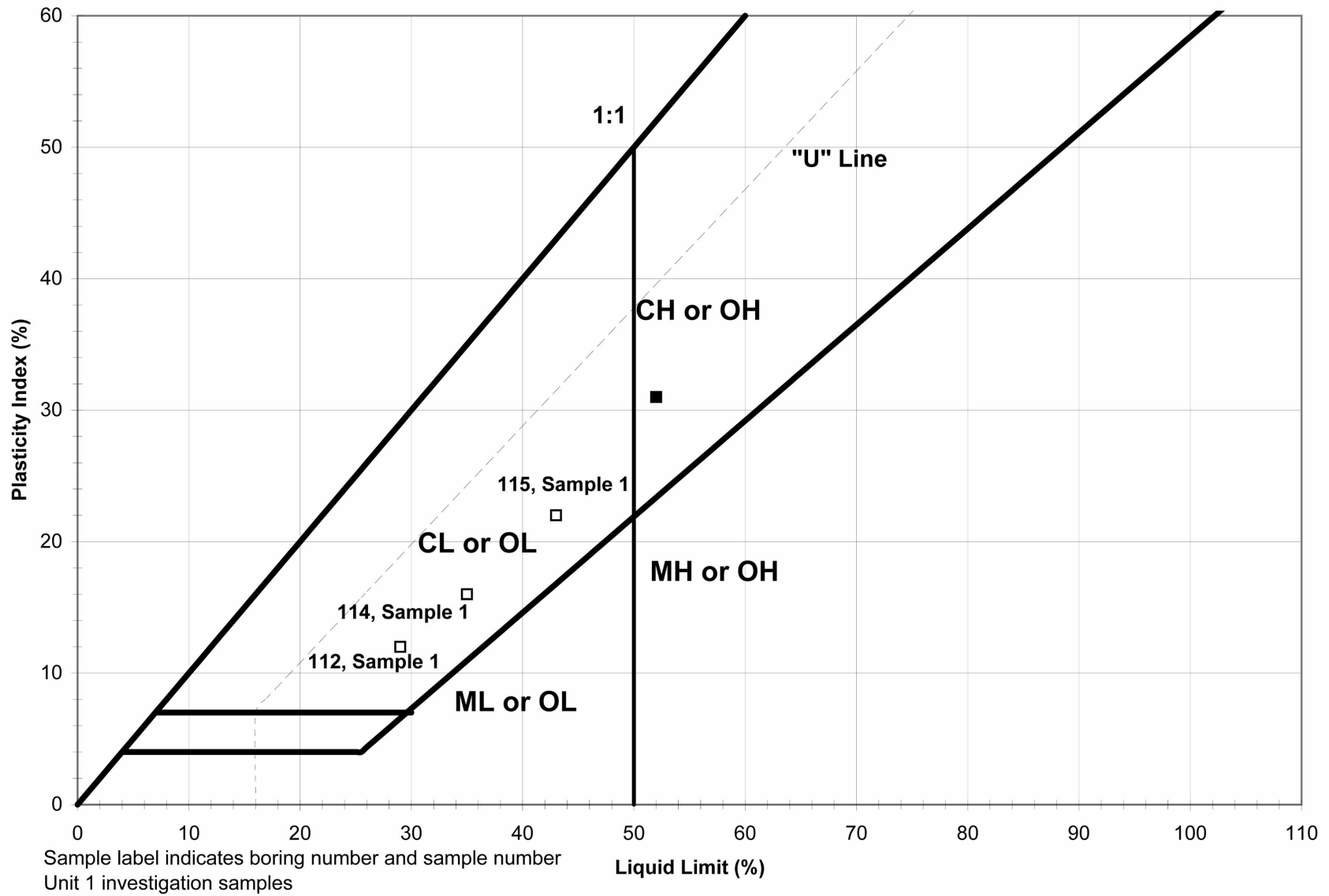


Figure 2.5.4-213. Plasticity Chart, Loess

River Bend Station, Unit 3
COL Application
Part 2, FSAR



Figure 2.5.4-214. Photographed Sample of Port Hickey Top Stratum

River Bend Station, Unit 3
COL Application
Part 2, FSAR

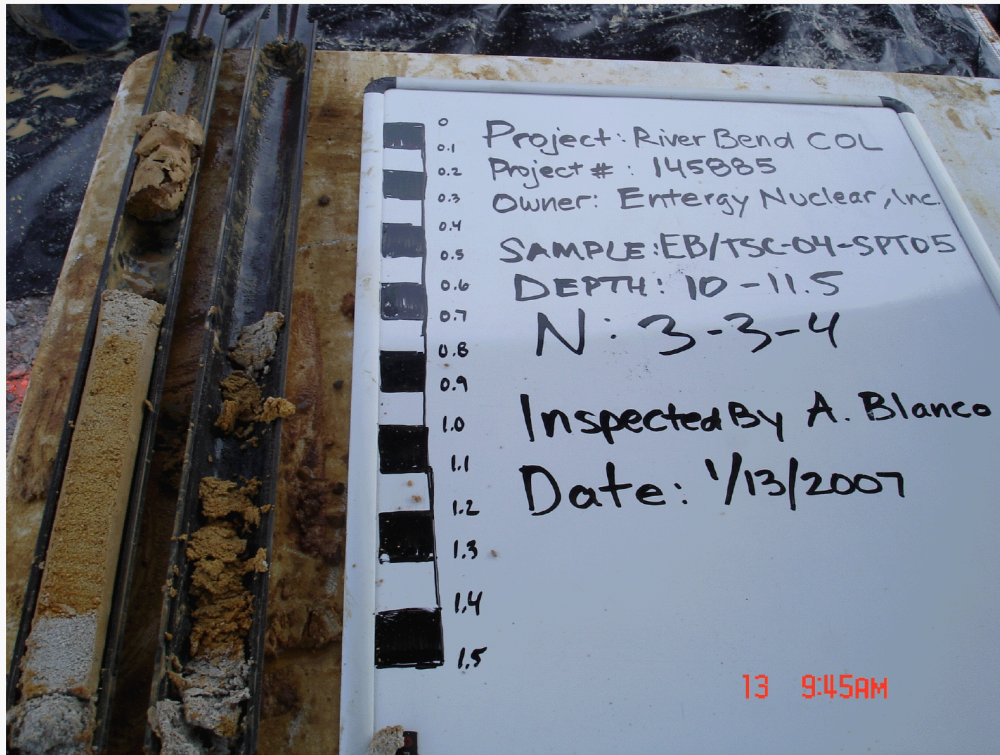


Figure 2.5.4-215. Photographed Sample of Port Hickey Formation

River Bend Station, Unit 3
COL Application
Part 2, FSAR

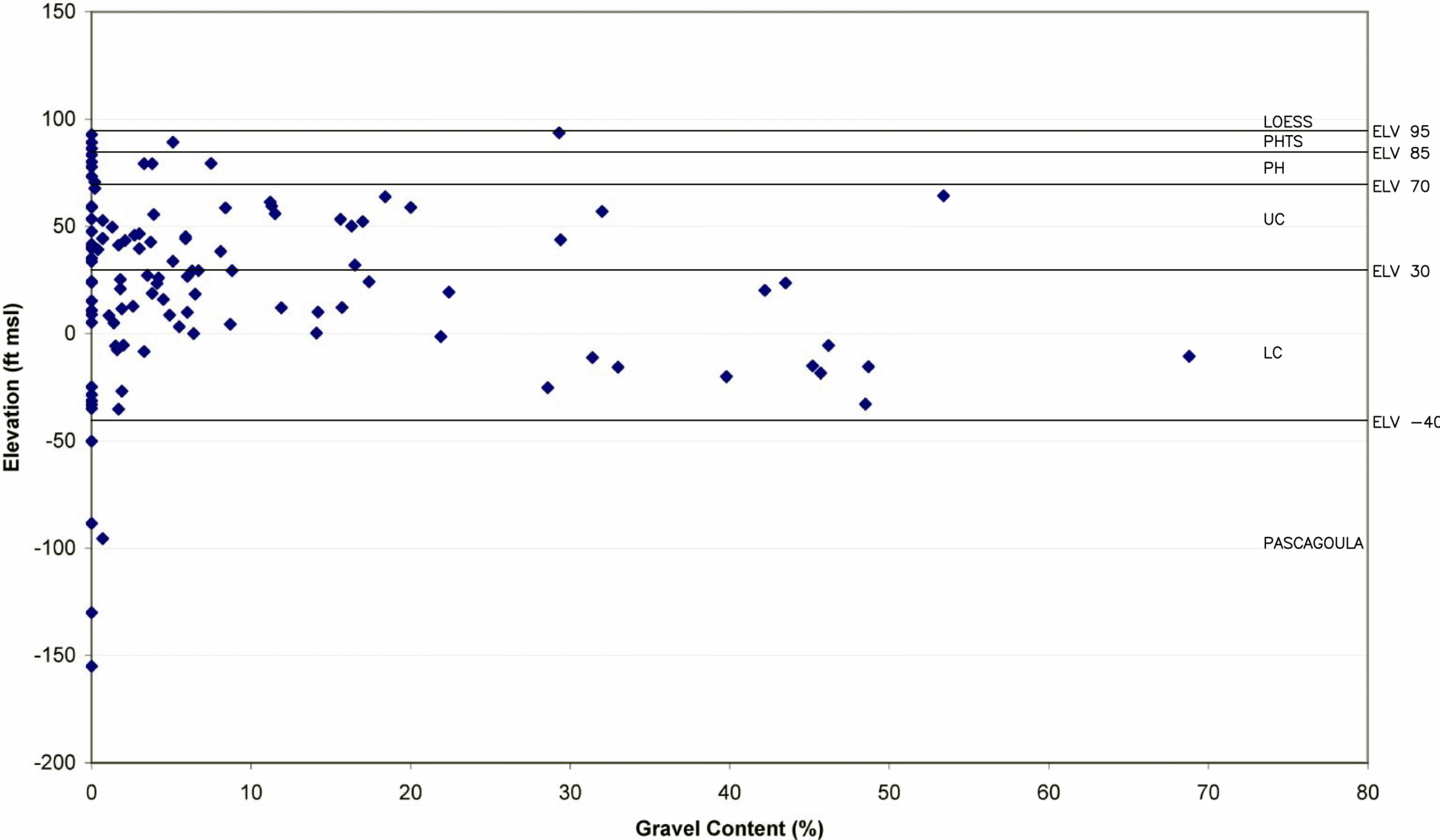


Figure 2.5.4-216. Gravel Content

River Bend Station, Unit 3
COL Application
Part 2, FSAR

