LAKE PONTCHARTRAIN, LA.
AND VICINITY

LAKE PONTCHARTRAIN HIGH LEVEL PLAN

DESIGN MEMORANDUM NO. 18
GENERAL DESIGN

ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

IN TWO VOLUMES
VOLUME II

US Army Corps of Engineers
New Orleans District

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

FEBRUARY 1989

SERIAL NO.

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18 - GENERAL DESIGN
ST. CHARLES, PARISH NORTH OF AIRLINE HIGHWAY

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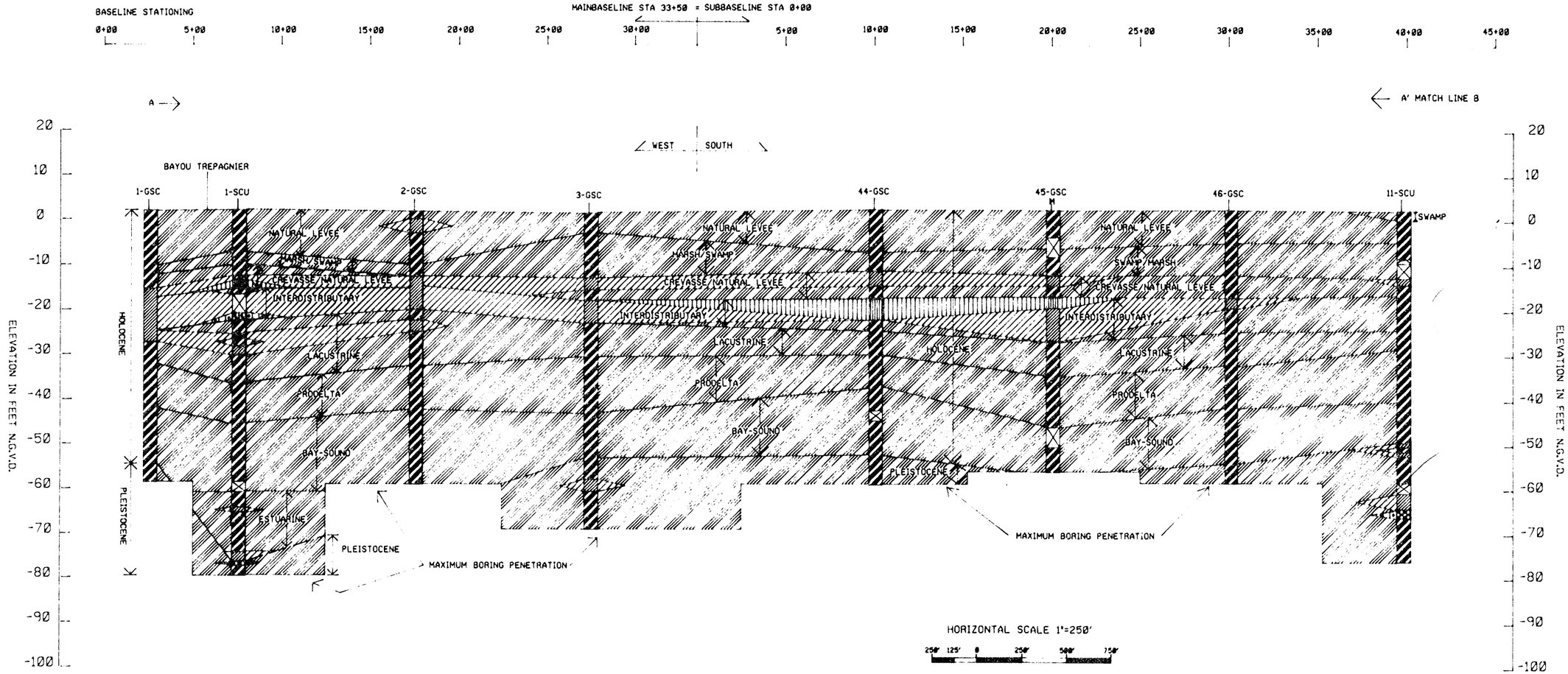
ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- WD - WOOD
- NO SAMPLE

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN

ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

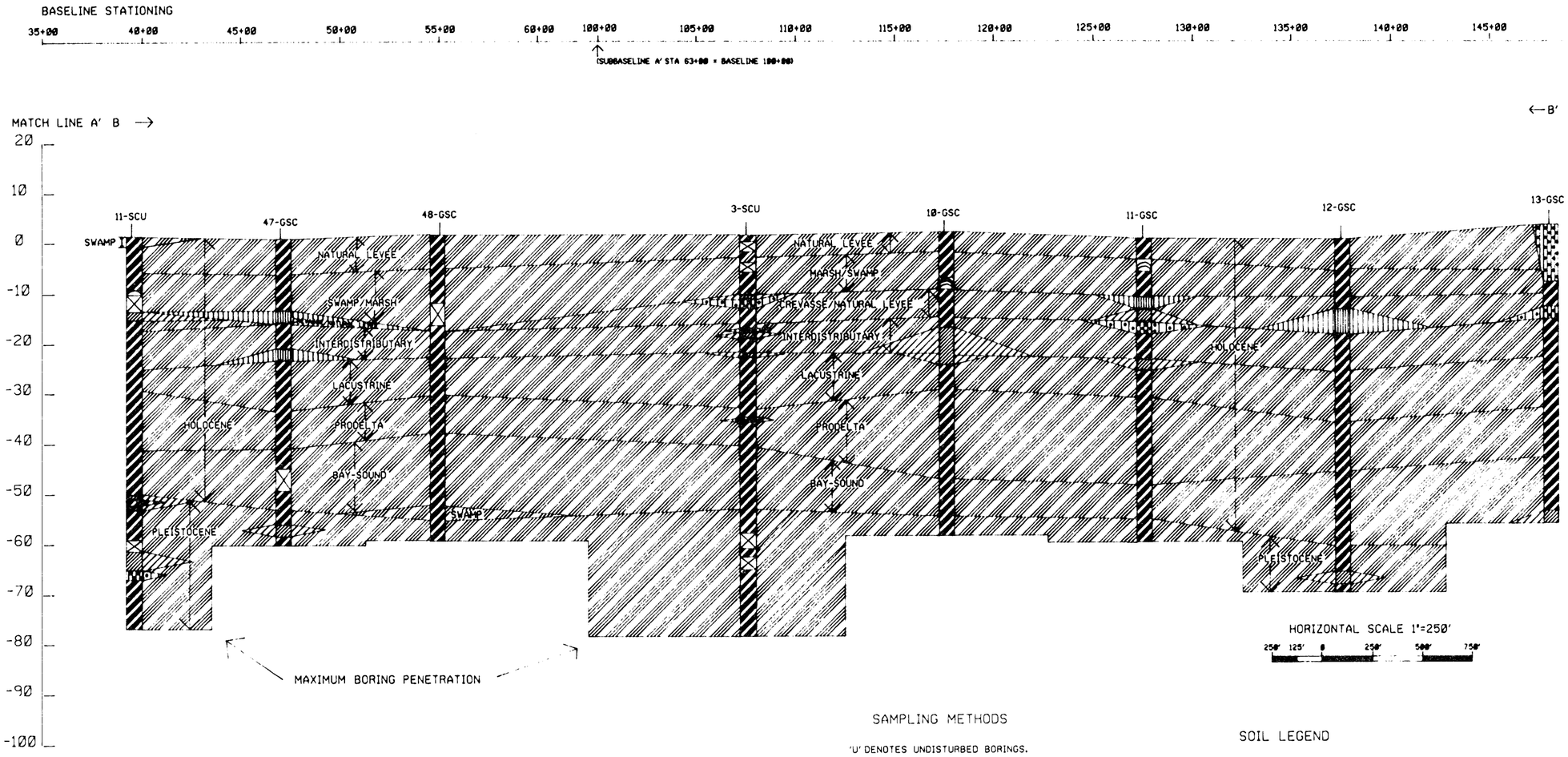
SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 51

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- WD - WOOD
- NO SAMPLE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
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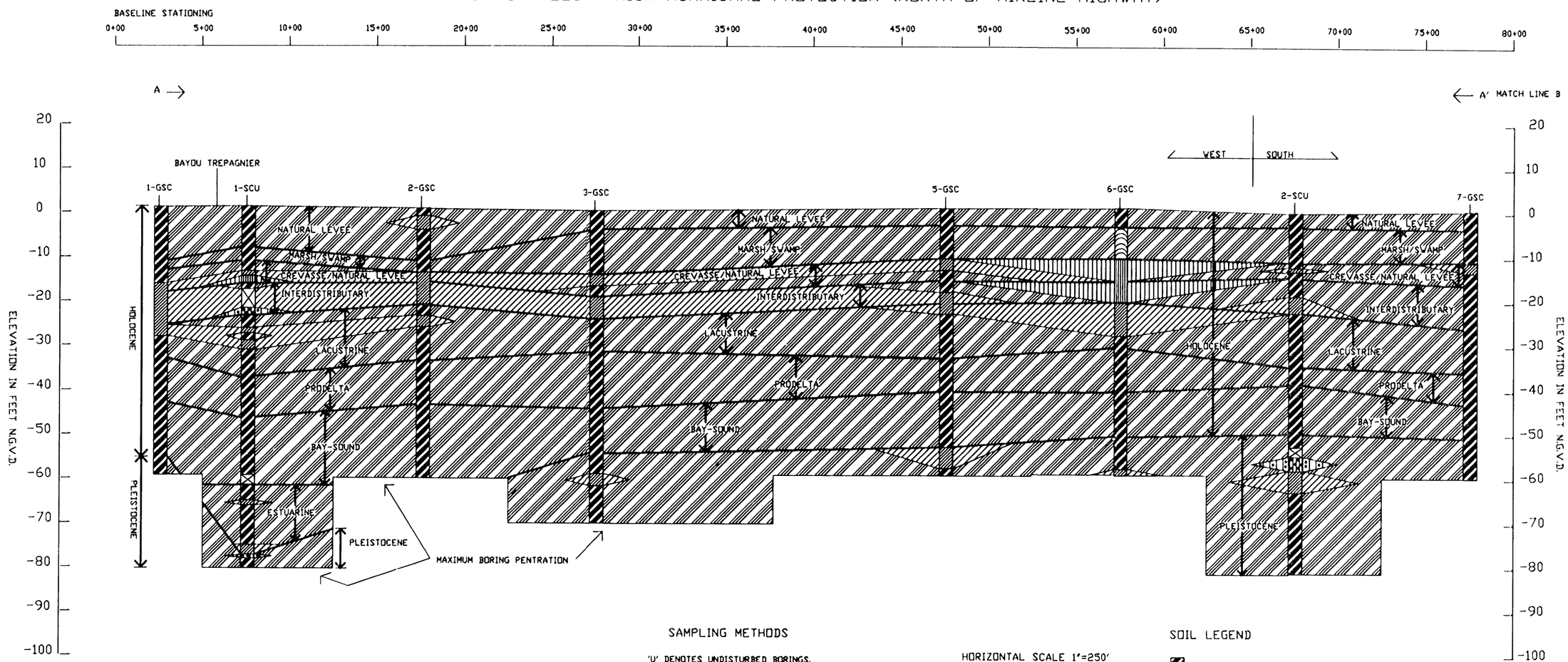
SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 52

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8' I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8' I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8' I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- WD - WOOD
- NO SAMPLE

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
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NORTH OF AIRLINE HIGHWAY

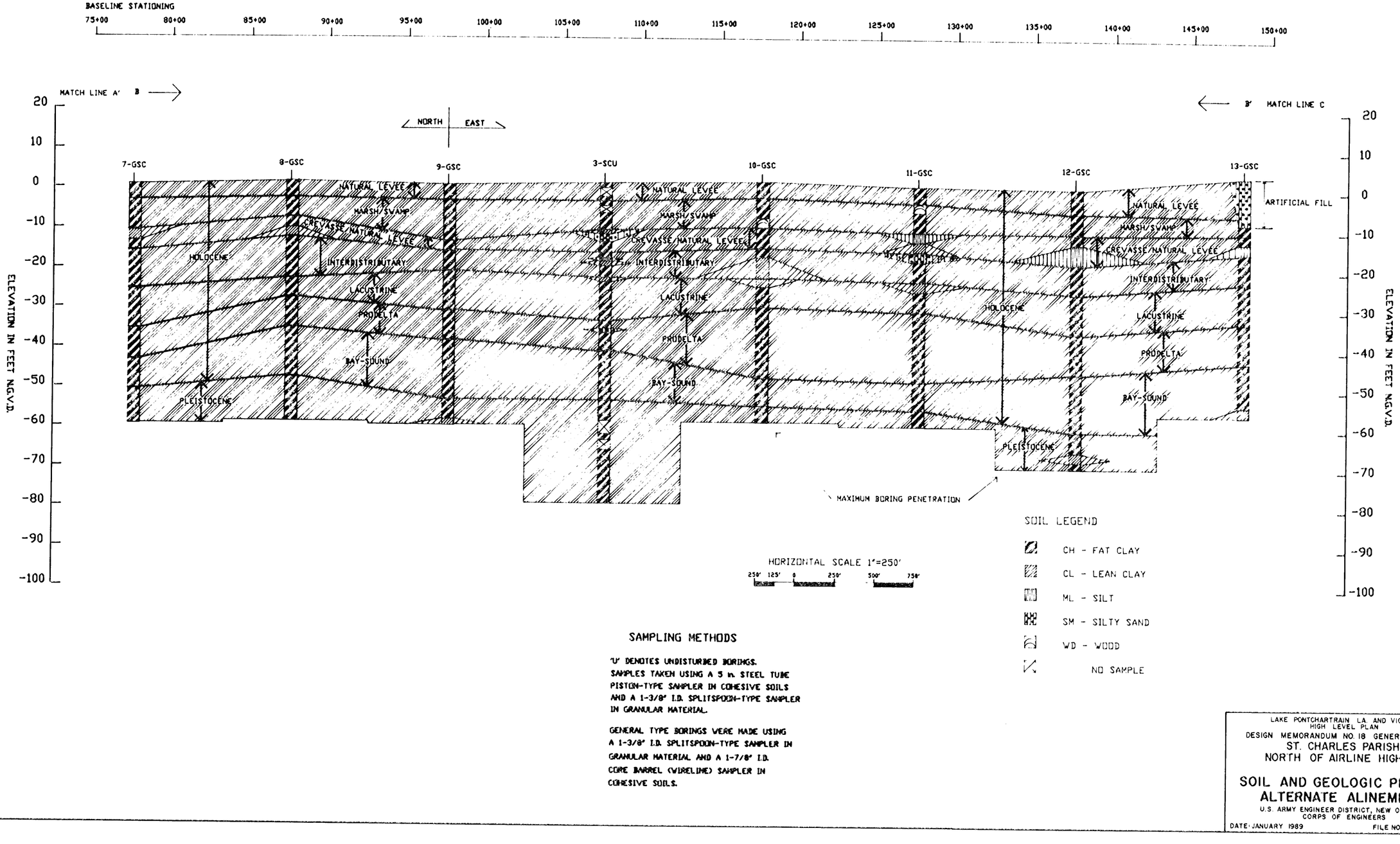
SOIL AND GEOLOGIC PROFILE ALTERNATE ALINEMENT

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 53

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18 GENERAL DESIGN
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NORTH OF AIRLINE HIGHWAY

SOIL AND GEOLOGIC PROFILE ALTERNATE ALINEMENT

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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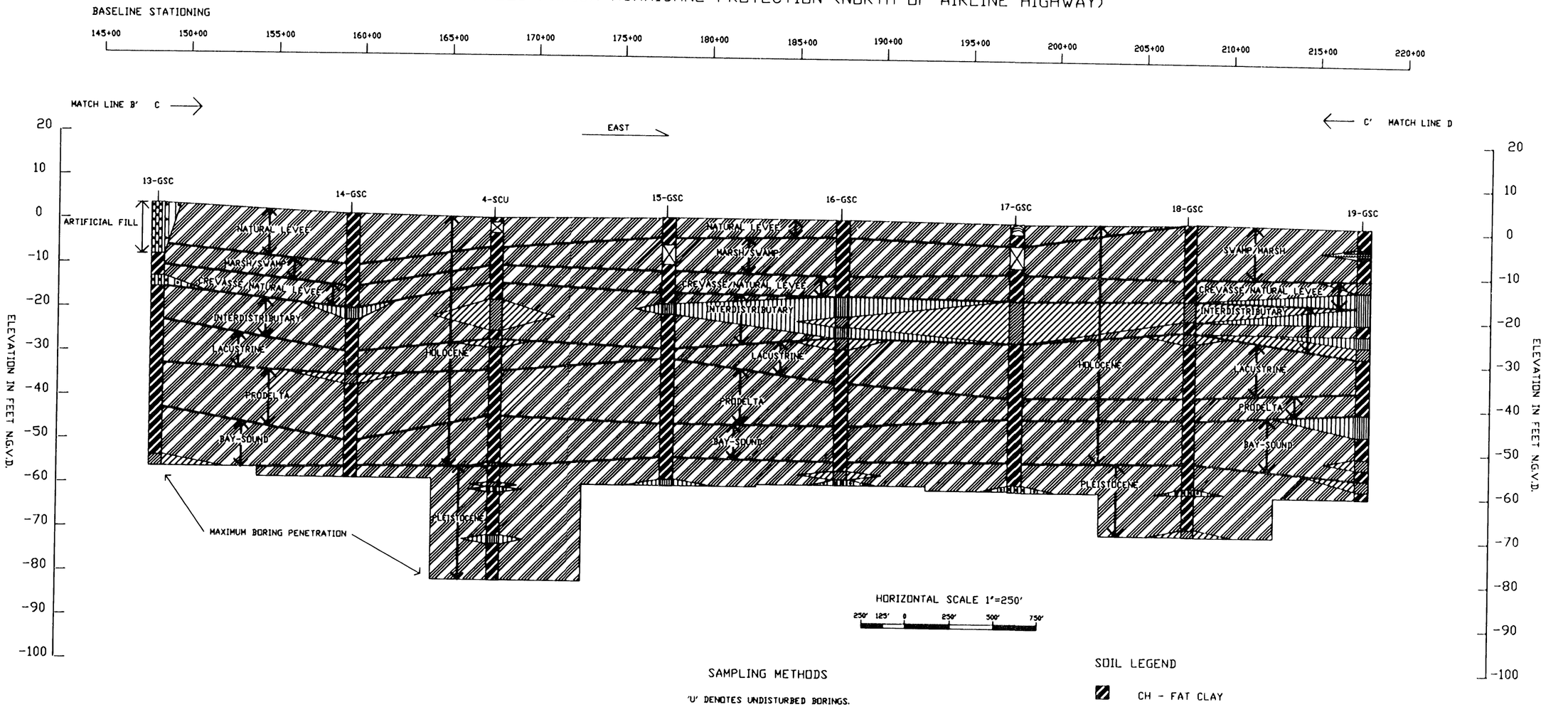
PLATE 54

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- WD - WOOD
- PT - PEAT
- NO SAMPLE

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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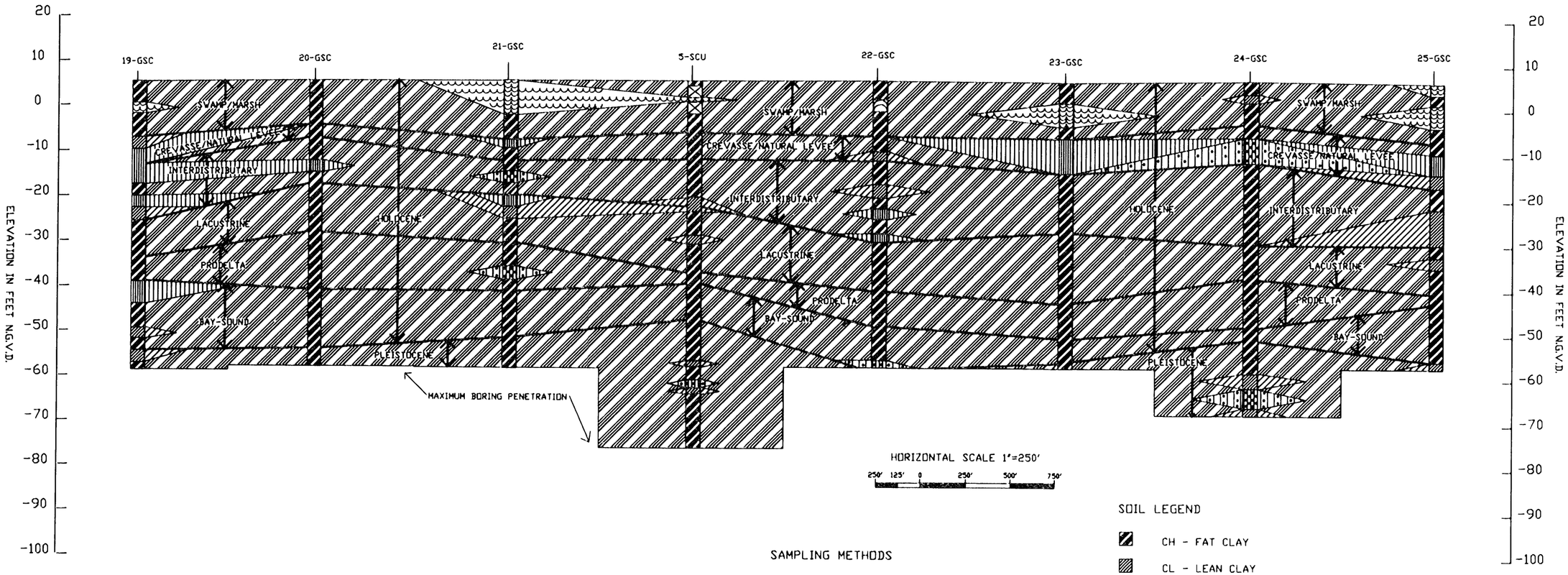
ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)

BASELINE STATIONING

215+00 220+00 225+00 230+00 235+00 240+00 245+00 250+00 255+00 260+00 265+00 270+00 275+00 280+00 285+00 290+00

MATCH LINE C' D →

← D' MATCH LINE E



HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 3 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- PT - PEAT
- WD - WOOD
- NO SAMPLE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
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NORTH OF AIRLINE HIGHWAY

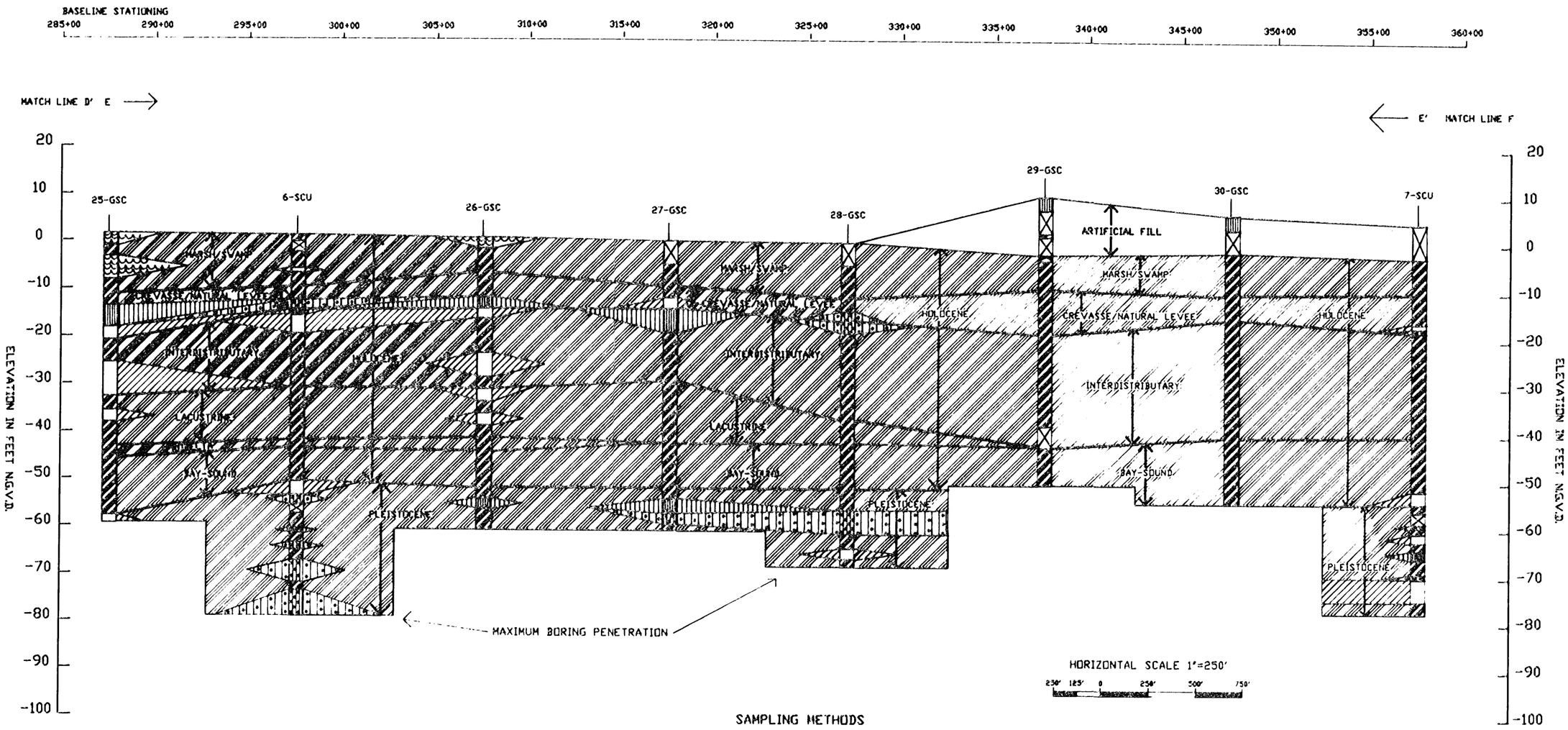
SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE JANUARY 1989 FILE NO. H-3-30423

PLATE 56

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 3 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- PT - PEAT
- WD - WOOD
- NO SAMPLE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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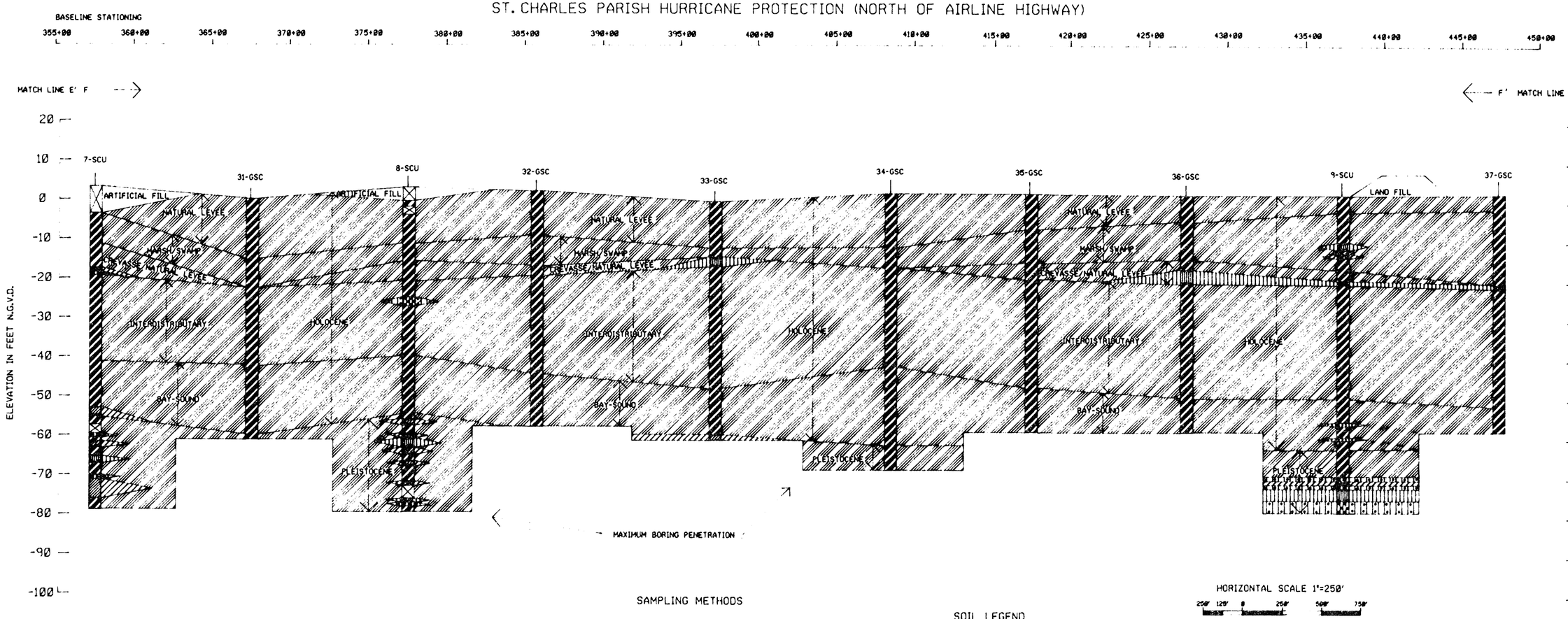
DATE: JANUARY 1989 FILE NO. H-2-30423

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 3 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- SM - SILTY SAND
- SL - SHELLS
- NO SAMPLE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

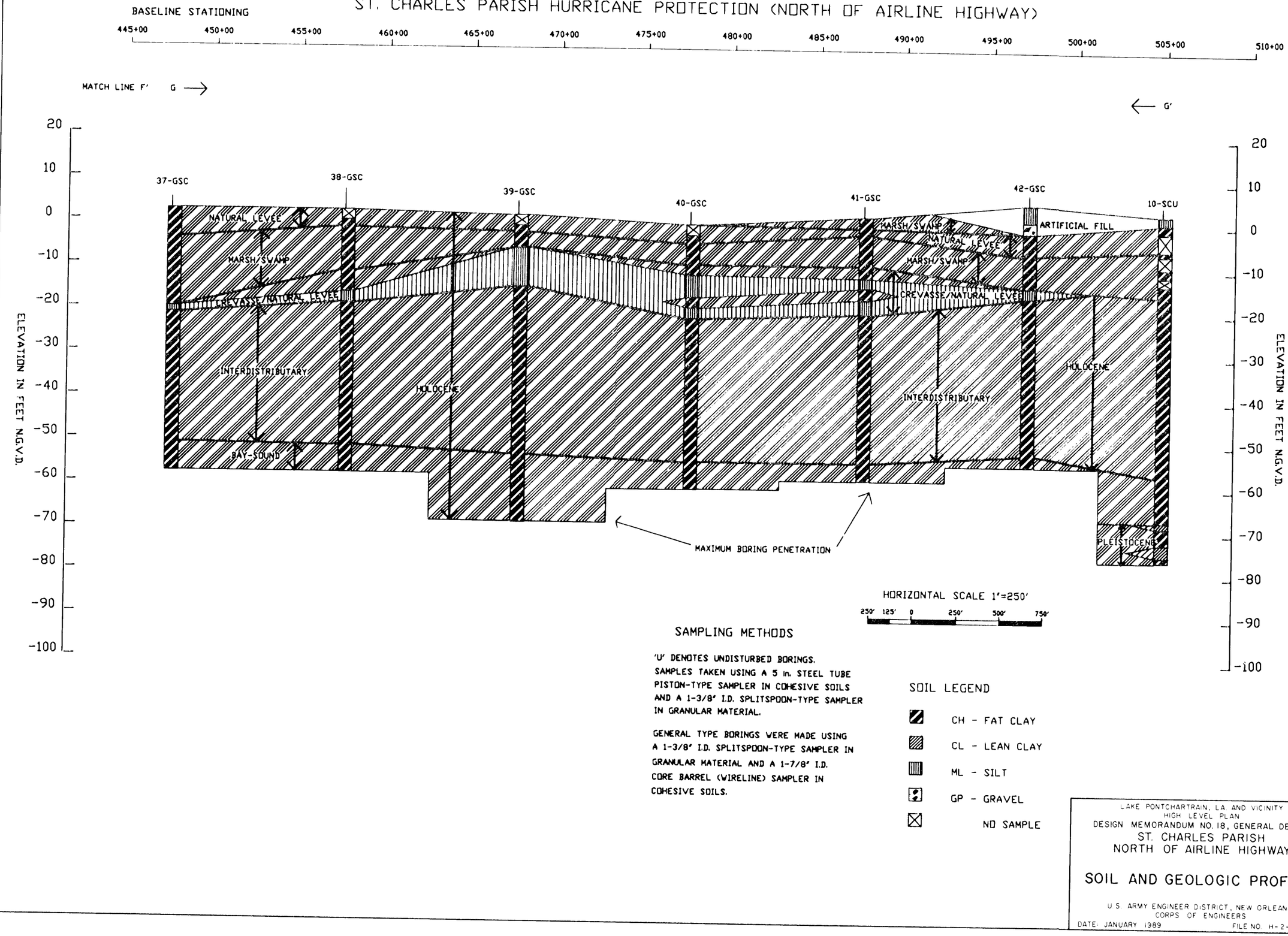
SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 58

ST. CHARLES PARISH HURRICANE PROTECTION (NORTH OF AIRLINE HIGHWAY)



HORIZONTAL SCALE 1"=250'

250' 125' 0 250' 500' 750'

SAMPLING METHODS

'U' DENOTES UNDISTURBED BORINGS. SAMPLES TAKEN USING A 5 in. STEEL TUBE PISTON-TYPE SAMPLER IN COHESIVE SOILS AND A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL.

GENERAL TYPE BORINGS WERE MADE USING A 1-3/8" I.D. SPLITSPOON-TYPE SAMPLER IN GRANULAR MATERIAL AND A 1-7/8" I.D. CORE BARREL (WIRELINE) SAMPLER IN COHESIVE SOILS.

SOIL LEGEND

- CH - FAT CLAY
- CL - LEAN CLAY
- ML - SILT
- GP - GRAVEL
- NO SAMPLE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL AND GEOLOGIC PROFILE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

BOR. 1-GSC
STA. 2+50
ON B/L
15-19 JAN. 87

BOR. 1-SCU
STA. 7+50
ON B/L
1-23-87

BOR. 2-GSC
STA. 17+50
ON B/L
27 JAN. 1987

BOR. 3-GSC
STA. 27+50
ON B/L
28-29 JAN. 1987

BOR. 5-GSC
STA. 47+50
ON B/L
8 DEC. 86

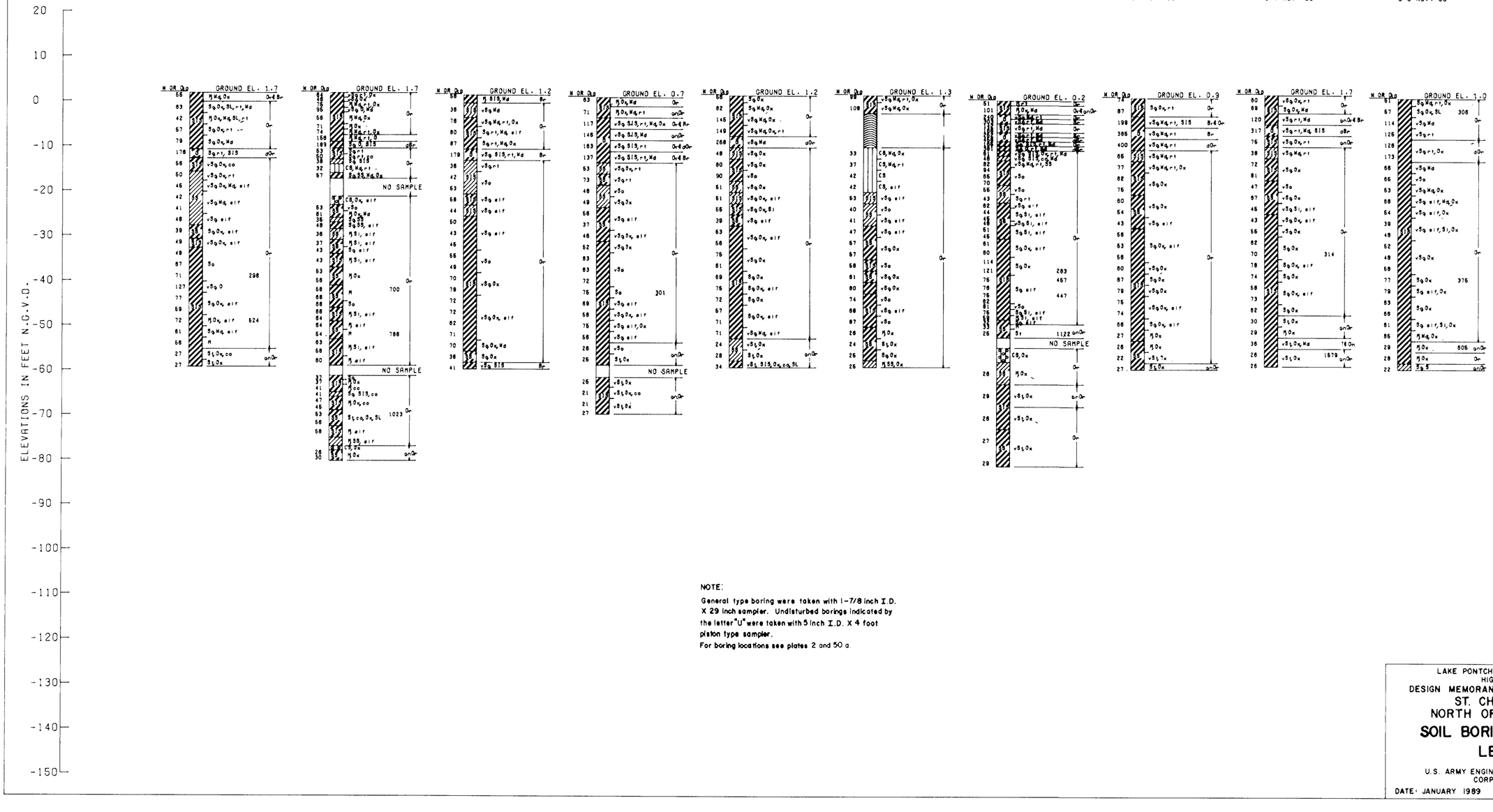
BOR. 6-GSC
STA. 57+50
ON B/L
3 NOV-4 DEC. 86

BOR. 2-SCU
STA. 67+50
ON B/L
10-12 NOV. 86

BOR. 7-GSC
STA. 77+50
ON B/L
07 NOV. 86

BOR. 8-GSC
STA. 87+50
ON B/L
6-7 NOV. 86

BOR. 9-GSC
STA. 97+50
ON B/L
5-6 NOV. 86



NOTE:

General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.

For boring locations see plates 2 and 50 a.