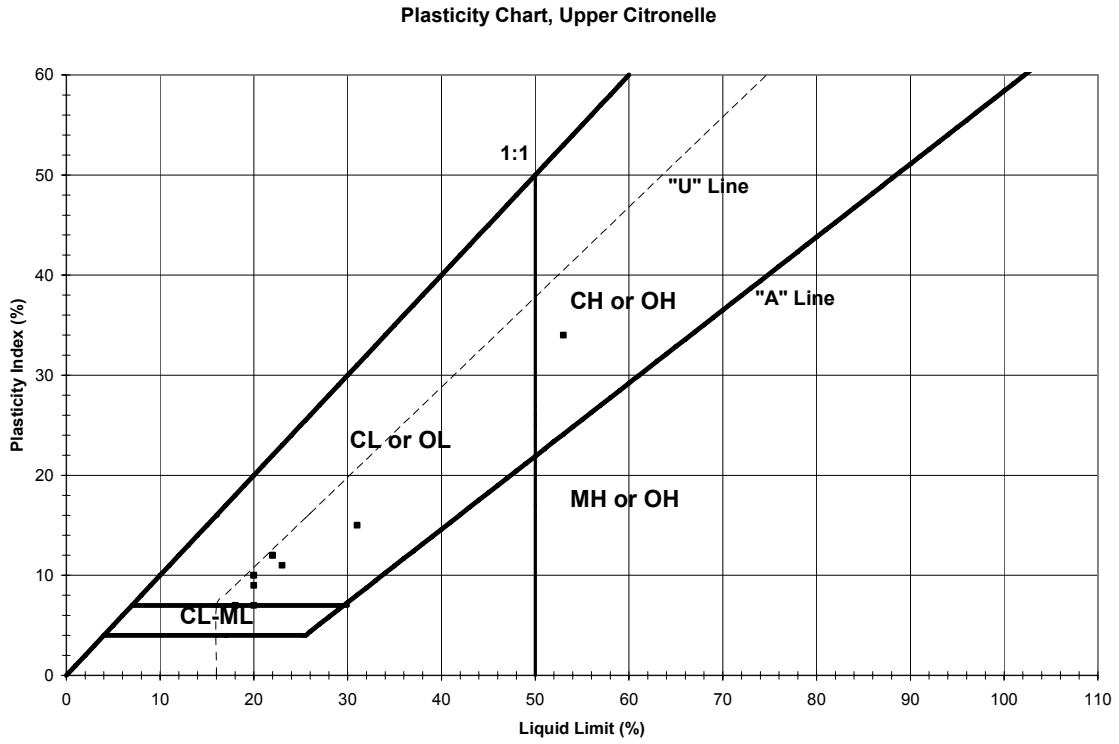


Figure 2.5.4-217. Plasticity Chart, Upper Citronelle

River Bend Station, Unit 3
COL Application
Part 2, FSAR



Figure 2.5.4-218. Photographed Sample of Upper Citronelle

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

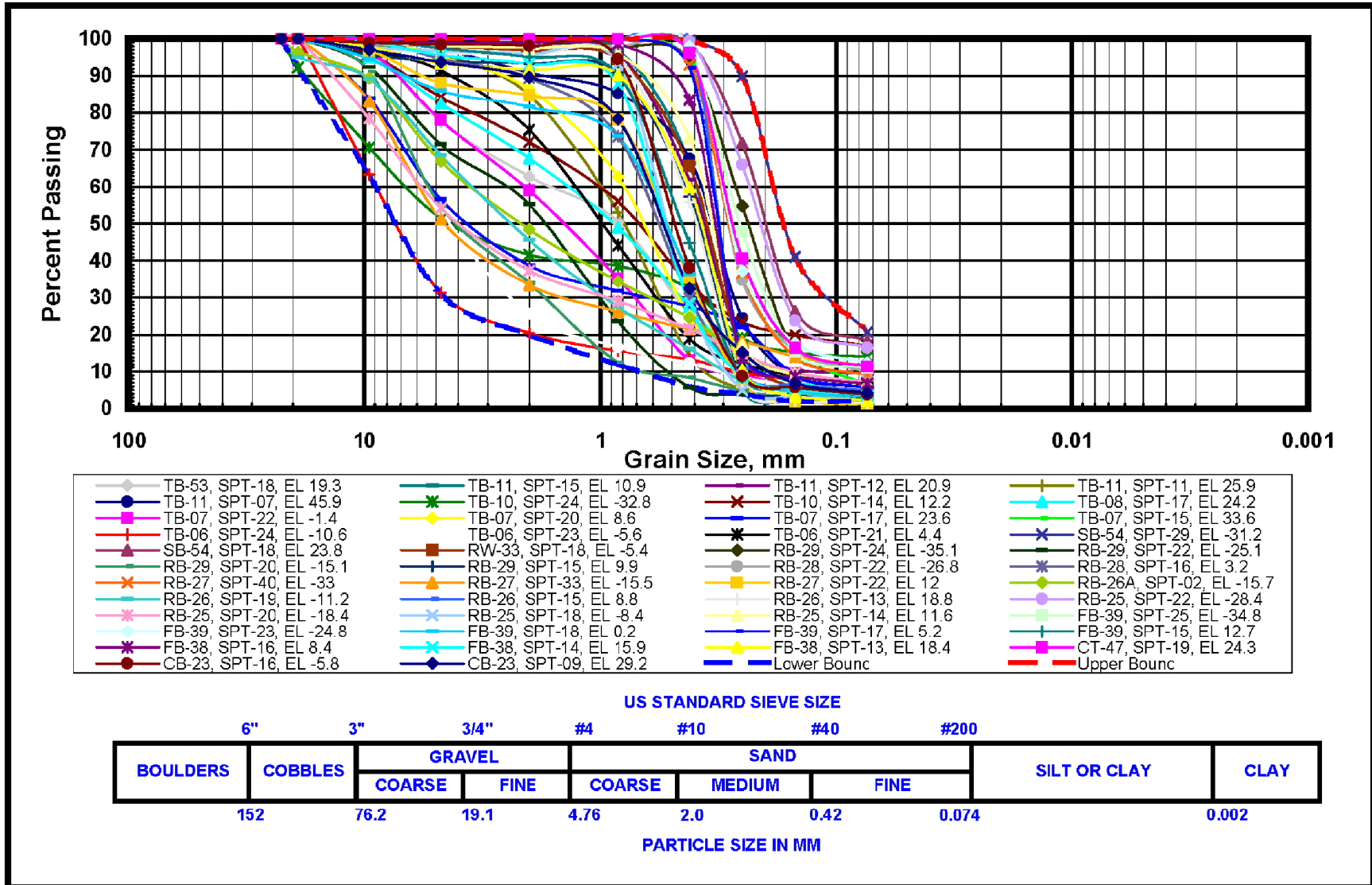


Figure 2.5.4-219. Grain Size Distributions, Lower Citronelle

River Bend Station, Unit 3
COL Application
Part 2, FSAR

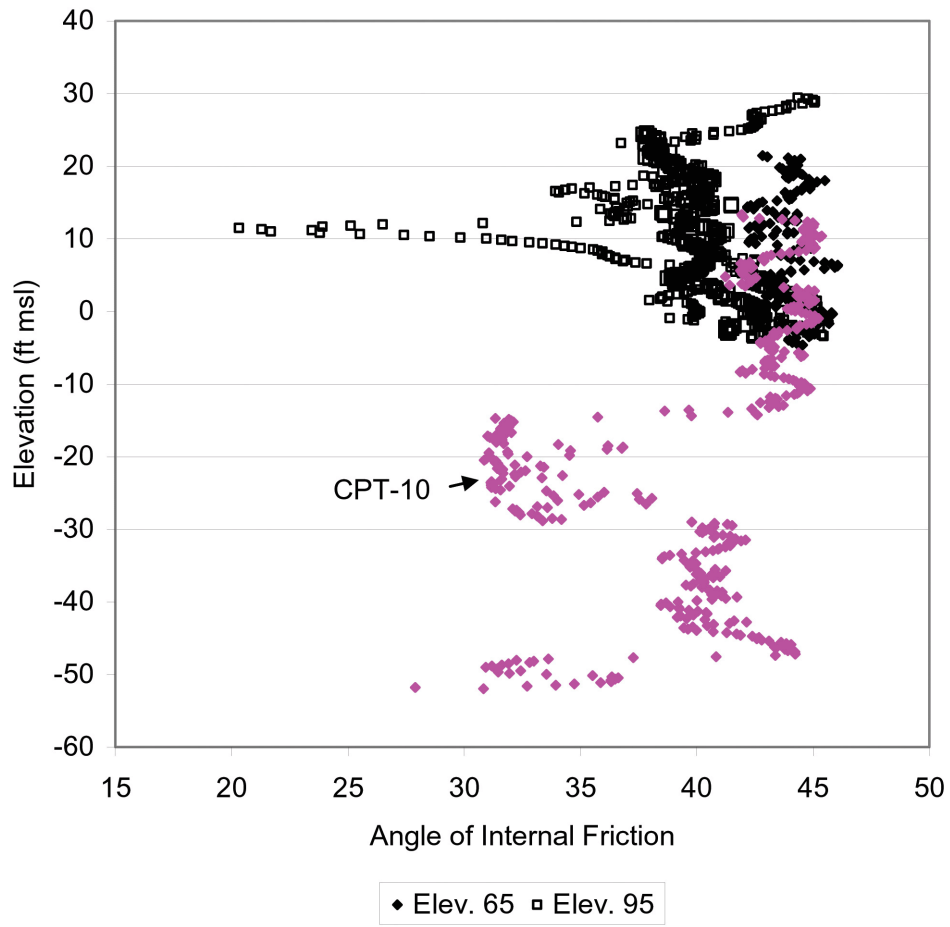


Figure 2.5.4-220. Angle of Internal Friction, Lower Citronelle, Based on CPT Soundings

River Bend Station, Unit 3
COL Application
Part 2, FSAR

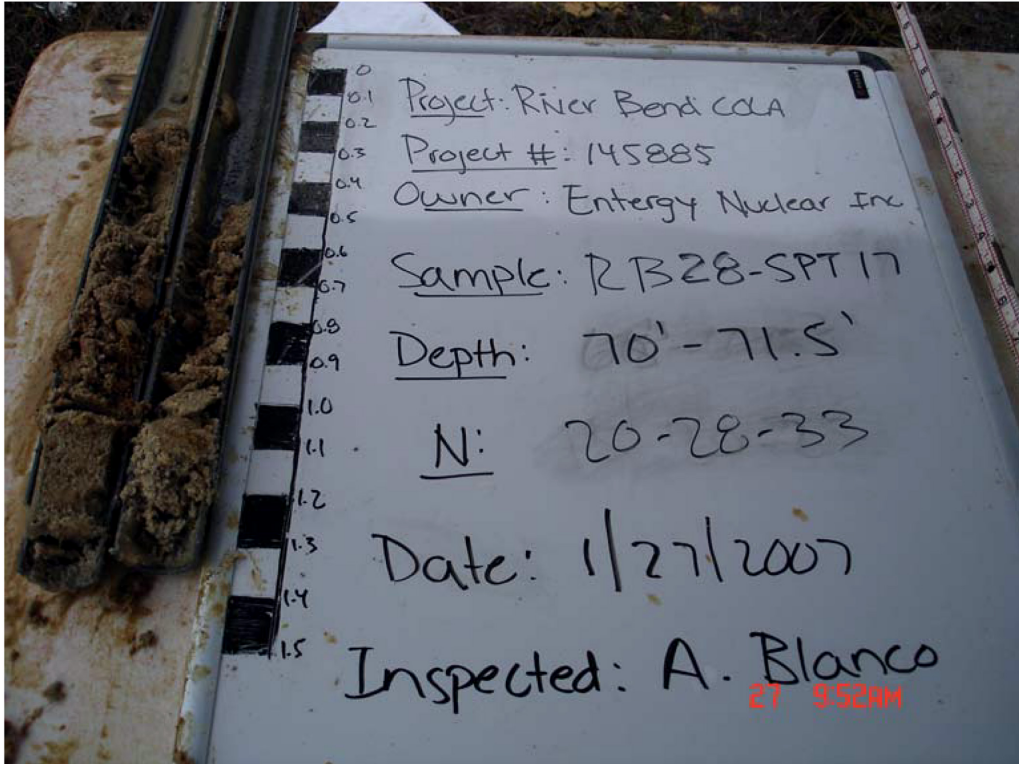


Figure 2.5.4-221. Photographed Sample of Lower Citronelle

Revision 0

River Bend Station, Unit 3
COL Application
Part 2, FSAR

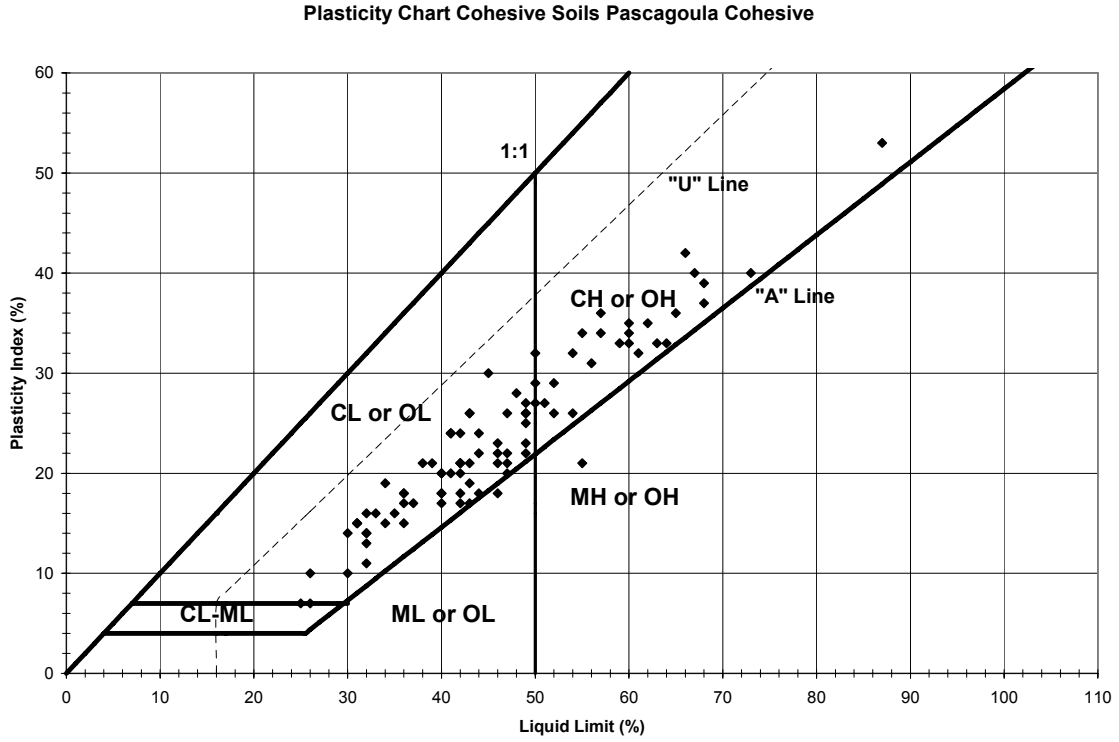


Figure 2.5.4-222. Plasticity Chart, Pascagoula Formation

River Bend Station, Unit 3
COL Application
Part 2, FSAR

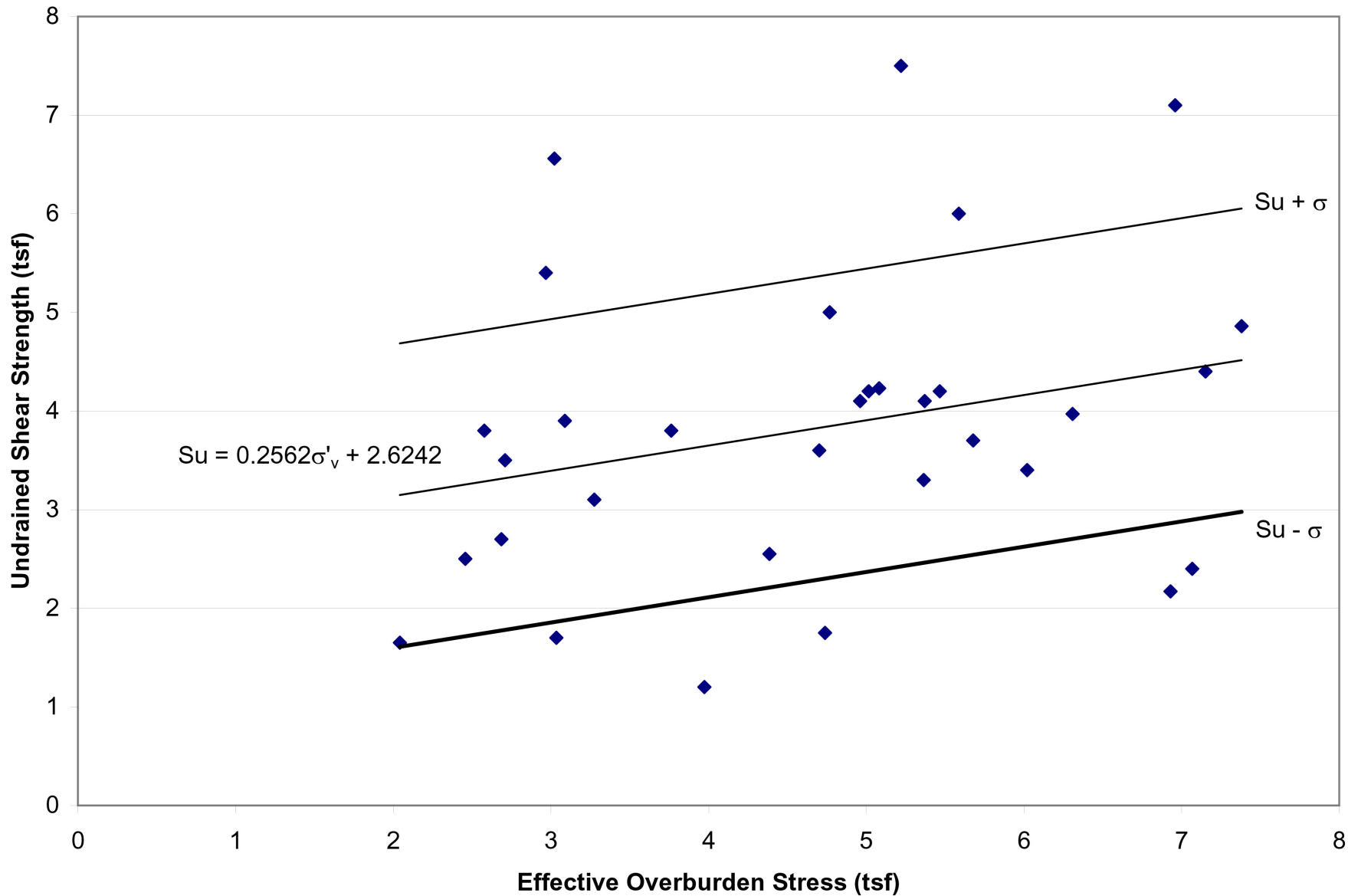


Figure 2.5.4-223. Undrained Shear Strength as a Function of Effective Overburden Stress, Pascagoula Formation

River Bend Station, Unit 3
COL Application
Part 2, FSAR

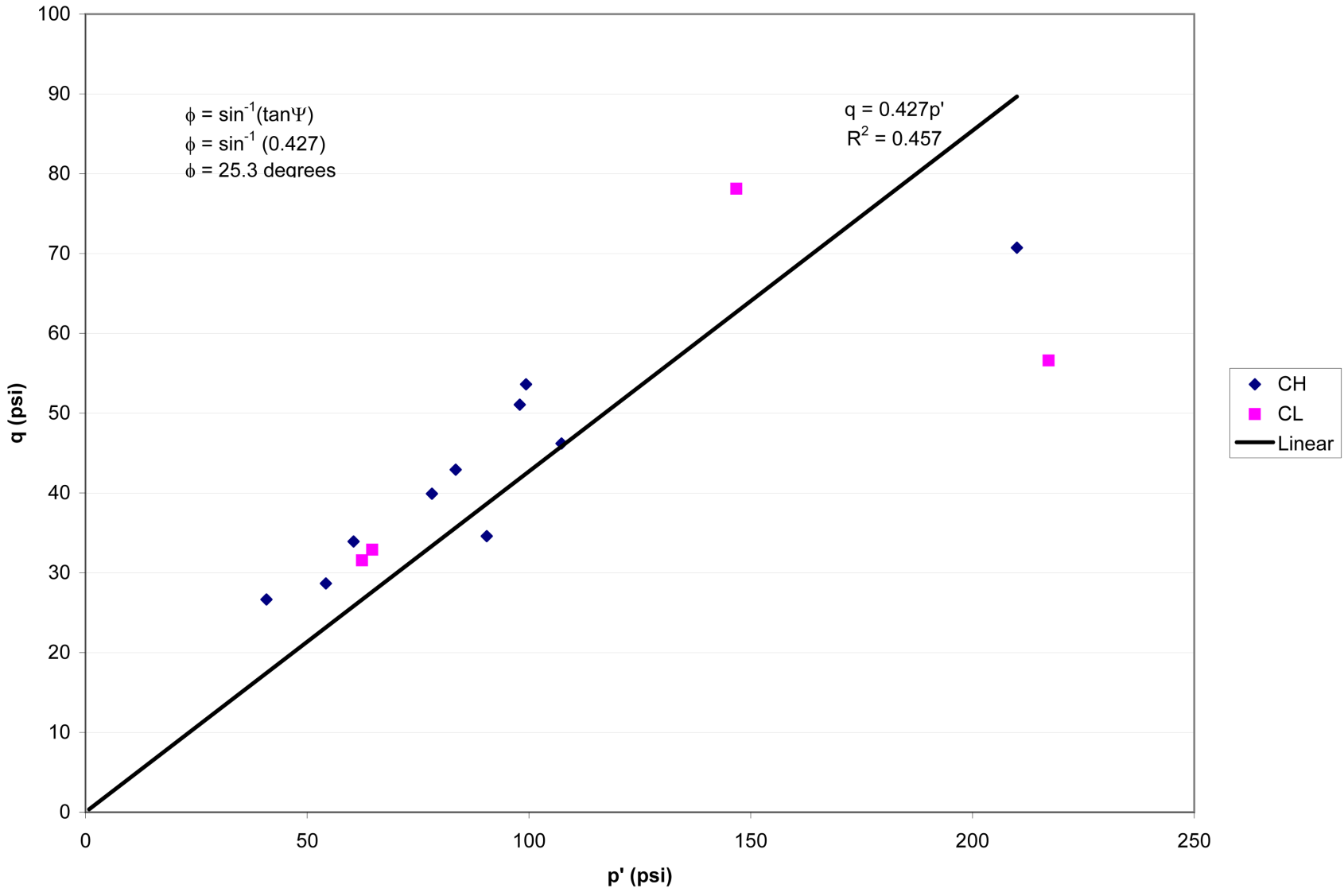
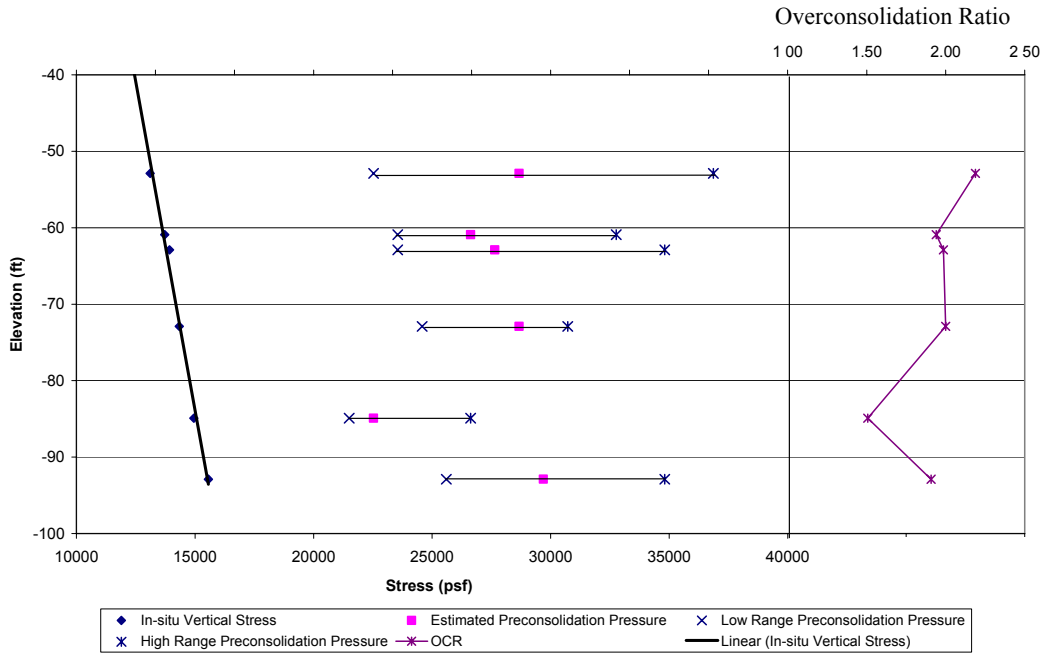