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL BORINGS LOGS ALONG LEVEE B/L

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 60

BOR. 1-GSC
STA. 2+50
ON B/L
15-19 JAN. 87

BOR. 1-SCU
STA. 7+50
ON B/L
1-23-87

BOR. 2-GSC
STA. 17+60
ON B/L
27 JAN. 1987

BOR. 3-GSC
STA. 27+50
ON B/L
28-29 JAN. 1987

BOR. 44-GSC
STA. 10+00
ON SUB-BASELINE A
2 FEB. 87

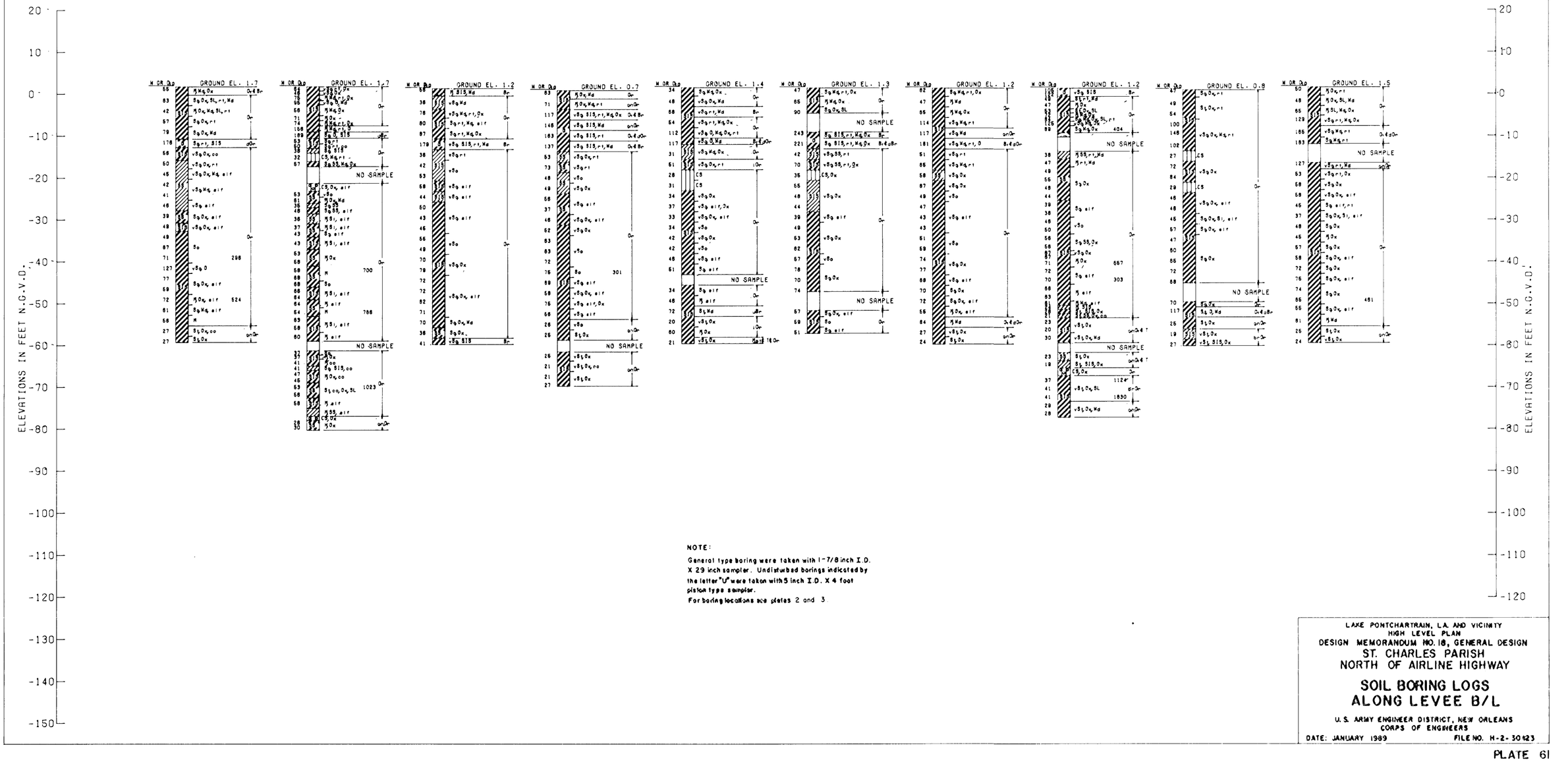
BOR. 45-GSC
STA. 20+00
ON SUB-BASELINE A
05 MAR 87

BOR. 46-GSC
STA. 30+00
ON SUB-BASELINE A
04 MAR. 87

BOR. 11-SCU
STA. 39+40
ON SUB-BASELINE A
10-13 FEB. 1987

BOR. 47-GSC
STA. 47+00
ON SUB-BASELINE A
18 FEB. 87

BOR. 48-GSC
STA. 55+00
ON SUB-BASELINE A
20-23 FEB. 87



NOTE:

General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.
For boring locations see plates 2 and 3

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL BORING LOGS ALONG LEVEE B/L

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 61

BOR. 3-SCU
STA. 107+50
ON B/L
29 OCT. 4-5 NOV'86

BOR. 10-GSC
STA. 117+50
ON B/L
28 OCT. 86

BOR. 11-GSC
STA. 127+50
ON B/L
27 OCT. 86

BOR. 12-GSC
STA. 137+50
ON B/L
23-24 OCT. 86

BOR. 13-GSC
STA. 148+18
ON B/L
20 AUG'86

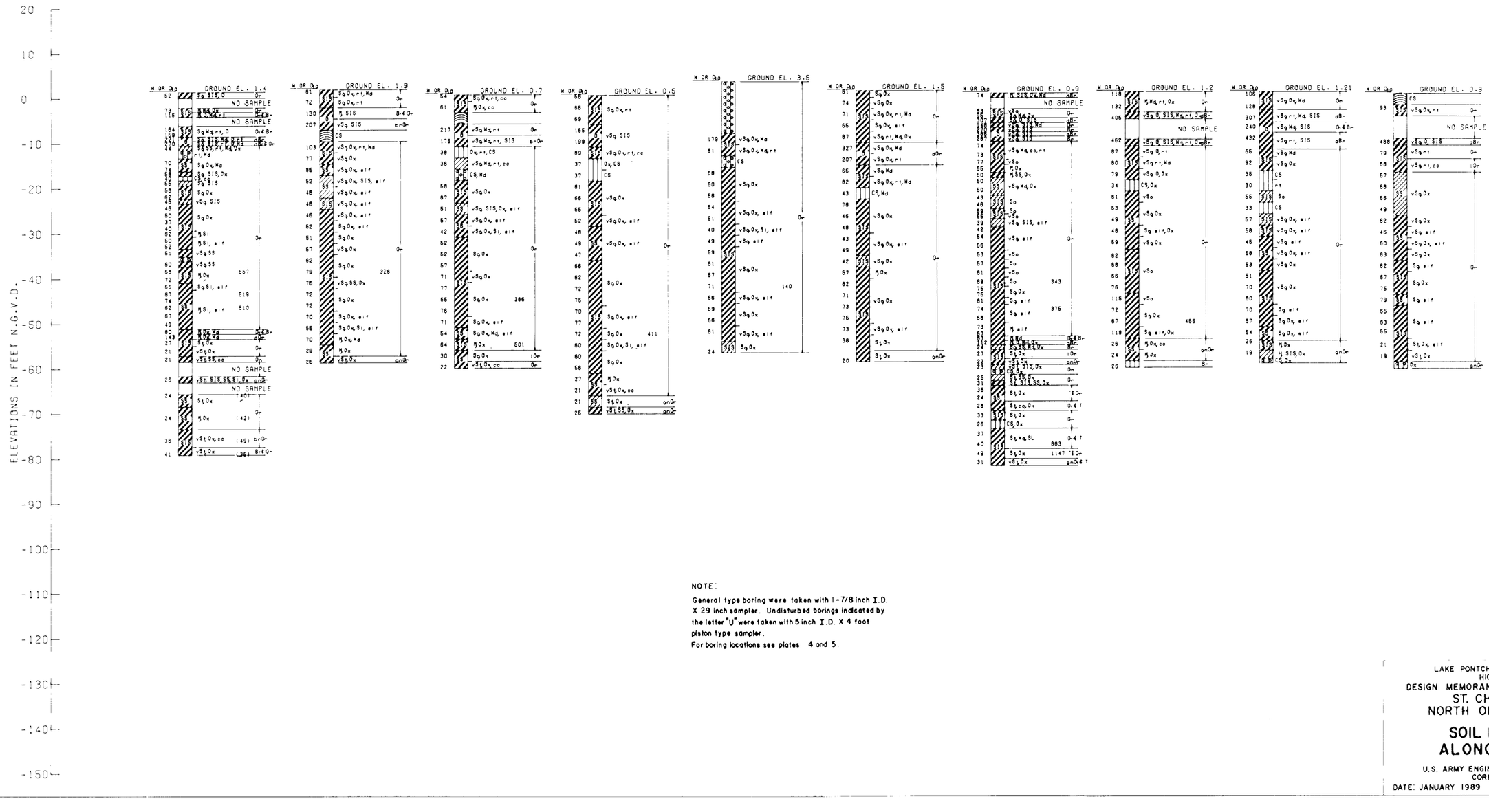
BOR. 14-GSC
STA. 159+25
ON B/L
4 SEPT 86

BOR. 4-SCU
STA. 167+50
ON B/L
10-13 JAN. 1987

BOR. 15-GSC
STA. 177+50
ON B/L
07 JAN. 87

BOR. 16-GSC
STA. 187+50
ON B/L
06 JAN. 87

BOR. 17-GSC
STA. 197+50
ON B/L
30-31 DEC. 86



NOTE:

General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.

For boring locations see plates 4 and 5

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
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SOIL BORING LOGS ALONG LEVEE B/L

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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DATE: JANUARY 1989 FILE NO. H-2-30423

BOR. 18-GSC
STA. 207+50
ON B/L
29 DEC. 86

BOR. 19-GSC
STA. 217+50
ON B/L
18 DEC. 86

BOR. 20-GSC
STA. 277+00
ON B/L
17 DEC. 86

BOR. 21-GSC
STA. 237+50
ON B/L
15-16 DEC. 86

BOR. 5-SCU
STA. 247+50
ON B/L
8-9 DEC. 86

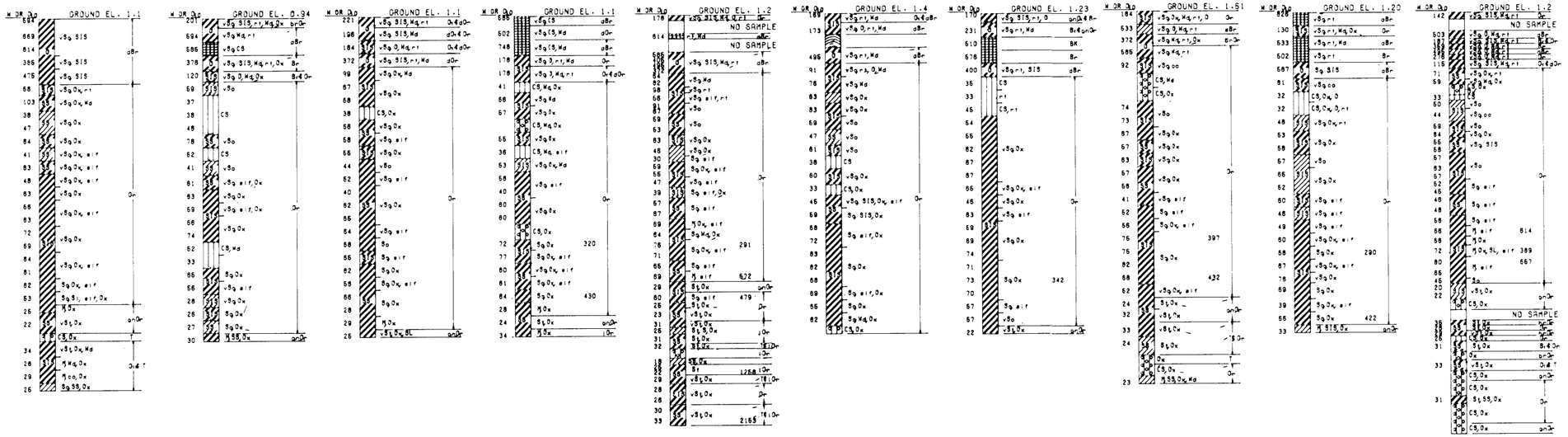
BOR. 22-GSC
STA. 257+50
ON B/L
4-5 DEC. 86

BOR. 23-GSC
STA. 267+50
ON B/L
2 DEC. 86

BOR. 24-GSC
STA. 277+50
ON B/L
1 DEC. 86

BOR. 25-GSC
STA. 287+50
ON B/L
14 NOV. 86

BOR. 6-SCU
STA. 297+50
ON B/L
20-21 NOV. 86



NOTE:
General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.
For boring locations see plates 4 and 5.

ELEVATIONS IN FEET N.G.V.D.

20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120 -130 -140 -150

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
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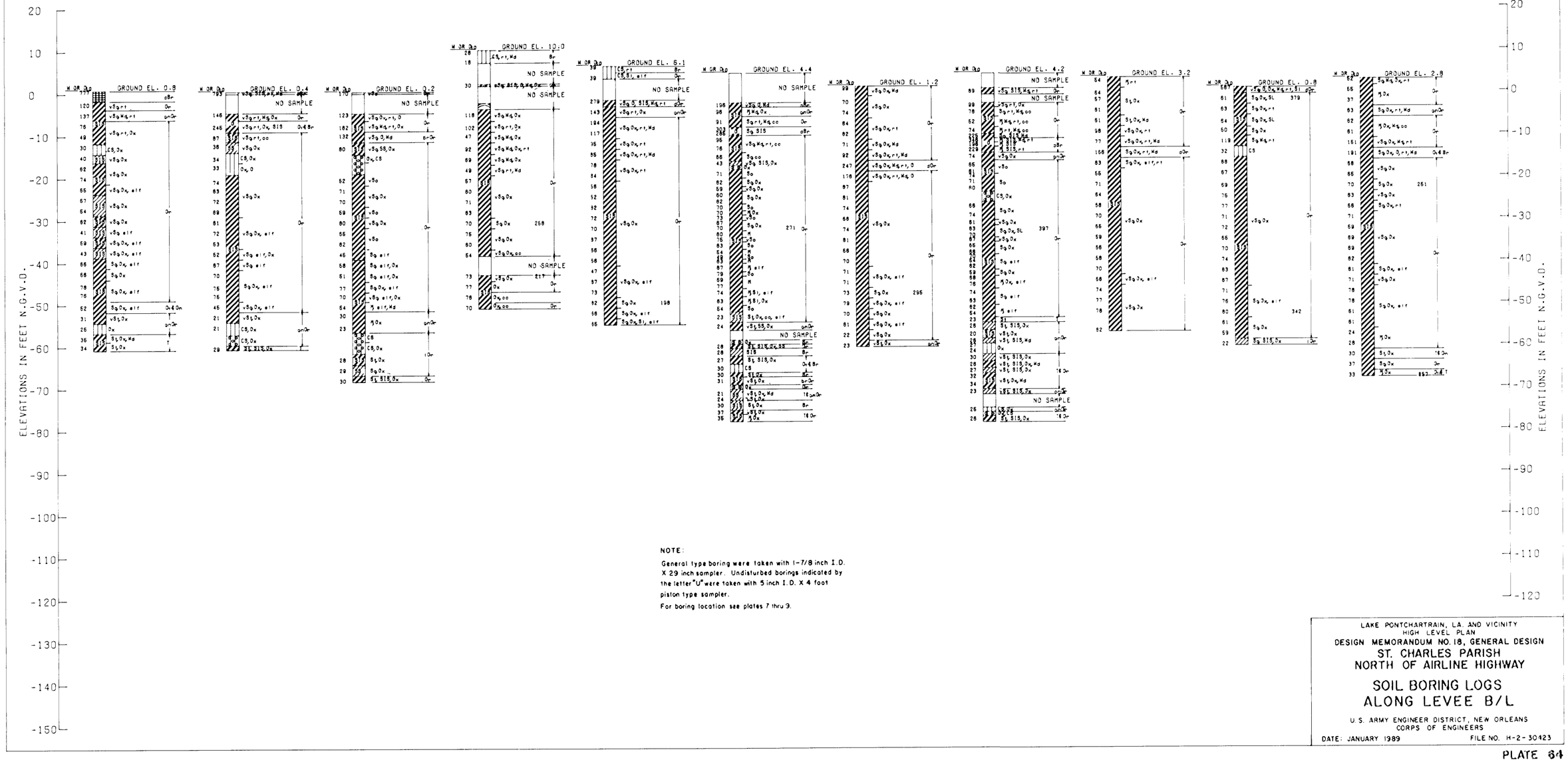
SOIL BORING LOGS ALONG LEVEE B/L

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 63



NOTE:

General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.

For boring location see plates 7 thru 9.

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL BORING LOGS ALONG LEVEE B/L

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

BOR. 35-GSC
STA. 417+50
ON B/L
02 OCT. 86

BOR. 36-GSC
STA. 427+50
ON B/L
01 OCT. 86

BOR. 9-SCU
STA. 437+50
ON B/L
26-29 SEPT. 86

BOR. 37-GSC
STA. 447+50
ON B/L
26 SEP. 86

BOR. 38-GSC
STA. 457+50
ON B/L
25 SEP. 86

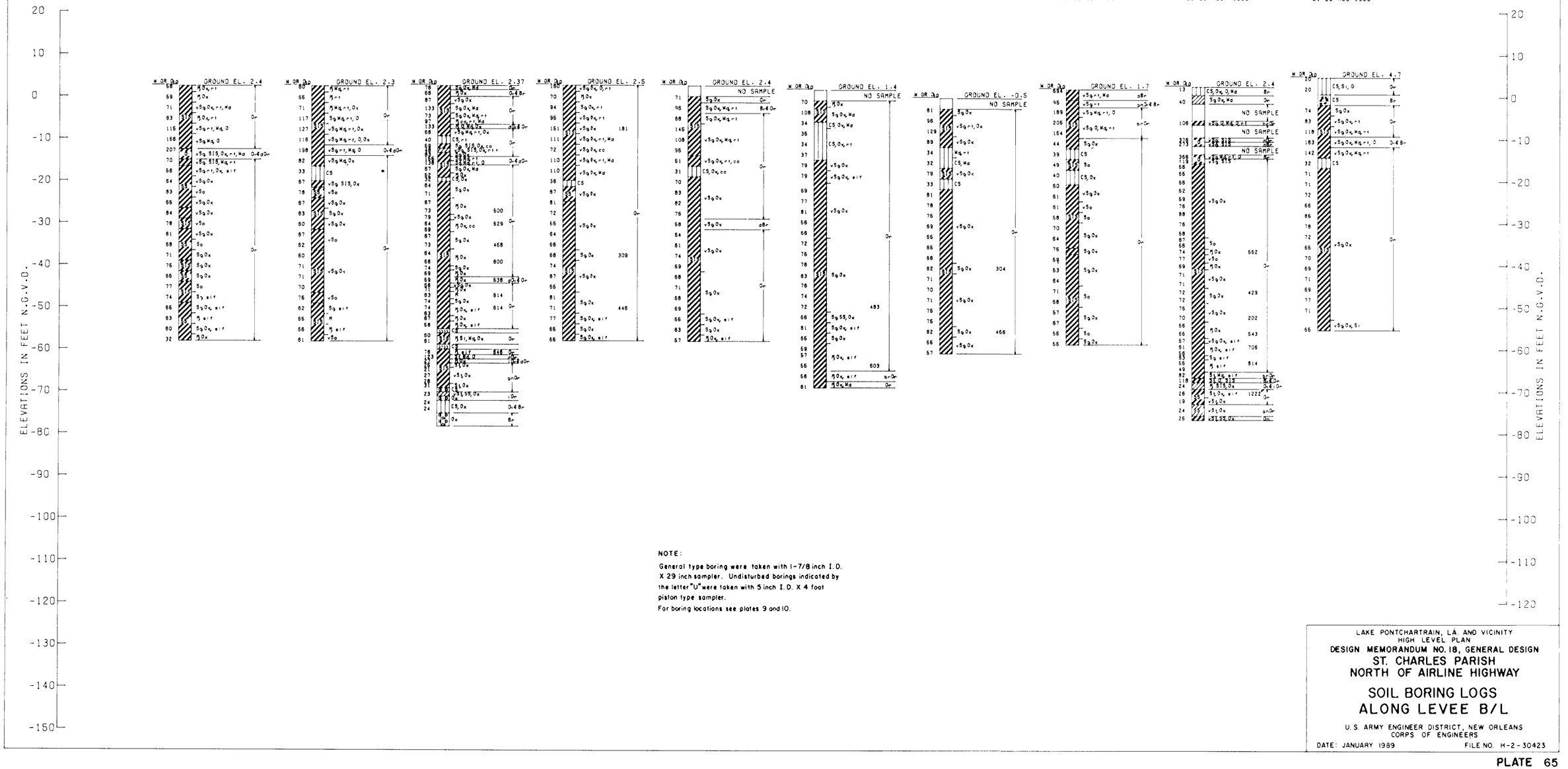
BOR. 39-GSC
STA. 467+50
ON B/L
23-24 SEP. 86

BOR. 40-GSC
STA. 477+50
ON B/L
23 SEP. 86

BOR. 41-GSC
STA. 487+50
ON B/L
19-22 SEP. 86

BOR. 10-SCU
STA. 504+20
ON B/L
26-29 AUG. 1986

BOR. 42-GSC
STA. 497+13
ON B/L
21-26 AUG 1986



NOTE:

General type boring were taken with 1-7/8 inch I.D. X 29 inch sampler. Undisturbed borings indicated by the letter "U" were taken with 5 inch I.D. X 4 foot piston type sampler.

For boring locations see plates 9 and 10.

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SOIL BORING LOGS ALONG LEVEE B/L

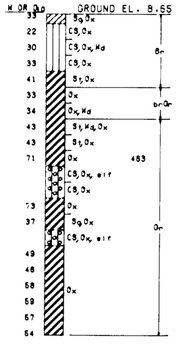
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 65

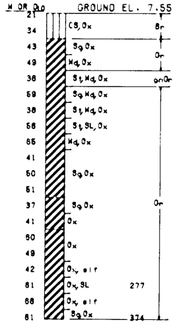
BOR. SCB1

UGL STA.35+50
750 FT. F.S. OF B/L
WATER TABLE 6.70 FT.
7JUL88



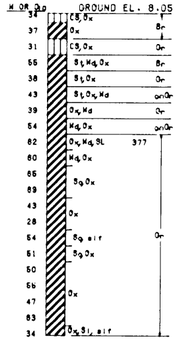
BOR. SCB2

UGL STA. 40+50
750 FT. F.S. OF B/L
WATER TABLE 2.00 FT.
6JUL88



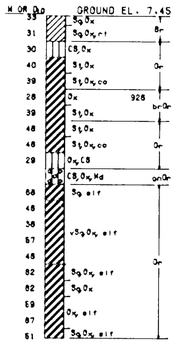
BOR. SCB3

UGL STA. 45+50
750 FT. F.S. OF B/L
WATER TABLE 3.00 FT.
7JUL88



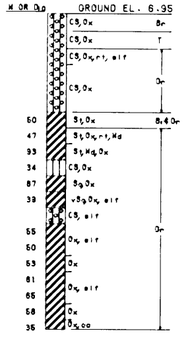
BOR. SCB4

UGL STA. 34+00
1050 FT. F.S. OF B/L
WATER TABLE 3.20 FT.
7JUL88



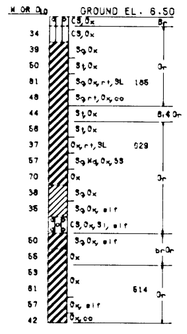
BOR. SCB5

UGL STA. 41+50
1050FT. F.S OF LEVEE C/L
WATER TABLE 3.40 FT.
8AUG88



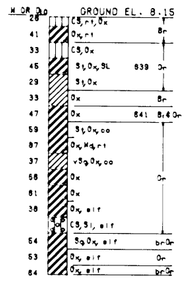
BOR. SCB6

UGL STA. 46+50
1050 FT.F.S. OF LEV. B/L
WATER TABLE 1.00 FT.
7AUG88



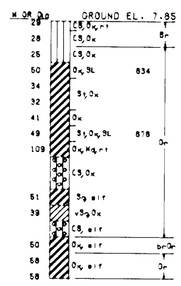
BOR. SCB7

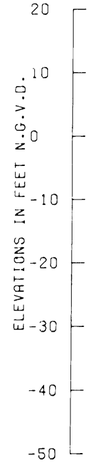
UGL STA. 56+50
1000 FT F.S. OF LEVEE B/L
WATER TABLE 3.50 FT.
7AUG88

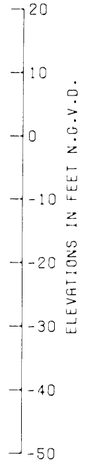


BOR. SCB8

UGL STA. 61+50
1000 FT. F.S. OF B/L
WATER TABLE 1.60 FT.
8JUL88



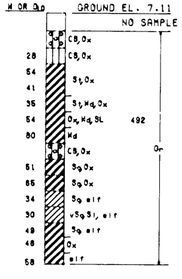




BOR. SCB9

UGL STA. 72+00
1000FT.F.S.OF B/L

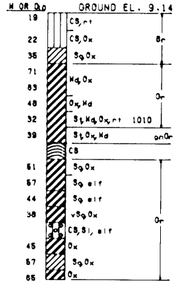
12JUL88



BOR. SCB10

UGL STA. 77+00
1000FT. F.S. OF B/L

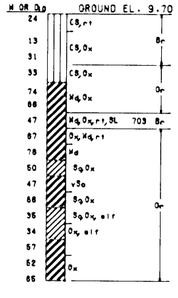
13JUL88



BOR. SCB11

UGL STA. 82+00
1000 FT. F.S. OF B/L

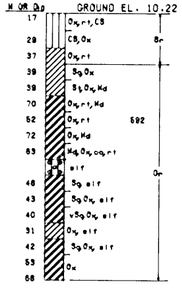
13JUL88



BOR. SCB12

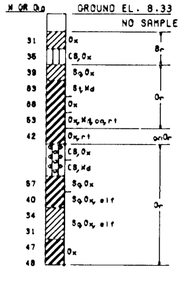
UGL STA. 87+00
1000 FT.F.S. OF LEV. B/L

14JUL88



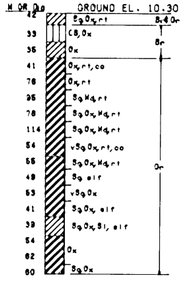
BOR. SCB13

UGL STA. 92+00
1000 FT. F.S. OF B/L
WATER TABLE 4.80 FT.
14JUL88



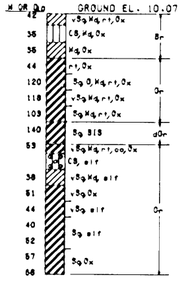
BOR. SCB14

UGL STA. 102+00
1000 FT.F.S.OF LEV.B/L
WATER TABLE 4.00 FT.
22JUL88



BOR. SCB15

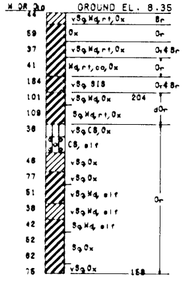
UGL STA. 107+00
1000 FT. F.S. OF LEV. B/L
WATER TABLE 3.50 FT.
21JUL88

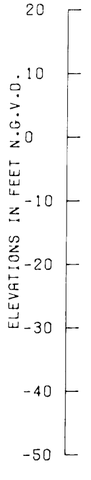


BOR. SCB16

UGL STA. 116+00
1000 FT. F.S. OF LEV. B/L

18JUL88





FOR LOCATION OF BORROW BORINGS SEE PLATE 48

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

BONNET CARRE'
BORROW BORINGS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

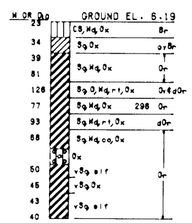
PLATE 66

ELEVATIONS IN FEET N.G.V.D.

20 10 0 -10 -20 -30 -40

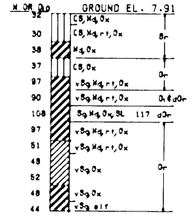
BOR. SCB17

STA. R76+50W
1950 FT. SOUTH OF R.R. C/L
WATER TABLE 3.5 FT.
29JUL88



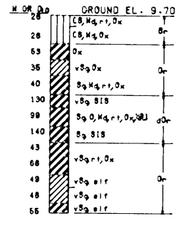
BOR. SCB18

STA. R76+50W
1450 FT. SOUTH OF R.R. C/L
WATER TABLE 4.5 FT.
28JUL88



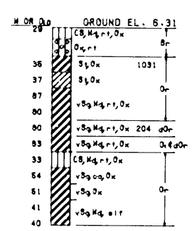
BOR. SCB19

STA. R76+50W
950 FT. SOUTH OF R.R. C/L
WATER TABLE 4.5 FT.
28JUL88



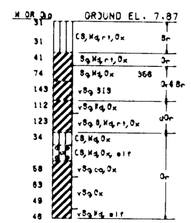
BOR. SCB20

STA. R71+50W
1800 FT. SOUTH OF R.R. C/L
WATER TABLE 3.3 FT.
28JUL88



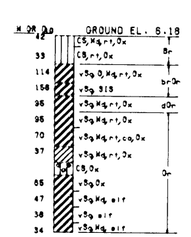
BOR. SCB21

STA. R71+50W
1300 FT. SOUTH OF R.R. C/L
WATER TABLE 0.0 FT.
02AUG88



BOR. SCB22

STA. R71+50W
800 FT. SOUTH OF R.R. C/L
WATER TABLE 0.0 FT.
03AUG88

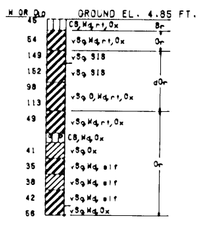


ELEVATIONS IN FEET N.G.V.D.

20 10 0 -10 -20 -30 -40

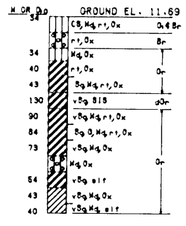
BOR. SCB23

STA. R71+50W
300 FT. SOUTH OF R.R. C/L
WATER TABLE 0.0 FT.
02AUG88



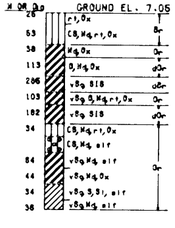
BOR. SCB24

STA. R67+50W
1300 FT. SOUTH OF R.R. C/L
WATER TABLE 2.30 FT.
11AUG88



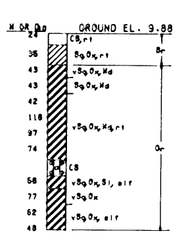
BOR. SCB25

STA. R67+50W
400 FT. SOUTH OF R.R. C/L
WATER TABLE 2.10 FT.
01AUG88



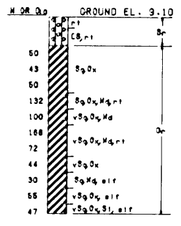
BOR. SCB26

STA. R64+00W
900 FT. SOUTH OF R.R. C/L
WATER TABLE 2.0 FT.
10AUG88



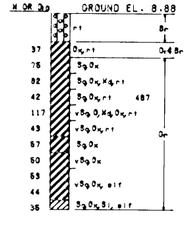
BOR. SCB27

STA. R61+00W
400 FT. SOUTH OF R.R. C/L
WATER TABLE 1.70 FT.
03AUG88



BOR. SCB28

STA. R58+00W
1000 FT. SOUTH OF R.R. C/L
WATER TABLE 1.7 FT.
11AUG88



FOR LOCATION OF BORROW BORINGS SEE PLATE 48

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

BONNET CARRE' BORROW BORINGS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 67

BOR. 1-SCU

STA. 7+50

ON B/L

1-23-87

GROUND EL. 1.7

ELEVATIONS IN FEET - N.G.V.D.

TEST DATA

WATER CONTENT
% WATER. DRY WEIGHT

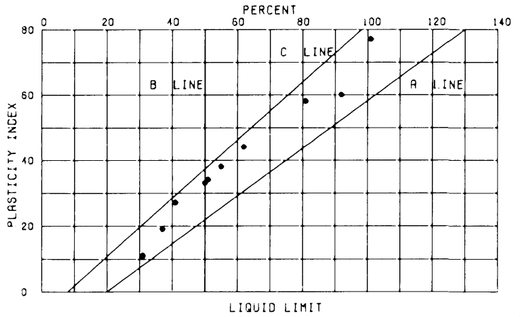
SHEAR STRENGTH
TONS / SQ.FT.

WET DENSITY
POUNDS / CU.FT.

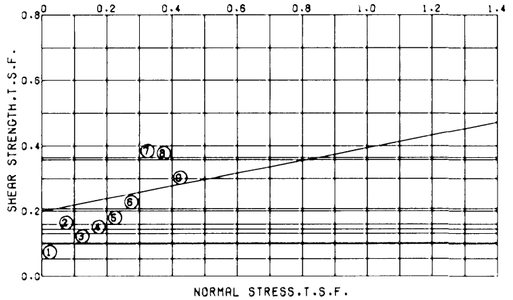
NORMAL STRESS
TONS / SQ. FT.

NO SAMPLE

NO SAMPLE



PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	0.20	Q	0.0	0.055	CH
2	-7.30	Q	0.0	0.145	CH
3	-11.30	Q	0.0	0.103	CH
4	-23.70	Q	0.0	0.132	CH
5	-34.50	Q	0.0	0.160	CH
6	-47.30	Q	0.0	0.208	CH
7	-55.40	Q	0.0	0.365	CH
8	-63.20	Q	0.0	0.358	CL
9	-27.30	R	11.0	0.200	CH

VOID RATIO

LOAD P TONS / SQ. FT.

CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 1-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 68

BOR. 2-SCU

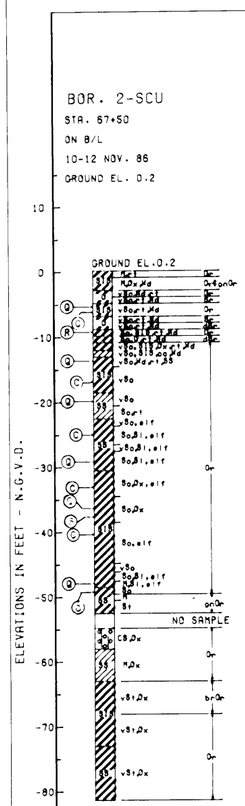
STA. 67+50

ON B/L

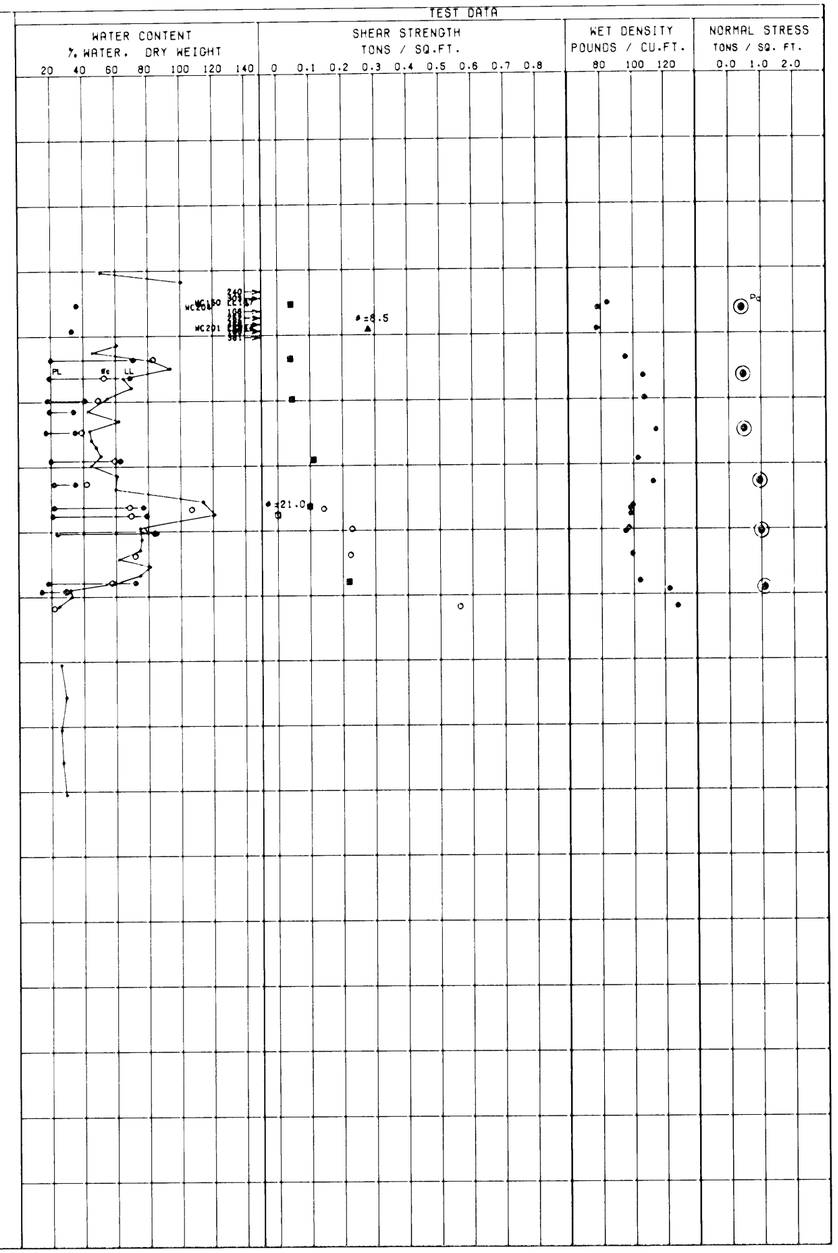
10-12 NOV. 86

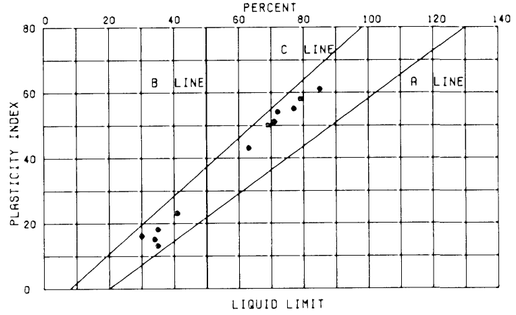
GROUND EL. 0.2

ELEVATIONS IN FEET - N.G.V.D.

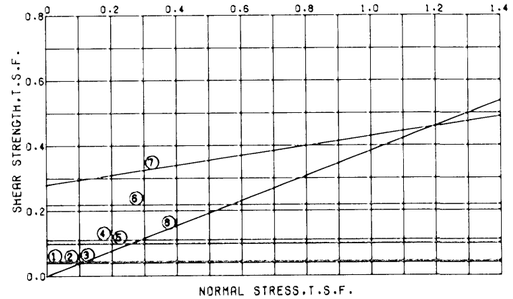


TEST DATA



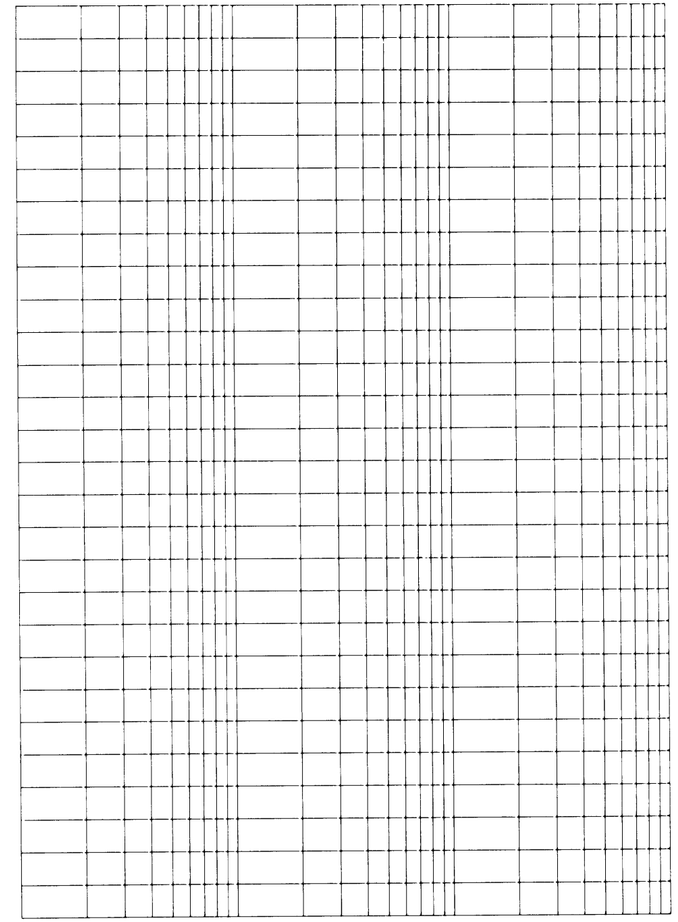


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-5.30	Q	0.0	0.042	CH
2	-13.60	Q	0.0	0.040	CH
3	-19.80	Q	0.0	0.045	CL
4	-29.10	Q	0.0	0.111	CH
5	-36.30	Q	0.0	0.099	CH
6	-47.90	Q	0.0	0.219	CH
7	-9.20	R	8.5	0.280	CH
8	-37.60	S	21.0	0.000	CH



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST

▣ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST

▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST

⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 50-A

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 2-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 69

BOR. 3-SCU

STA. 107+50

ON B/L

29 OCT. 4-5 NOV'86

GROUND EL. 1.4

ELEVATIONS IN FEET - N.G.V.D.

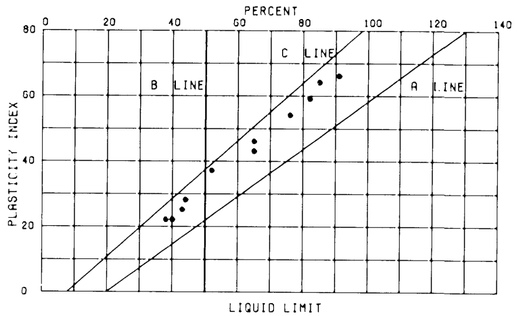
TEST DATA

WATER CONTENT
%, WATER, DRY WEIGHT

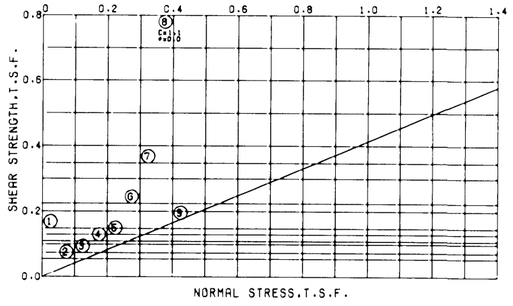
SHEAR STRENGTH
TONS / SQ.FT.