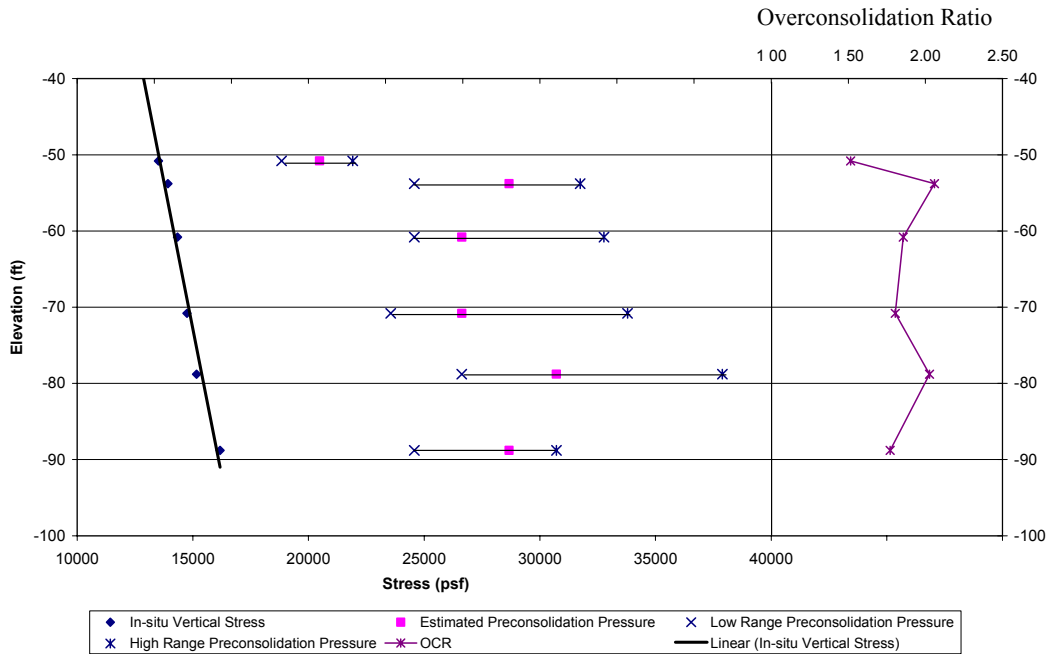
Figure 2.5.4-224. Failure Envelope, Pascagoula Formation

River Bend Station, Unit 3 COL Application Part 2, FSAR

Boring 136 Effective Vertical Stress and Preconsolidation Pressure

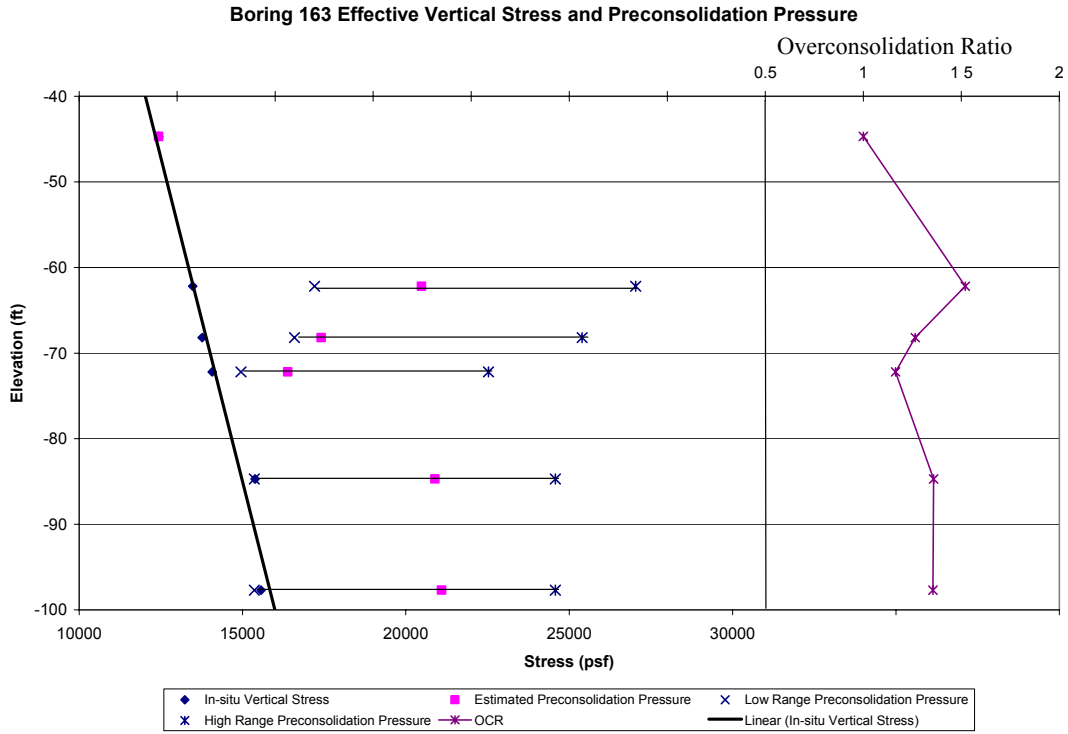


Boring 138 Effective Vertical Stress and Preconsolidation Pressure



**Figure 2.5.4-225. Consolidation Test Results, RBS Unit 1 Site Investigation
(Sheet 1 of 2)**

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**



**Figure 2.5.4-225. Consolidation Test Results, RBS Unit 1 Site Investigation
(Sheet 2 of 2)**

River Bend Station, Unit 3
COL Application
Part 2, FSAR
Engineered Fill

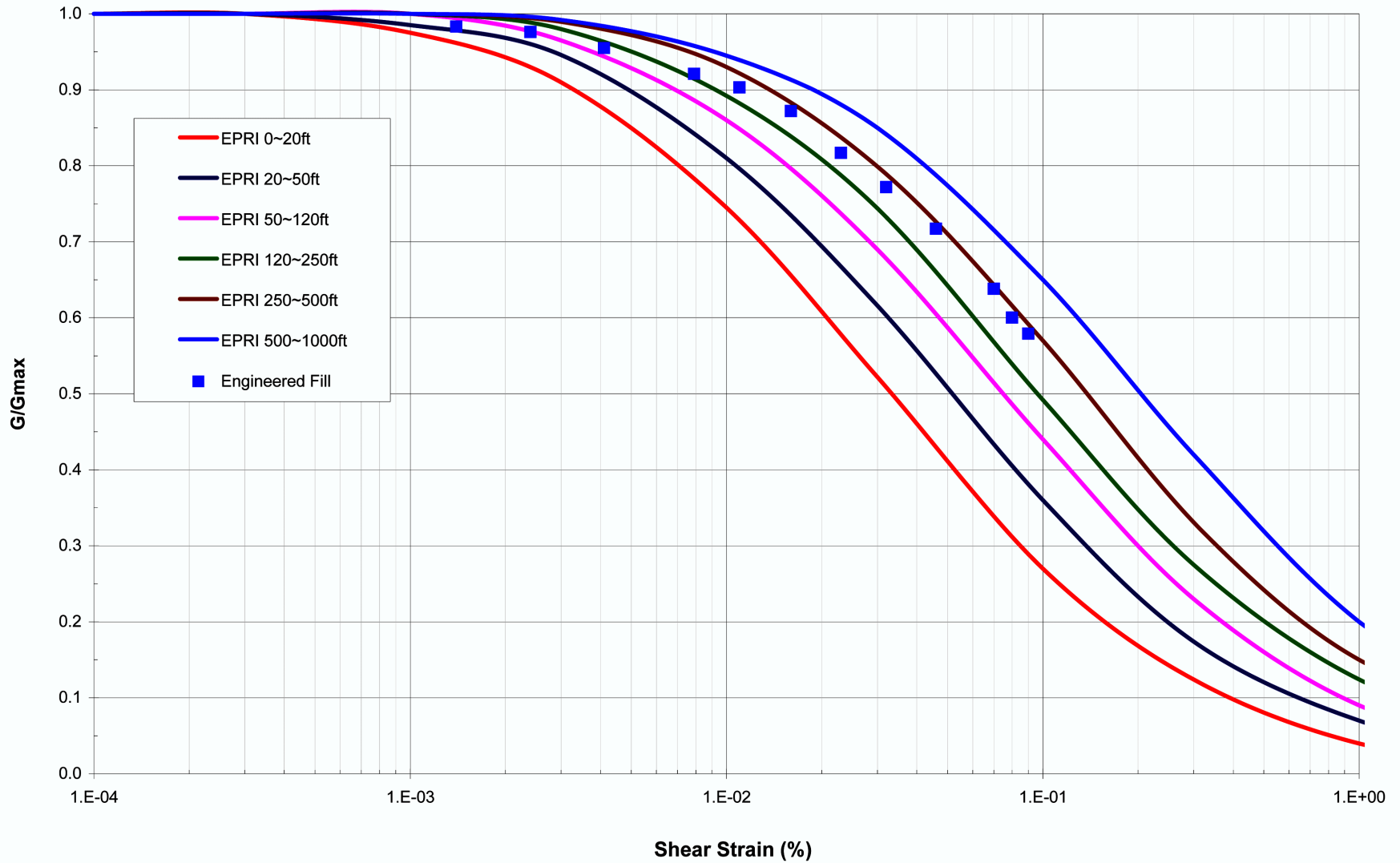


Figure 2.5.4-226. Shear Modulus Reduction Curves and Test Data at In Situ Confining Stress
(Sheet 1 of 4)