WET DENSITY
POUNDS / CU.FT.

NORMAL STRESS
TONS / SQ. FT.

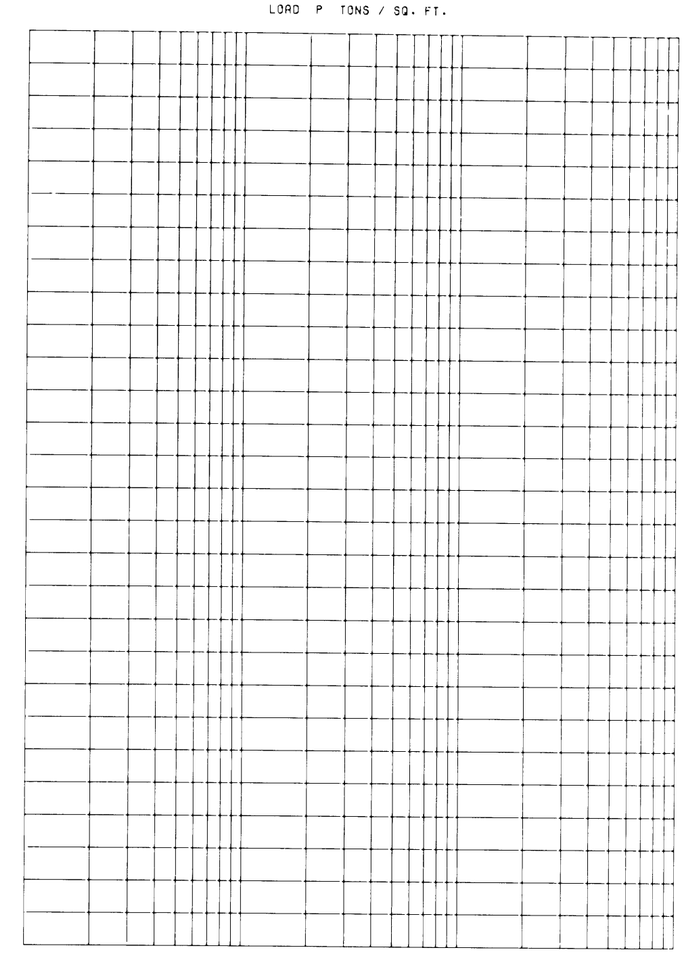


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	0.40	Q	0.0	0.149	CH
2	6.80	Q	0.0	0.056	CH
3	-14.60	Q	0.0	0.074	CH
4	-24.00	Q	0.0	0.110	CL
5	-36.40	Q	0.0	0.130	CH
6	-43.10	Q	0.0	0.225	CH
7	-51.90	Q	0.0	0.348	CH
8	-62.70	Q	0.0	1.120	CH
9	-20.00	S	22.5	0.000	CL



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 3 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 4

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 3-SCU

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 70

BOR. 4-SCU

STA. 167+50

ON B/L

10-13 JAN. 1987

GROUND EL. 0.9

ELEVATIONS IN FEET - N.G.V.D.

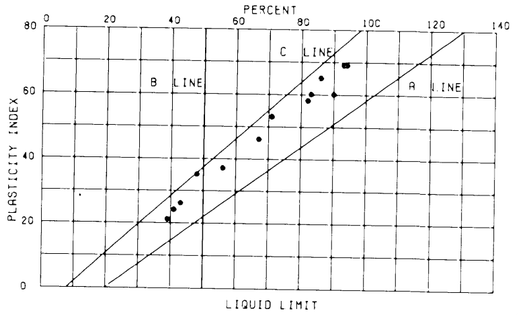
TEST DATA

WATER CONTENT
% WATER. DRY WEIGHT

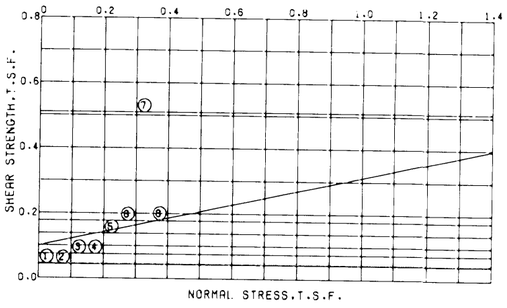
SHEAR STRENGTH
TONS / SQ.FT.

WET DENSITY
POUNDS / CU.FT.

NORMAL STRESS
TONS / SQ. FT.

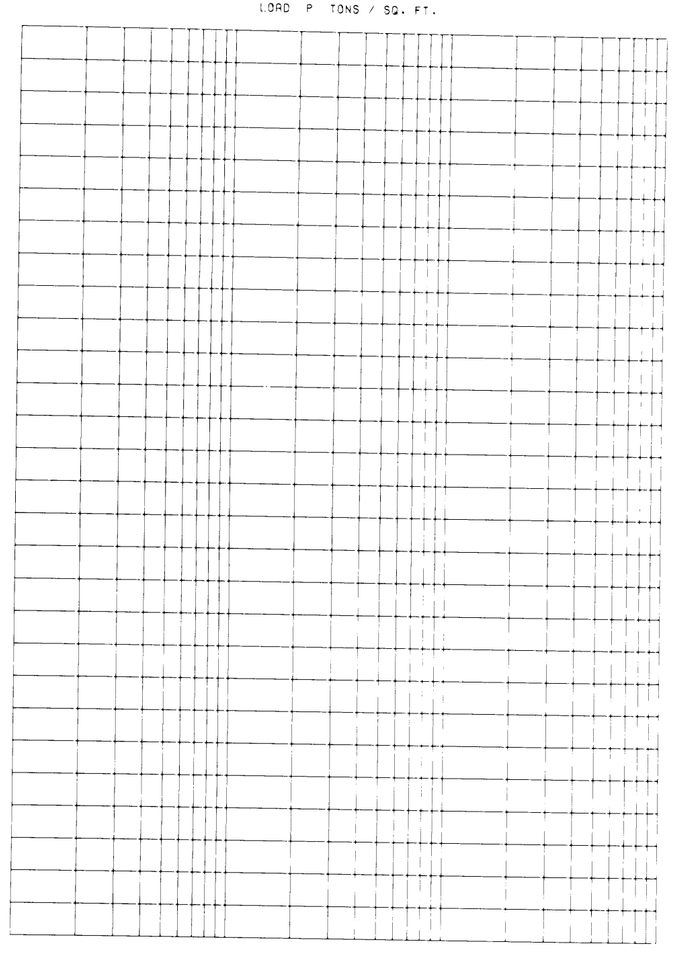


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-4.00	Q	0.0	0.045	CH
2	-12.40	Q	0.0	0.043	CH
3	-20.00	Q	0.0	0.075	CL
4	-31.50	Q	0.0	0.075	CH
5	-40.50	Q	0.0	0.138	CH
6	-48.50	Q	0.0	0.177	CH
7	-56.30	Q	0.0	0.510	CL
8	-11.60	R	12.0	0.100	CH



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 3 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 5

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 4-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 71

BOR. 5-SCU

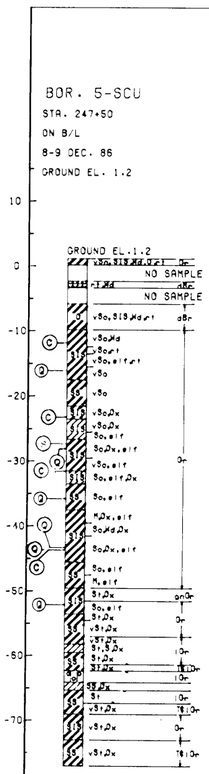
STA. 247+50

ON B/L

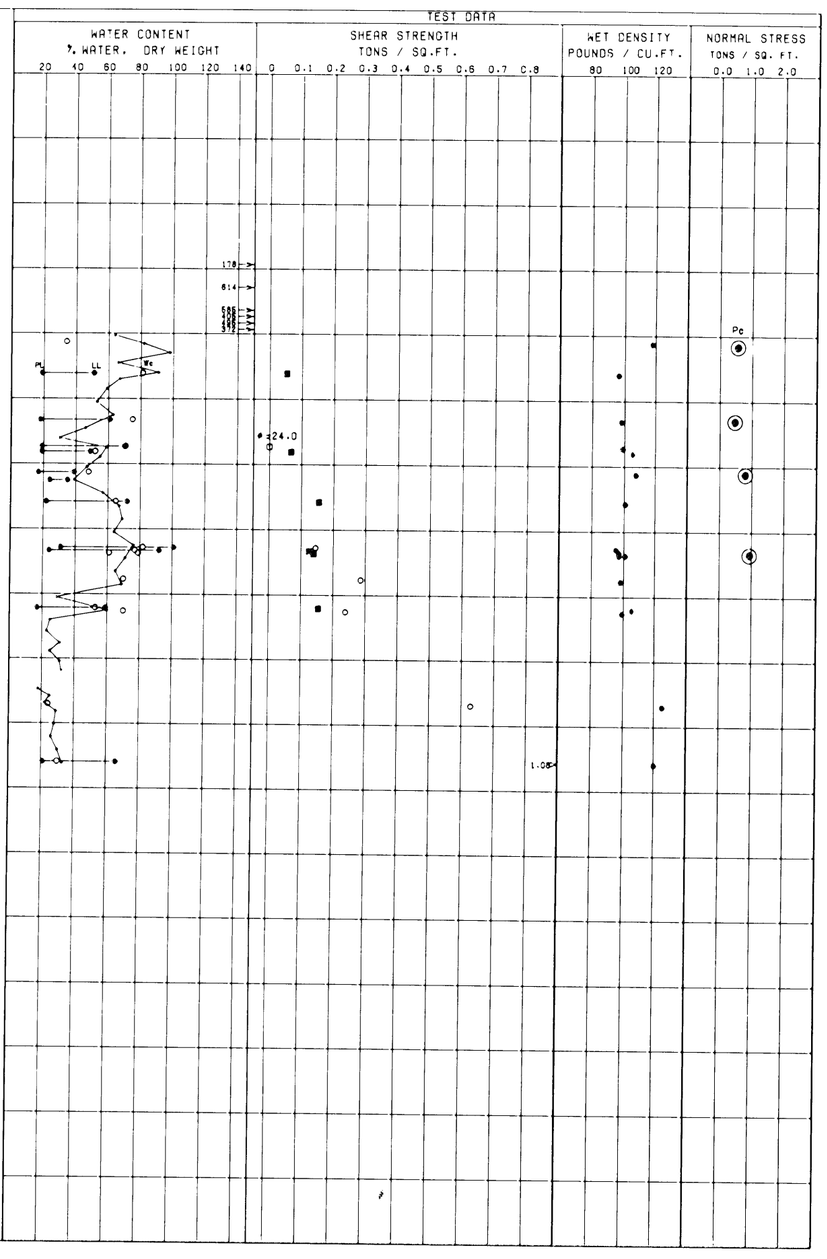
8-9 DEC. 86

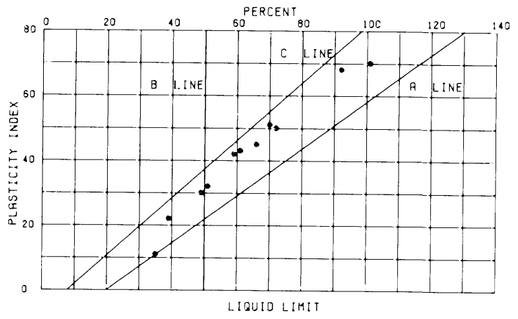
GROUND EL. 1.2

ELEVATIONS IN FEET - N.G.V.D.

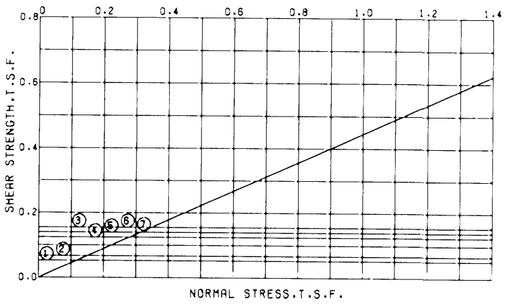


TEST DATA





PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-16.10	Q	0.0	0.063	CH
2	-28.10	Q	0.0	0.087	CH
3	-35.80	Q	0.0	0.155	CH
4	-43.30	Q	0.0	0.125	CH
5	-43.70	Q	0.0	0.140	CH
6	-52.10	Q	0.0	0.155	CH
7	-27.30	S	24.0	0.000	CH

VOID RATIO

LOAD - TONS / SQ. FT.

CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 6

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 5-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 72

BOR. 6-SCU

STA. 297+50

ON B/L

20-21 NOV. 86

GROUND EL. 1.2

ELEVATIONS IN FEET - N.G.V.D.

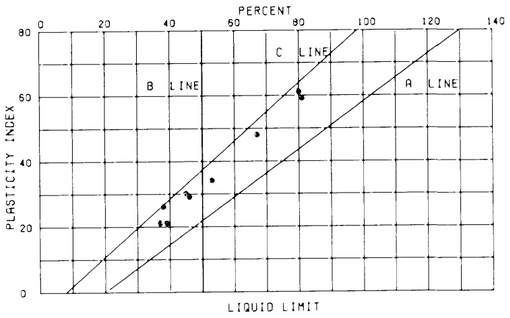
TEST DATA

WATER CONTENT
%, WATER, DRY WEIGHT

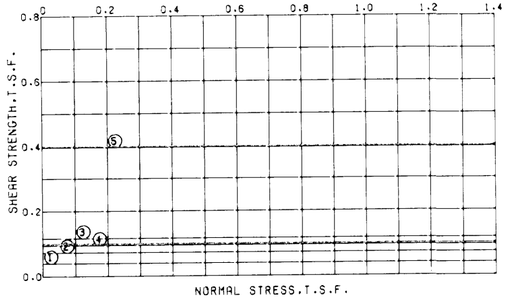
SHEAR STRENGTH
TONS / SQ.FT.

WET DENSITY
POUNDS / CU.FT.

NORMAL STRESS
TONS / SQ. FT.



PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH ϕ	STRENGTH C - TSF	CLASS
1	-15.80	Q	0.0	0.040	CH
2	-24.20	Q	0.0	0.073	CL
3	-35.70	Q	0.0	0.117	CH
4	-43.00	Q	0.0	0.095	CH
5	-59.20	Q	0.0	0.397	CL

LOAD P TONS / SQ. FT.

VOID RATIO

CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
▽ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 7

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 6-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 73

BOR. 7-SCU

STA. 357+50

ON B/L

23-28 OCT. 86

GROUND EL. 4.4

ELEVATIONS IN FEET - N.G.V.D.

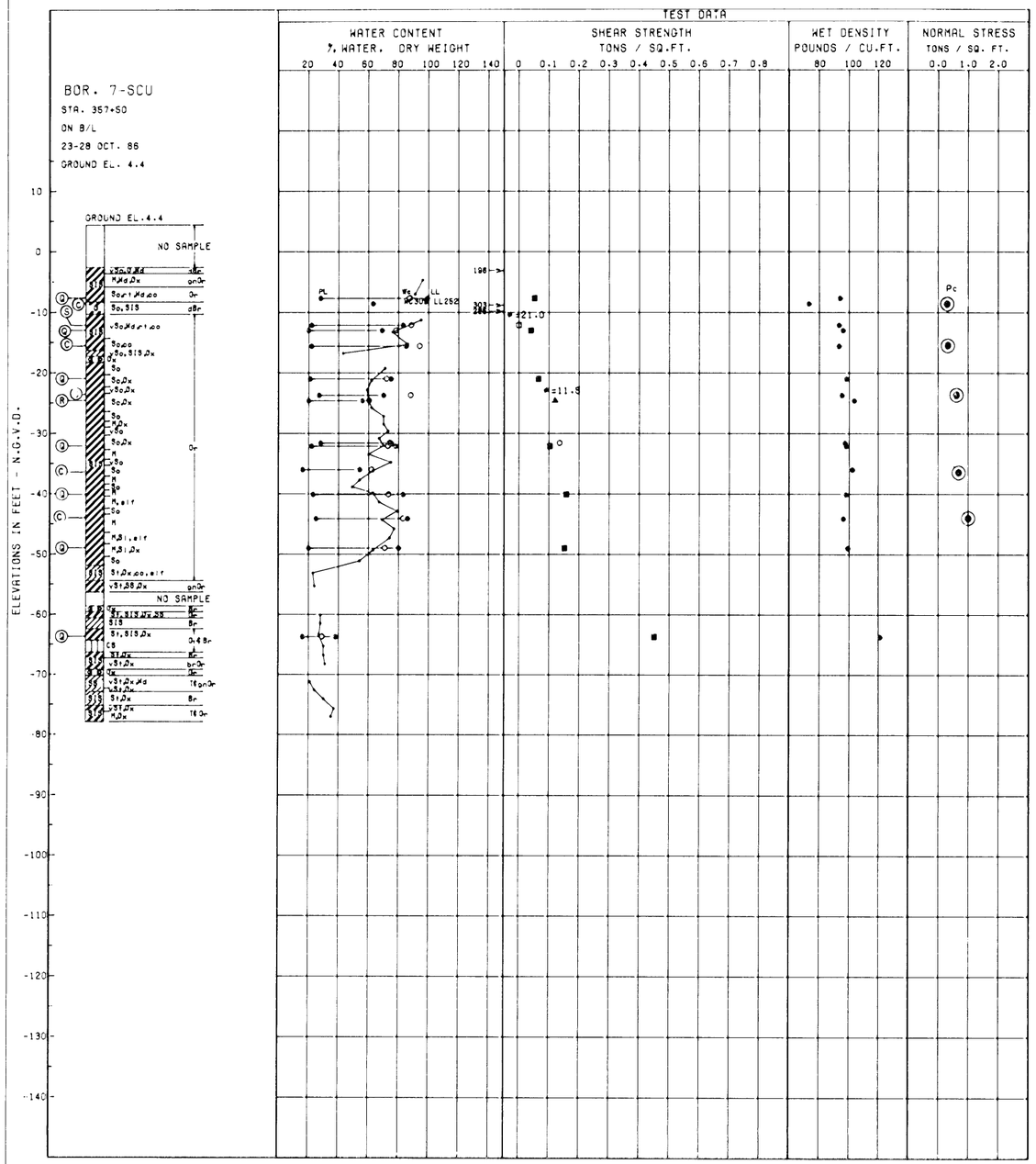
TEST DATA

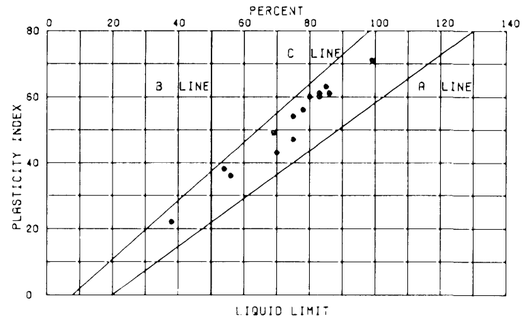
WATER CONTENT
%, WATER, DRY WEIGHT

SHEAR STRENGTH
TONS / SQ.FT.

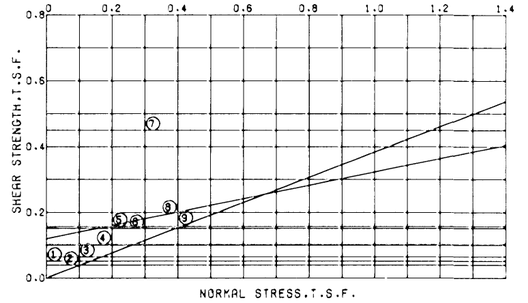
WET DENSITY
POUNDS / CU.FT.

NORMAL STRESS
TONS / SQ. FT.



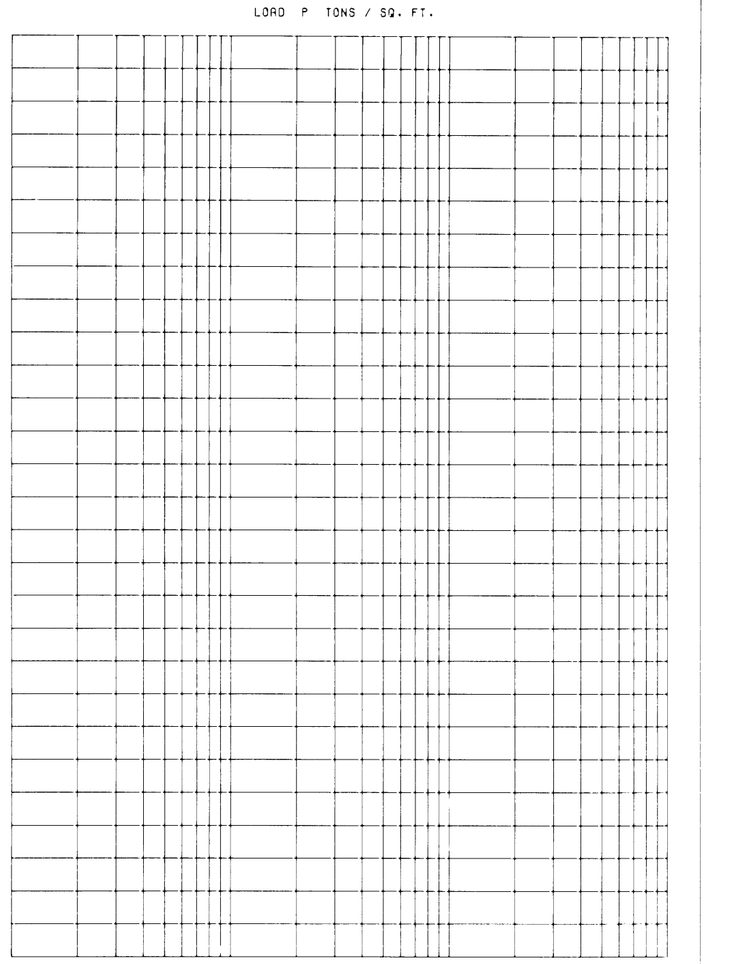


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-7.70	Q	0.0	0.052	CH
2	-13.00	Q	0.0	0.040	CH
3	-21.00	Q	0.0	0.065	CH
4	-32.10	Q	0.0	0.103	CH
5	-40.10	Q	0.0	0.158	CH
6	-49.00	Q	0.0	0.152	CH
7	-63.70	Q	0.0	0.450	CL
8	-24.60	R	11.5	0.120	CH
9	-12.10	S	21.0	0.000	CH



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 3 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 7

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 7-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 74

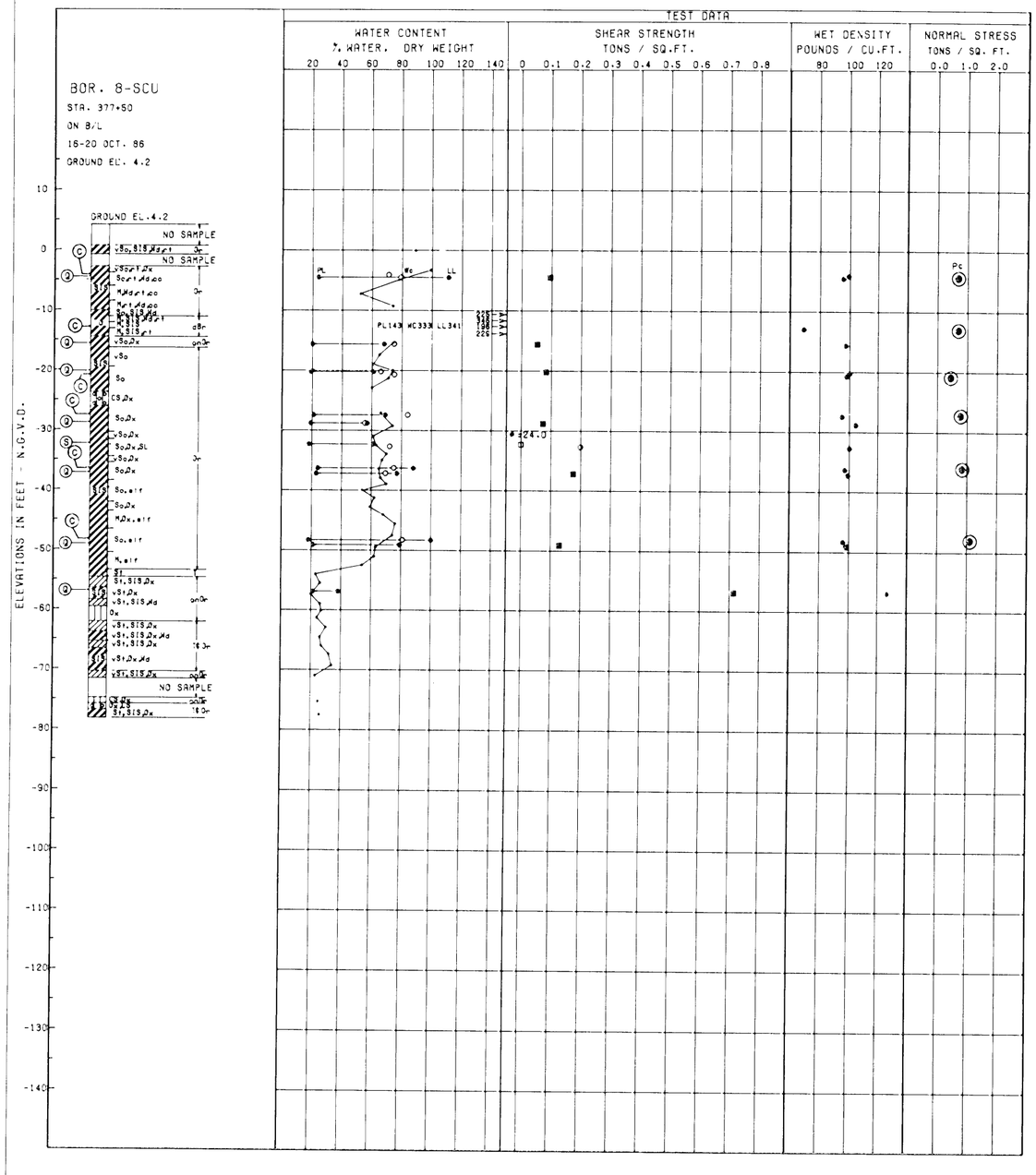
BOR. 8-SCU

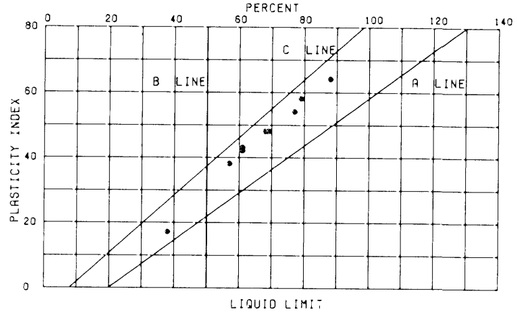
STA. 377+50

ON B/L

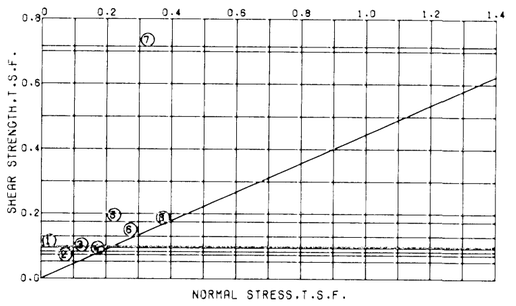
16-20 OCT. 86

GROUND EL. 4.2



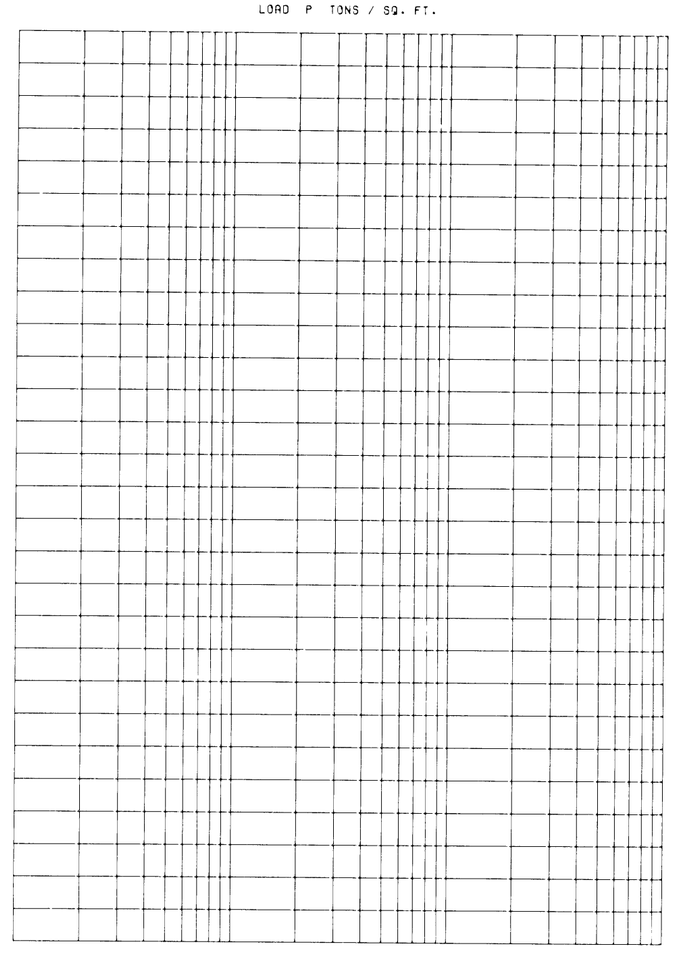


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-4.50	Q	0.0	0.095	CH
2	-15.60	Q	0.0	0.053	CH
3	-20.20	Q	0.0	0.083	CH
4	-28.80	Q	0.0	0.073	CH
5	-37.20	Q	0.0	0.175	CH
6	-49.10	Q	0.0	0.130	CH
7	-56.90	Q	0.0	0.715	CL
8	-32.30	S	24.0	0.000	CH



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
▽ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE B

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 8-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 75

BOR. 9-SCU

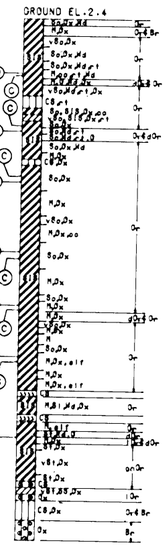
STA. 437+50

ON B/L

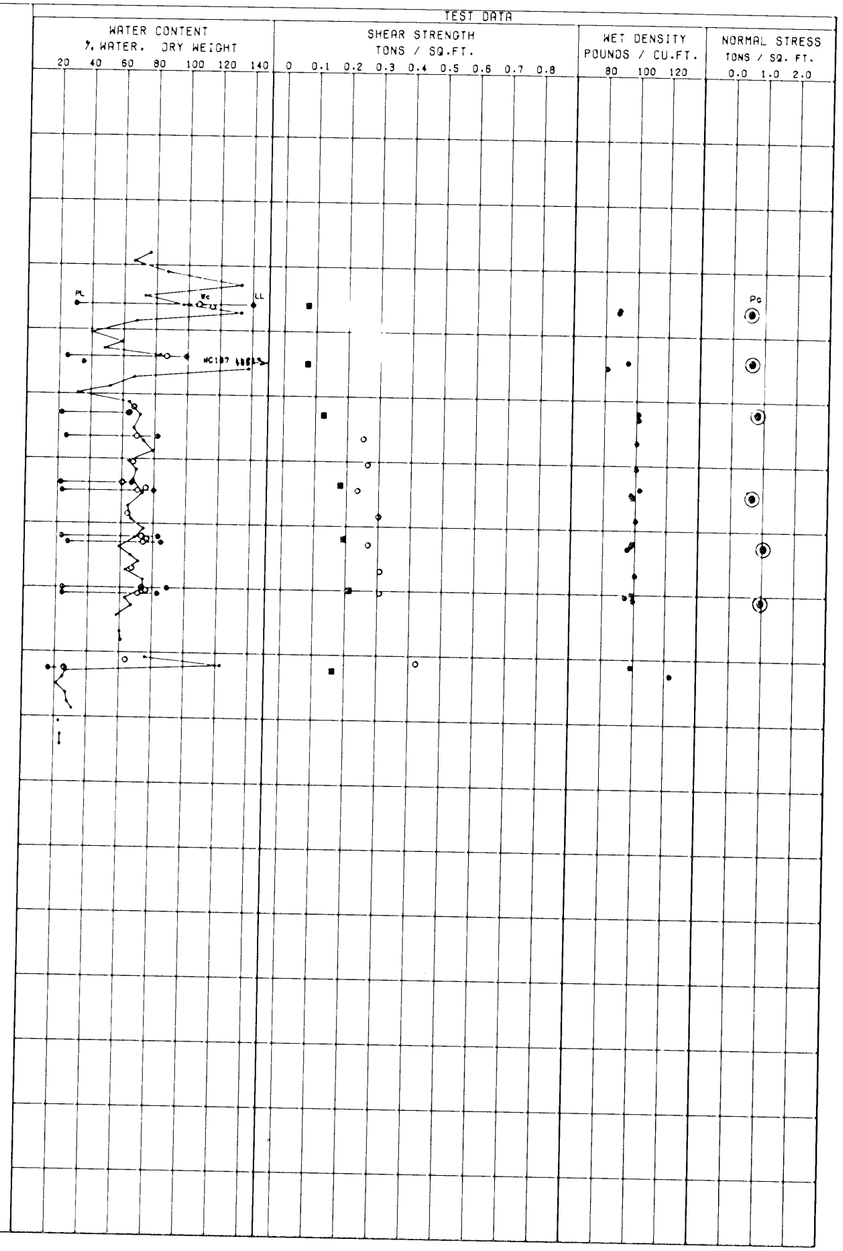
26-29 SEPT. 86

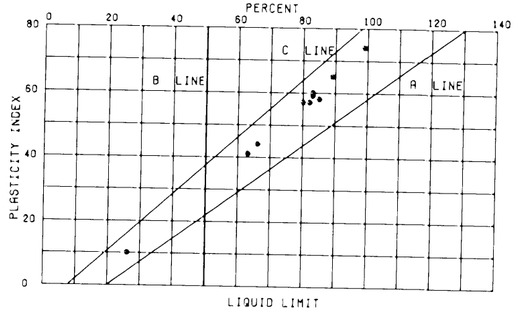
GROUND EL. 2.37

ELEVATIONS IN FEET - N.G.V.D.

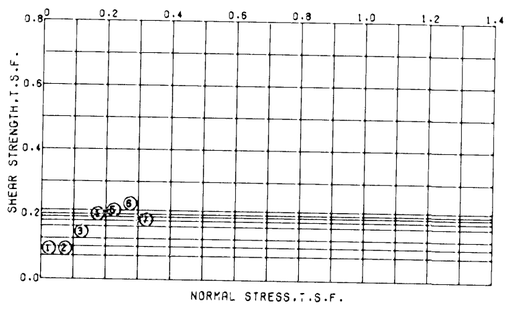


TEST DATA



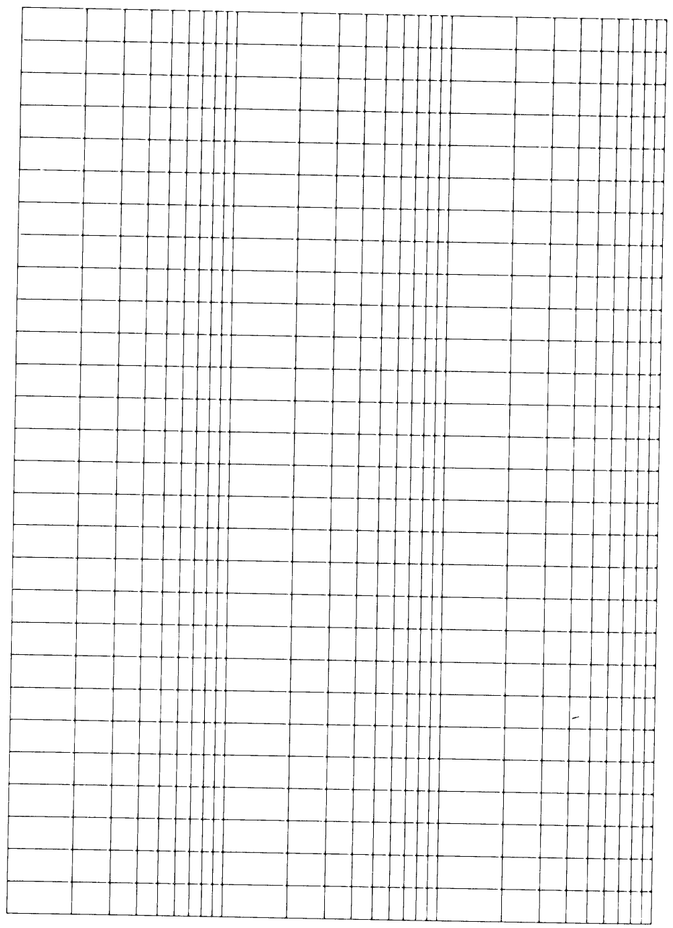


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-6.00	Q	0.0	0.073	CH
2	-15.00	Q	0.0	0.073	CH
3	-22.90	Q	0.0	0.125	CH
4	-33.70	Q	0.0	0.180	CH
5	-42.00	Q	0.0	0.192	CH
6	-50.00	Q	0.0	0.212	CH
7	-52.50	Q	0.0	0.163	CL



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
▦ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 9.

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORINGS 9-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 76

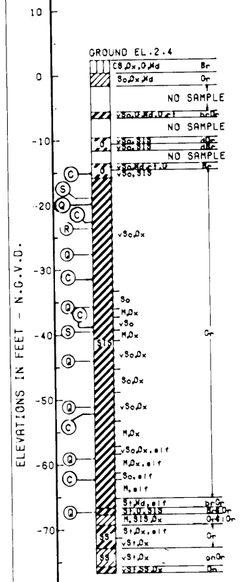
BOR. 10-SCU

STA. 504+20

ON B/L

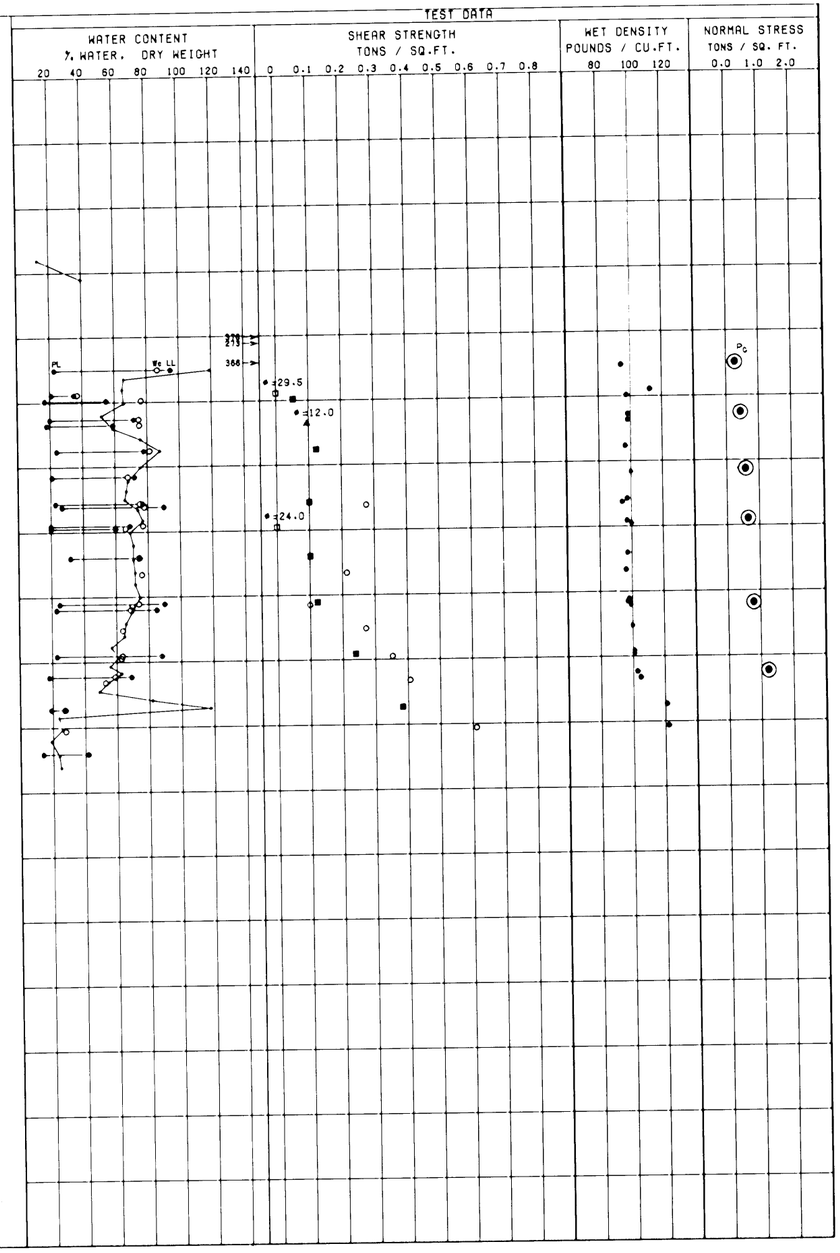
26-29 AUG. 1986

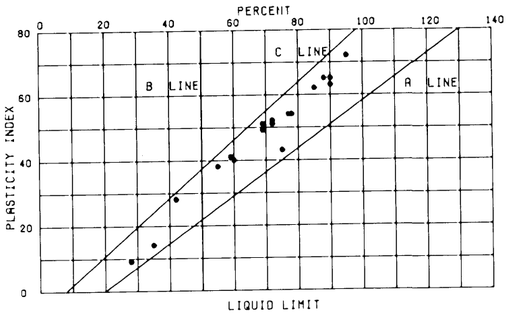
GROUND EL. 2.4



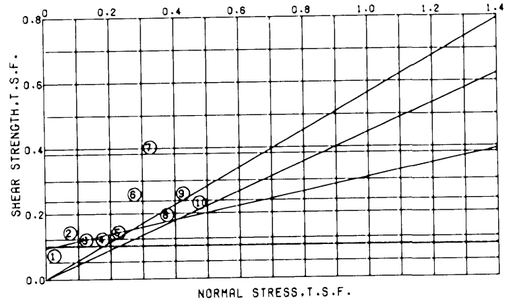
ELEVATIONS IN FEET - N.G.V.D.