River Bend Station, Unit 3
 COL Application
 Part 2, FSAR

Modulus Reduction Sands Lower Citronelle, 1x In Situ Confining Stress

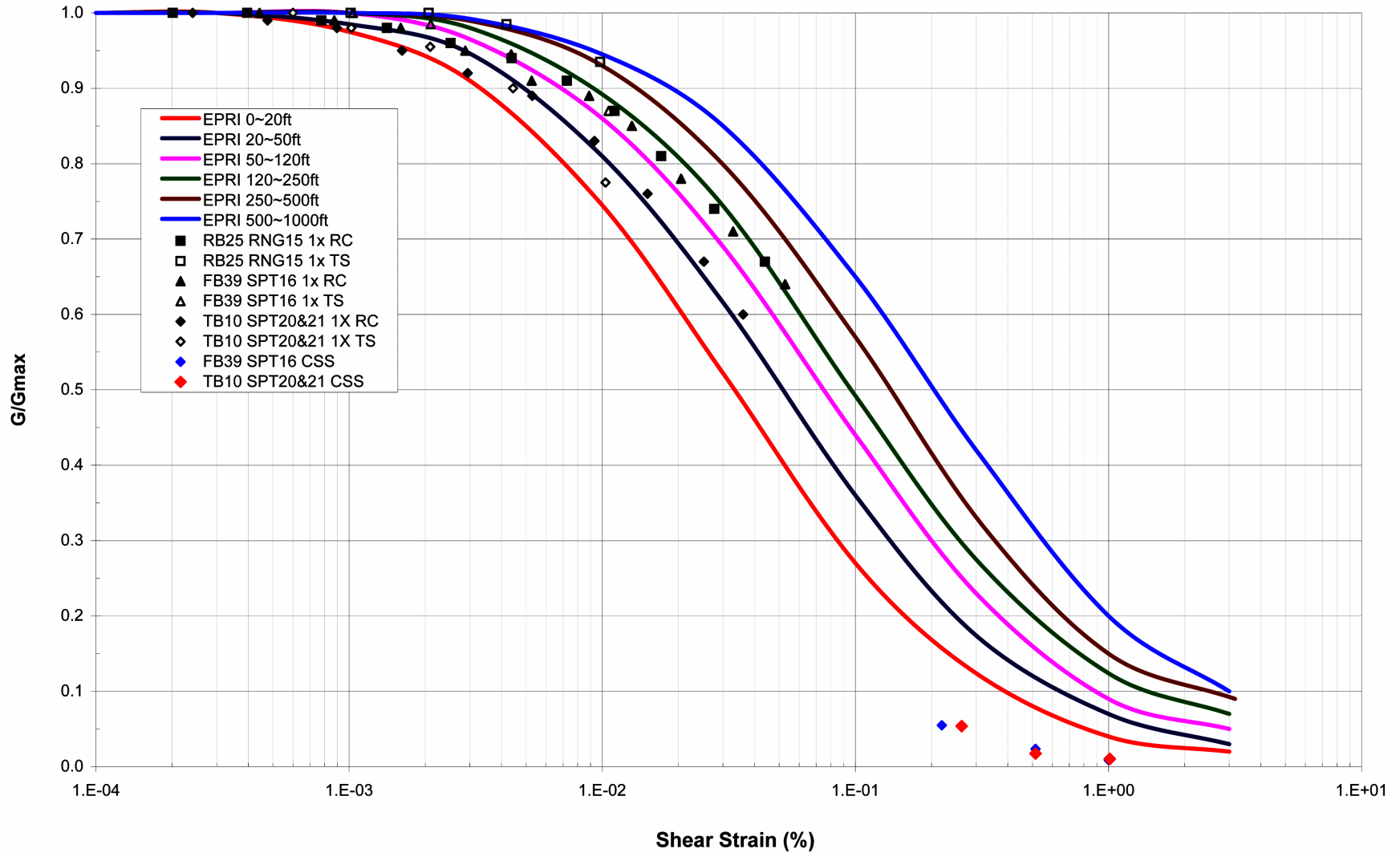


Figure 2.5.4-226. Shear Modulus Reduction Curves and Test Data at In Situ Confining Stress
 (Sheet 2 of 4)

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Modulus Reduction, Clays Pascagoula Formation, 1x In Situ Confining Stress, Corrected

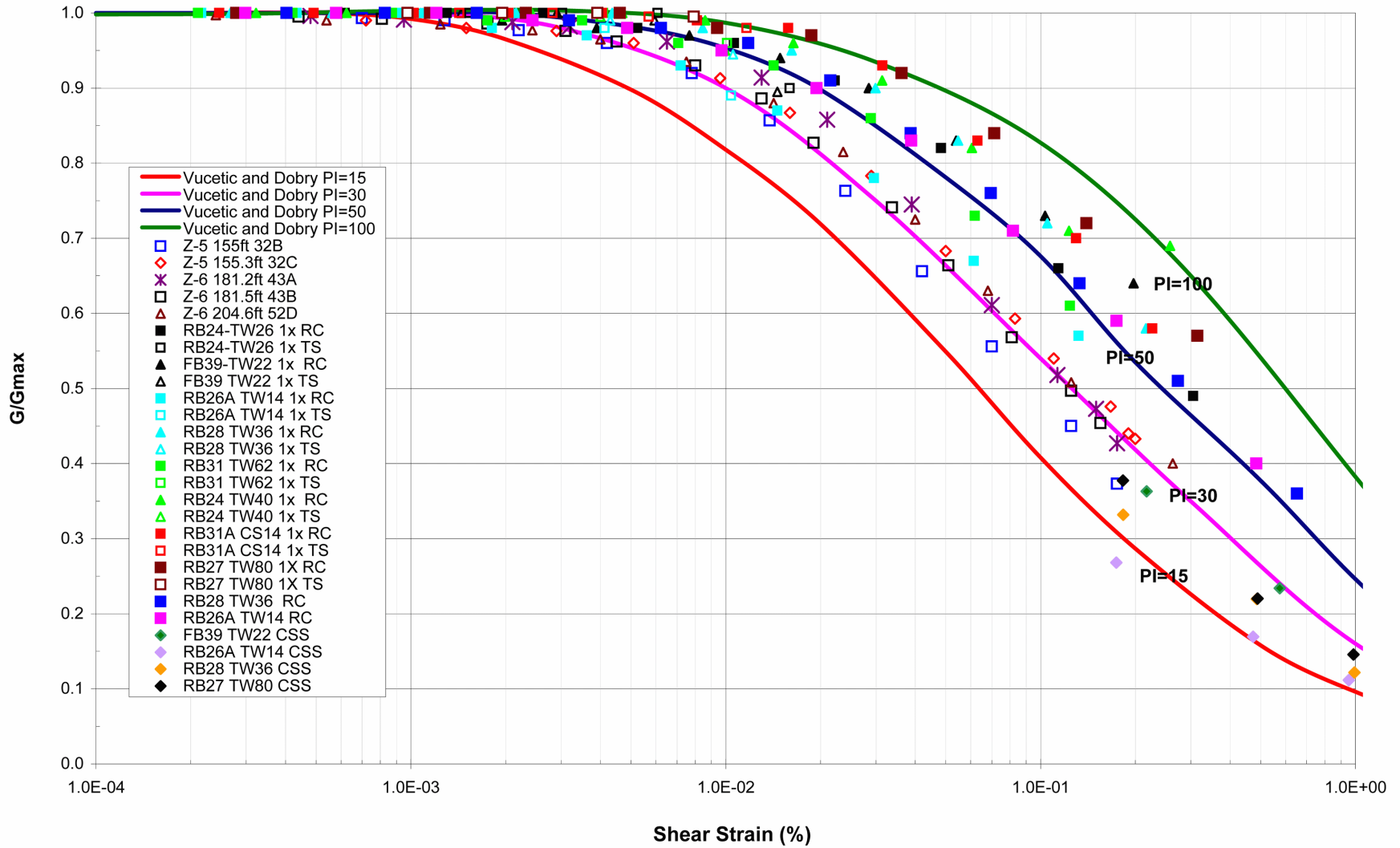


Figure 2.5.4-226. Shear Modulus Reduction Curves and Test Data at In Situ Confining Stress
(Sheet 3 of 4)

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Modulus Reduction Sands Pascagoula

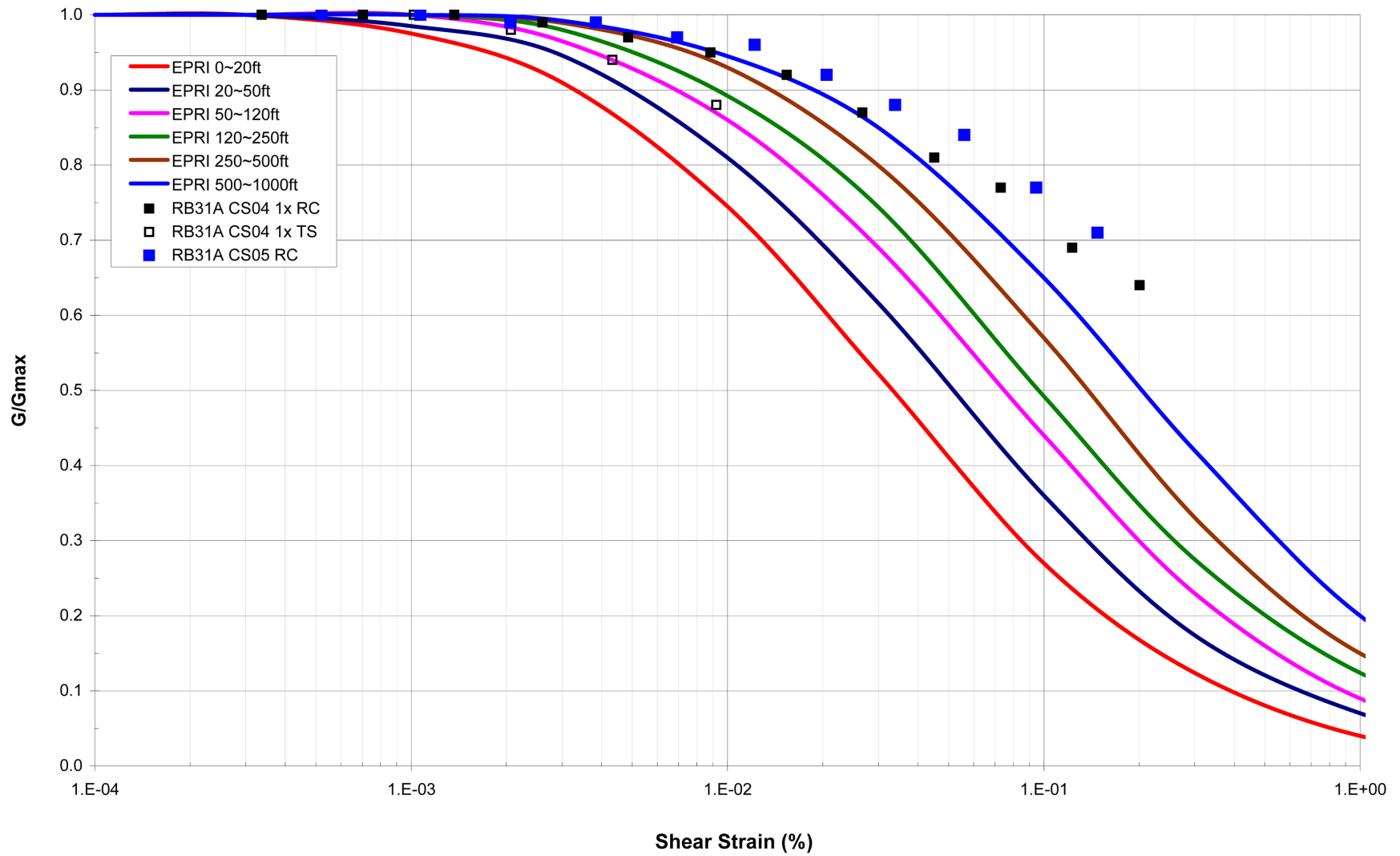


Figure 2.5.4-226. Shear Modulus Reduction Curves and Test Data at In Situ Confining Stress
(Sheet 4 of 4)

Revision 0

River Bend Station, Unit 3
COL Application
Part 2, FSAR
Engineered Fill

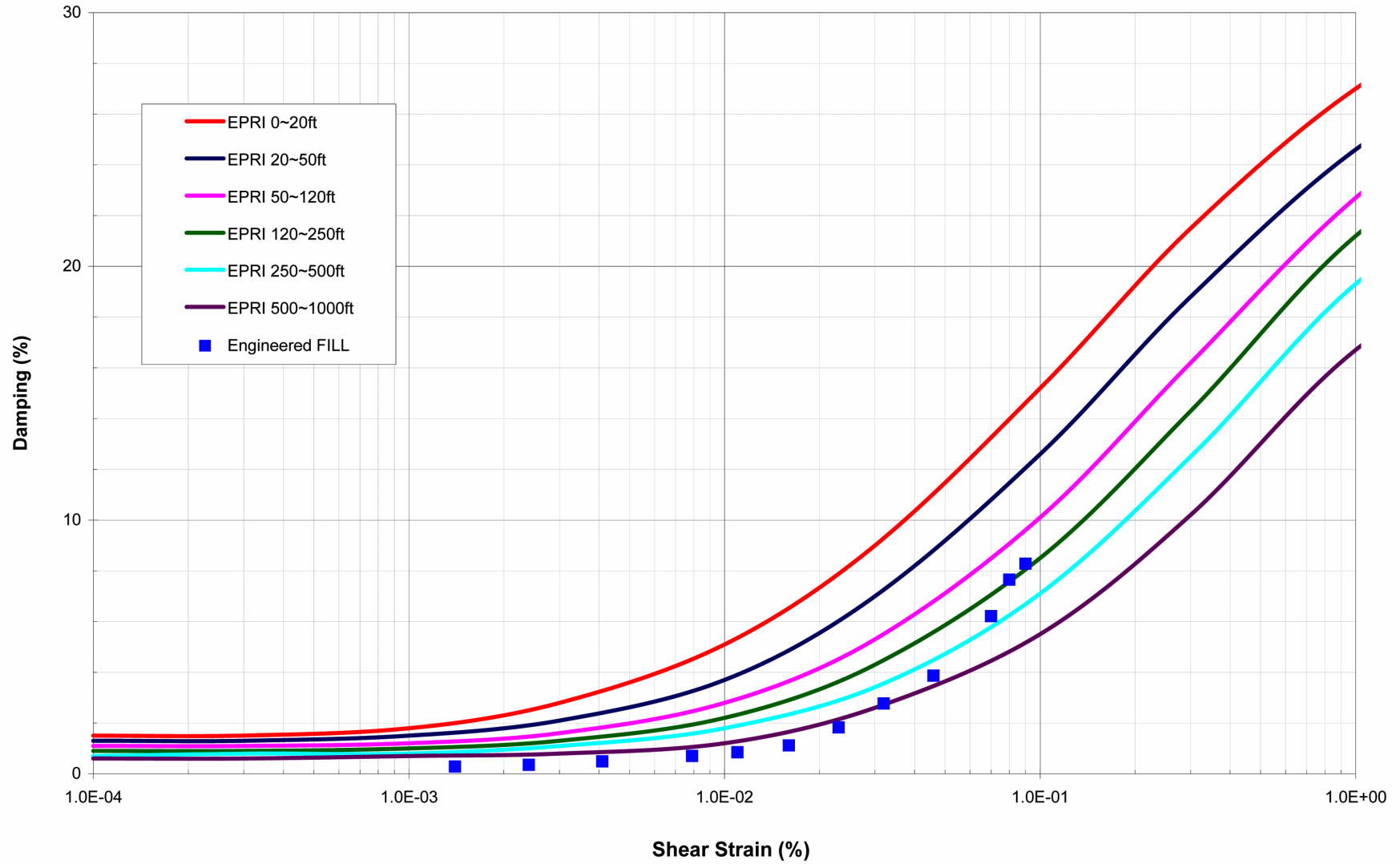
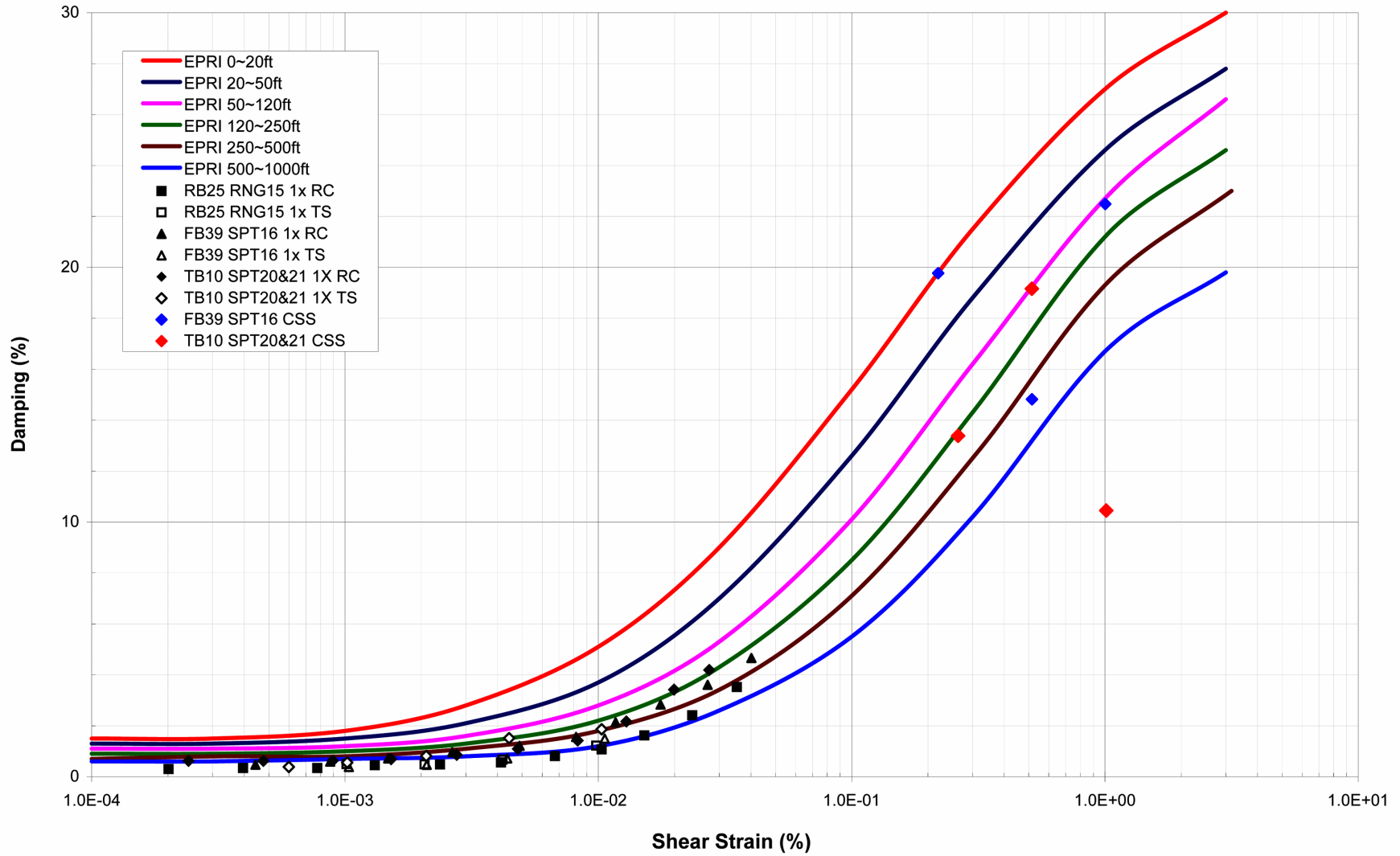


Figure 2.5.4-227. Damping Ratio Curves and Test Data at In Situ Confining Stress
(Sheet 1 of 4)

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

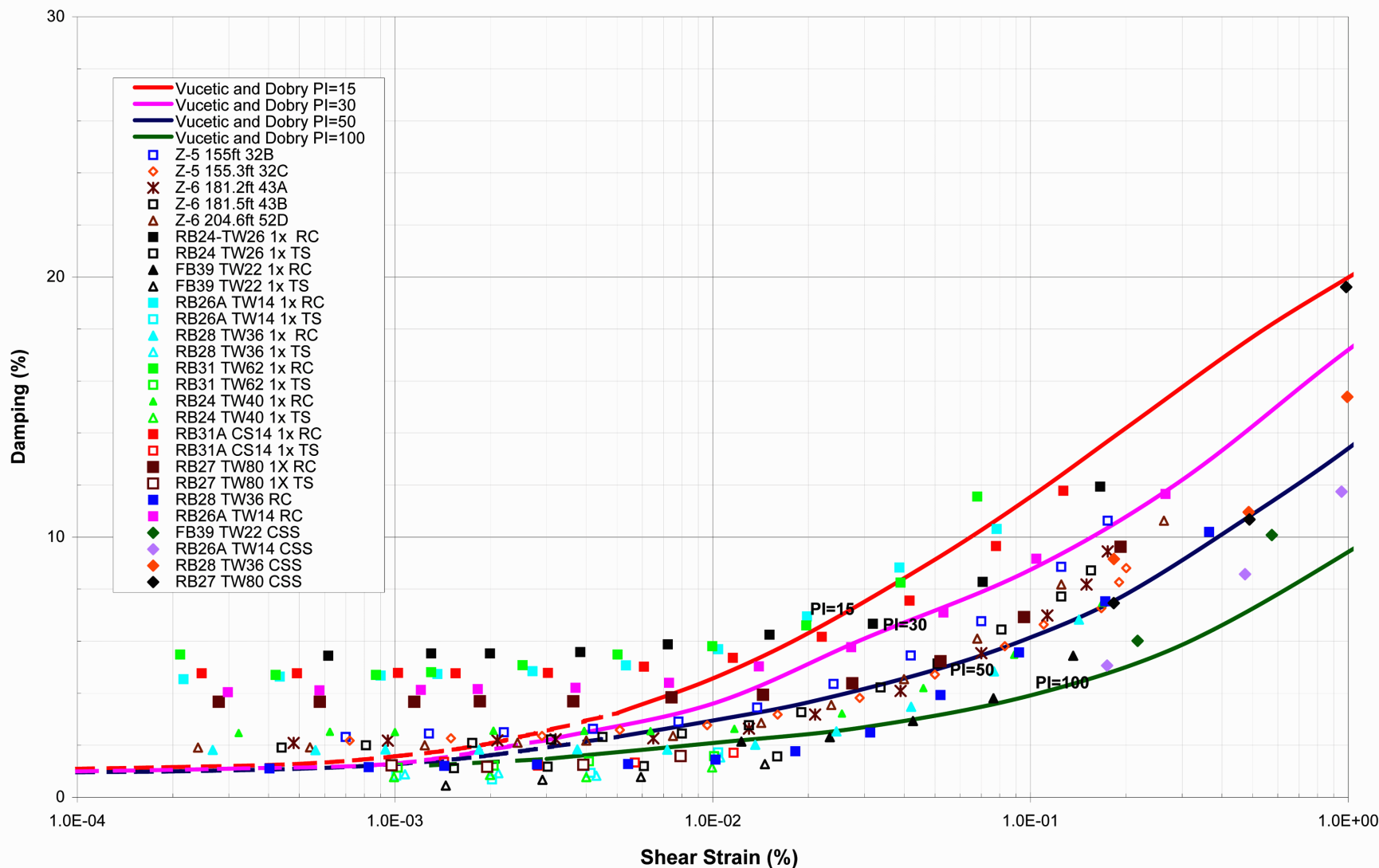
Damping Curve Sands Lower Citronelle, 1x In Situ Confining Stress