TEST DATA



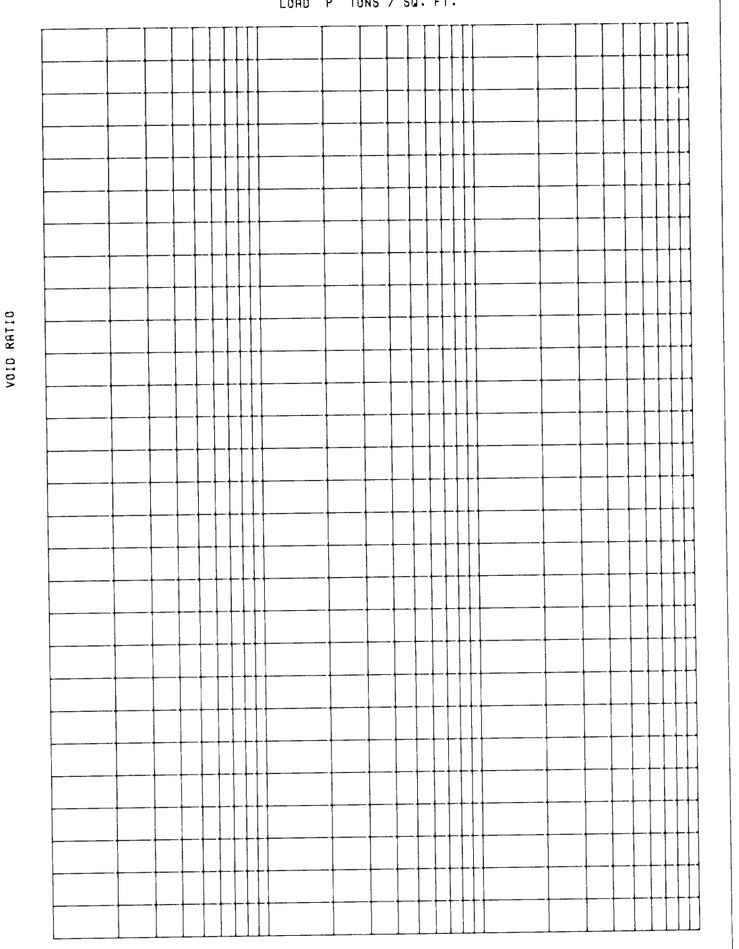


PLASTICITY CHART



SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-19.80	Q	0.0	0.053	CH
2	-27.60	Q	0.0	0.123	CH
3	-35.70	Q	0.0	0.100	CH
4	-44.00	Q	0.0	0.102	CH
5	-51.10	Q	0.0	0.123	CH
6	-59.10	Q	0.0	0.239	CH
7	-67.30	Q	0.0	0.383	CL
8	-23.60	R	12.0	0.095	CH
9	-18.90	S	29.5	0.000	CL
10	-39.50	S	24.0	0.000	CH



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST
■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST
▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST
⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 10

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORING 10-SCU

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 77

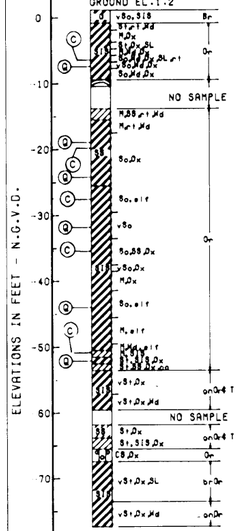
BOR. 11-SCU

STA. 39+40

ON SUBBASELINE A

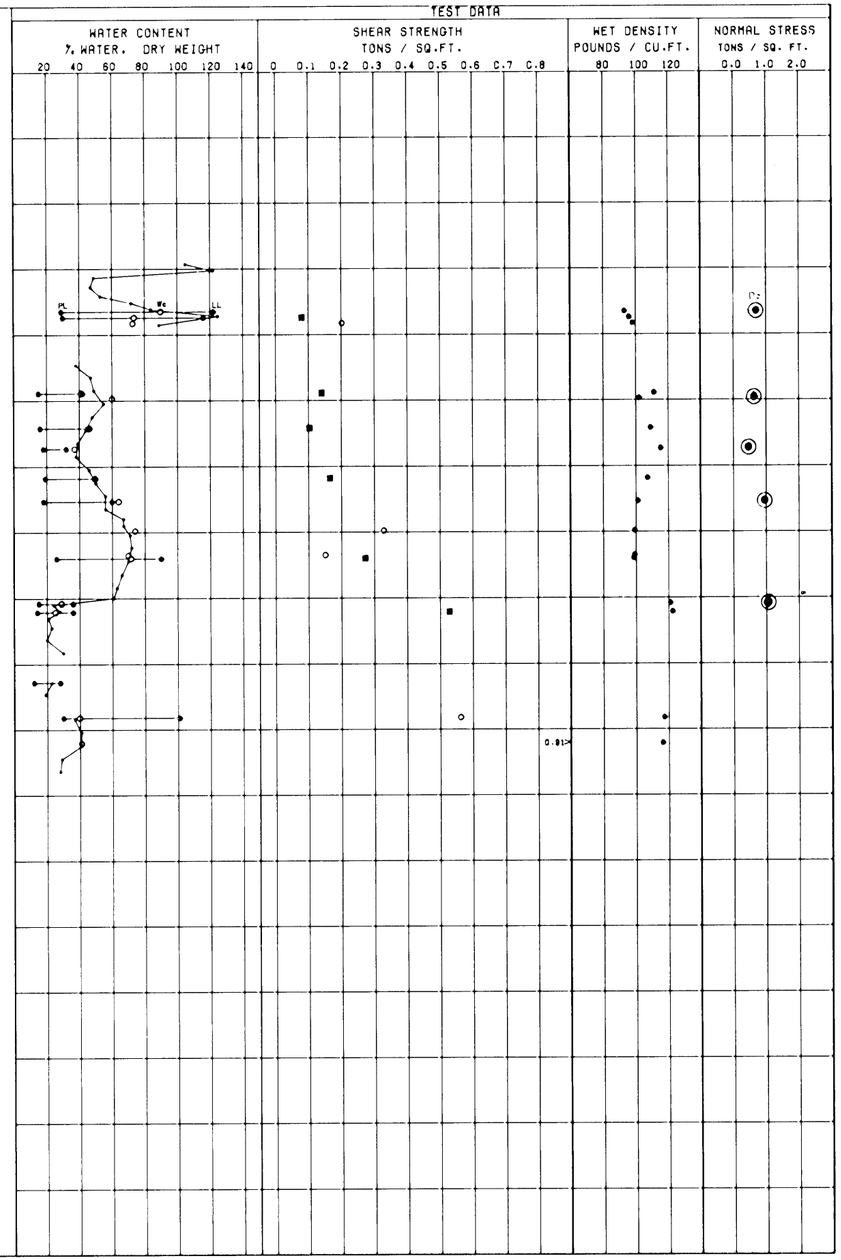
10-13 FEB. 1987

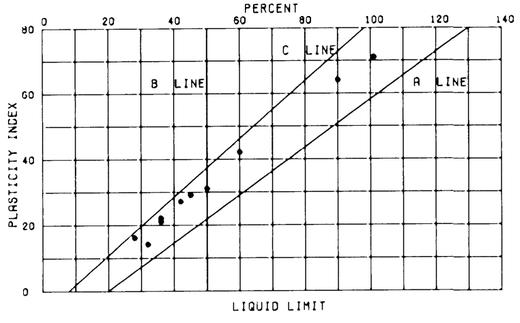
GROUND EL. 1.2



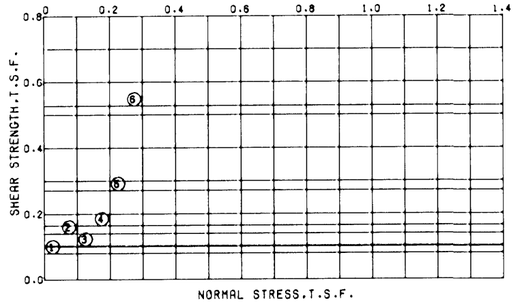
ELEVATIONS IN FEET - N.G.V.D.

TEST DATA





PLASTICITY CHART

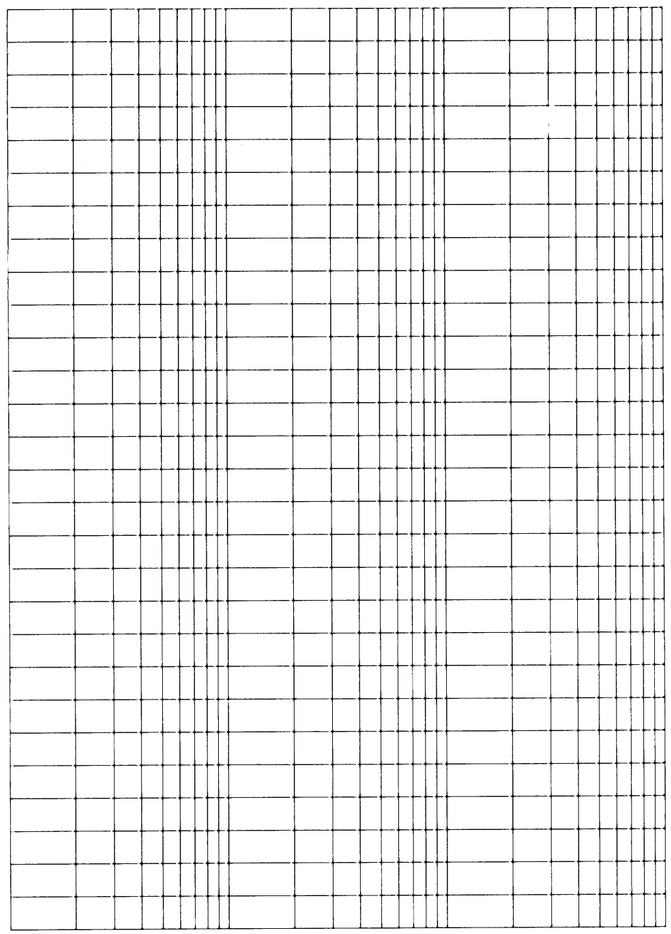


SHEAR STRENGTH DATA

ENVELOPE NO.	ENVELOPE EL.	TYPE	STRENGTH Φ	STRENGTH C - TSF	CLASS
1	-7.40	Q	0.0	0.080	CH
2	-18.90	Q	0.0	0.140	CL
3	-24.20	Q	0.0	0.103	CL
4	-31.80	Q	0.0	0.165	CH
5	-44.00	Q	0.0	0.272	CH
6	-52.10	Q	0.0	0.528	CL

VOID RATIO

LOAD P TONS / SQ. FT.



CONSOLIDATION DATA

○ - (UC) UNCONFINED COMPRESSION TEST

■ - (Q) UNCONSOLIDATED - UNDRAINED SHEAR TEST

▲ - (R) CONSOLIDATED - UNDRAINED SHEAR TEST

⊡ - (S) CONSOLIDATED - DRAINED SHEAR TEST

BORINGS WERE TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER

FOR SOIL BORING LEGEND SEE PLATE A

FOR LOCATION OF BORING SEE PLATE 3

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN

DESIGN MEMORANDUM NO. 18, GENERAL DESIGN

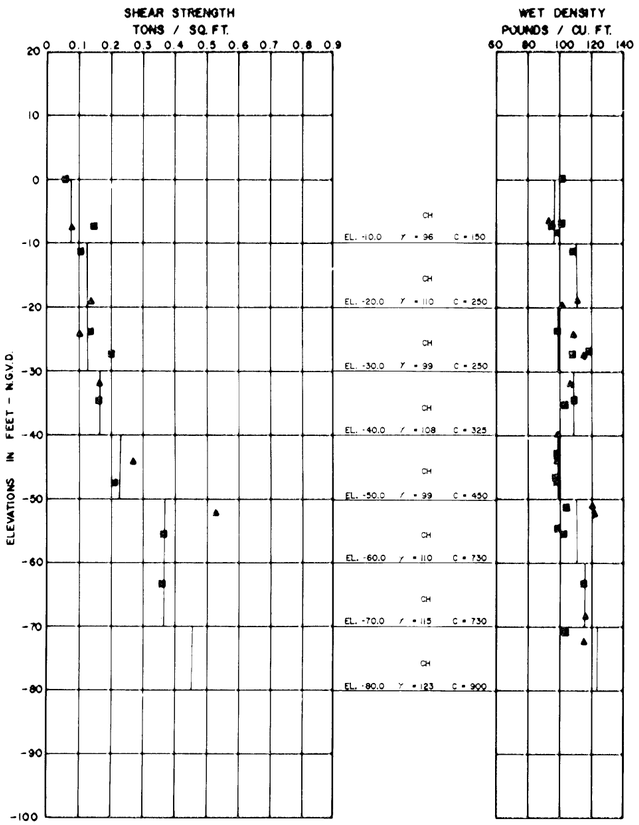
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

UNDISTURBED BORING 11-SCU

U S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE. JANUARY 1989 FILE NO. H-2-30423

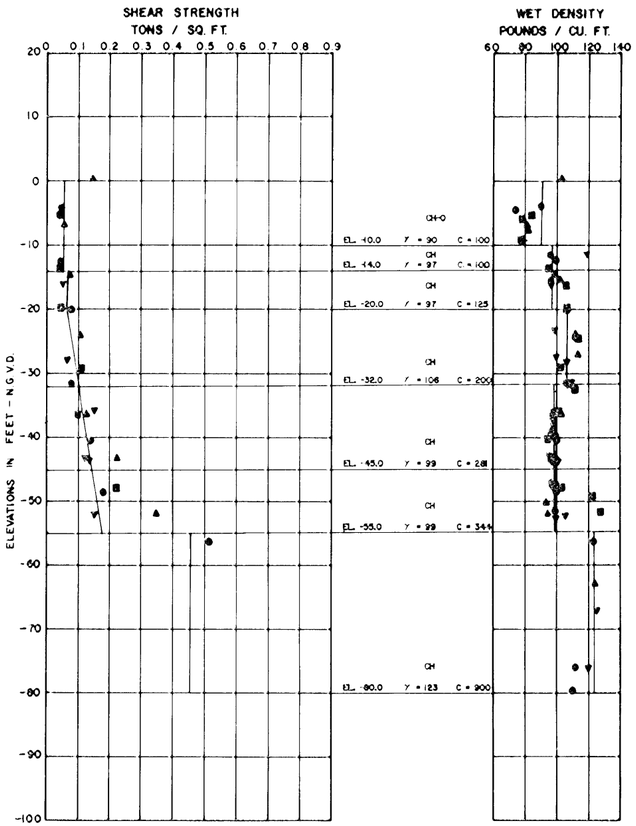
PLATE 78



BORING LEGEND:

- ■ 1-SCU
- ▲ 11-SCU

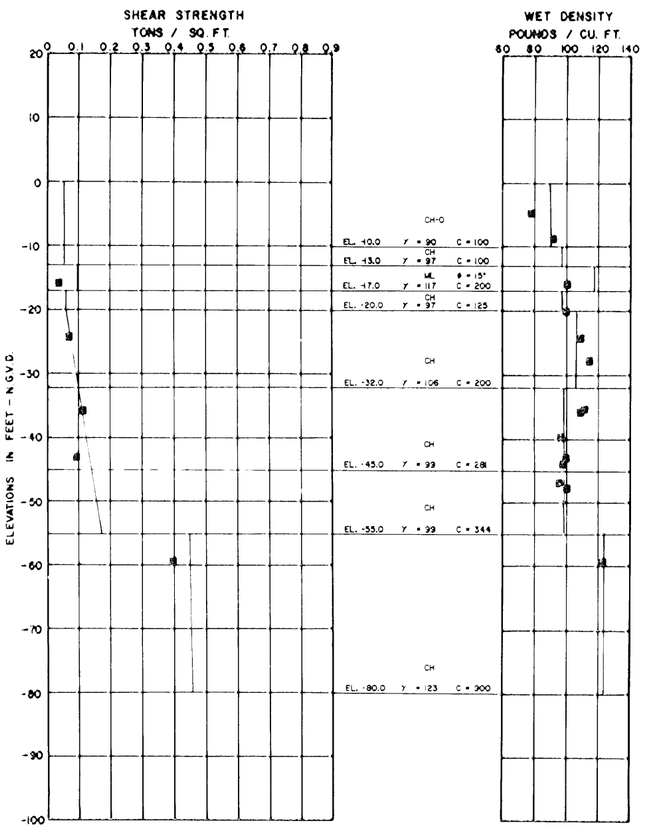
REACH 1 B/L STA. 0+00 TO B/L STA. 96+24
(96 + 24.45 = 101 + 82.23 CS)



BORING LEGEND:

- ■ 2-SCU
- ● 4-SCU
- ▲ 3-SCU
- ▼ 5-SCU

REACH 2 B/L STA. 101+82 TO 265+00



BORING LEGEND:

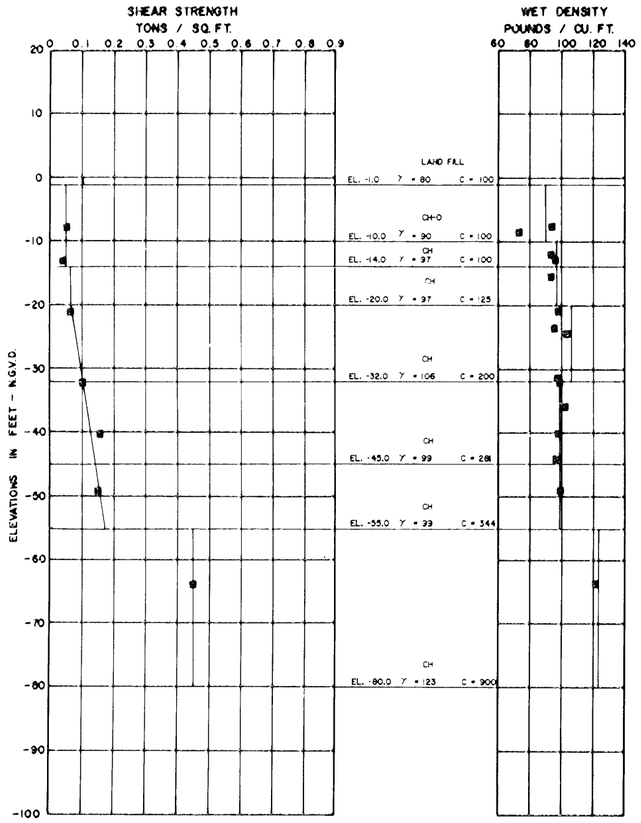
- ■ 6-SCU

REACH 3 B/L STA. 265+00 TO B/L STA. 331+40
REACH 7 B/L STA. 470+00 TO B/L STA. 495+00

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DESIGN SOIL PARAMETERS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

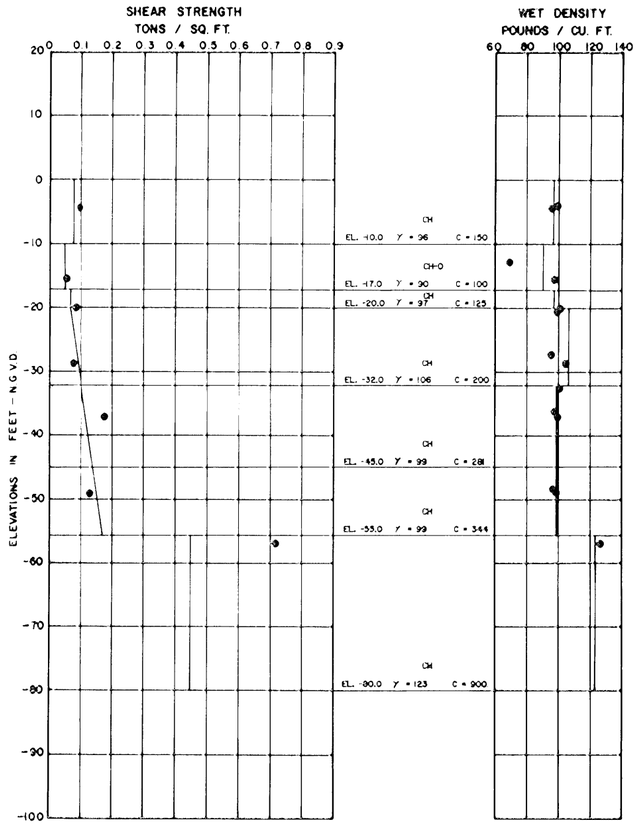


BORING LEGEND:

7-SCU

LAND FILL

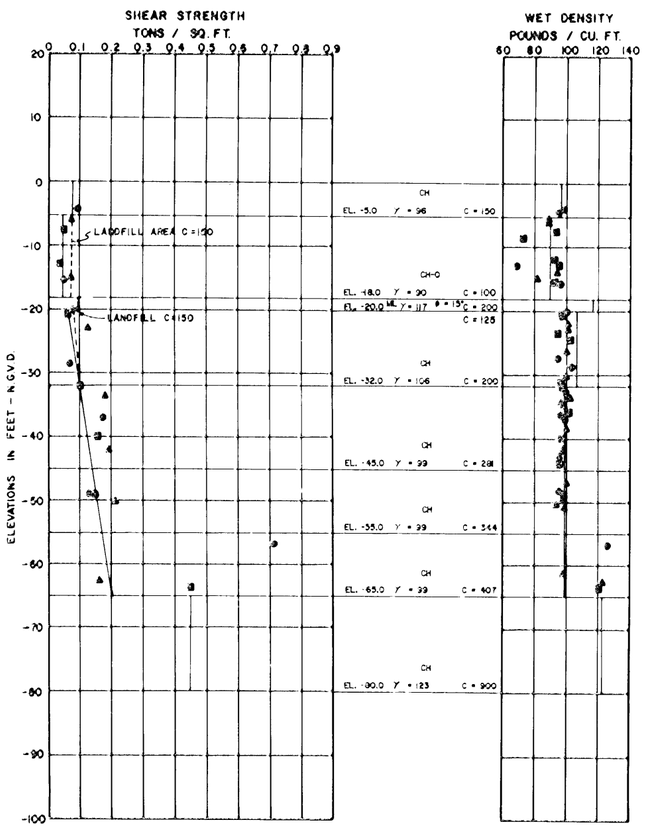
REACH 4 B/L STA. 331+40 TO B/L STA. 370+90



BORING LEGEND:

8-SCU

REACH 5 B/L STA. 370+90 TO B/L STA. 425+00



BORING LEGEND:

7-SCU ▲ 9-SCU

8-SCU

REACH 6 B/L STA. 425+00 TO B/L STA. 470+00
LANDFILL B/L STA. 440+80 TO B/L STA. 449+20

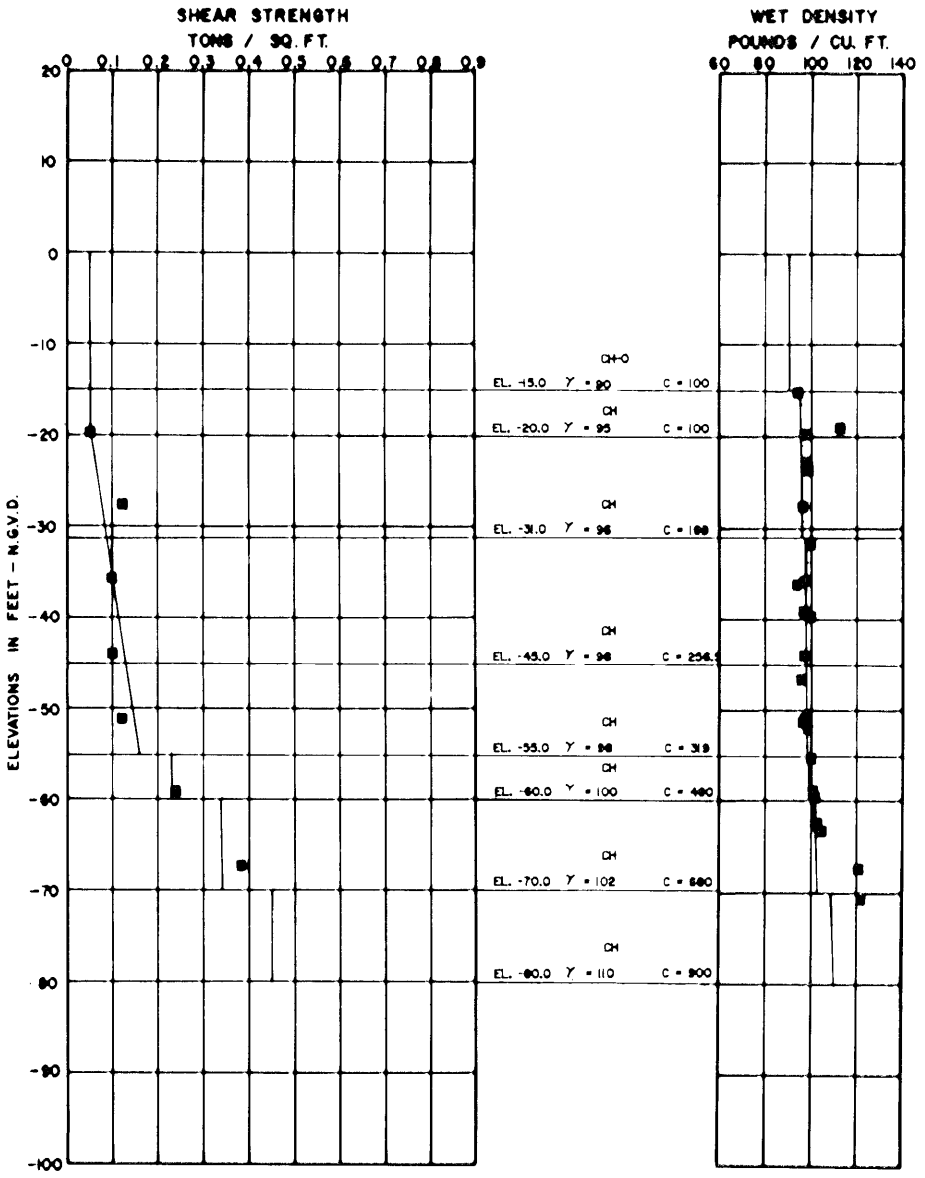
LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN

ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DESIGN SOIL PARAMETERS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423



BORING LEGEND:

■ 10-SCU

REACH 8 B/L STA. 495+00 TO AIRPORT EXTENSION

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN

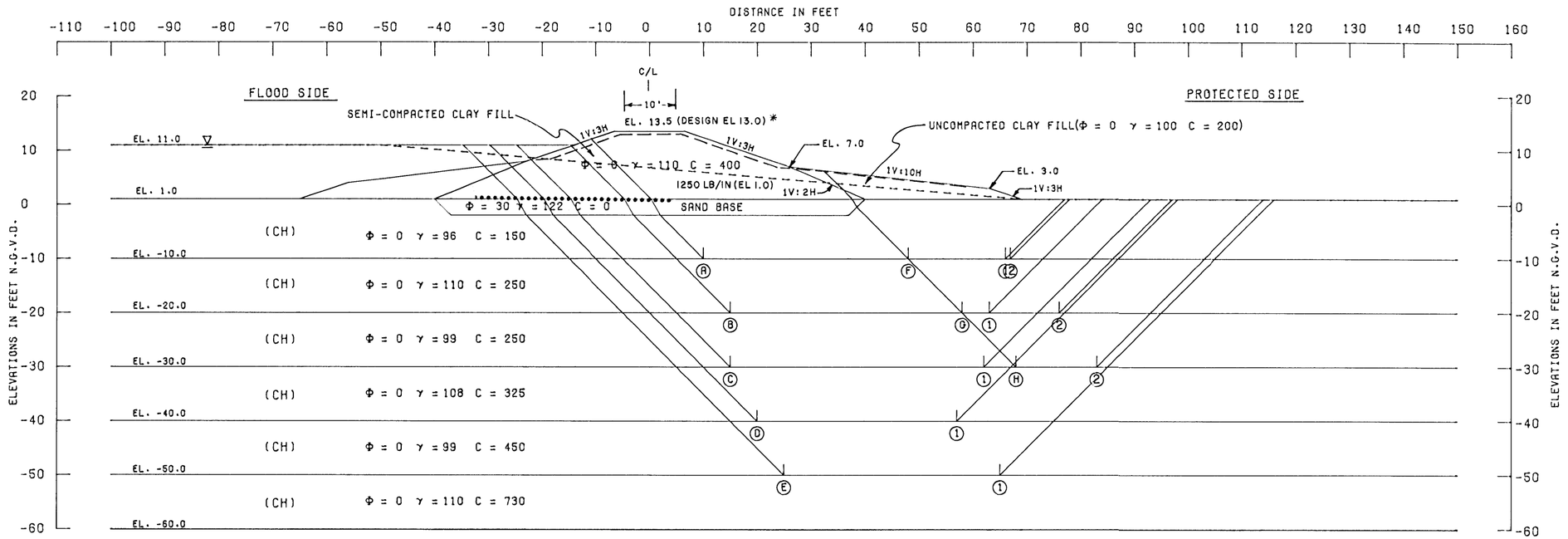
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DESIGN SOIL PARAMETERS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 81



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	13470	8400	3300	29589	5958	25170	23631	1.07
Ⓑ ①	-20.0	17419	12000	8300	57950	22466	37719	35484	1.06
Ⓒ ①	-30.0	19781	11750	13300	95223	49181	44831	46042	0.97
Ⓓ ①	-40.0	25207	12025	19800	142360	87228	57032	55132	1.03
Ⓔ ①	-50.0	33209	18000	28800	198767	132710	80009	66057	1.21
Ⓕ ②	-10.0	6044	2842	3300	11784	5878	12186	5906	2.06
Ⓞ ②	-20.0	11044	4500	8300	30922	21867	23844	9055	2.63
Ⓗ ②	-30.0	16044	3750	13300	59148	48376	33094	10772	3.07

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE•••••••••••• , SEE PLATE II FOR GEOTEXTILE AND SAND DIMENSIONS.

CONSTRUCTION SEQUENCE

1. CLEAR BASE OF EMBANKMENT & GRUB BELOW FABRIC WIDTH
2. PUMP OR DUMP A SAND WORKING BASE TO EL 2.0
3. LAY 1250 LB/IN GEOTEXTILE (SETTLE TO EL. 1.0 DURING CONSTRUCTION)
4. COMPLETE SECTION WITH SEMI-COMPACTED & UNCOMPACTED FILL

NOTES

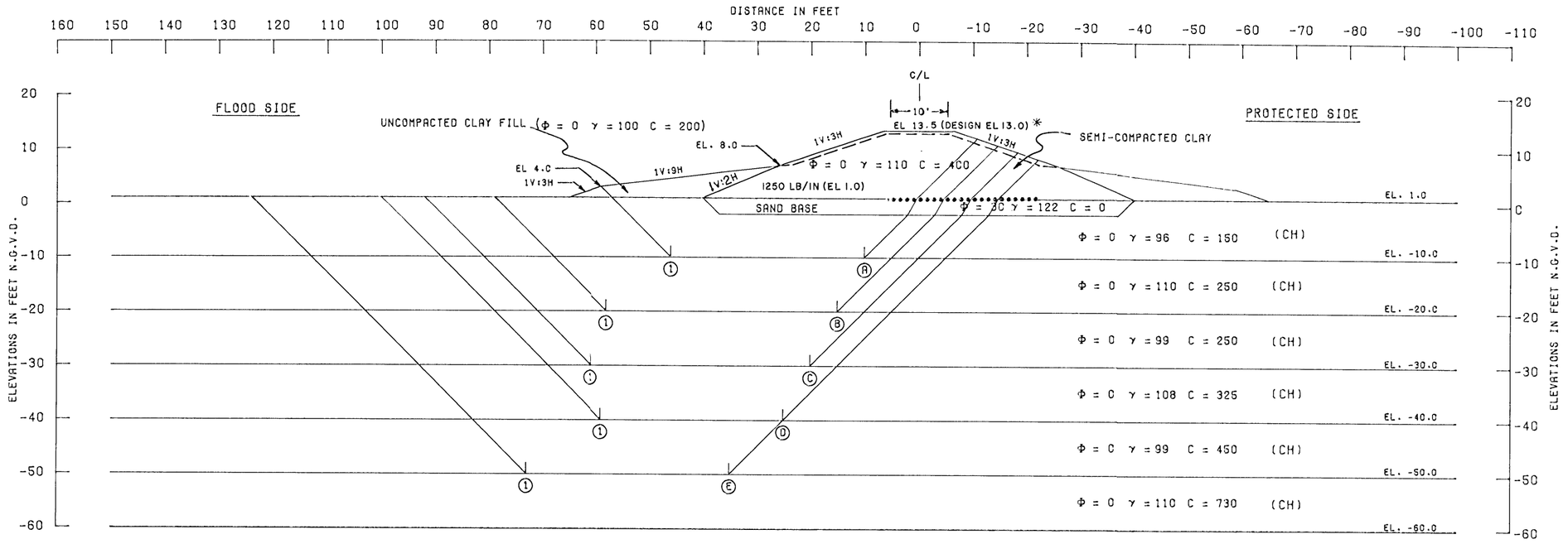
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

B/L NOTE

96+24.45 = 101 + 82.23 CS

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH I - PROTECTED SIDE
B/L STA.0+00 TO B/L STA. 96 + 24
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	14183	5400	4099	29589	9229	23682	20360	1.16
Ⓑ ①	-20.0	18184	10750	8300	57946	22672	37234	35274	1.06
Ⓒ ①	-30.0	22011	10250	13300	95039	48643	45561	46396	0.98
Ⓓ ①	-40.0	27145	11050	19800	140756	85834	57995	54922	1.06
Ⓔ ①	-50.0	36145	17100	28800	194696	132443	82045	62253	1.32

GENERAL NOTES:

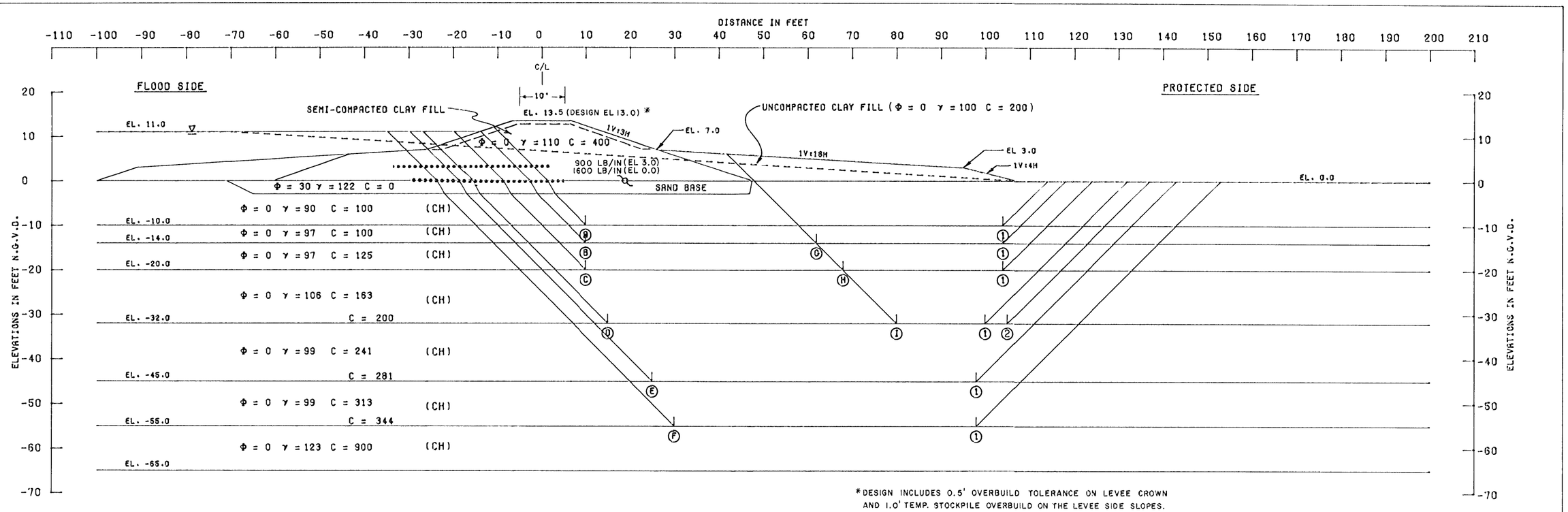
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE•••••••••••, SEE PLATE 11 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 1 PROTECTED SIDE STABILITY PLATE 82.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 1 - FLOOD SIDE
B/L STA. 0+00 TO B/L STA. 96 + 24
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
A 1	-10.0	13388	9400	2000	29510	4612	24788	24898	1.00
B 1	-14.0	13358	9400	2800	39360	8988	25558	30372	0.84
C 1	-20.0	13512	11750	4300	56414	18462	29562	37952	0.78
D 1	-32.0	15481	17000	8200	101362	49033	40681	52329	0.78
E 1	-45.0	21015	20513	14453	164781	98643	55981	66138	0.85
F 1	-55.0	26807	23392	20703	223747	147881	70902	75866	0.93
G 1	-14.0	5231	4200	2800	18075	8988	12231	9087	1.35
H 1	-20.0	6731	4500	4300	30395	18462	15531	11933	1.30
I 2	-32.0	10631	5000	8200	65530	48471	23831	17059	1.40

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ..... SEE PLATE II FOR GEOTEXTILE AND SAND DIMENSIONS.