**Figure 2.5.4-227. Damping Ratio Curves and Test Data at In Situ Confining Stress
(Sheet 2 of 4)**

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

Damping Curve Clays Pascagoula Formation, 1x In Situ Confining Stress, Corrected



**Figure 2.5.4-227. Damping Ratio Curves and Test Data at In Situ Confining Stress
(Sheet 3 of 4)**

River Bend Station, Unit 3
COL Application
Part 2, FSAR
Pascagoula Sands

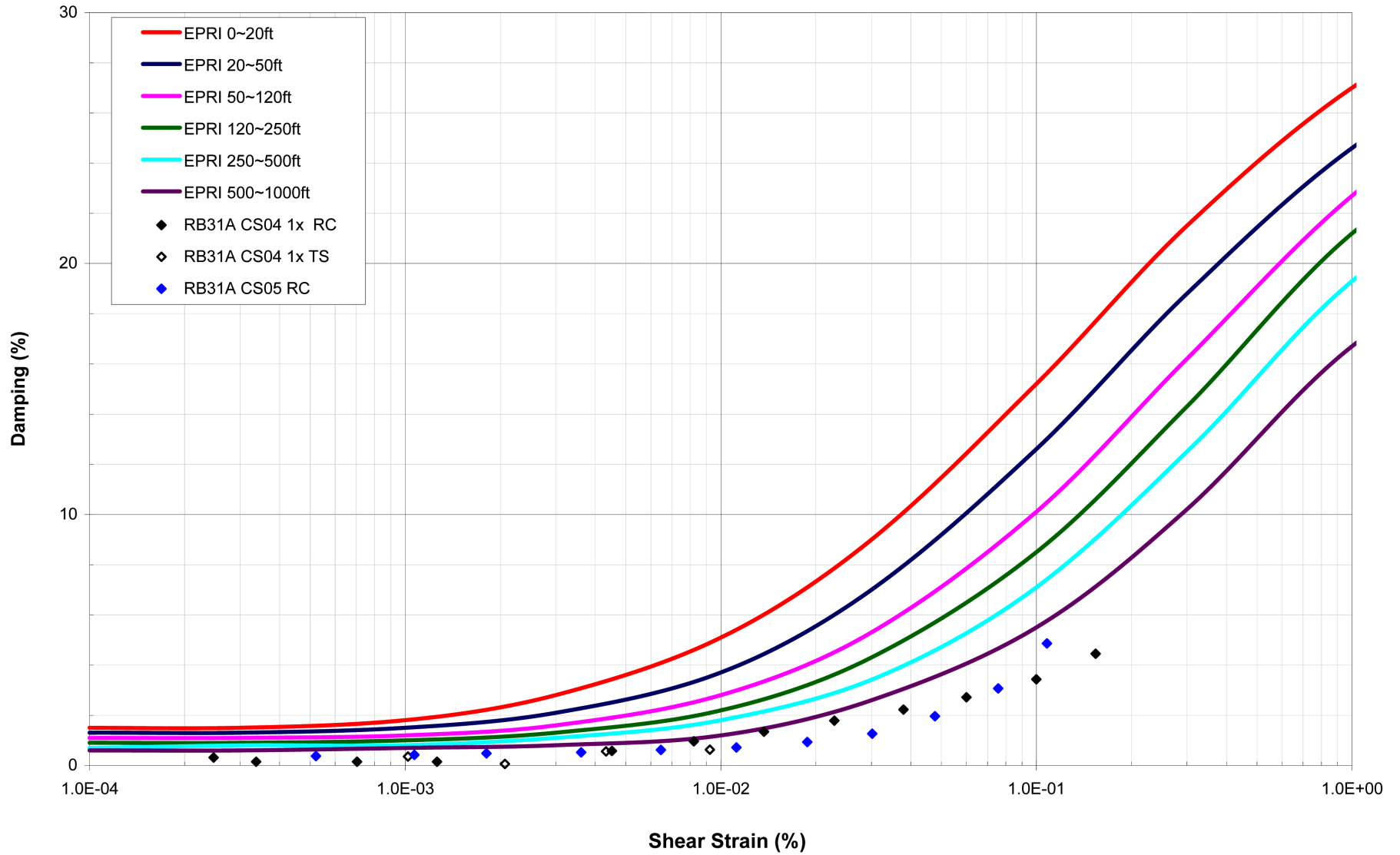


Figure 2.5.4-227. Damping Ratio Curves and Test Data at In Situ Confining Stress
(Sheet 4 of 4)

Revision 0

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Modulus Reduction Sands Lower Citronelle, 4x In Situ Confining Stress

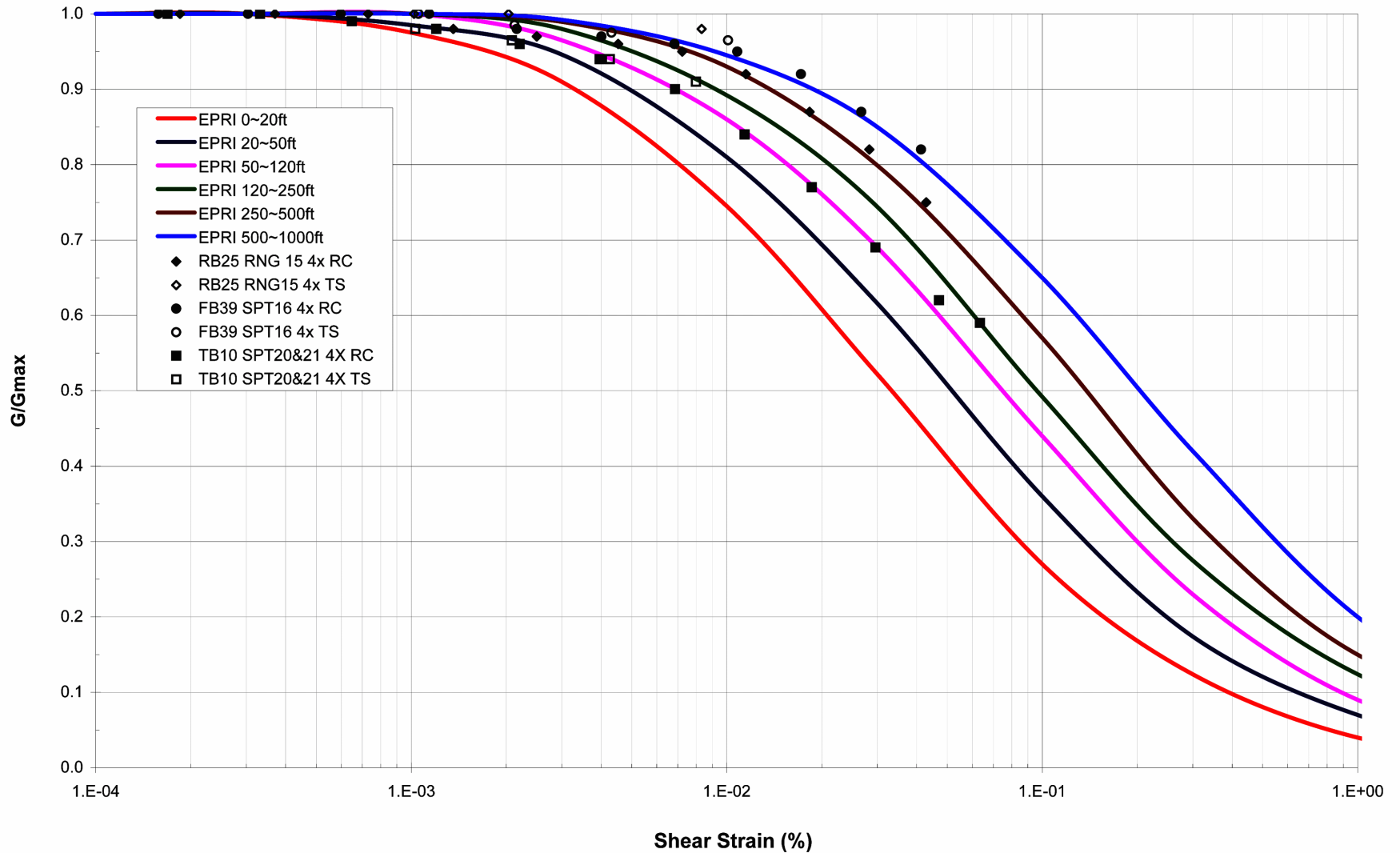


Figure 2.5.4-228. Shear Modulus Reduction Curves and RCTS Data at Four Times Confining Stress Revision 0
(Sheet 1 of 2)

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Modulus Reduction, Clays Pascagoula Formation, 4x In Situ Confining Stress, Corrected

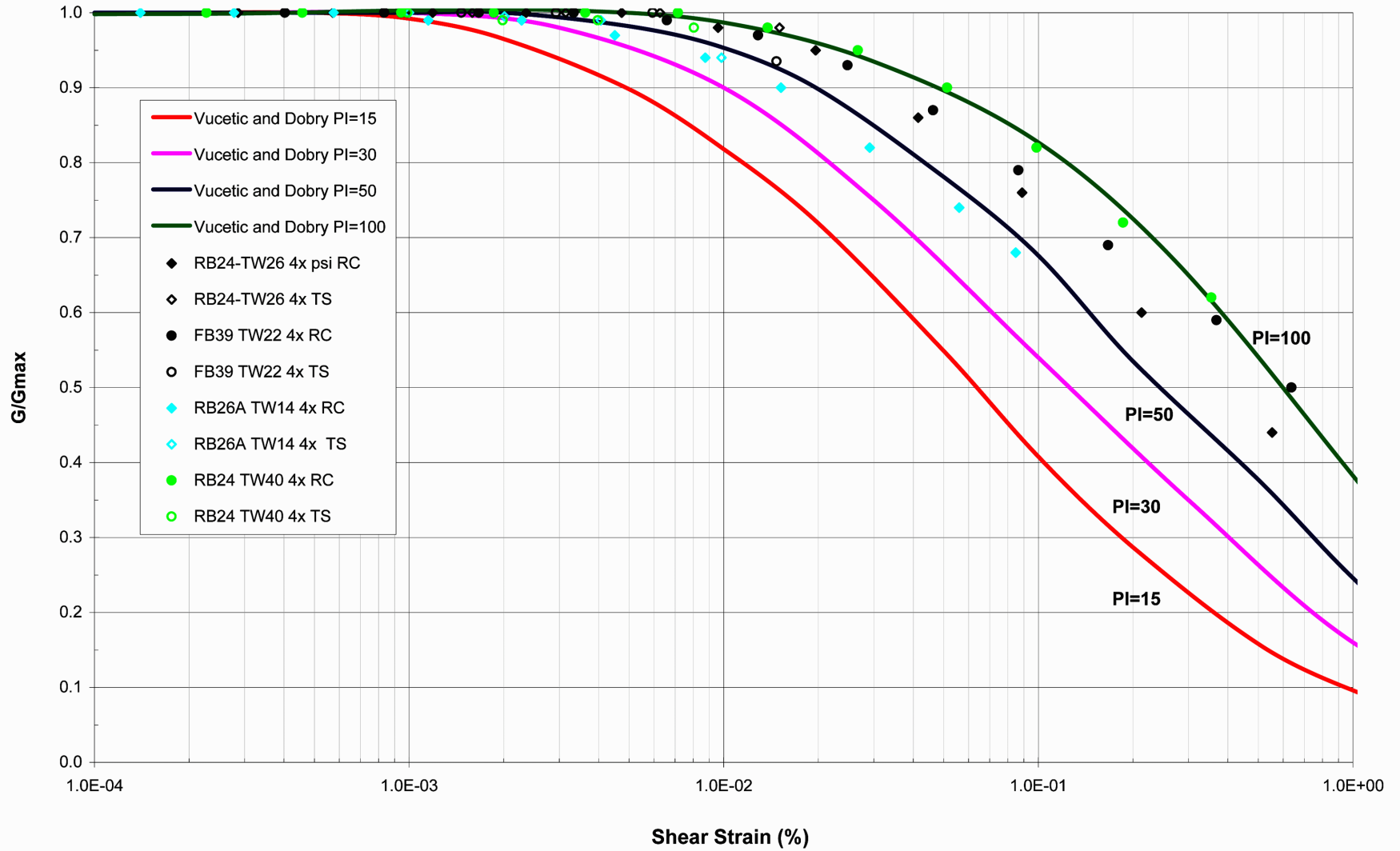


Figure 2.5.4-228. Shear Modulus Reduction Curves and RCTS Data at Four Times Confining Stress Revision 0
(Sheet 2 of 2)