CONSTRUCTION SEQUENCE

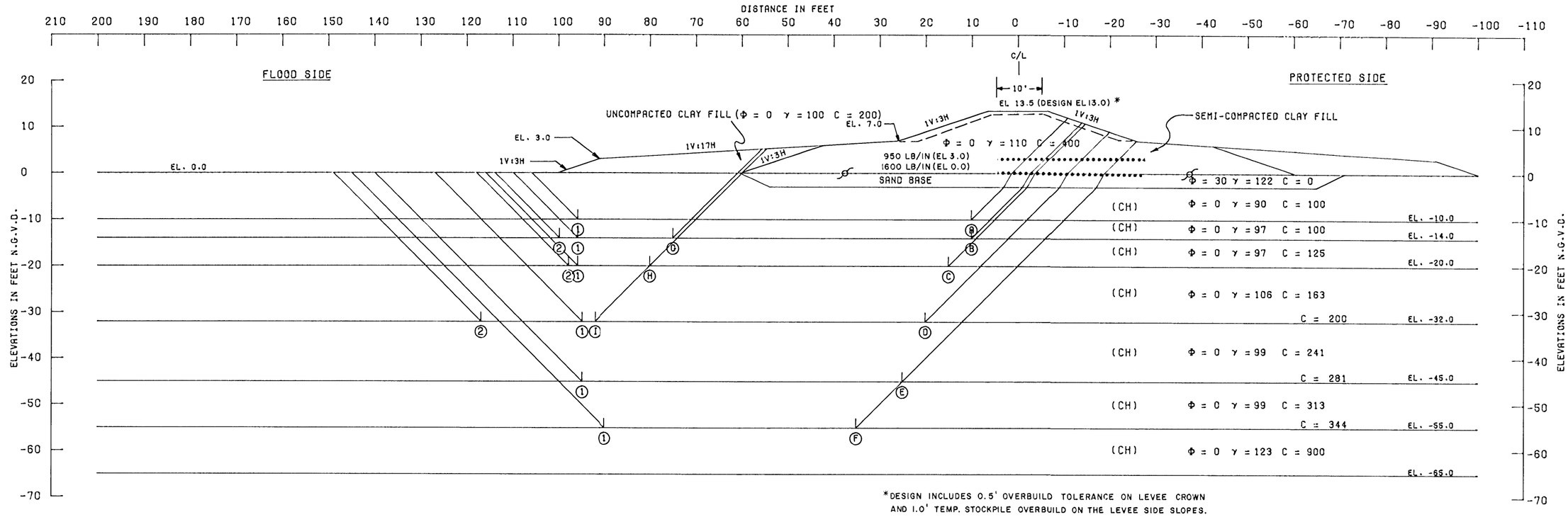
1. CLEAR BASE OF EMBEDMENT & GRUB BELOW FABRIC WIDTH
2. PUMP OR DUMP A SAND WORKING BASE TO EL 2.0
3. LAY BOTTOM GEOTEXTILE (SETTLED TO EL 0.0 DURING CONSTRUCTION)
4. PLACE 3 FT. OF SEMI-COMPACTED FILL & UNCOMPACTED FILL
5. LAY TOP GEOTEXTILE (SETTLED EL 3.0 DURING CONSTRUCTION)
6. COMPLETE SECTION WITH SEMI-COMPACTED & UNCOMPACTED CLAY FILL

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 2A - PROTECTED SIDE
B/L STA. 101+82 TO B/L STA. 170+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30424



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	14202	8600	2000	29511	4766	24802	24745	1.00
Ⓑ ①	-14.0	14203	8600	2800	39360	9142	25603	30218	0.85
Ⓒ ①	-20.0	15503	10125	4300	56937	18616	29928	38321	0.78
Ⓓ ①	-32.0	17757	15000	8200	101068	48837	40957	52231	0.78
Ⓔ ①	-45.0	21824	19670	14453	162746	98047	55947	64699	0.86
Ⓕ ①	-55.0	28074	18920	20703	220388	148521	67697	71867	0.94
Ⓖ ②	-14.0	4865	2500	2800	16306	8876	10165	7430	1.37
Ⓗ ②	-20.0	6447	2250	4300	28213	18416	12997	9797	1.33
① ②	-32.0	10347	5000	8200	62237	48420	23547	13817	1.70

GENERAL NOTES:

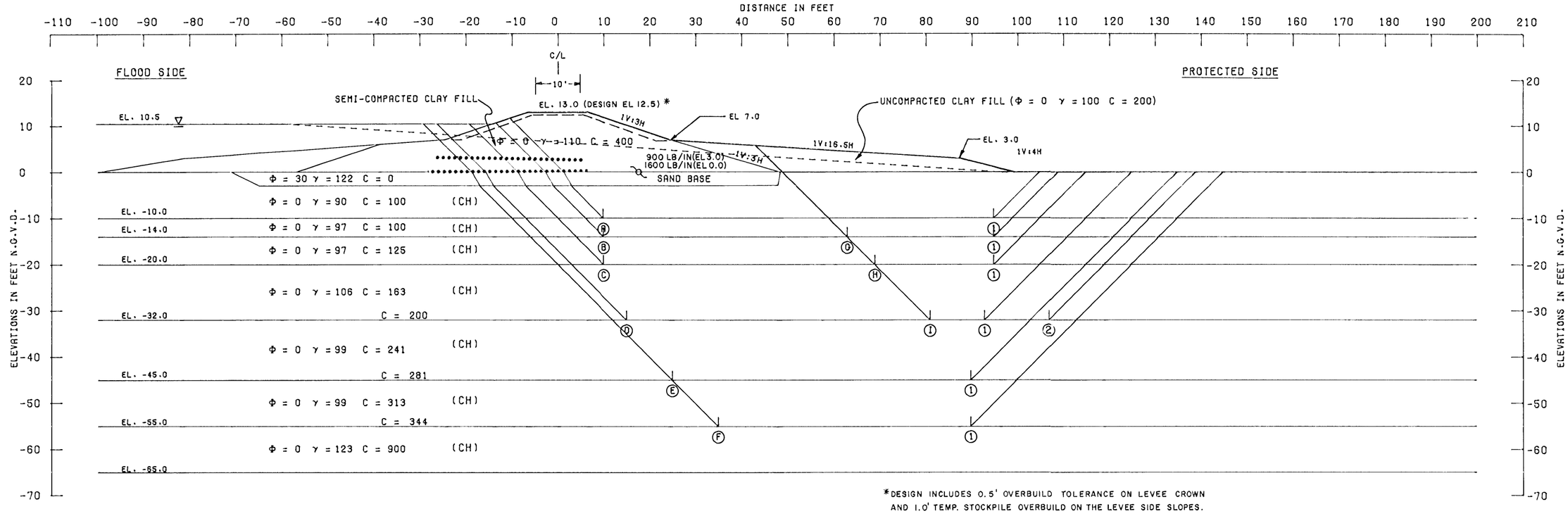
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ..... SEE PLATE 11 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 2A – FLOOD SIDE
B/L STA. 101+82 TO B/L STA. 170+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
A 1	-10.0	13002	8500	2000	28307	4752	23502	23555	1.00
B 1	-14.0	12969	8500	2800	37993	9128	24269	28865	0.84
C 1	-20.0	13119	10625	4300	54756	18602	28044	36154	0.78
D 1	-32.0	15083	15600	8200	99086	48948	38883	50138	0.78
E 1	-45.0	20798	18265	14453	161818	98757	53516	63061	0.85
F 1	-55.0	27048	18920	20703	219202	147996	66671	71206	0.94
G 1	-14.0	5125	3200	2800	17457	9128	11125	8329	1.34
H 1	-20.0	6625	3250	4300	29549	18602	14175	10947	1.29
I 2	-32.0	10525	5200	8200	64171	48421	23925	15750	1.52

GENERAL NOTES:

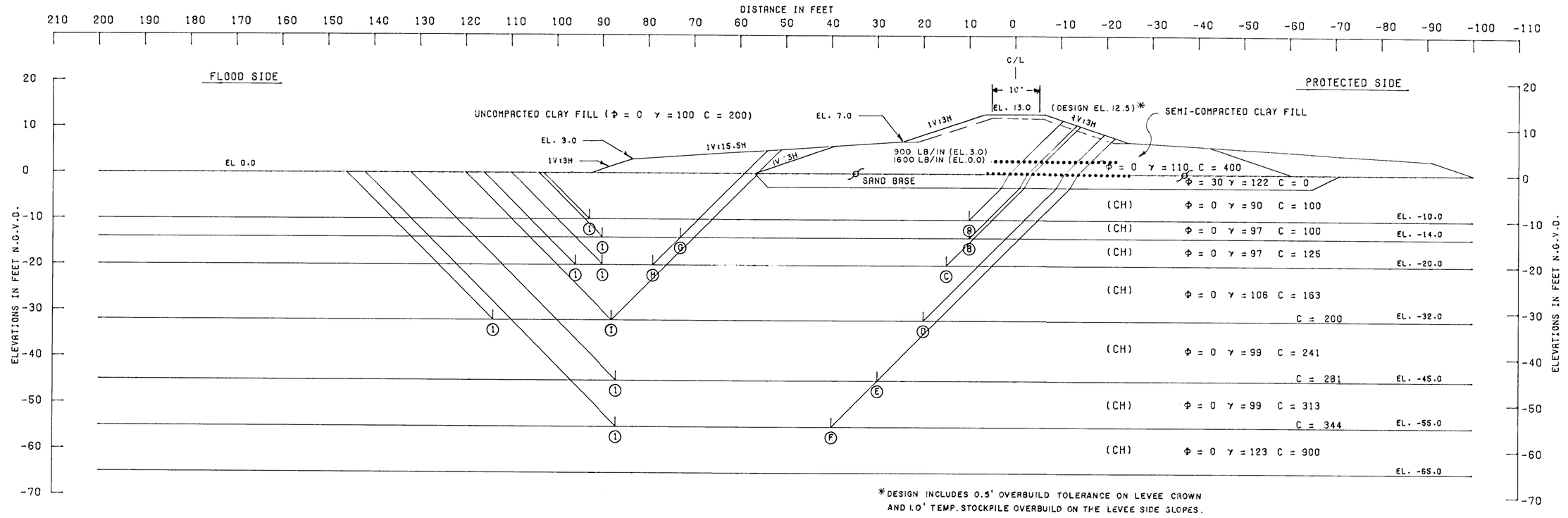
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••, SEE PLATE II FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 2B - PROTECTED SIDE
B/L STA. 170+00 TO B/L STA. 265+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ 1	-10.0	13792	8300	2000	28307	4500	24092	23807	1.01
Ⓑ 1	-14.0	13793	8000	2800	37992	8980	24593	29012	0.85
Ⓒ 1	-20.0	15093	9375	4300	55253	18454	28768	36799	0.78
Ⓓ 1	-32.0	17347	13600	8200	98820	48758	39147	50062	0.78
Ⓔ 1	-45.0	22780	16017	14453	159841	98135	53250	61706	0.86
Ⓕ 1	-55.0	29030	16168	20703	216955	147373	65901	69582	0.95
Ⓖ 1	-14.0	4800	1700	2800	15900	8980	9300	6920	1.34
Ⓗ 1	-20.0	6300	2125	4300	27477	18350	12725	9127	1.39
Ⓘ 1	-32.0	10455	5200	8200	61510	48420	23855	13090	1.82

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ....., SEE PLATE 11 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

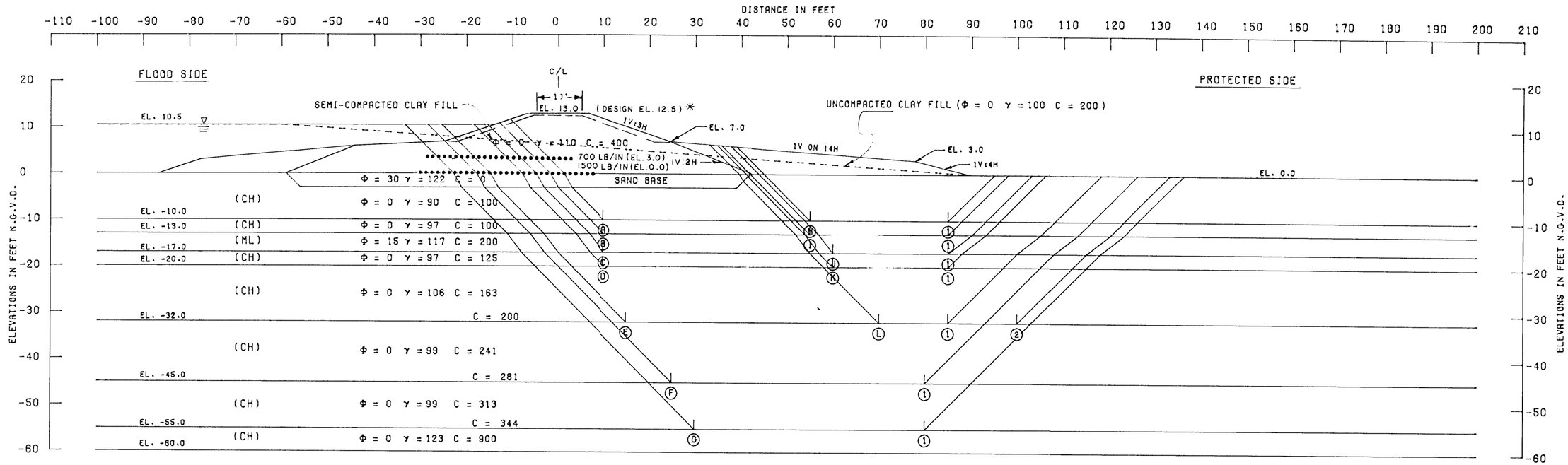
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 2B- FLOOD SIDE
B/L STA. 170+00 TO B/L STA. 265+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 87



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	13026	7500	2000	28306	4753	22526	23553	0.96
Ⓑ ①	-13.0	13000	7500	2600	35466	7889	23100	27577	0.84
Ⓒ ①	-17.0	16195	9375	6155	46392	13530	31725	32862	0.97
Ⓓ ①	-20.0	16378	9375	6803	55502	18996	32556	36506	0.89
Ⓔ ①	-32.0	18267	14000	10697	100855	50033	42964	50822	0.85
Ⓕ ①	-45.0	23816	15455	16950	164648	101158	56221	63490	0.89
Ⓖ ①	-55.0	29448	17200	23200	224032	151196	69848	72836	0.96
Ⓗ ①	-10.0	4359	3000	2000	11182	4753	9359	6429	1.46
Ⓘ ①	-13.0	5182	3000	2600	16125	7889	10782	8236	1.31
Ⓙ ①	-17.0	7529	3125	6155	23320	13530	16809	9790	1.72
Ⓚ ①	-20.0	8754	3125	6803	30591	18996	18682	11595	1.61
Ⓛ ②	-32.0	13212	6000	10697	66909	49780	29909	17129	1.75

GENERAL NOTES:

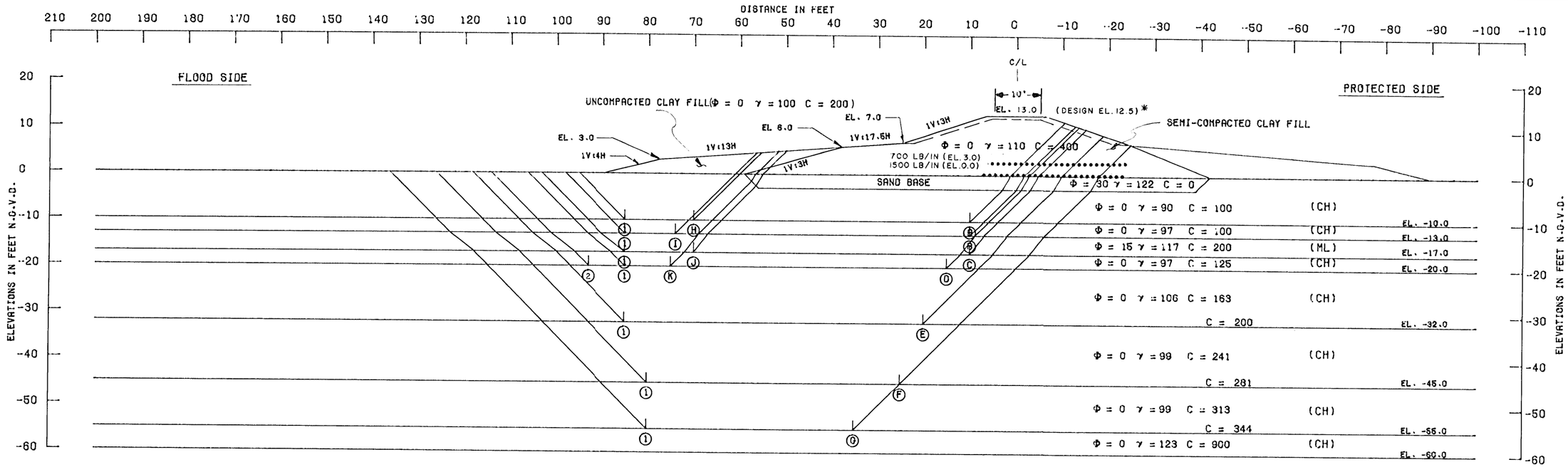
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ▪▪▪▪▪▪▪▪▪▪▪▪. SEE PLATE 12 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 3A- PROTECTED SIDE
B/L STA. 265+00 TO 283+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_R	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	13793	7500	2000	28306	4753	23293	23553	0.99
Ⓑ ①	-13.0	13793	7500	2600	35466	7889	23893	27677	0.87
Ⓒ ①	-17.0	17600	9375	6182	46379	13530	33157	32849	1.01
Ⓓ ①	-20.0	18830	8750	6812	55766	18996	34192	36770	0.93
Ⓔ ①	-32.0	21191	13000	10697	100652	50033	44888	50619	0.89
Ⓕ ①	-45.0	25276	15455	16950	162975	101158	57681	61817	0.93
Ⓖ ①	-55.0	31526	15480	23200	221216	151196	70206	70020	1.00
Ⓗ ①	-10.0	3869	1500	2000	9451	4753	7369	4698	1.57
Ⓘ ①	-13.0	4436	1100	2600	13490	7889	8136	5601	1.45
Ⓙ ①	-17.0	8315	1875	6182	21811	13530	16372	8281	1.98
Ⓚ ②	-20.0	8530	2250	6797	27748	18749	17677	8999	1.96

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE ••••••••••••, SEE PLATE 12. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
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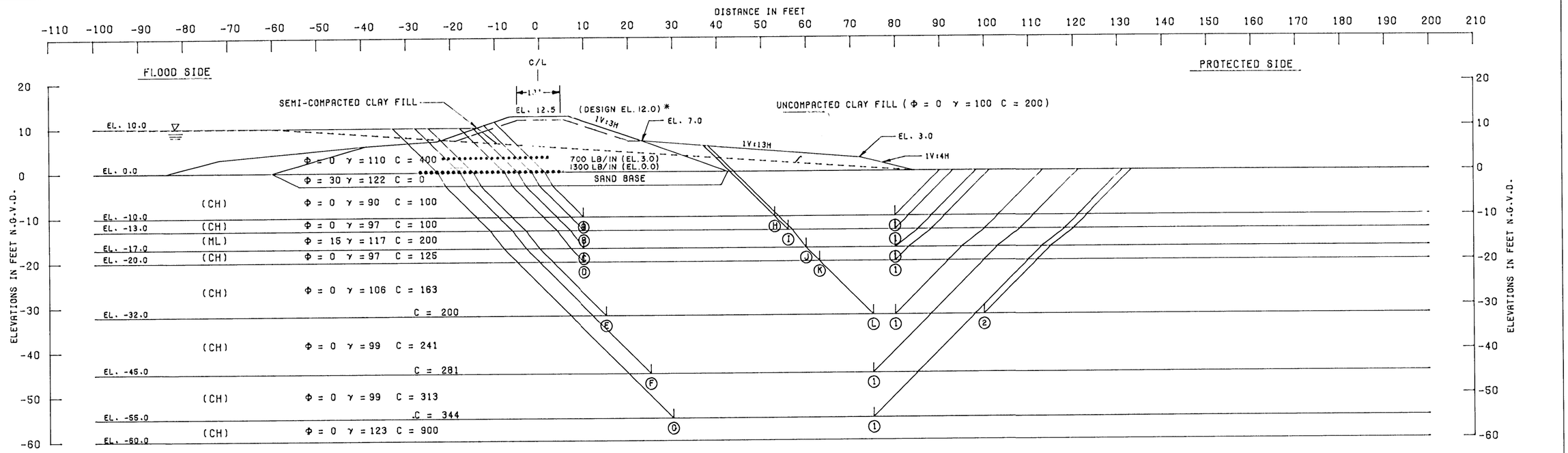
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_R - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 3A - FLOOD SIDE
B/L STA. 265+00 TO 283+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 10' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓡ ①	-10.0	12672	7000	2000	27123	4700	21672	22423	0.97
Ⓑ ①	-13.0	12647	7000	2600	34159	7836	22247	26323	0.85
Ⓒ ①	-17.0	15797	8750	6130	44899	13489	30677	31410	0.98
Ⓓ ①	-20.0	15980	8750	6798	53862	18946	31528	34916	0.90
Ⓔ ①	-32.0	17871	13000	10697	98597	49980	41568	48617	0.86
Ⓕ ①	-45.0	23647	14050	16950	161753	101042	54647	60711	0.90
Ⓖ ①	-55.0	29241	15480	23200	220860	151081	67921	69779	0.97
Ⓗ ①	-10.0	4337	2700	2000	11026	4700	9037	6326	1.43
Ⓘ ①	-13.0	4937	2400	2600	15490	7836	9937	7654	1.30
Ⓙ ①	-17.0	7427	2500	6130	22689	13489	16057	9200	1.75
Ⓚ ①	-20.0	8177	2125	6798	29259	18946	17100	10313	1.66
Ⓛ ②	-32.0	12077	5000	10697	64105	49780	27774	14325	1.94

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE ••••••••••, SEE PLATE 12. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
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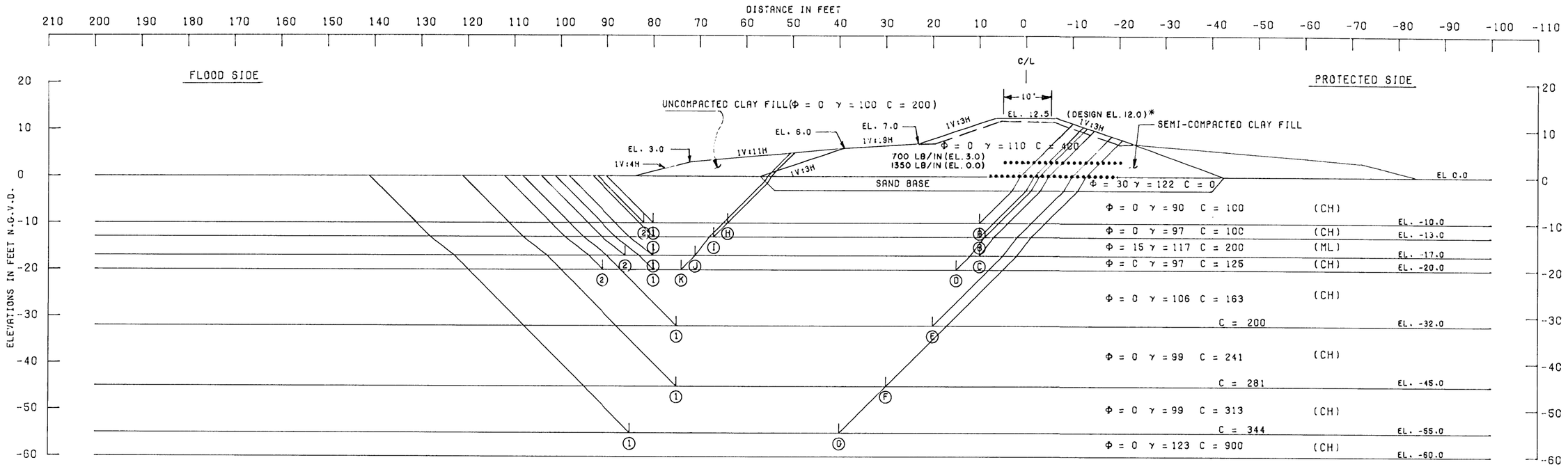
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 3B-PROTECTED SIDE
B/L STA. 283+00 TO 331+40
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 90



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	13383	7000	2000	27123	4700	22383	22423	1.00
(B) (1)	-13.0	13383	7000	2600	34159	7836	22983	26323	0.87
(C) (1)	-17.0	17100	8750	6154	44894	13489	32004	31405	1.02
(D) (1)	-20.0	18129	8125	6804	54090	18946	33058	35144	0.94
(E) (1)	-32.0	20690	11000	10697	98411	50792	42387	47619	0.89
(F) (1)	-45.0	26124	12645	16950	160164	101042	55719	59122	0.94
(G) (1)	-55.0	32374	15480	23200	218034	150069	71054	67965	1.05
(H) (2)	-10.0	4690	1800	2000	9919	4550	8490	5369	1.58
(I) (1)	-13.0	5290	1300	2600	14132	7836	9190	6296	1.46
(J) (2)	-17.0	7597	1875	6047	20935	13336	15519	7599	2.04
(K) (2)	-20.0	8347	2125	6797	27202	18749	17269	8453	2.04

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE ••••••••••••, SEE PLATE 12. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
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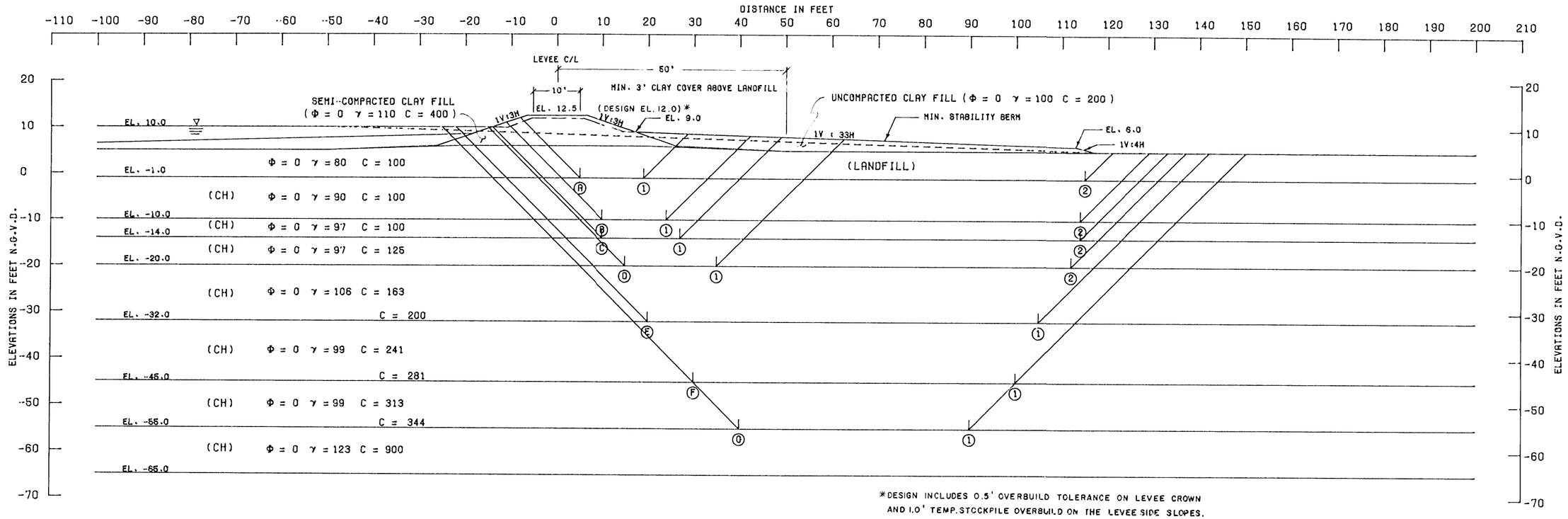
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $-\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 3B - FLOOD SIDE
B/L STA. 283+00 TO 331+40
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-1.0	6200	1400	2571	9233	4397	10171	4836	2.10
Ⓐ ②	-1.0	6200	11000	1200	9233	1490	18400	7743	2.38
Ⓑ ①	-10.0	7201	1400	4248	23687	15100	12849	8587	1.50
Ⓑ ②	-10.0	7201	10400	3000	23687	9517	20601	14170	1.45
Ⓒ ①	-14.0	7202	1700	4986	31924	22096	13888	9828	1.41
Ⓒ ②	-14.0	7202	10400	3800	31924	15453	21402	16471	1.30
Ⓓ ①	-20.0	8502	2500	6330	47126	35047	17332	12079	1.43
Ⓓ ②	-20.0	8502	12125	5300	47126	27455	25927	19671	1.32
Ⓔ ①	-32.0	11181	17000	9200	87255	63003	37381	24252	1.54
Ⓕ ①	-45.0	17123	19670	15453	146502	117947	52246	28555	1.83
Ⓖ ①	-55.0	23374	17200	21703	202990	172648	62277	30342	2.05

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. MINIMUM 3 FT. CLAY COVER ABOVE LANDFILL WHEN LANDFILL IS AT EL. 8.0 OR BELOW. CLAY COVER VARIES IN THICKNESS FROM 3 FT. TO 0 WHEN LANDFILL ELEVATION VARIES FROM EL. 8.0 TO 11.0, RESPECTIVELY. NO MINIMUM CLAY COVER IS REQUIRED FOR SEEPAGE WHEN LANDFILL IS ABOVE EL. 11.0.

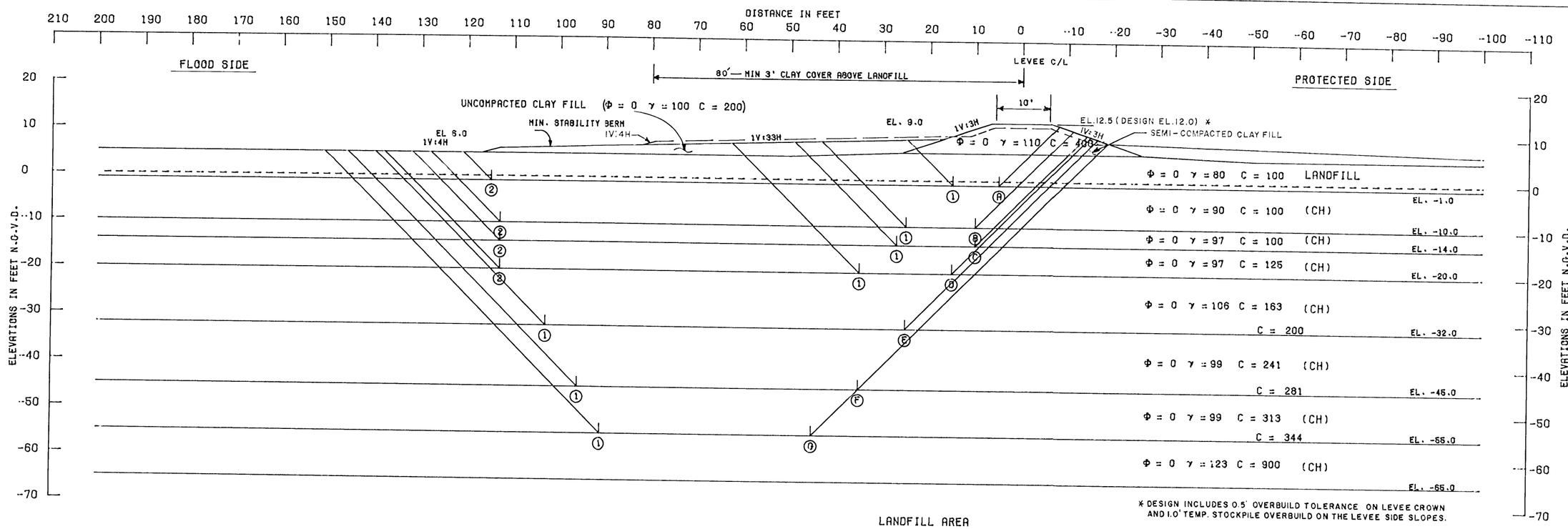
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
$\underline{\nabla}$ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
UNREINFORCED LEVEE SECTION
REACH 4 - PROT. SIDE (LANDFILL)
B/L STA. 331+40 TO 356+50
(NON CONTI)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 92



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

LANDFILL AREA

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-1.0	6200	1000	2903	9233	4661	10103	4572	2.21
Ⓐ ②	-1.0	6200	11000	1200	9233	1490	18400	7743	2.38
Ⓑ ①	-10.0	7201	1500	4193	23687	14981	12894	8706	1.48
Ⓑ ②	-10.0	7201	10300	3000	23687	9604	20501	14083	1.46
Ⓒ ①	-14.0	7202	1700	4968	31924	22032	13870	9892	1.40
Ⓒ ②	-14.0	7202	10300	3800	31924	15540	21302	16384	1.30
Ⓓ ①	-20.0	8502	2600	6330	47118	35019	17332	12099	1.43
Ⓓ ②	-20.0	8502	12250	5300	47118	27354	26052	19764	1.32
Ⓔ ①	-32.0	12002	15600	9200	86766	63260	36802	23506	1.57
Ⓕ ①	-45.0	17655	17141	15453	145664	118535	50249	27129	1.85
Ⓖ ①	-55.0	23905	15824	21703	202000	172478	61432	29522	2.08

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE REACH 4 PROTECTED SIDE STABILITY PLATE FOR ADDITIONAL MINIMUM CLAY COVER NOTES.

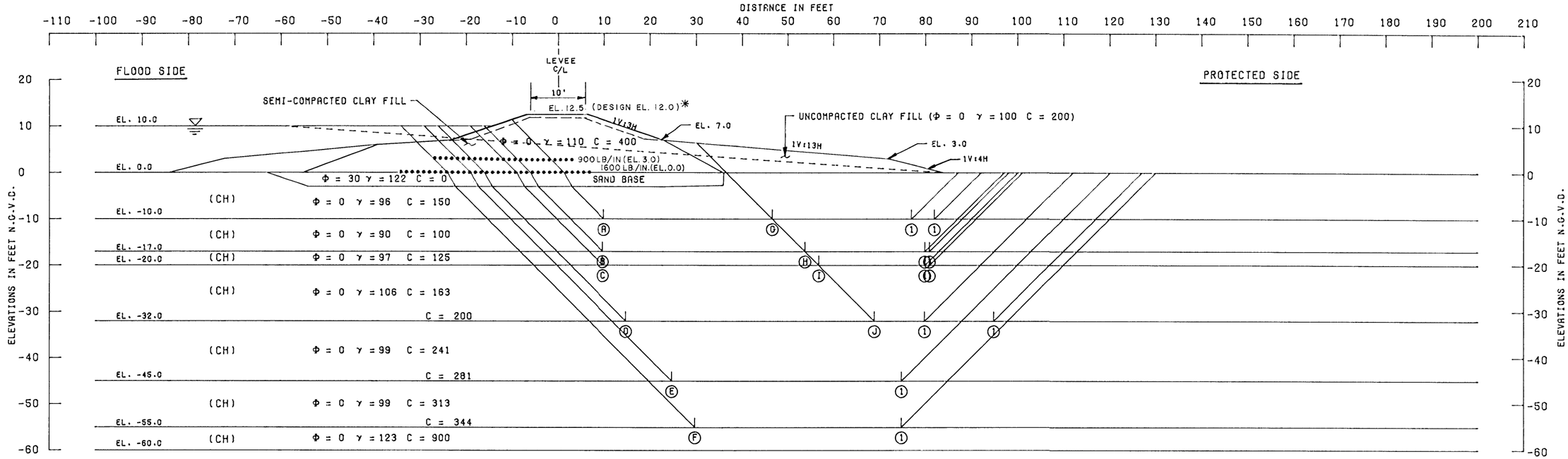
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
UNREINFORCED LEVEE SECTION
REACH 4 - FLOOD SIDE (LANDFILL)
B/L STA. 331+40 TO B/L STA. 356+50
(NON CONT.)
U.S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 93



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	13372	6700	3000	27270	5412	23072	21858	1.06
(B) (1)	-17.0	13313	7000	4400	44806	13924	24713	30882	0.80
(C) (1)	-20.0	13337	8750	5150	53369	19131	27237	34238	0.80
(D) (1)	-32.0	15299	13000	9050	96996	49334	37349	47662	0.78
(E) (1)	-45.0	21249	14050	15303	159009	99499	50602	59510	0.85
(F) (1)	-55.0	27065	15480	21553	217288	148847	64098	68441	0.94
(G) (1)	-10.0	5551	3500	3000	12115	4850	12051	7265	1.66
(H) (1)	-17.0	6951	2700	4400	24367	13837	14051	10530	1.33
(I) (1)	-20.0	7701	3000	5150	30877	19043	15851	11834	1.34
(J) (1)	-32.0	11601	5200	9050	65560	49134	25851	16426	1.57

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••••, SEE PLATE 12 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84

NOTES

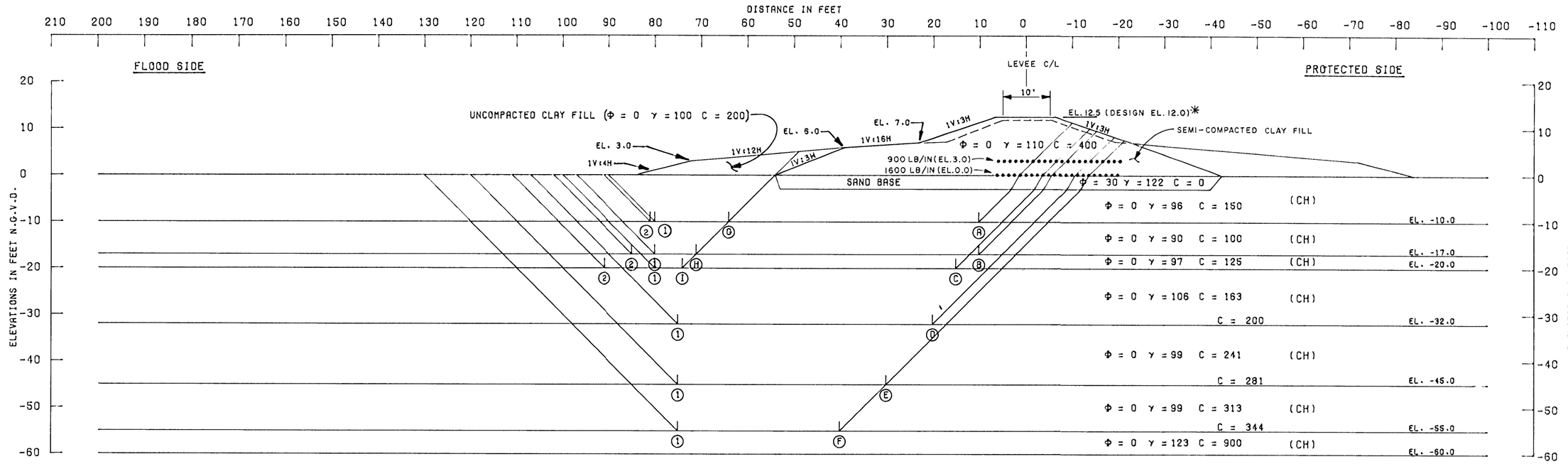
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18 GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

GEOTEXTILE REINFORCED LEVEE SECTION
REACH 5 - PROTECTED SIDE
B/L STA. 370+90 TO B/L STA. 425+00

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	14083	7000	3000	27270	5000	24083	22270	1.08
(B) (1)	-17.0	14084	7000	4400	44783	13924	25484	30859	0.83
(C) (1)	-20.0	15234	8125	5150	53837	19131	28509	34706	0.82
(D) (1)	-32.0	17488	11000	9050	98757	50146	37538	48611	0.81
(E) (1)	-45.0	22921	12645	15303	157302	99499	50869	57803	0.88
(F) (1)	-55.0	29171	12040	21553	214301	148847	62764	65454	0.96
(G) (2)	-10.0	5040	1700	3000	10162	4912	9740	5250	1.86
(H) (2)	-17.0	6440	1400	4400	21472	13725	12240	7747	1.58
(I) (2)	-20.0	7190	2125	5150	27532	18931	14465	8601	1.68

GENERAL NOTES:

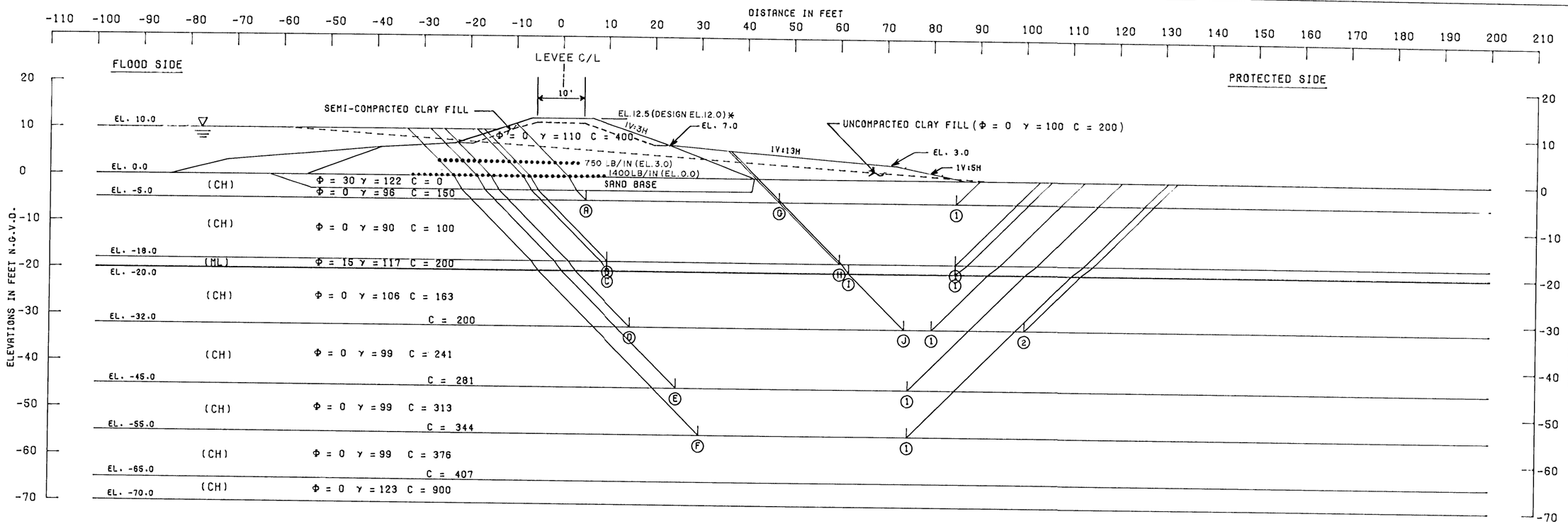
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••••. SEE PLATE 12 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 5 — FLOOD SIDE
B/L STA. 370+90 TO B/L STA. 425+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-5.0	11786	8000	1500	16621	1240	21286	15381	1.38
Ⓑ ①	-18.0	12722	7500	4100	47225	15085	24322	32140	0.76
Ⓒ ①	-20.0	14256	9375	5941	53084	18609	29572	34475	0.86
Ⓓ ①	-32.0	16277	13000	9844	96799	49307	39121	47492	0.82
Ⓔ ①	-45.0	22156	14050	16097	158828	99849	52303	59179	0.88
Ⓕ ①	-55.0	27961	15480	22347	217164	149027	65788	68137	0.97
Ⓖ ①	-5.0	3873	3800	1500	5438	1240	9173	4198	2.19
Ⓗ ①	-18.0	6473	2500	4100	25144	15085	13073	10059	1.30
Ⓘ ①	-20.0	7762	2875	5941	29363	18609	16578	10754	1.54
Ⓙ ②	-32.0	11654	5200	9844	63568	48817	26698	14751	1.81

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC. SEE APPENDIX D
3. GEOTEXTILE •••••••••••••. SEE PLATE 13 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE. SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84

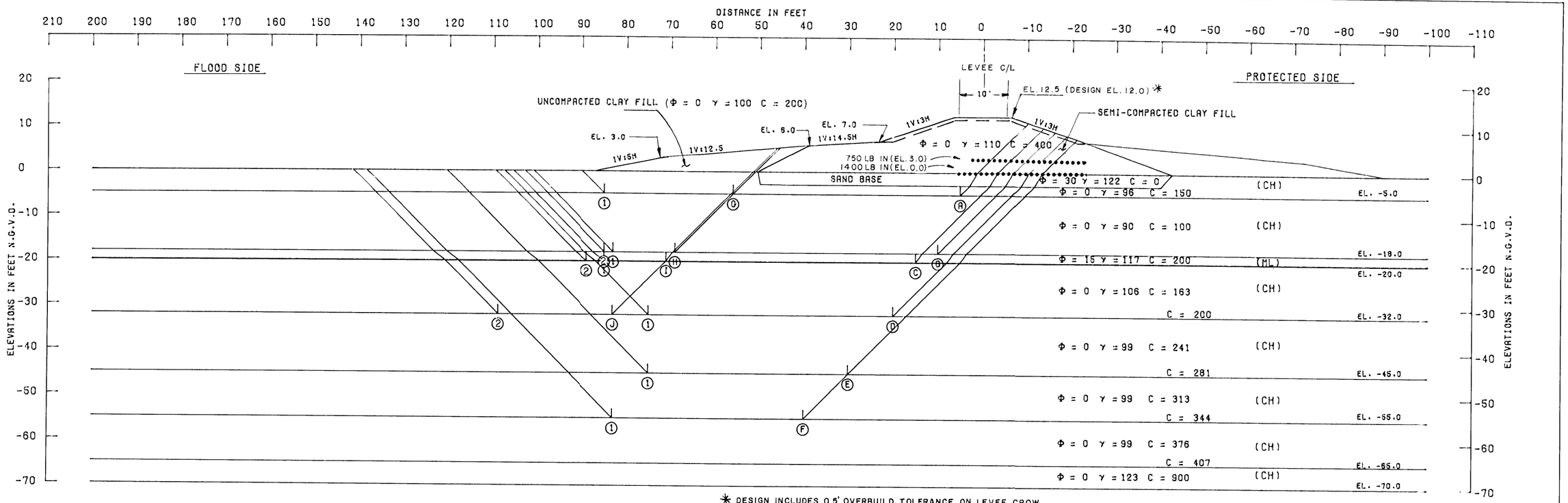
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18 GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 6A- PROTECTED SIDE
B/L STA. 425+00 TO B/L STA. 470+00
NON-CONTINUOUS
U.S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 96



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROW AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-5.0	12501	8000	1500	16621	1240	22001	15381	1.43
Ⓑ ①	-18.0	13501	7500	4100	47165	15085	25101	32080	0.78
Ⓒ ①	-20.0	16245	8750	5973	53419	18609	30968	34810	0.89
Ⓓ ①	-32.0	18738	11000	9844	96567	50257	39582	46310	0.85
Ⓔ ①	-45.0	24201	12645	16097	157170	99649	52943	57521	0.92
Ⓕ ①	-55.0	30451	14792	22347	214172	147748	67590	66424	1.02
Ⓖ ①	-5.0	3660	2900	1500	4865	1240	8060	3625	2.22
Ⓗ ②	-18.0	6260	1400	4100	23731	15205	11760	8526	1.38
Ⓘ ②	-20.0	7591	2250	5952	27797	18578	15793	9219	1.71
Ⓙ ②	-32.0	11484	5200	9844	60430	48817	26528	11613	2.28

GENERAL NOTES:

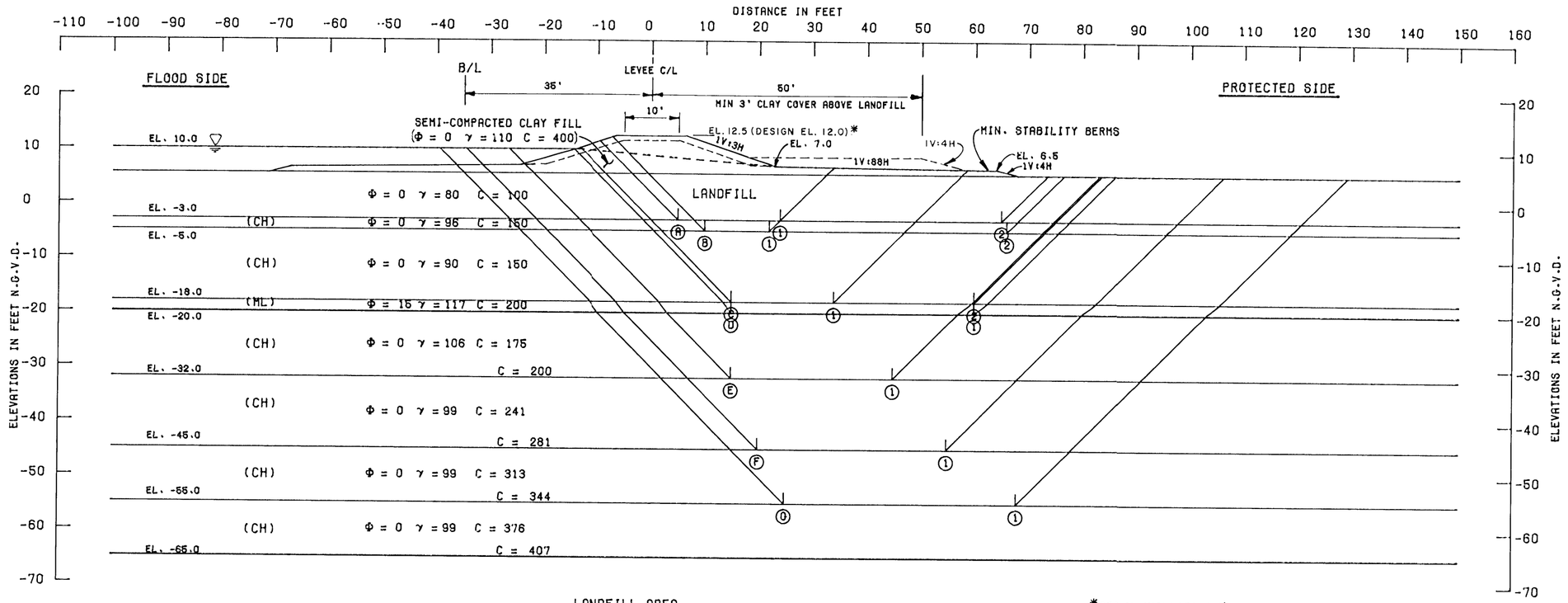
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE •••••••••••, SEE PLATE 13. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 6A - FLOOD SIDE
B/L STA. 425+50 TO B/L STA. 470+00
NON-CONTINUOUS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423



LANDFILL AREA

*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-3.0	6501	1900	2793	11909	4336	11194	7573	1.48
Ⓐ ②	-3.0	6501	6000	1700	11909	3013	14201	8896	1.60
Ⓑ ①	-5.0	7700	1800	3393	14981	6236	12893	8745	1.47
Ⓑ ②	-5.0	7700	8400	2300	14981	4497	18400	10484	1.76
Ⓒ ①	-18.0	10002	2850	7051	41732	26602	19903	15130	1.32
Ⓒ ②	-18.0	10002	6750	6200	41732	24052	22952	17680	1.30
Ⓓ ①	-20.0	11123	6750	8188	47048	28301	26061	18747	1.39
Ⓔ ①	-32.0	13368	6000	12385	87238	65120	31753	22118	1.44
Ⓕ ①	-45.0	19350	9835	18567	146370	118393	47752	27977	1.71
Ⓠ ①	-55.0	25404	14792	24817	202320	170430	65013	31890	2.04

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE REACH 4 PROTECTED SIDE STABILITY PLATE FOR ADDITIONAL MINIMUM CLAY COVER NOTES.

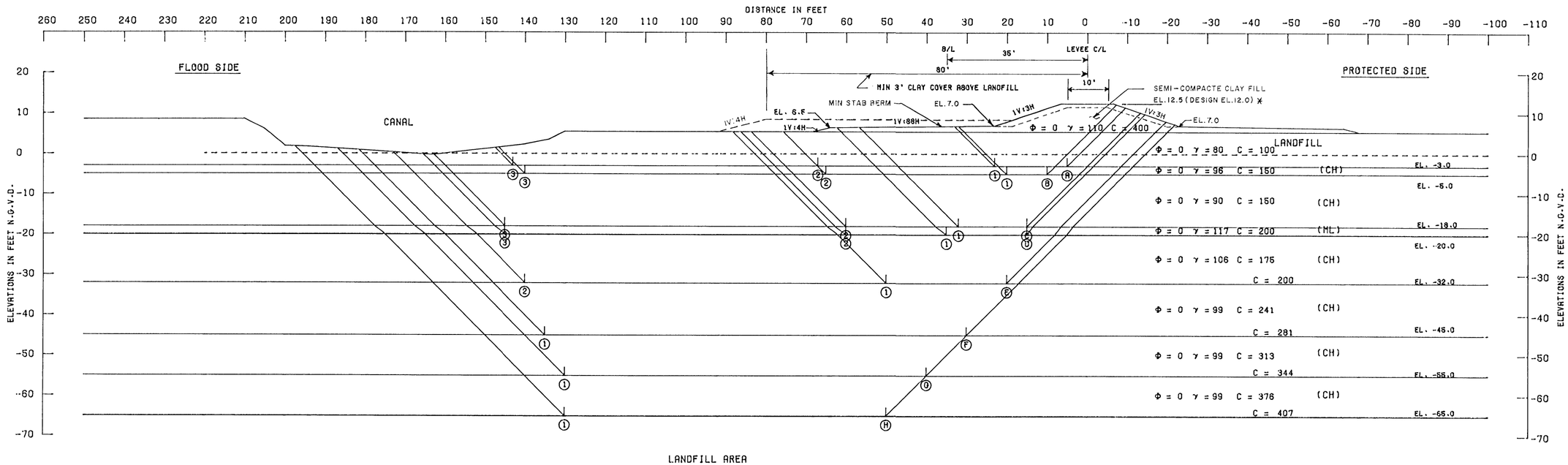
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
UNREINFORCED LEVEE SECTION
REACH 6B – PROTECTED SIDE
B/L STA.440+80 TO B/L STA.449+20
(LANDFILL)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 98



ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-3.0	6500	1800	2803	11909	4349	11103	7560	1.47
Ⓐ ②	-3.0	6500	6200	1700	11909	2904	14400	9005	1.60
Ⓐ ③	-3.0	6500	13800	891	11909	884	21191	11025	1.92
Ⓑ ①	-5.0	7700	1500	3413	14981	6409	12613	8572	1.47
Ⓑ ②	-5.0	7700	8250	2300	14981	4565	18250	10416	1.75
Ⓑ ③	-5.0	7700	19500	1512	14981	1947	28712	13034	2.20
Ⓒ ①	-18.0	10001	2550	7071	41731	26669	19622	15062	1.30
Ⓒ ②	-18.0	10001	6750	6200	41731	24052	22951	17679	1.30
Ⓒ ③	-18.0	10001	19500	5046	41731	15289	34547	26442	1.31
Ⓓ ①	-20.0	11507	3000	9621	47045	31095	24128	15950	1.51
Ⓓ ②	-20.0	11507	6750	8758	47045	28301	27015	18744	1.44
Ⓓ ③	-20.0	11507	19500	7034	47045	18602	38041	28443	1.34
Ⓔ ①	-32.0	14513	6000	12947	86630	64465	33460	22165	1.51
Ⓔ ②	-32.0	14513	24000	11237	86630	49167	49750	37463	1.33
Ⓕ ①	-45.0	20189	29505	17500	143652	99494	67194	44158	1.52
Ⓖ ①	-55.0	26439	30960	23821	198439	150529	81220	47910	1.70
Ⓗ ①	-65.0	33949	32560	31519	262991	210549	98028	52442	1.87

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE REACH 4 PROTECTED SIDE STABILITY PLATE FOR ADDITIONAL MINIMUM CLAY COVER NOTES.

✳ DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

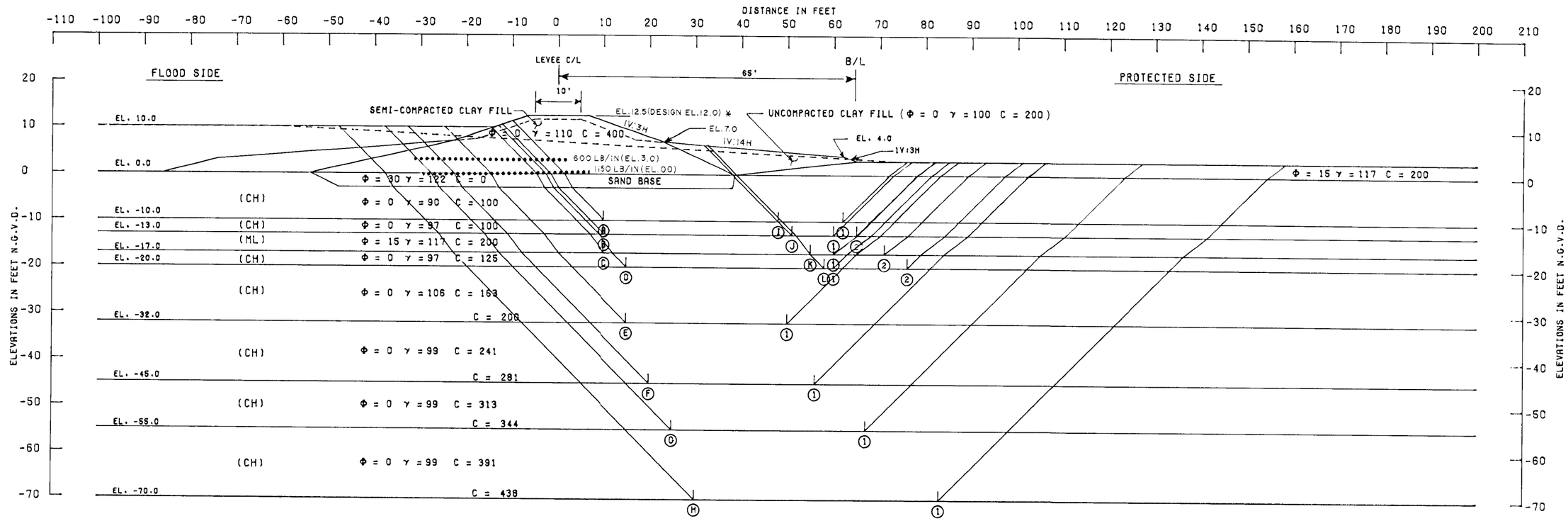
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
UNREINFORCED LEVEE SECTION
REACH 6B—FLOOD SIDE
B/L STA. 440+80 TO B/L STA. 449+20
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 99



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.		ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ	①	-10.0	12539	5200	3728	27125	8677	21467	18448	1.16
Ⓑ	①	-13.0	12520	5000	4332	34160	13066	21852	21094	1.04
Ⓒ	①	-17.0	15556	6250	8317	44900	20091	30123	24809	1.21
Ⓓ	①	-20.0	16609	5625	8946	54091	26622	31180	27469	1.14
Ⓔ	①	-32.0	17669	7000	12831	98598	63223	37500	35375	1.06
Ⓕ	①	-45.0	22441	10116	19142	162246	117160	51699	45086	1.15
Ⓖ	①	-55.0	27765	14448	25392	221606	169900	67605	51706	1.31
Ⓗ	①	-70.0	38005	23214	37121	328844	268784	98340	60060	1.64
Ⓘ	①	-10.0	4627	1400	3728	11893	8677	9755	3216	3.03
Ⓙ	②	-13.0	5227	1400	4335	16581	12726	10962	3855	2.84
Ⓚ	②	-17.0	7526	2000	8225	24147	19829	17751	4318	4.11
Ⓛ	②	-20.0	8276	2250	8989	30990	26296	19515	4694	4.16

GENERAL NOTES:

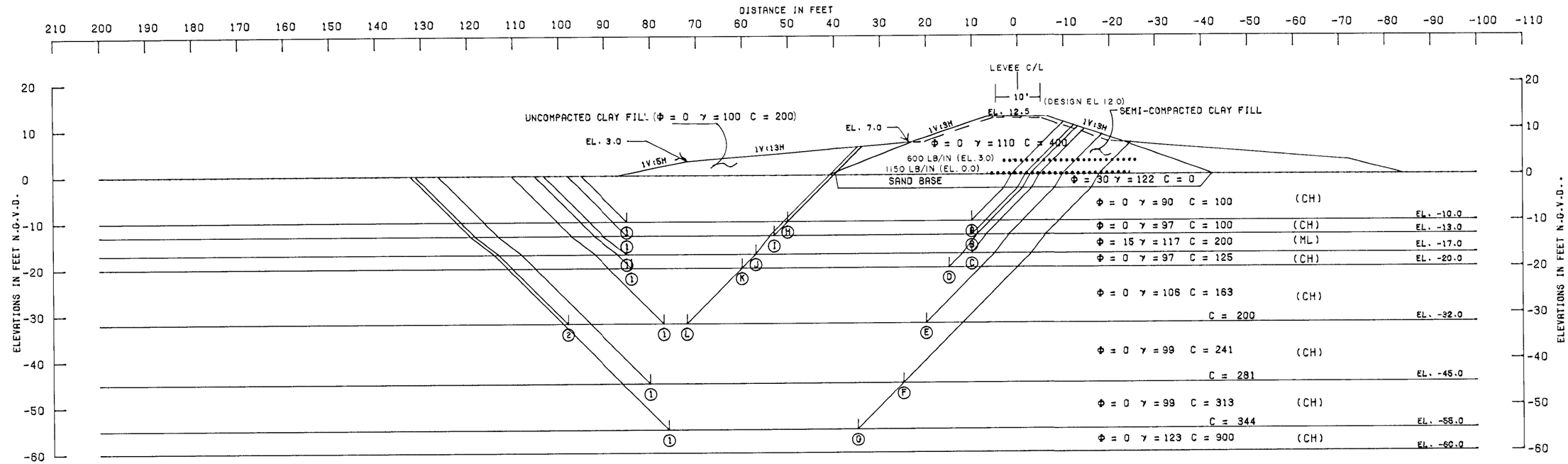
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE ••••••••••••, SEE PLATE 13 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 7 — PROTECTED SIDE
B/L STA. 470+00 TO B/L STA. 495+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	13383	7500	2000	27123	4540	22883	22583	1.01
Ⓑ ①	-13.0	13383	7500	2600	34159	7676	23483	26483	0.89
Ⓒ ①	-17.0	17100	9375	6068	44894	13367	32543	31527	1.03
Ⓓ ①	-20.0	18129	8625	6797	54089	18839	33551	35250	0.95
Ⓔ ①	-32.0	20690	11400	10597	98411	50780	42787	47631	0.90
Ⓕ ①	-45.0	24873	15455	16950	160202	100520	57278	59682	0.96
Ⓖ ①	-55.0	31123	14104	23200	218048	151278	68427	66770	1.02
Ⓗ ①	-10.0	4696	3500	2000	11420	4540	10196	6880	1.48
Ⓘ ①	-13.0	5296	3200	2600	15959	7676	11096	8283	1.34
Ⓙ ①	-17.0	7773	3500	6068	23250	13367	17341	9883	1.75
Ⓚ ①	-20.0	8523	3000	6797	29893	18839	18320	11054	1.66
Ⓛ ①	-32.0	12423	5200	10597	65110	49780	28320	15330	1.85

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••, SEE PLATE 13 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
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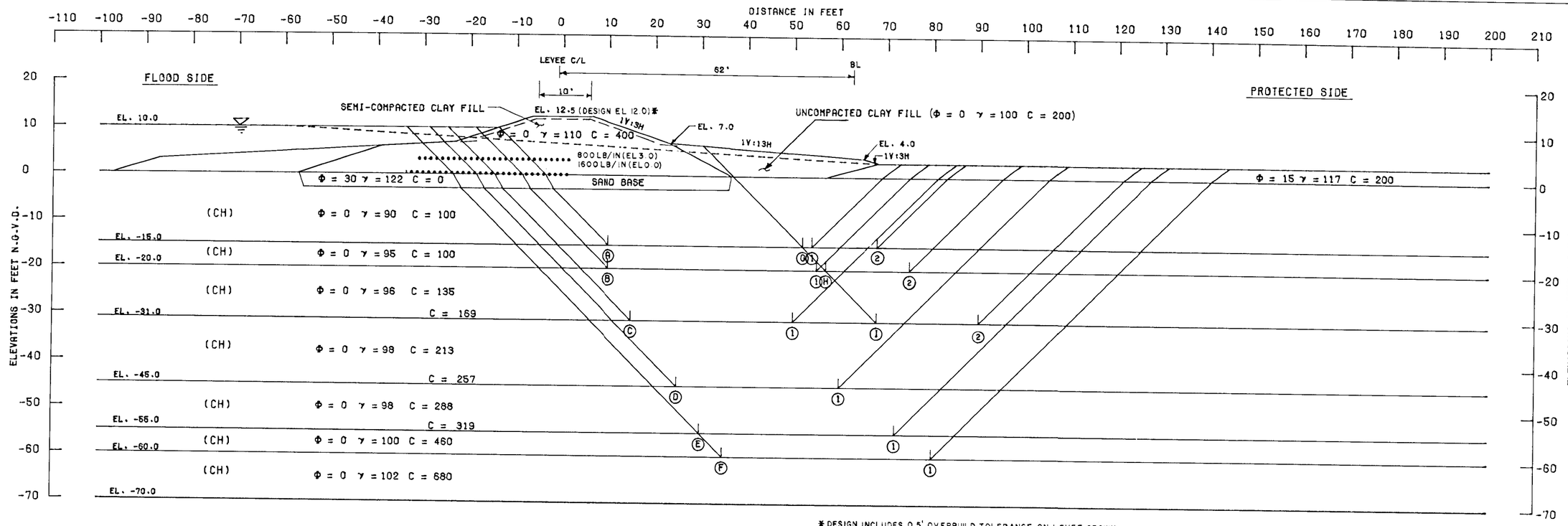
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.1B, GENERAL DESIGN
ST CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 7 - FLOOD SIDE
B/L STA. 470+00 TO B/L STA. 495+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 101



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE		RESISTING FORCES			DRIVING FORCES		SUMMATION OF FORCES		FACTOR OF SAFETY
NO.	ELEV.	R_A	R_B	R_P	D_A	$-D_P$	RESISTING	DRIVING	
Ⓐ ①	-15.0	12525	4400	4735	39111	17163	21660	21948	0.99
Ⓑ ①	-20.0	12390	4500	5735	52834	28731	22625	26103	0.87
Ⓒ ①	-31.0	13675	5915	8694	91321	57166	28284	34155	0.83
Ⓓ ①	-45.0	19091	8978	14658	155190	110792	42727	44398	0.96
Ⓔ ①	-55.0	24427	13398	20418	211765	161140	58243	50625	1.15
Ⓕ ①	-60.0	29027	20700	25018	242917	190309	74745	52608	1.42
Ⓖ ②	-15.0	5584	1600	4735	20258	15916	11919	4342	2.75
Ⓗ ②	-20.0	6584	1800	5735	30570	25608	14119	4962	2.85
Ⓘ ②	-31.0	9543	3718	8694	61210	56351	21955	5859	3.75

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC. SEE APPENDIX D.
3. GEOTEXTILE ·····, SEE PLATE 13. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

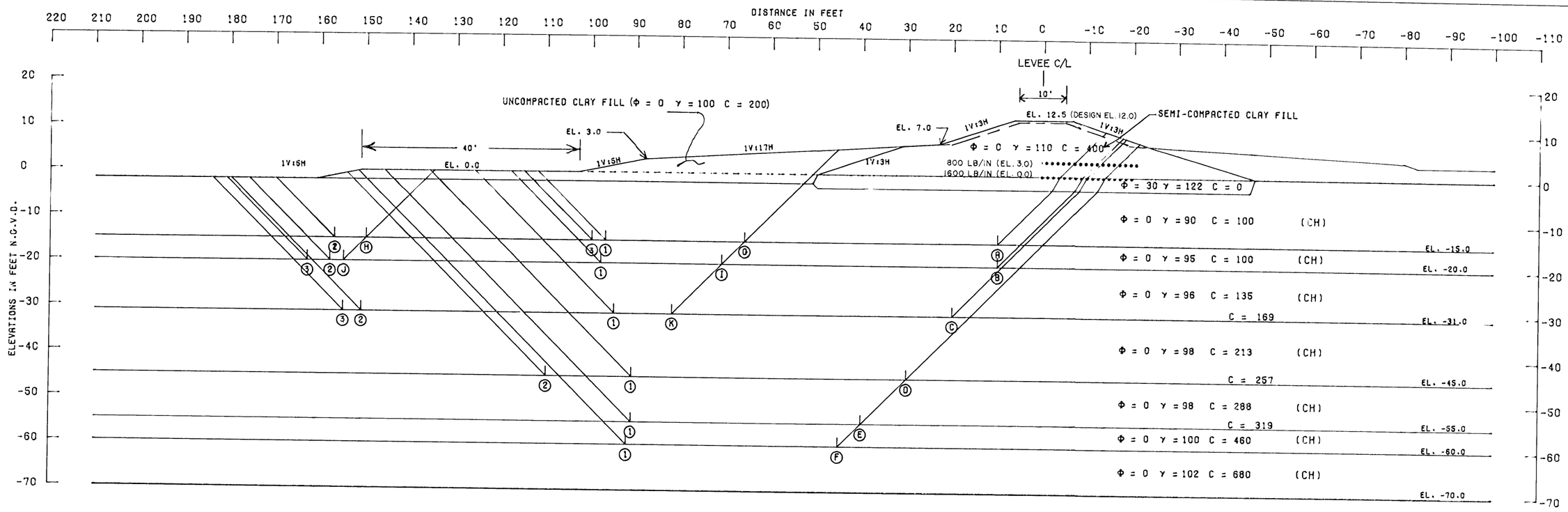
$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 1B GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

GEOTEXTILE REINFORCED LEVEE SECTION
REACH 8 - PROTECTED SIDE
B/L STA. 495+00 TO B/L STA. 508+50

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 102



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE NO.	ASSUMED SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-15.0	13384	8700	3400	39112	10764	25484	28348	0.90
Ⓐ ②	-15.0	13384	14700	2600	39112	7765	30684	31347	0.98
Ⓑ ①	-20.0	13284	8800	4400	52681	18691	26484	33970	0.78
Ⓑ ②	-20.0	13284	14800	3600	52681	14732	31684	37929	0.84
Ⓒ ①	-31.0	15970	12675	7359	91140	45183	36004	45957	0.78
Ⓒ ②	-31.0	15970	22139	6559	91140	39543	44668	51597	0.87
Ⓓ ①	-45.0	20841	15647	13323	153484	96198	49811	57286	0.87
Ⓓ ②	-45.0	20841	20520	13056	153484	94623	54417	58861	0.92
Ⓔ ①	-55.0	26601	16269	19082	208646	143826	61952	64820	0.96
Ⓕ ①	-60.0	31201	21620	23616	239567	171101	76437	68466	1.12
Ⓓ ③	-15.0	5649	3400	3400	19110	10494	12449	8616	1.44
Ⓓ ②	-15.0	5649	9100	2600	19110	7765	17349	11345	1.53
Ⓗ ①	-15.0	3400	700	2600	10403	7765	6700	2638	2.54
Ⓘ ①	-20.0	6849	2700	4400	29246	18691	13749	10555	1.30
Ⓘ ②	-20.0	6849	8700	3600	29246	14732	18949	14514	1.31
Ⓙ ③	-20.0	4400	800	3600	18279	14642	8800	3637	2.42
Ⓚ ③	-31.0	9608	12337	6559	59425	38904	28504	20521	1.39

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••••, SEE PLATE 13 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
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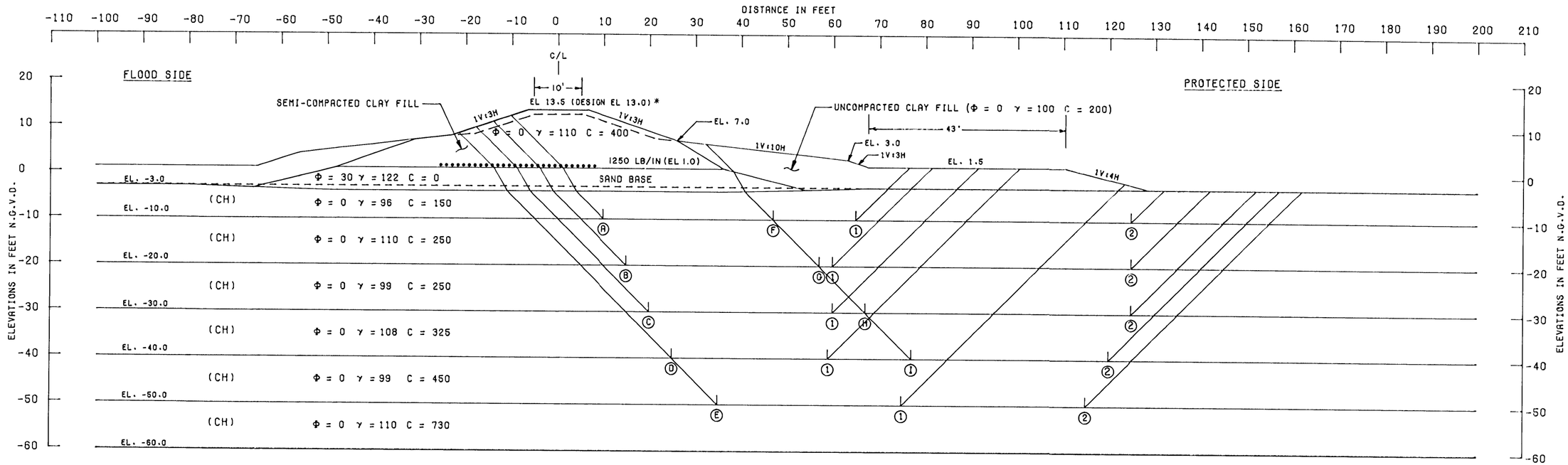
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
GEOTEXTILE REINFORCED LEVEE SECTION
REACH 8 - FLOOD SIDE
B/L STA. 495+00 TO B/L STA. 508+50
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 103



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

TYPICAL GEOTEXTILE REINFORCED CANAL CLOSURE SECTION
DESIGN BASED ON SOIL REACH 1

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	16402	8250	3900	30076	6619	28552	23457	1.22
Ⓐ ②	-10.0	16402	17250	2100	30076	2505	35752	27571	1.30
Ⓑ ①	-20.0	20404	11250	8900	59069	24073	40554	34996	1.16
Ⓑ ②	-20.0	20404	27500	7100	59069	14724	55004	44345	1.24
Ⓒ ①	-30.0	24283	10000	13900	96833	51241	48183	45592	1.06
Ⓒ ②	-30.0	24283	26250	12100	96833	37394	62633	59439	1.05
Ⓓ ①	-40.0	29178	11050	20399	143034	88948	60627	54086	1.12
Ⓓ ②	-40.0	29178	30875	18600	143034	71162	78653	71872	1.09
Ⓔ ①	-50.0	38178	18000	28120	197479	133224	84298	64255	1.31
Ⓔ ②	-50.0	38178	36000	27600	197479	115905	101778	81674	1.25
Ⓕ ①	-10.0	6361	2700	3900	12474	6619	12961	5855	2.21
Ⓕ ②	-10.0	6361	11700	2100	12474	2505	20161	9969	2.02
Ⓖ ②	-20.0	11361	17000	7100	32053	14724	35461	17329	2.05
Ⓗ ②	-30.0	16361	14500	12100	60656	37394	42961	23262	1.85
Ⓘ ②	-40.0	22861	13975	18600	98179	71162	55436	27017	2.05

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••••, SEE PLATE 14 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION NOTES, SEE REACH 1 PROTECTED SIDE REINFORCED LEVEE SECTION PLATE 82.
5. THE CONTROLLING STABILITY CASE IS SHOWN. THE CASE FOR SPH AT EL 11.0 AND TAILWATER AT EL -1.0, THE REQUIRED FABRIC STRENGTH FOR A F.S.=1.3 IS 1200 LB/IN (EL 1.0)

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
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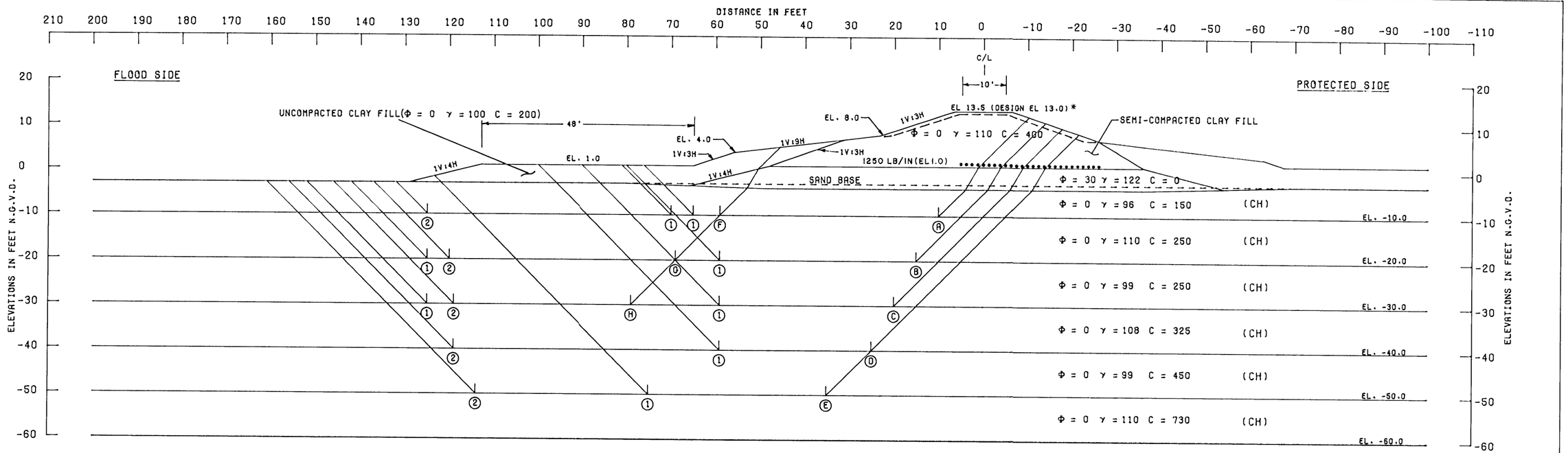
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
TYPICAL GEOTEXTILE REINFORCED CANAL CLOSURE-PROTECTED SIDE
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

TYPICAL GEOTEXTILE REINFORCED CANAL CLOSURE SECTION

DESIGN BASED ON SOIL REACH 1

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	16402	8250	3730	30076	5966	28382	24110	1.18
(A) (2)	-10.0	16402	17250	2100	30076	2552	35752	27524	1.30
(B) (1)	-20.0	20402	11000	8715	59069	22950	40117	36119	1.11
(B) (2)	-20.0	20402	26250	7100	59069	15584	53752	43485	1.24
(C) (1)	-30.0	24282	9750	13700	96831	49620	47732	47211	1.01
(C) (2)	-30.0	24282	24750	12100	96831	38490	61132	58341	1.05
(D) (1)	-40.0	29177	11050	20199	143079	86638	60426	56441	1.07
(D) (2)	-40.0	29177	30550	18600	143079	71509	78327	71570	1.09
(E) (1)	-50.0	38177	18000	28160	198337	131536	84337	66801	1.26
(E) (2)	-50.0	38177	35550	27600	198337	116439	101327	81898	1.24
(F) (1)	-10.0	5666	1650	3711	10796	5958	11027	4838	2.28
(F) (2)	-10.0	5666	9900	2100	10796	2552	17666	8244	2.14
(G) (1)	-20.0	10666	14000	7100	27787	14771	31766	13016	2.44
(H) (1)	-30.0	15666	11500	12100	54464	37441	39266	17023	2.31

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE ••••••••••••, SEE PLATE 14 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR ADDITIONAL NOTES, SEE PROTECTED SIDE STABILITY ANALYSIS PLATE.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

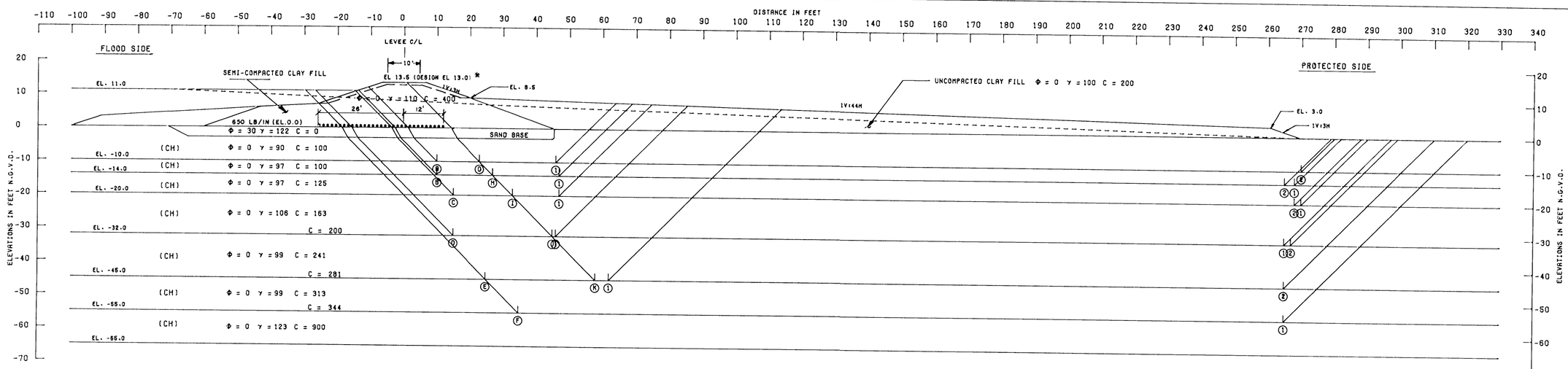
LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

TYPICAL GEOTEXTILE REINFORCED CANAL CLOSURE - FLOOD SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 105



TYPICAL GEOTEXTILE REINFORCED PIPELINE CROSSING

DESIGN IS BASED ON REACH 2A WITH F.S. = 1.3

WITHOUT FABRIC AND 1.5 WITH FABRIC.

* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_B	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	13203	3600	5162	29510	15928	21965	13582	1.62
(A) (2)	-10.0	13203	26000	2000	29510	4500	41203	25010	1.65
(B) (1)	-14.0	13184	3700	5913	39360	23392	22797	15968	1.43
(B) (2)	-14.0	13184	25500	2800	39360	9213	41484	30147	1.38
(C) (1)	-20.0	14478	4000	7355	56941	37491	25833	19450	1.33
(C) (2)	-20.0	14478	31625	4300	56941	18387	50403	38554	1.31
(D) (1)	-32.0	15339	8200	11148	101362	76649	32887	24713	1.32
(D) (2)	-32.0	15339	50400	8200	101362	48524	73939	52838	1.40
(E) (1)	-45.0	20882	10397	17118	165165	133163	48397	32002	1.51
(E) (2)	-45.0	20882	67440	14453	165165	97967	102775	67198	1.53
(F) (1)	-55.0	27132	79120	20703	224661	147205	126955	77456	1.64
(G) (1)	-10.0	13782	24700	2000	24930	4500	40482	20430	1.98
(H) (1)	-14.0	14582	24100	2800	33529	8913	41482	24616	1.69
(I) (1)	-20.0	16082	29625	4300	49156	18349	50007	30807	1.62
(J) (1)	-32.0	19982	44000	8200	90885	48767	72182	42128	1.71
(K) (1)	-45.0	26235	58167	14453	150814	97967	98855	52847	1.87

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.5. FOR DESIGN OF THE REINFORCEMENT FABRIC, SEE APPENDIX D
3. GEOTEXTILE••••••••••••, SEE PLATE 15 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.
5. THE FABRIC SHOWN IS THE MINIMUM FABRIC STRENGTH AND LENGTH FOR A FACTOR OF SAFETY = 1.5.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

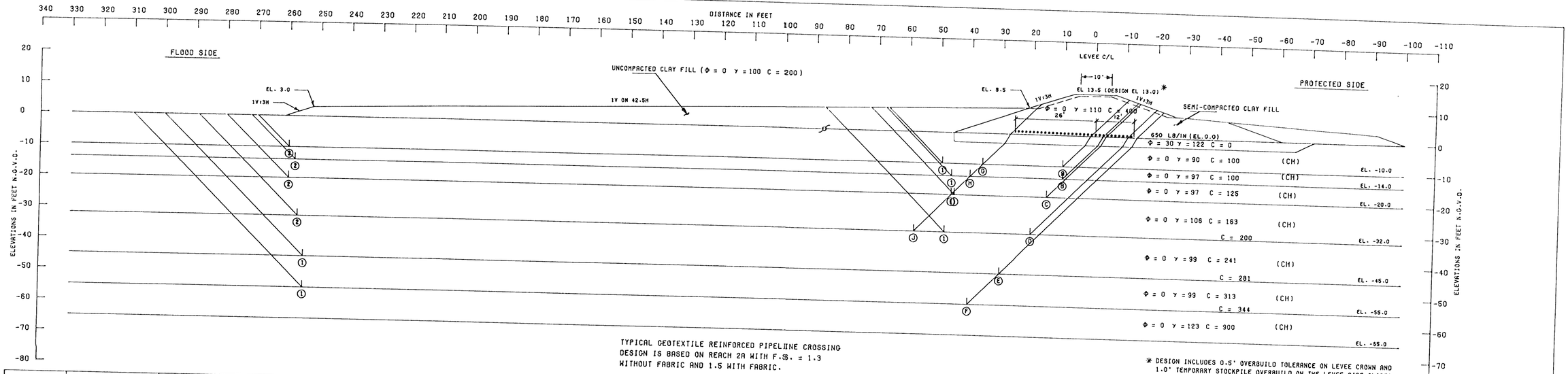
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_B - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

TYPICAL GEOTEXTILE REINFORCED PIPELINE CROSSING - PROT. SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 106



TYPICAL GEOTEXTILE REINFORCED PIPELINE CROSSING
DESIGN IS BASED ON REACH 2A WITH F.S. = 1.3
WITHOUT FABRIC AND 1.5 WITH FABRIC.

* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	14202	3900	4972	29511	16050	23074	14461	1.60
(A) (2)	-10.0	14202	25000	2000	29511	4526	41202	24985	1.65
(B) (1)	-14.0	14203	3600	5762	39360	22532	23565	16828	1.40
(B) (2)	-14.0	14203	24800	2800	39360	9051	41803	30309	1.38
(C) (1)	-20.0	15503	3750	7216	56938	36513	26469	20425	1.30
(C) (2)	-20.0	15503	30625	4300	56938	18375	50428	38563	1.31
(D) (1)	-32.0	17757	5600	10976	101068	74843	34333	26225	1.31
(D) (2)	-32.0	17757	47400	8200	101068	48720	73357	52348	1.40
(E) (1)	-45.0	23190	63225	14453	183432	98280	100868	65152	1.55
(F) (1)	-55.0	29440	73960	20703	222181	147518	124103	74663	1.66
(G) (1)	-10.0	11260	22400	2000	18171	4526	35660	13645	2.61
(H) (1)	-14.0	12060	21800	2800	26279	9051	35660	17228	2.13
(I) (1)	-20.0	13560	26750	4300	41119	18375	44610	22744	1.96
(J) (1)	-32.0	17460	39800	8200	80818	48720	65460	31798	2.06

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.5. FOR DESIGN OF THE REINFORCEMENT FABRIC. SEE APPENDIX D
3. GEOTEXTILE ..... SEE PLATE 15 FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.
5. THE FABRIC SHOWN IS THE MINIMUM FABRIC STRENGTH AND LENGTH FOR A FACTOR OF SAFETY = 1.5.

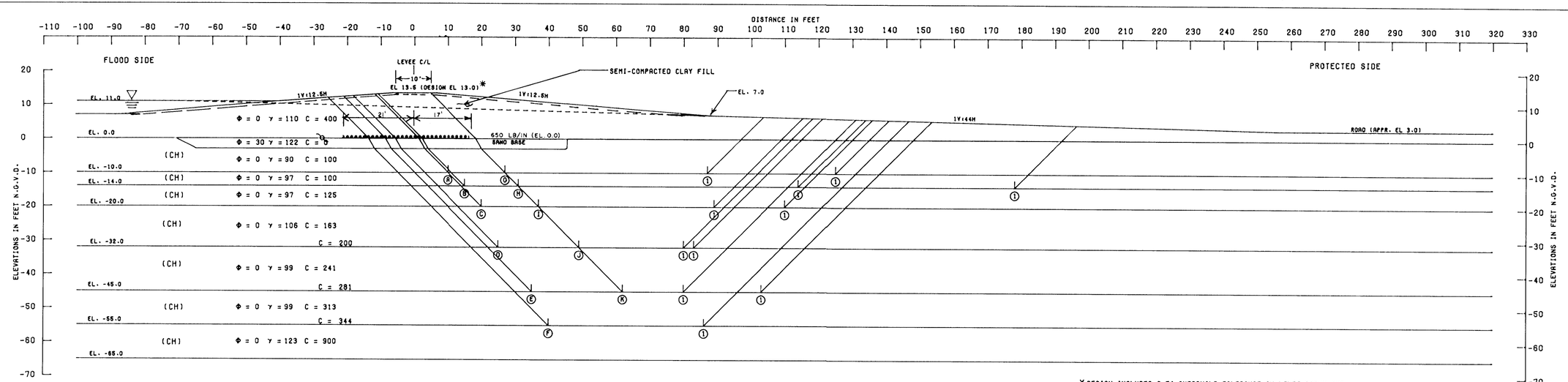
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.1B, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
TYPICAL GEOTEXTILE REINFORCED PIPELINE CROSSING - FLOOD SIDE
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989
FILE NO. H-2-30123

PLATE 107



TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING OVER A PIPELINE

DESIGN BASED ON REACH 2A WITH F.S.=1.3 WITHOUT FABRIC & 1.5

*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE		RESISTING FORCES			DRIVING FORCES		SUMMATION OF FORCES		FACTOR OF SAFETY
NO.	ELEV.	R_A	R_B	R_P	D_A	$-D_P$	RESISTING	DRIVING	
R 1	-10.0	13884	7700	7298	30009	14659	28882	15450	1.87
B 1	-14.0	14742	9900	7522	40484	20400	32164	20084	1.60
C 1	-20.0	16184	8625	9375	58919	35426	34184	23493	1.46
D 1	-32.0	19673	11600	13184	106784	74355	44457	32409	1.37
E 1	-45.0	25727	12645	19231	174118	132738	57603	41380	1.39
F 1	-55.0	31602	15824	25184	237054	187290	72610	49764	1.46
Q 1	-10.0	14033	9800	6592	28197	12950	30425	15247	2.00
H 1	-14.0	14833	14700	6333	38104	17193	35866	20911	1.72
I 1	-20.0	16333	9125	8985	55611	33993	34443	21618	1.59
J 1	-32.0	20233	6200	13219	100456	74771	39652	25685	1.54
K 1	-45.0	26486	11521	18804	183364	129502	56811	33862	1.68

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.5. FOR DESIGN OF THE REINFOREMENT FABRIC. SEE APPENDIX D.
3. GEOTEXTILE ••••••••••••, SEE PLATE 15. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 1 PROTECTED SIDE STABILITY PLATE 82.
5. THE FABRIC SHOWN IS THE MINIMUN FABRIC STRENOTH AND LENOTH FOR A FOCTOR OF SAFETY - 1.5)

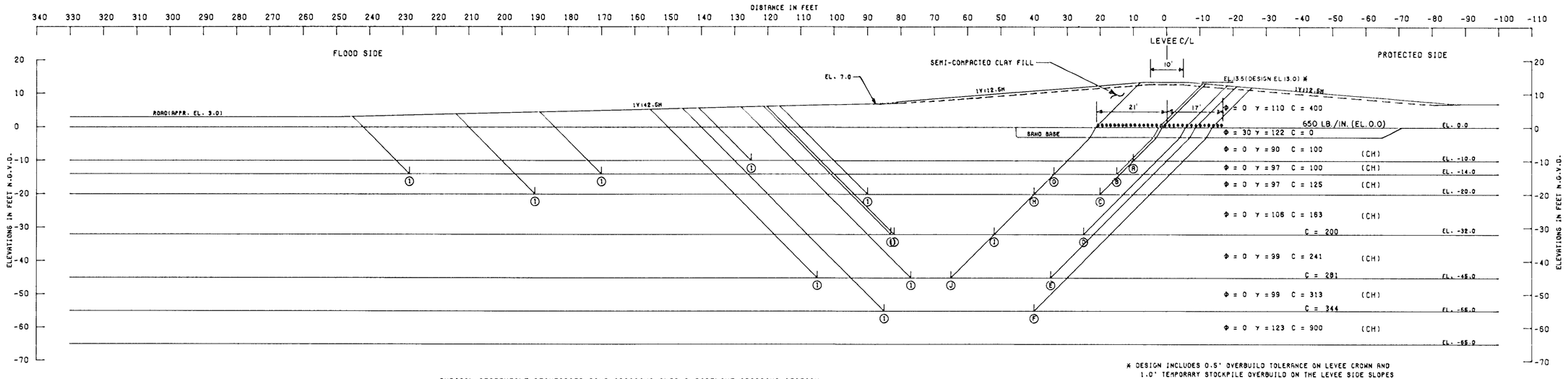
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
TYPICAL GEOTEXTILE REINFORCED RAMP/PIPELINE CROSSING
PROTECTED SIDE
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 108



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING OVER A PIPELINE CROSSING SECTION

DESIGN BASED ON REACH 2A WITH F.S. = 1.3 WITHOUT FABRIC & 1.5 WITH FABRIC

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	15009	11600	6656	30001	12881	33065	17120	1.93
(B) (1)	-14.0	15868	15500	8413	40479	17418	37781	23063	1.64
(C) (1)	-20.0	17309	8750	9337	58911	36318	36396	23693	1.50
(D) (1)	-32.0	20794	11400	13160	108723	74437	45354	32286	1.40
(E) (1)	-45.0	26846	11802	19259	174054	133231	57907	40823	1.42
(F) (1)	-55.0	32711	15480	25163	236940	187300	73354	49640	1.48
(G) (1)	-14.0	15784	19400	5296	37392	14614	40480	22778	1.78
(H) (1)	-20.0	17284	18750	7412	54741	28514	43446	26227	1.66
(I) (1)	-32.0	21184	6200	13141	98981	74301	40525	24680	1.64
(J) (1)	-45.0	27437	11240	18720	161546	129032	57397	32514	1.77

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE PROTECTED SIDE PLATE FOR ADDITIONAL NOTES

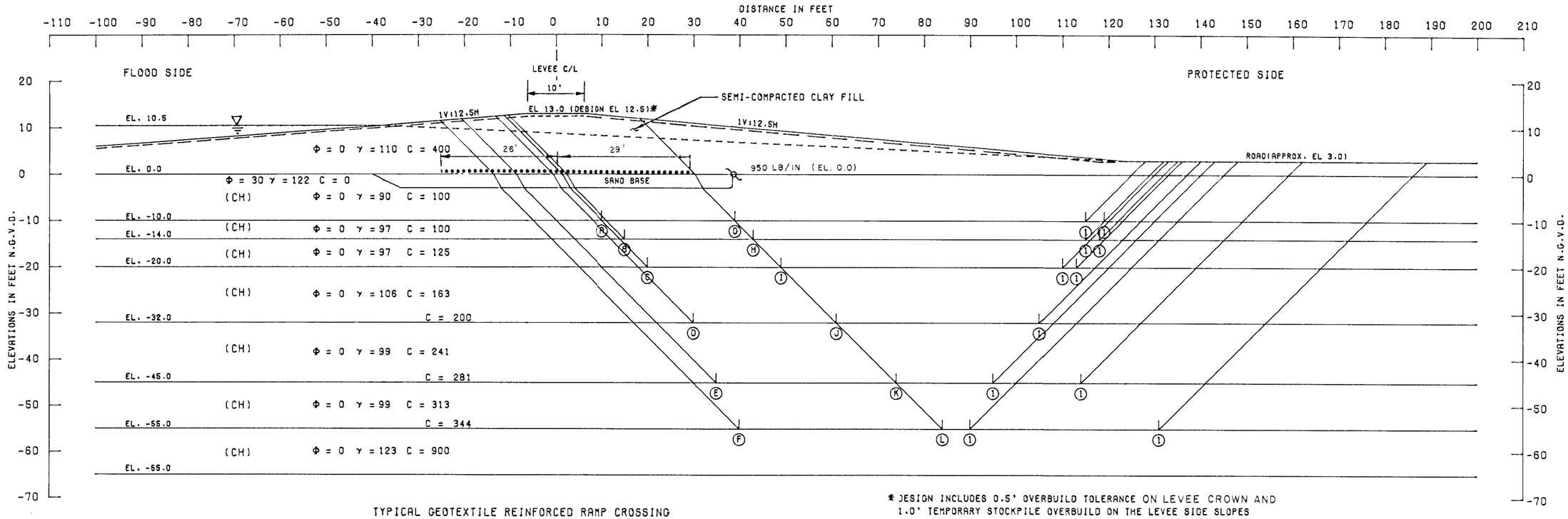
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 8, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
TYPICAL GEOTEXTILE REINFORCED RAMP/PIPLINE CROSSING-FLOOD SIDE
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 109



TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING
DESIGN BASED ON SOIL REACH 2B(F.S. = 1.3 WITH FABRIC)

* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	13444	10900	4400	28740	8401	28744	20339	1.41
Ⓑ ①	-14.0	14310	10000	5200	38976	14350	29510	24626	1.20
Ⓒ ①	-20.0	15744	11250	6700	57051	26331	33694	30720	1.10
Ⓓ ①	-32.0	19513	15000	10600	103595	61124	45113	42471	1.06
Ⓔ ①	-45.0	25218	16860	16853	170670	116852	58931	53818	1.10
Ⓕ ①	-55.0	31052	17200	23103	232779	170856	71355	61923	1.15
Ⓖ ①	-10.0	12659	7600	4400	24200	8654	24659	15546	1.59
Ⓗ ①	-14.0	13459	7500	5200	33001	14146	26159	18855	1.39
Ⓘ ①	-20.0	14959	8000	6700	48831	25986	29659	22845	1.30
Ⓙ ①	-32.0	18859	8800	10600	90600	61124	38259	29476	1.30
Ⓚ ①	-45.0	25112	11240	16853	150959	113421	53205	37538	1.42
Ⓛ ①	-55.0	31362	16168	23103	207695	165512	70633	42183	1.67

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. GEOTEXTILE WILL BE USED AS SHOWN TO OBTAIN A FACTOR OF SAFETY OF 1.3. FOR DESIGN OF THE REINFOREMENT FABRIC, SEE APPENDIX D.
3. GEOTEXTILE ••••••••••••, SEE PLATE 14. FOR GEOTEXTILE AND SAND DIMENSIONS.
4. FOR CONSTRUCTION SEQUENCE, SEE REACH 2A PROTECTED SIDE STABILITY PLATE 84.
5. THE FABRIC SHOWN IS THE MINIMUM FABRIC STRENGTH AND LENGTH FOR A FACTOR OF SAFETY = 1.3.
6. IN LIEU OF THE ABOVE FABRIC STRENGTH AND LENGTH, THE FABRIC REQUIREMENTS FOR REACH 2B SHOULD BE USED FOR THIS RAMP CROSSING.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

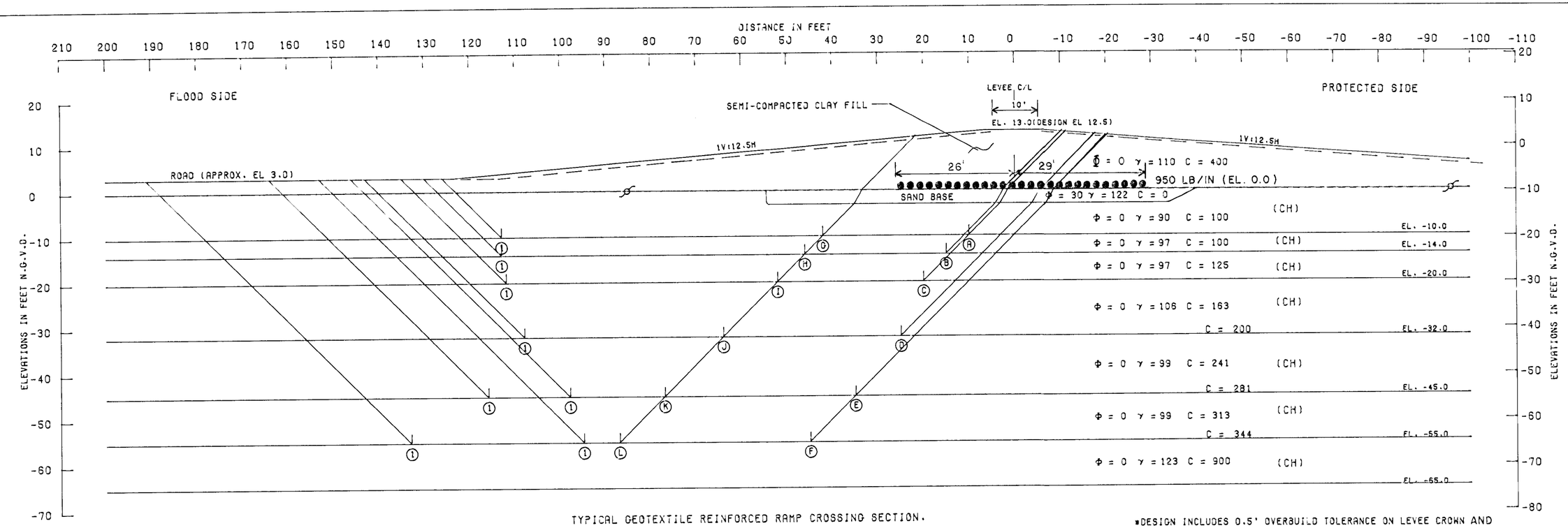
$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING - PROTECTED SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 110



TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING SECTION.
DESIGN BASED ON SOIL REACH 2 WITH F.S. = 1.3 WITH FABRIC

*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.		ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
A	1	-10.0	14526	10300	4400	28740	8837	29226	19903	1.47
B	1	-14.0	15386	9800	5200	38977	14533	30386	24444	1.24
C	1	-20.0	16826	11500	6700	57051	26092	35026	30959	1.13
D	1	-32.0	20308	16600	10600	104181	60639	47508	43542	1.09
E	1	-45.0	26358	17703	16853	170670	116385	60914	54585	1.12
F	1	-55.0	32608	17200	23103	232025	169391	72911	62634	1.16
G	1	-10.0	13292	7100	4400	23640	8837	24792	14803	1.67
H	1	-14.0	14092	6700	5200	32712	14533	25992	18179	1.43
I	1	-20.0	15592	7500	6700	48949	26092	29792	22857	1.30
J	1	-32.0	19492	8800	10600	90614	60639	38892	29975	1.30
K	1	-45.0	25745	10959	16853	150607	113257	53557	37350	1.43
L	1	-55.0	31995	15824	23103	207062	165512	70922	41550	1.71

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

2. FOR ADDITIONAL NOTES, SEE PROTECTED SIDE STABILITY PLATE

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

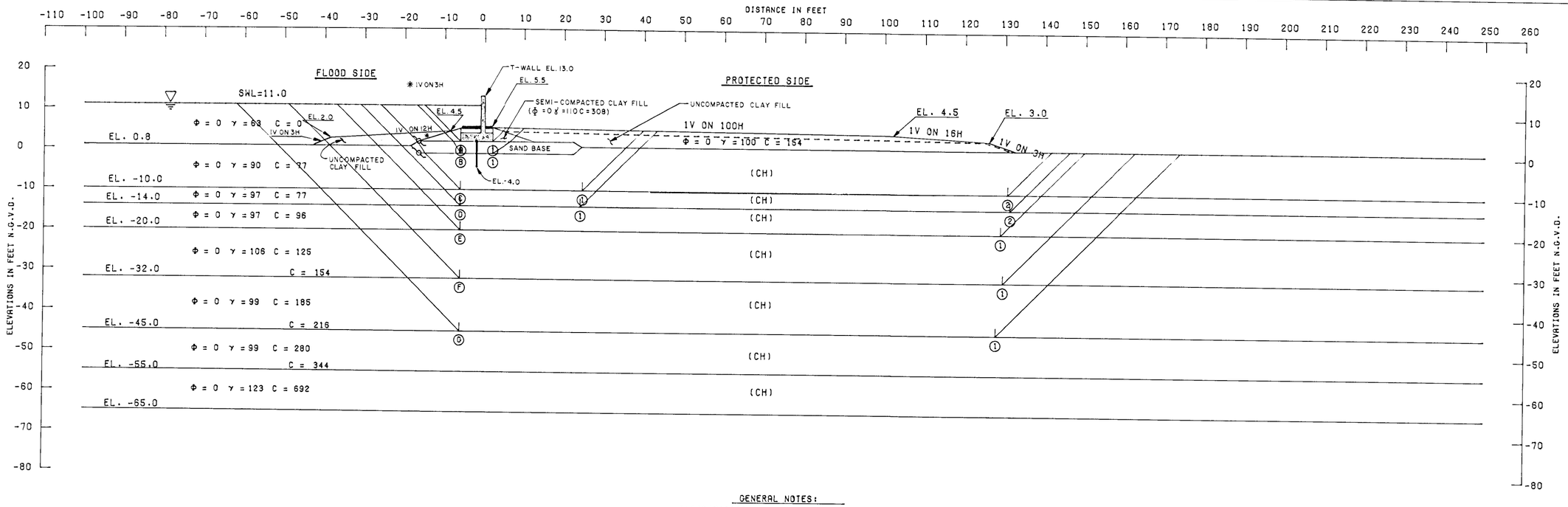
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

TYPICAL GEOTEXTILE REINFORCED RAMP CROSSING - FLOOD SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE III



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	+2.0	2733	1563	0	1875	652	1170	2527	-1357
B-1	-1.0	5334	1678	616	2646	2279	3656	5541	-1885
C-1	-10.0	17689	1555	2364	2994	10964	16054	16322	-268
C-2	-10.0	17689	1555	10526	1663	5308	16054	17497	-1443
D-1	-14.0	24919	2278	2325	3600	17360	22641	23285	-644
D-2	-14.0	24919	2278	10572	2279	9940	22641	22791	-150
E-1	-20.0	38652	3430	12960	3431	20833	35222	36424	-1202
F-1	-32.0	77242	6431	28882	6431	58903	70811	78216	-7405
G-1	-45.0	135678	11241	28922	11241	101266	124437	141429	-16992

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. A DECREASING TOTAL $U_A - U_P$ INDICATES THAT NO UNBALANCED LOAD EXISTS.
4. SEEPAGE-CUTOFF CALCULATION (SAMPLE) BASED ON LANE'S WEIGHTED CREEP RATIO.

$$LWCR = \frac{\text{WEIGHTED CREEP DISTANCE}}{\text{HEAD}}$$

LWCR = 3.0 FOR SOFT CLAY.

$$3 = \frac{3.5 + 8/3 + 3.5 + 2d}{5.5}$$ (d = DEPTH OF SHEETPILE BELOW GROUND SURFACE)

d = 3.4' (EL. -1.41)

EL. = -4.0 TO GO THRU SAND BASE.

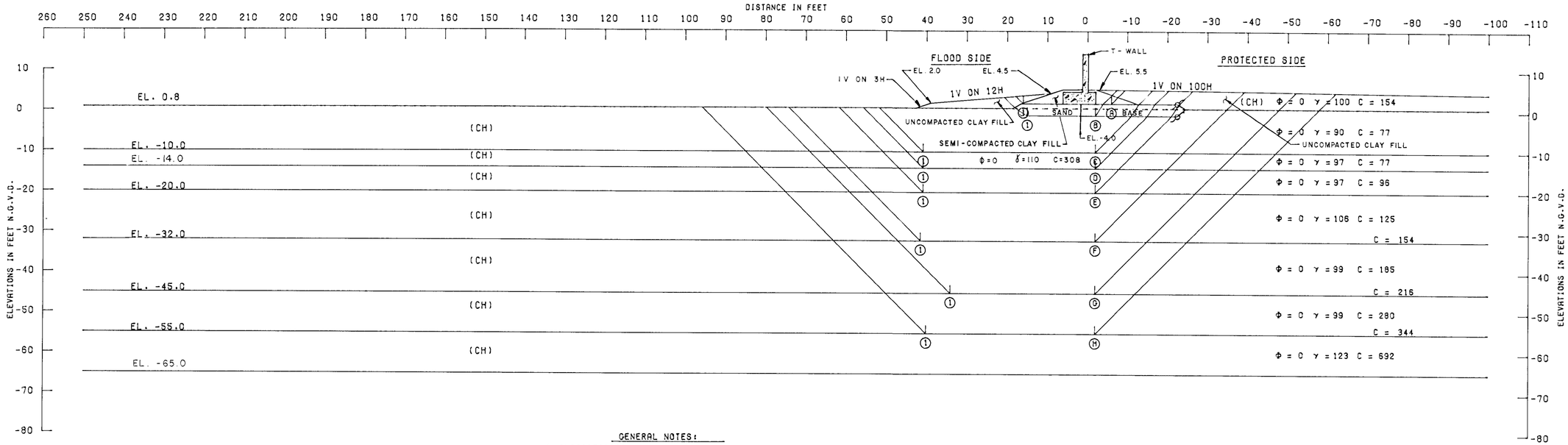
NOTES

ϕ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
SHELL OIL FIELD
T-WALL APPROX. STA. 149+70 - P.S.
DEEP SEATED STABILITY ANALYSIS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 112



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	+2.0	610	1556	0	582	178	-946	752	-1698
B-1	-1.0	2321	2639	1309	1813	1201	-318	4323	-4641
C-1	-10.0	12370	3272	3296	1663	5303	9098	10262	-1164
D-1	-14.0	19177	3865	3296	2279	9966	15312	15541	-229
E-1	-20.0	32269	5087	4109	3431	19872	27262	27412	-150
F-1	-32.0	68558	7763	6684	6431	50777	60795	63892	-3097
G-1	-45.0	124239	12532	7776	11241	101818	111707	120835	-9128
H-1	-55.0	178338	18101	14448	16841	150978	160237	182259	-22022

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. A DECREASING TOTAL $U_A - U_P$ INDICATES THAT NO UNBALANCED LOAD EXISTS.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

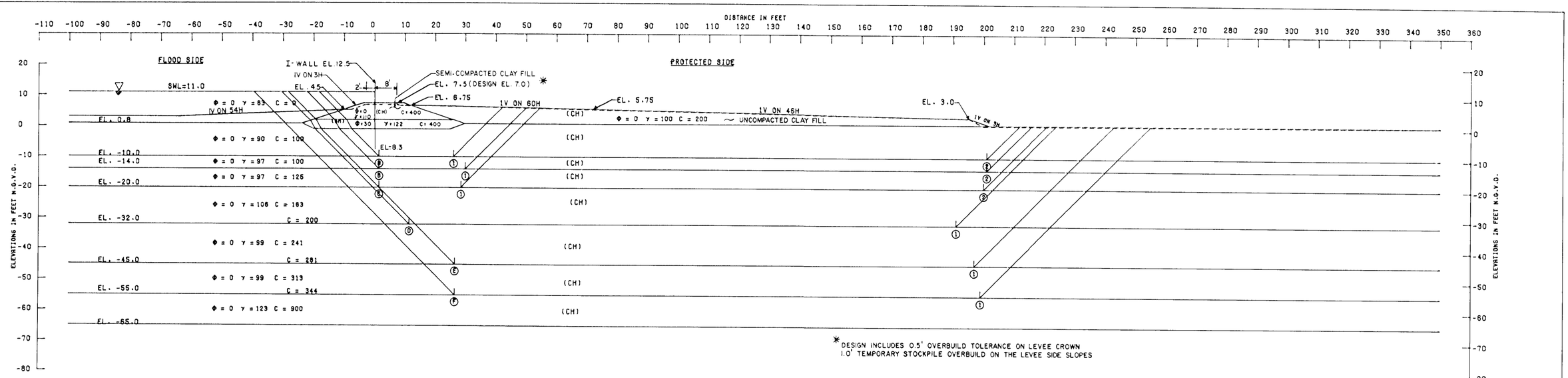
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SHELL OIL FIELD
T-WALL APPROX. STA. 149+70-F.S.
DEEP SEATED STABILITY ANALYSIS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 113



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_B	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
(B) (1)	-10.0	4598	2450	4317	19429	12873	11363	6556	1.73
(B) (2)	-10.0	4598	19950	2180	19429	5281	26728	14148	1.88
(B) (1)	-14.0	4800	2850	5085	27804	19419	12715	8185	1.55
(B) (2)	-14.0	4800	19950	2980	27804	9924	27710	17880	1.57
(C) (1)	-20.0	5485	3375	8535	42685	32528	15395	10157	1.52
(C) (2)	-20.0	5485	24812	4480	42685	19875	34757	22810	1.52
(D) (1)	-32.0	8868	95900	7880	83311	52431	52648	30880	1.70
(E) (1)	-45.0	15158	47911	14133	142038	101290	77202	40748	1.89
(F) (1)	-55.0	21517	69340	20383	199777	150993	101240	48784	2.08

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE PLATE 116 FOR SHEET PILE ANALYSIS

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

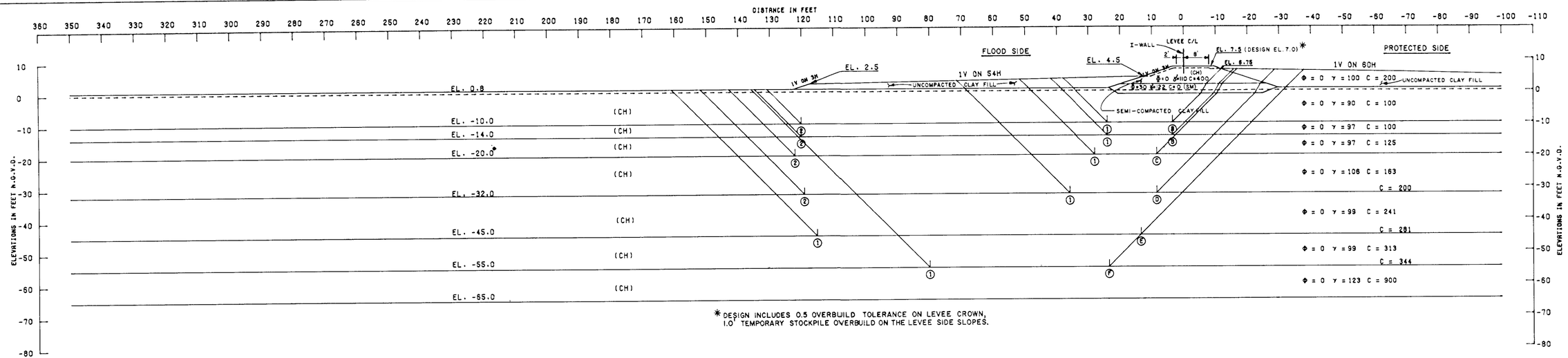
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_B - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 9, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SHELL OIL FIELD I-WALL
APPROX. STA. 149+70 (1ST LIFT)
STABILITY ANALYSIS — PROT. SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1969 FILE NO. H-2-30423

PLATE 114



* DESIGN INCLUDES 0.5 OVERBUILD TOLERANCE ON LEVEE CROWN, 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_B	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(B) (1)	-10.0	7098	2050	3428	18259	9354	12576	8905	1.82
(B) (2)	-10.0	7098	11650	2160	18259	5361	20908	10898	1.92
(B) (1)	-14.0	7407	2050	4198	23730	15270	13655	8460	1.81
(B) (2)	-14.0	7407	11650	2960	23730	10025	22017	13705	1.61
(C) (1)	-20.0	8727	2437	5626	37867	28825	16790	11042	1.52
(C) (2)	-20.0	8727	14187	4460	37867	19824	27374	18043	1.52
(D) (1)	-32.0	10725	5500	8900	76808	60803	25125	16203	1.55
(D) (2)	-32.0	10725	22100	7880	76808	50969	40705	25837	1.58
(E) (1)	-45.0	16320	28522	14133	134319	101762	58975	32557	1.81
(F) (1)	-65.0	22570	19436	20383	188571	158956	82389	29815	2.11

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
∇ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

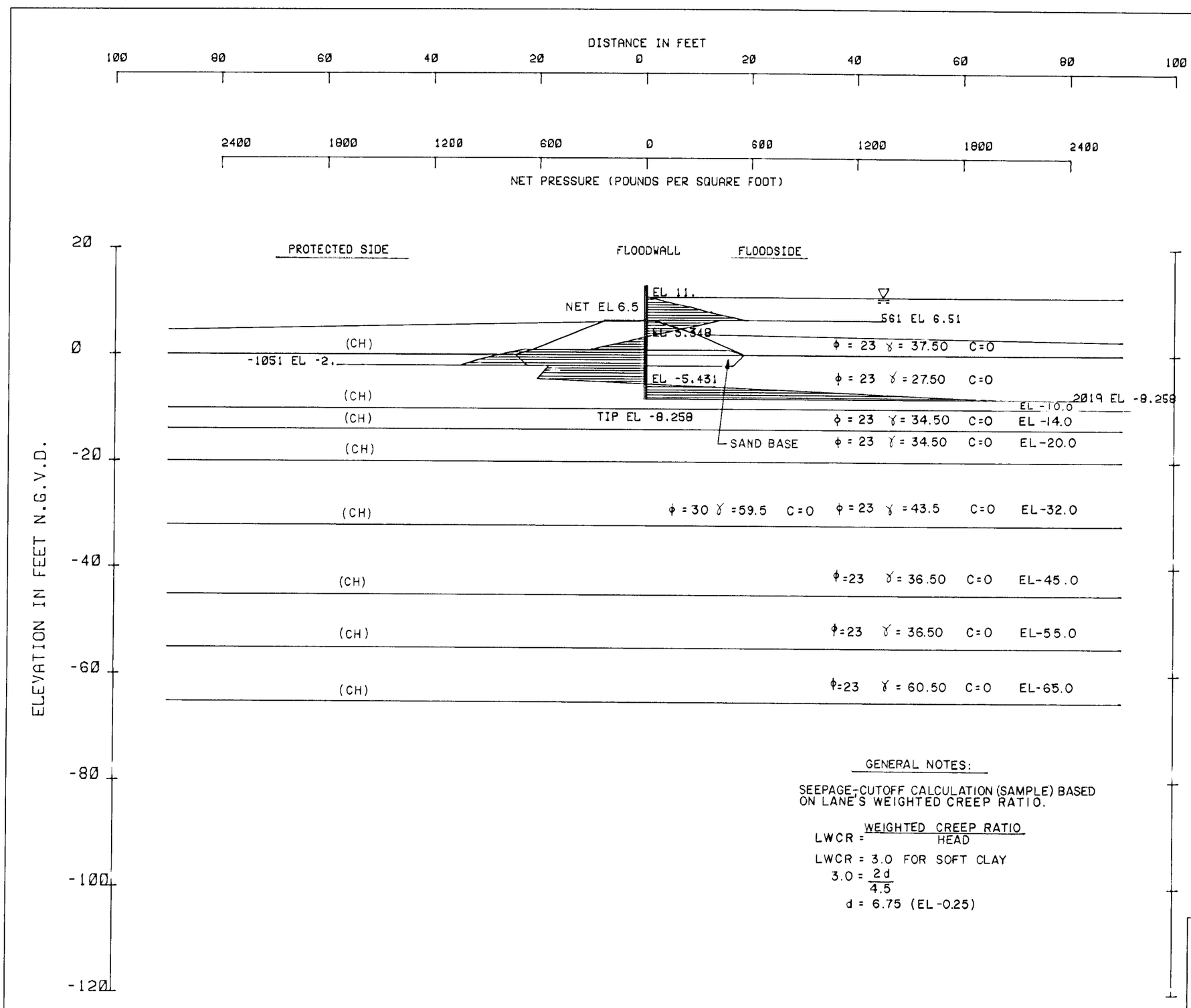
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_B - D_P}$

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SHELL OIL FIELD I-WALL
APPROX. STA. 149+70 (1st LIFT)
STABILITY ANALYSIS – FLOOD SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 115



ELEVATION	PRESSURE
11.00	0.0
6.51	561.2
6.51	420.9
6.50	419.7
3.35	0.0
1.00	-311.1
1.00	-690.3
0.00	-835.9
-2.00	-1050.7
-2.00	-548.2
-4.57	-617.0
-5.43	0.0
-8.26	2018.8
-8.26	0.0

GENERAL NOTES:

SEEPAGE-CUTOFF CALCULATION (SAMPLE) BASED ON LANE'S WEIGHTED CREEP RATIO.

$$LWCR = \frac{\text{WEIGHTED CREEP RATIO}}{\text{HEAD}}$$

LWCR = 3.0 FOR SOFT CLAY

$$3.0 = \frac{2d}{4.5}$$

$$d = 6.75\ (EL - 0.25)$$

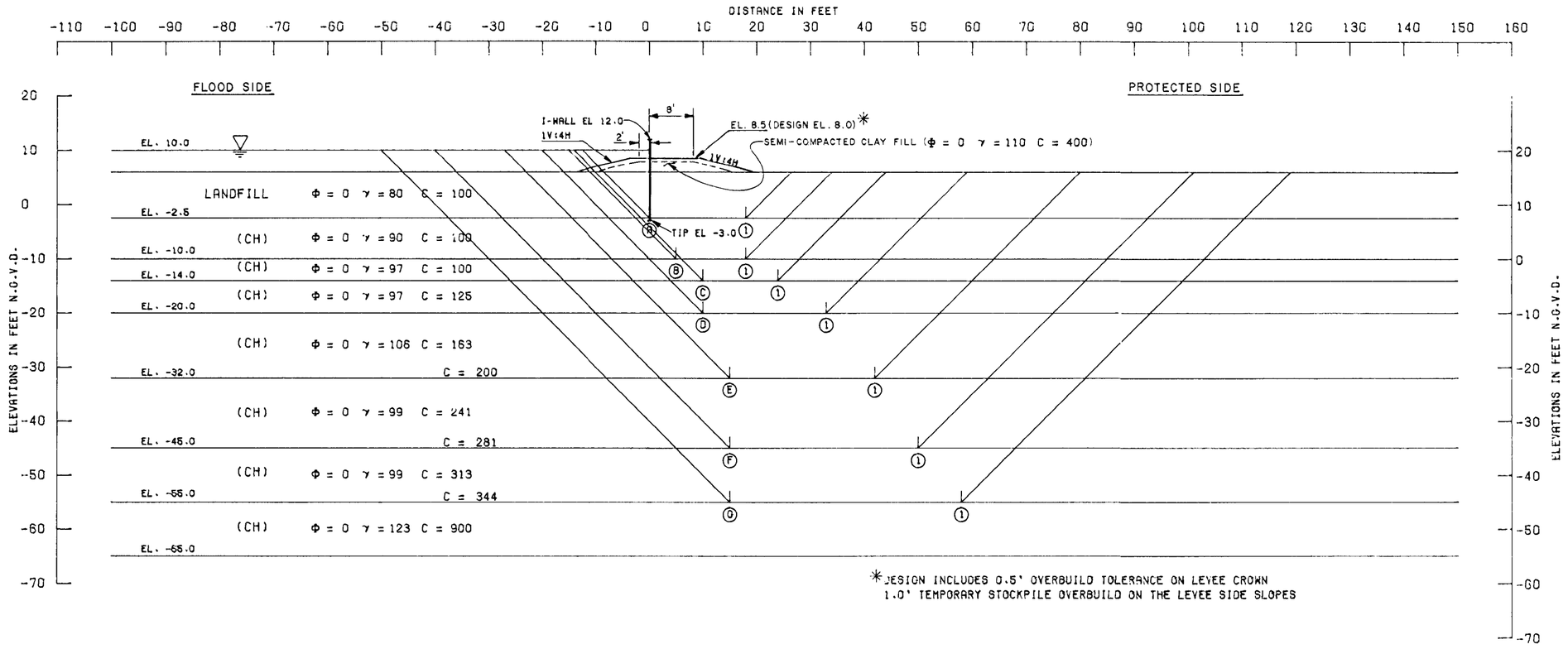
NET DIAGRAM

(S) CASE F.S.=1.2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIG
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
SHELL OIL FIELD
CANTILEVER SHEET PILE ANALYSIS
APPROX. B/L STA 149+70

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 116



ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-2.5	2501	1800	1700	6406	2921	6001	3485	1.72
Ⓑ ①	-10.0	3601	1300	3200	16130	10552	8101	5578	1.45
Ⓒ ①	-14.0	4581	1400	4000	23418	16717	9981	6701	1.49
Ⓓ ①	-20.0	5502	2875	5500	37180	28920	13877	8260	1.68
Ⓔ ①	-32.0	9401	5400	9400	75423	64451	24201	10972	2.21
Ⓕ ①	-45.0	15654	9835	15653	133799	119575	41142	14224	2.89
Ⓖ ①	-55.0	21903	14792	21903	190088	173363	58598	16725	3.50

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. PROTECTED SIDE STABILITY ANALYSIS IS SHOWN ONLY. (CONTROLLING CASE)
3. SEE PLATE 118 FOR SHEET PILE.