River Bend Station, Unit 3
COL Application
Part 2, FSAR

Damping Curve Sands Lower Citronelle, 4x In Situ Confining Stress

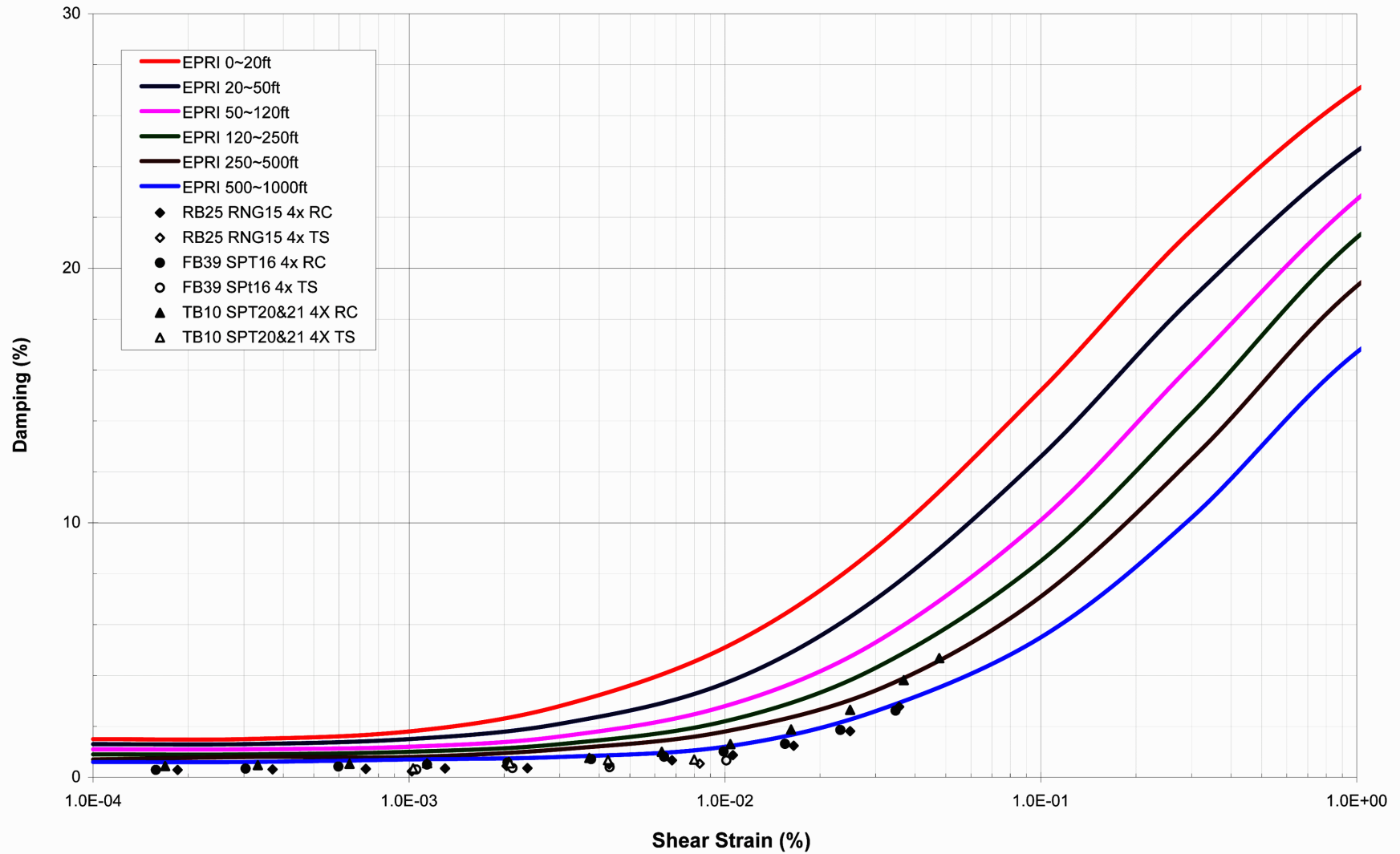
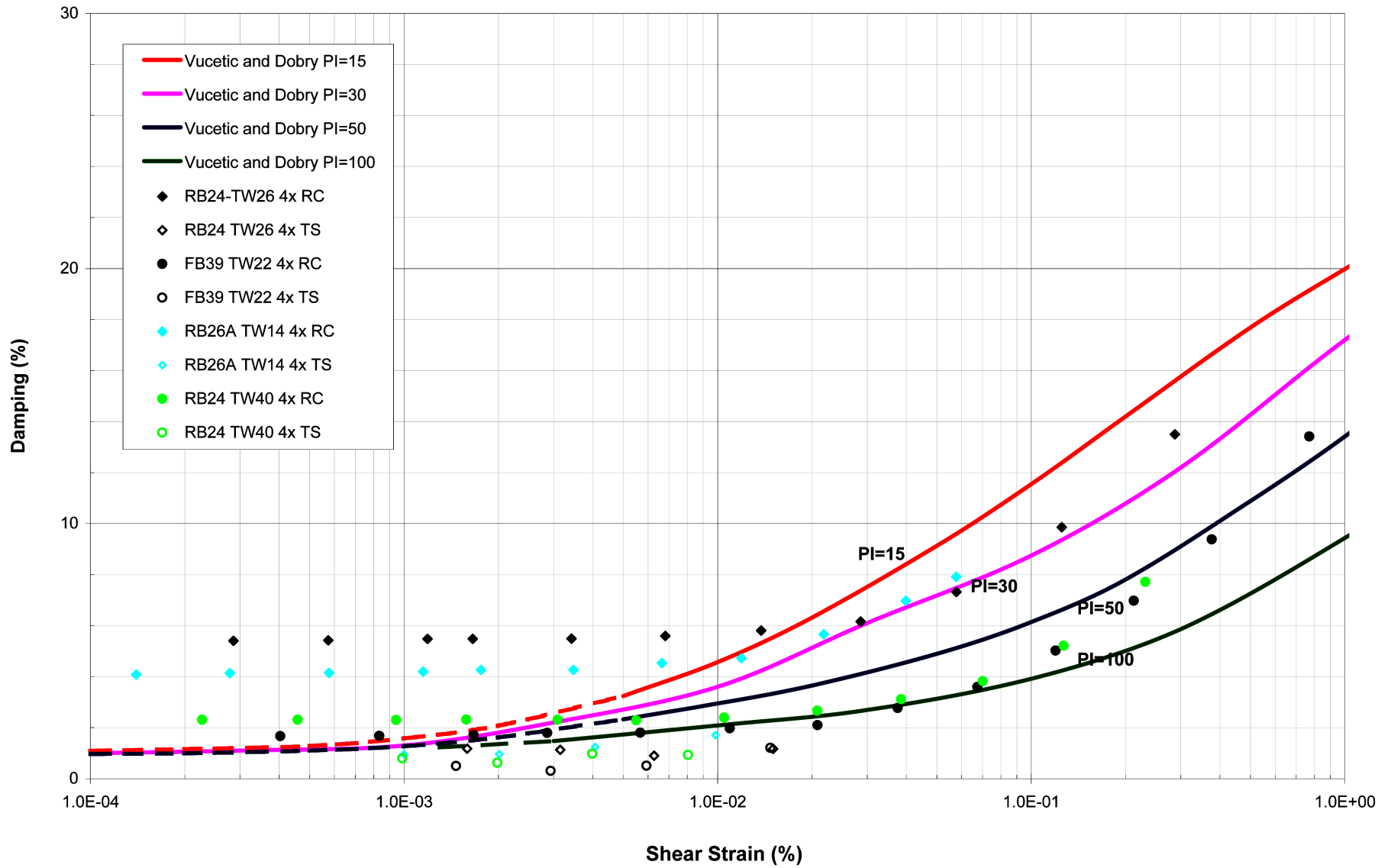


Figure 2.5.4-229. Damping Ratio Curves and RCTS Data at Four Times Confining Stress
(Sheet 1 of 2)

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

Damping Curve, Clays Pascagoula, 4x In Situ Confining Stress, Corrected



**Figure 2.5.4-229. Damping Ratio Curves and RCTS Data at Four Times Confining Stress
(Sheet 2 of 2)**

**River Bend Station, Unit 3
COL Application
Part 2, FSAR**

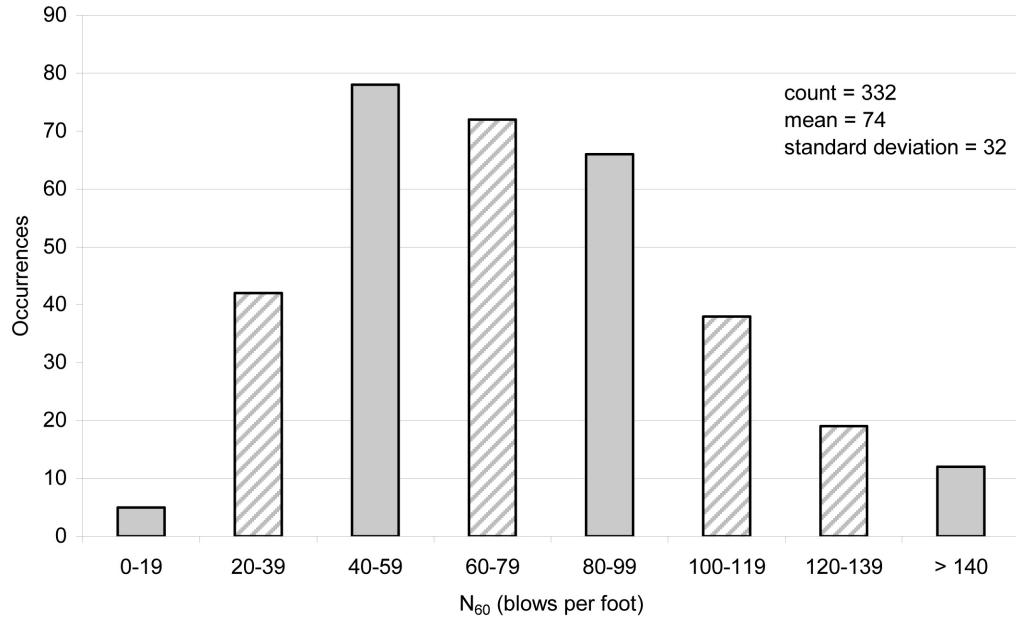


Figure 2.5.4-230. Histogram of N_{60} Values, Cohesionless Soils, Lower Citronelle