NOTES

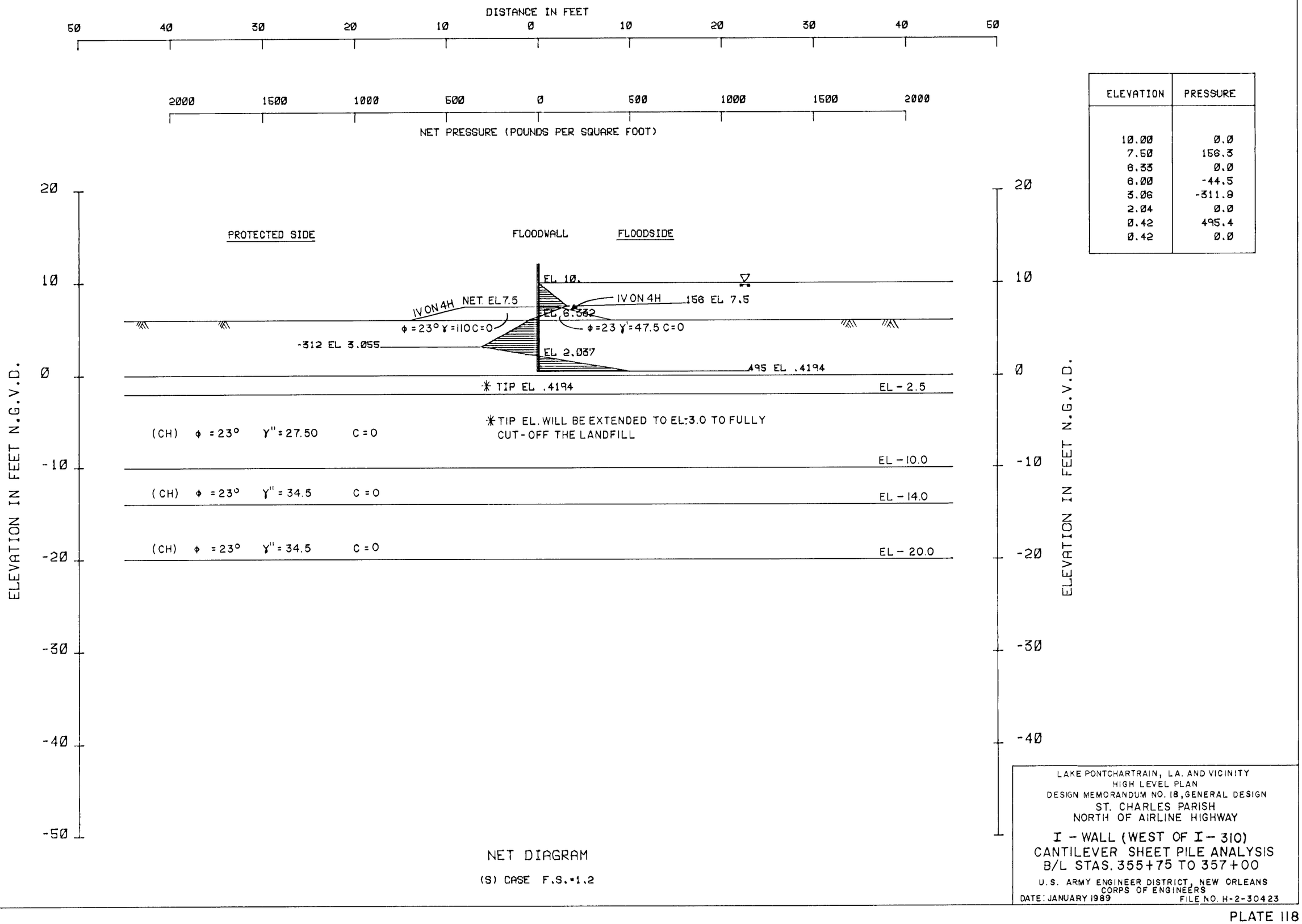
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I-WALL (WEST OF I-310 T-WALL) STABILITY ANALYSIS – PROT. SIDE STAS. 355+75 TO 357+00 (1st LIFT)

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



ELEVATION	PRESSURE
10.00	0.0
7.50	156.3
6.33	0.0
6.00	-44.5
3.06	-311.9
2.04	0.0
0.42	495.4
0.42	0.0

NET DIAGRAM

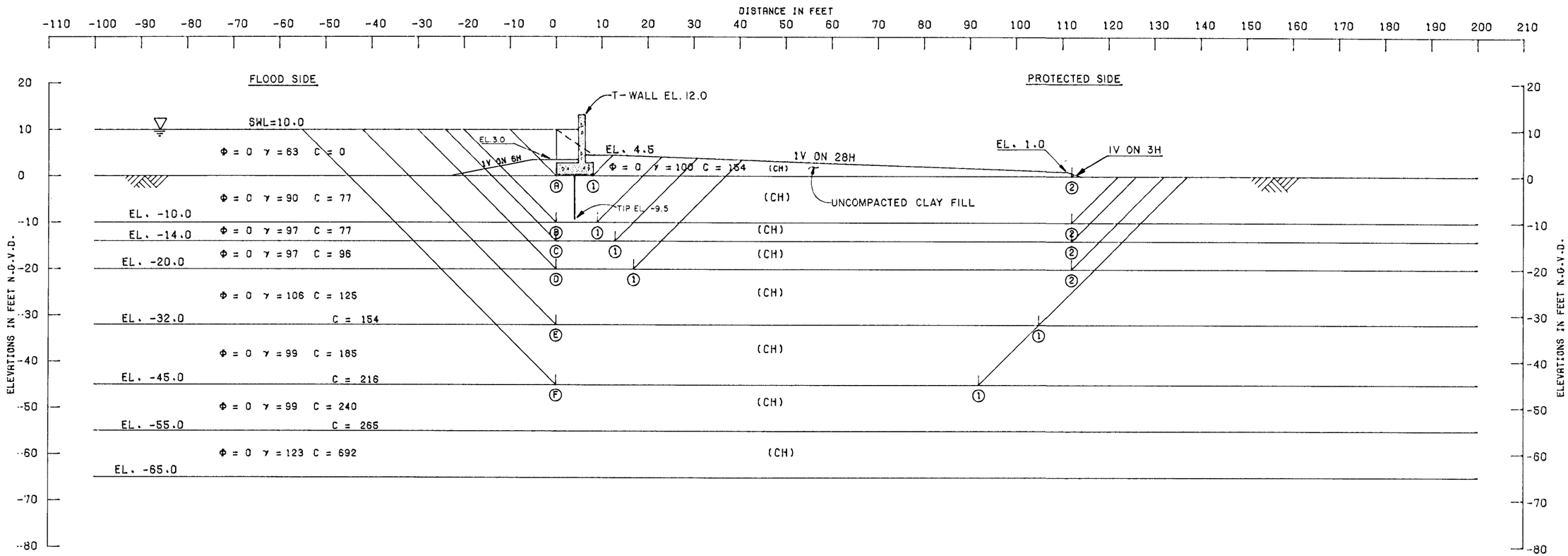
(S) CASE F.S. = 1.2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I - WALL (WEST OF I - 310)
CANTILEVER SHEET PILE ANALYSIS
B/L STAS. 355+75 TO 357+00

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 118



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	0.0	3354	1078	0	1386	992	2276	2378	-102
A-2	0.0	3354	1078	8008	154	17	2276	8179	-5903
B-1	-10.0	15196	2192	693	2814	9822	13004	13329	-325
B-2	-10.0	15196	2192	8624	1540	4566	13004	14730	-1726
C-1	-14.0	22285	2608	1001	3345	15541	19677	19887	-210
C-2	-14.0	22285	2608	8624	2156	8886	19677	19666	11
D-1	-20.0	35560	3453	1632	4391	26764	32101	32787	-686
D-2	-20.0	35560	3459	10752	3308	18192	32101	32252	-151
E-1	-32.0	72824	6308	16170	6308	48673	66516	71151	-4635
F-1	-45.0	129795	11118	19872	11118	99396	118677	130386	-11709

GENERAL NOTES:

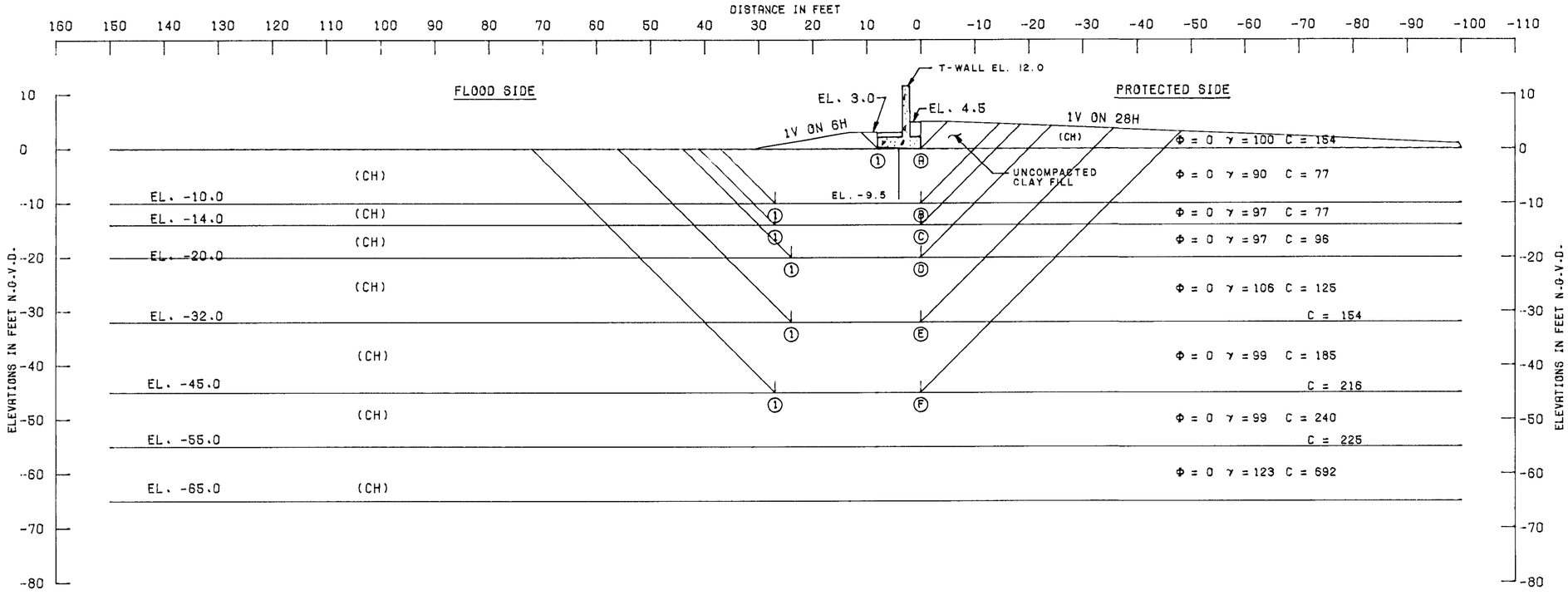
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. THE SMALL UNBALANCED LOAD IS NEGLIGIBLE.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
T-WALL BENEATH I-310
STAS. 357+00 TO 370+00
DEEP SEATED STABILITY ANALYSIS - P.S.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1983 FILE NO. H-2-30423



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	0.0	1250	1540	0	924	436	-290	1360	-1650
B-1	-10.0	10547	2955	2079	1540	4633	7592	8252	-660
C-1	-14.0	16727	3521	2079	2156	9089	13206	13244	-38
D-1	-20.0	28787	4598	2304	3308	18758	24189	24370	-181
E-1	-32.0	63591	7448	3696	6308	48829	56143	58833	-2690
F-1	-45.0	117269	12095	5832	11118	97764	105174	114714	-9540

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. A DECREASING TOTAL $U_A - U_P$ INDICATES THAT NO UNBALANCED LOAD EXISTS.

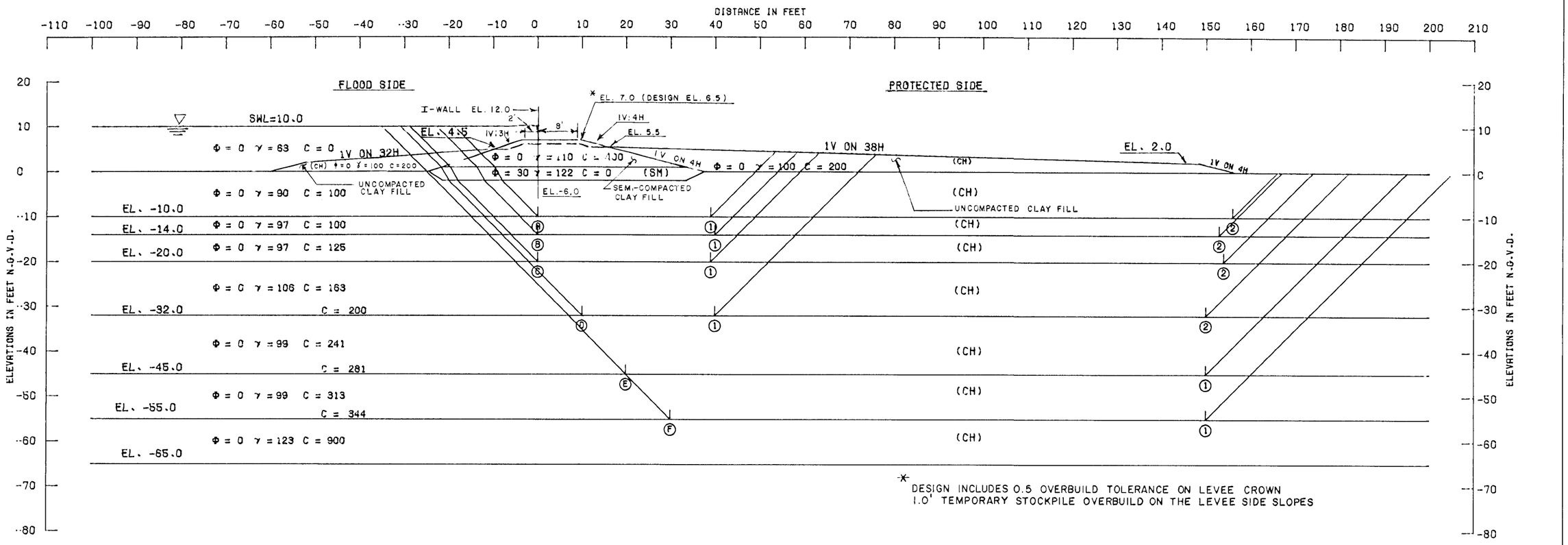
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
T-WALL BENEATH I-310
B/L STA. 357+00 TO 370+00
DEEP SEATED STABILITY ANALYSIS F.S.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



* DESIGN INCLUDES 0.5 OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	4846	3900	3800	18132	10288	12546	7844	1.60
Ⓐ ②	-10.0	4846	15600	2000	18132	4503	22446	13629	1.65
Ⓑ ①	-14.0	5080	4000	4548	26100	16395	13628	9705	1.40
Ⓑ ②	-14.0	5080	15300	2800	26100	9029	23180	17071	1.36
Ⓒ ①	-20.0	5749	4875	5997	40824	28509	16621	12315	1.35
Ⓒ ②	-20.0	5749	19250	4300	40824	18427	29299	22397	1.31
Ⓓ ①	-32.0	9416	6000	9754	81069	63392	25180	17677	1.42
Ⓓ ②	-32.0	9416	28000	8200	81069	48948	45616	32121	1.42
Ⓔ ①	-45.0	15911	36530	14453	139871	98157	66894	41714	1.60
Ⓕ ①	-55.0	22161	41280	20618	195431	147300	84059	48131	1.75

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE PLATE 123 FOR SHEET PILE ANALYSIS.

NOTES

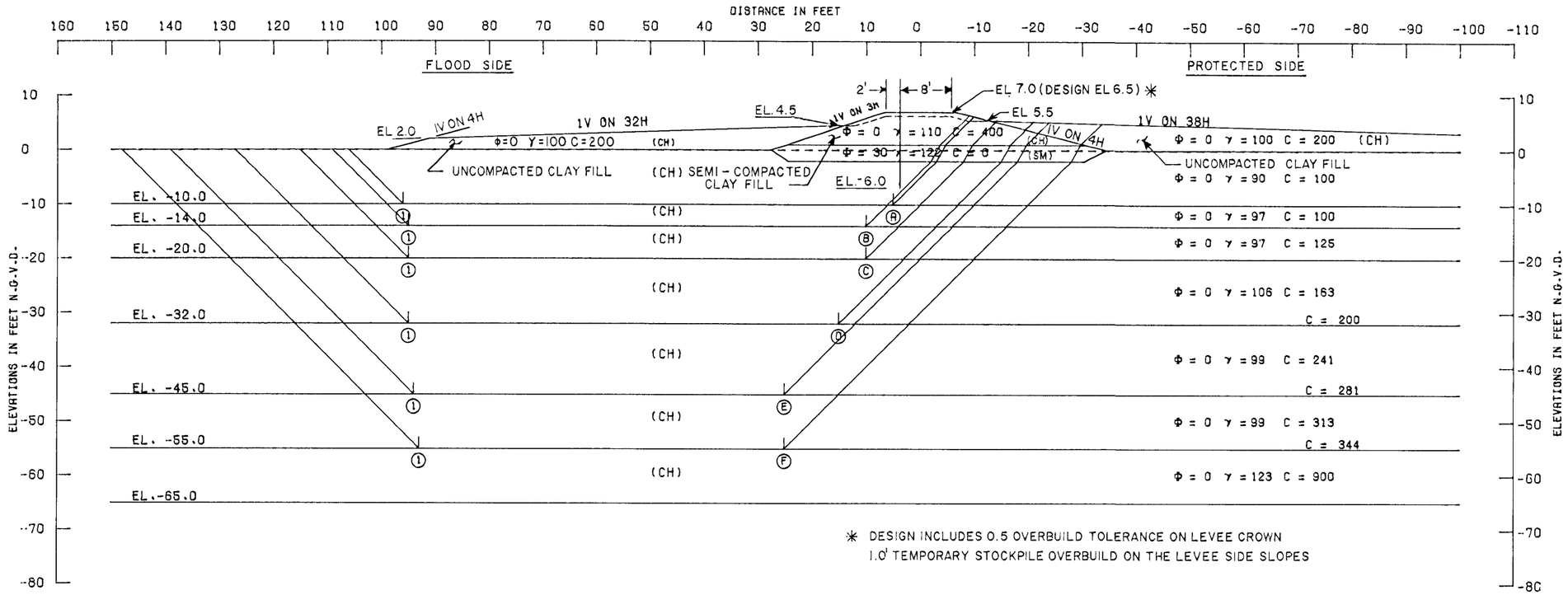
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I-WALL (EAST OF I-310) STABILITY ANALYSIS - PROT. SIDE STA. 370+00 TO 370+90 (1st LIFT)

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



✳ DESIGN INCLUDES 0.5 OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	7326	9100	2000	15399	4612	18426	10787	1.71
Ⓑ ①	-14.0	8286	8500	2800	23015	9075	19586	13940	1.41
Ⓒ ①	-20.0	8818	10625	4300	36687	18549	23743	18138	1.31
Ⓓ ①	-32.0	11852	16000	8200	74354	48620	36052	25734	1.40
Ⓔ ①	-45.0	17803	19389	14453	130759	97941	51645	32818	1.57
Ⓕ ①	-55.0	23048	23392	20703	185980	147317	67143	38663	1.74

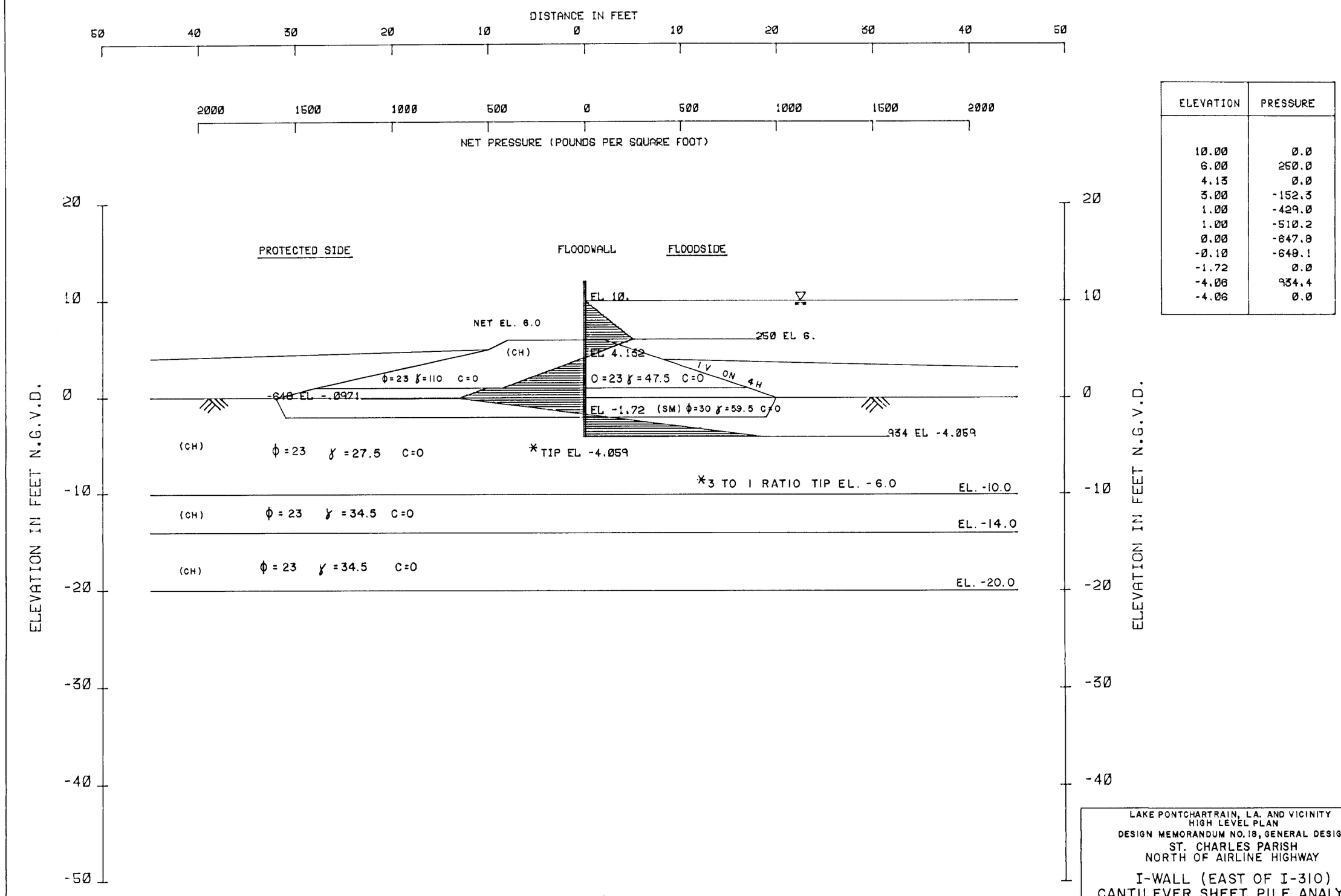
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
I-WALL (EAST OF I-310 T-WALL)
STABILITY ANALYSIS - FLOOD SIDE
STA. 370+00 TO 370+90 (1st LIFT)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 122



ELEVATION	PRESSURE
10.00	0.0
6.00	250.0
4.13	0.0
3.00	-152.3
1.00	-429.0
1.00	-510.2
0.00	-647.8
-0.10	-648.1
-1.72	0.0
-4.06	934.4
-4.06	0.0

NET DIAGRAM

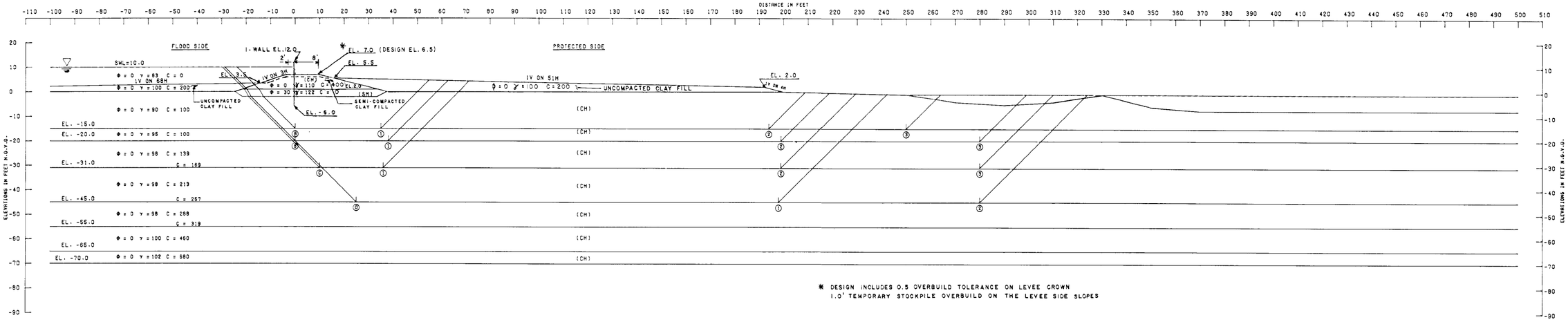
(S) CASE F.S.=1.2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I-WALL (EAST OF I-310)
CANTILEVER SHEET PILE ANALYSIS
B/L STA. 370+00 TO 370+90

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 123



* DESIGN INCLUDES 0.5 OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_B	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
A 1	-15.0	4683	3600	4889	27936	19776	13172	8161	1.43
A 2	-15.0	4683	19400	2986	27936	10503	27069	17433	1.55
A 3	-15.0	4683	26000	2436	27936	8468	32119	19468	1.65
B 1	-20.0	5107	3800	5828	40093	28836	14735	11258	1.31
B 2	-20.0	5107	18800	3926	40093	17768	28833	22337	1.30
B 3	-20.0	5107	28000	3021	40093	14458	36128	25836	1.41
C 1	-31.0	8051	4394	8814	76274	59787	21259	16487	1.37
C 2	-31.0	8051	31941	6940	76274	43182	46932	32112	1.46
C 3	-31.0	8051	45630	6220	76274	38278	59901	36996	1.62
D 1	-45.0	14129	44375	12863	134802	92299	71367	42503	1.68
D 2	-45.0	14129	65408	12610	134802	88087	92147	48716	1.89

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

*: SEE PLATE 126 FOR SHEET PILE ANALYSIS.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
∇ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- RB R SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- RB R SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- RB R SUBSCRIPT, REFERS TO PASSIVE WEDGE

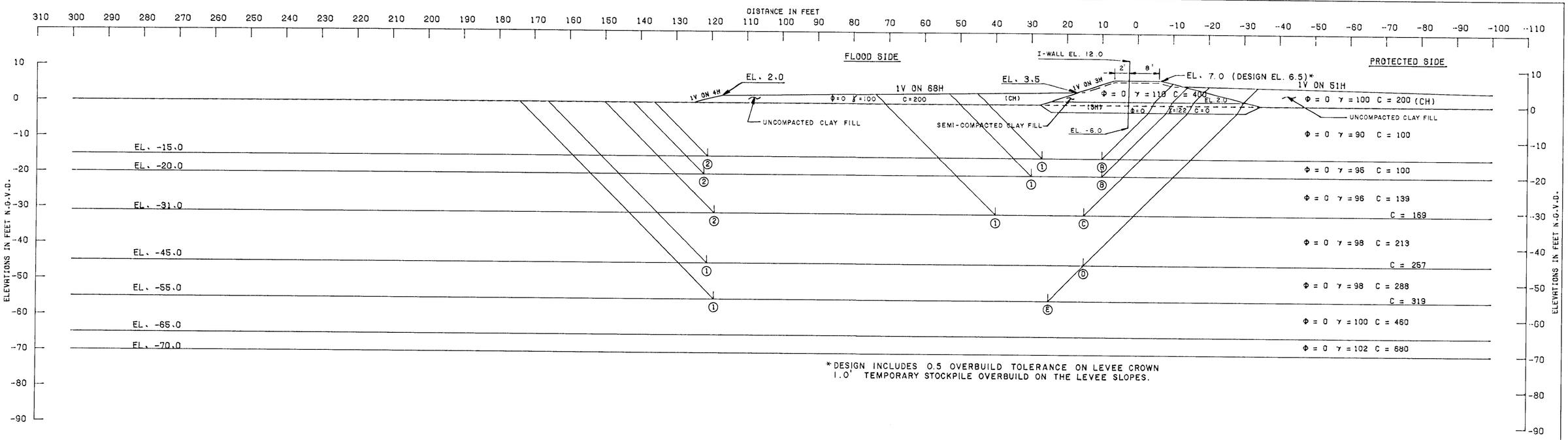
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_B - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

PARISH LINE R/R GATE I-WALL
APPROX. STA. 518+40 (1st LIFT)
STABILITY ANALYSIS (FS=1.3) - P.S.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1969 FILE NO. NE-30425

PLATE 124



*DESIGN INCLUDES 0.5 OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SLOPES.

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-15.0	8326	1700	4231	25028	15465	14257	9563	1.49
(A) (2)	-15.0	8326	11100	3000	25028	10324	22426	14704	1.53
(B) (1)	-20.0	8523	2000	5184	36400	24816	15707	11584	1.36
(B) (2)	-20.0	8523	11200	4000	36400	18174	23723	18226	1.30
(C) (1)	-31.0	10834	4225	8118	69247	53360	23177	15887	1.46
(C) (2)	-31.0	10834	17576	7058	69247	44394	35468	24853	1.43
(D) (1)	-45.0	15446	27189	13022	127834	94081	55657	33753	1.65
(E) (1)	-55.0	21206	29986	18782	179787	141759	69974	38028	1.84

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

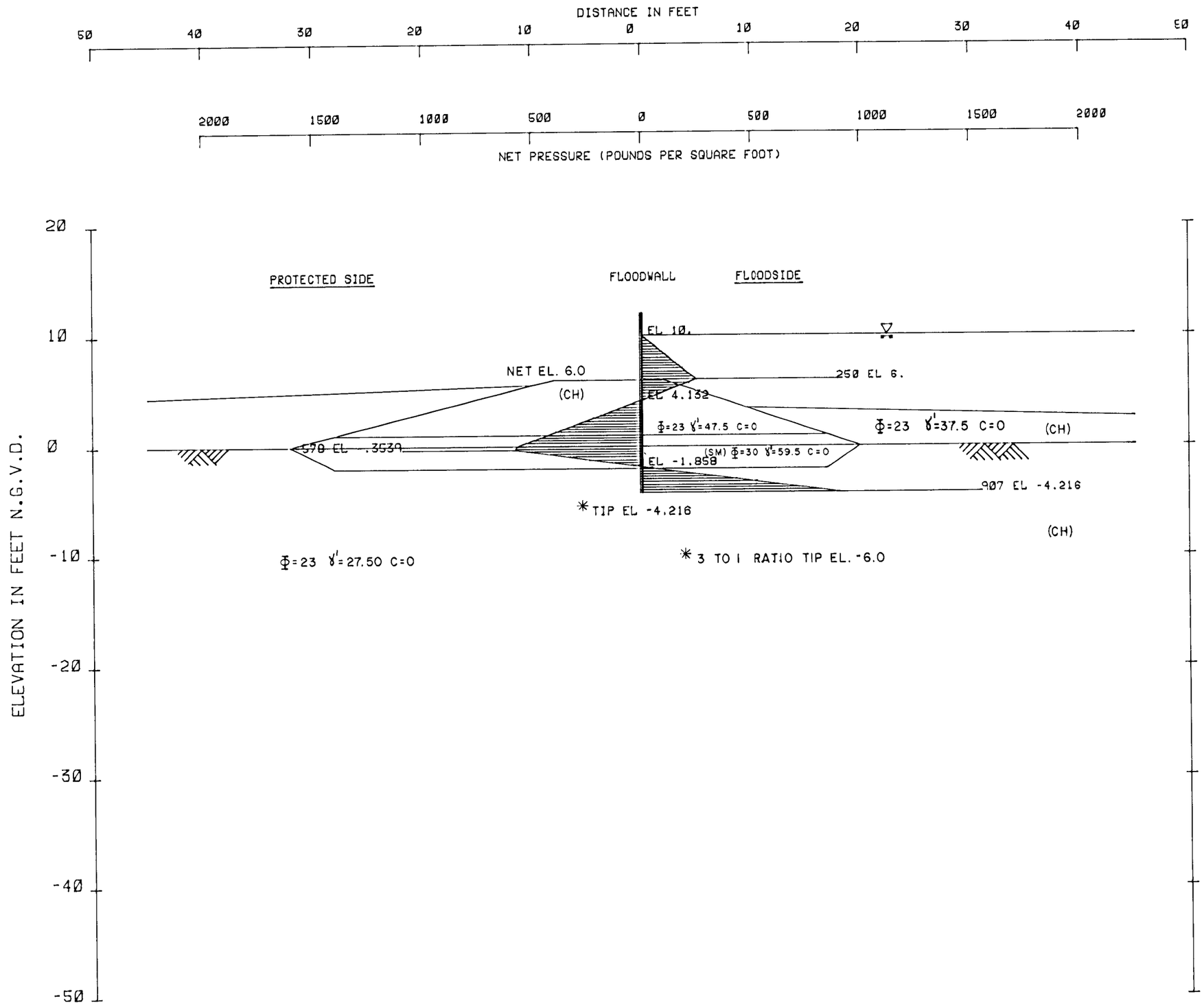
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
PARISH LINE R/R GATE I-WALL
APPROX. STA. 518+40 (1st. LIFT)
STABILITY ANALYSIS (F.S.=1.3)-F.S.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 125



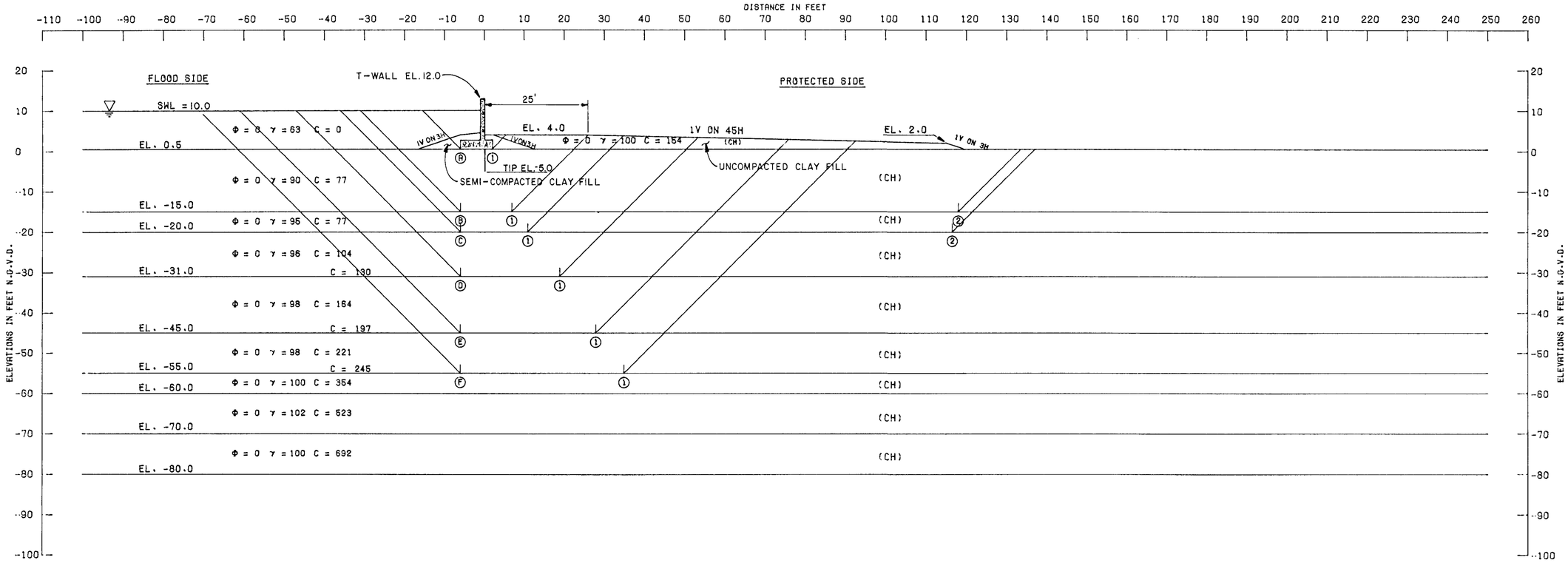
ELEVATION	PRESSURE
10.00	0.0
6.00	250.0
4.13	0.0
3.00	-152.3
0.00	-565.6
-0.35	-578.4
-1.86	0.0
-4.22	906.8
-4.22	0.0

NET DIAGRAM

(S) CASE F.S.=1.2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
PARISH LINE RAILROAD GATE
I-WALL
CANTILEVER SHEET PILE ANALYSIS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 126



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	+0.5	3038	1617	0	1886	658	1421	2544	-1123
B-1	-15.0	23708	2389	1001	3458	16897	21319	21356	-37
B-2	-15.0	23708	2389	9548	2387	10848	21319	22783	-1464
C-1	-20.0	34848	3158	1309	4168	26655	31682	32132	-450
C-2	-20.0	34848	3158	9433	3157	19123	31682	31713	-31
D-1	-31.0	67749	5435	3250	6318	56072	62314	65648	-3326
E-1	-45.0	126629	10012	6698	10741	109521	116617	126960	-10343
F-1	-55.0	180445	14432	10045	15047	158761	166013	183853	-17840

GENERAL NOTES:

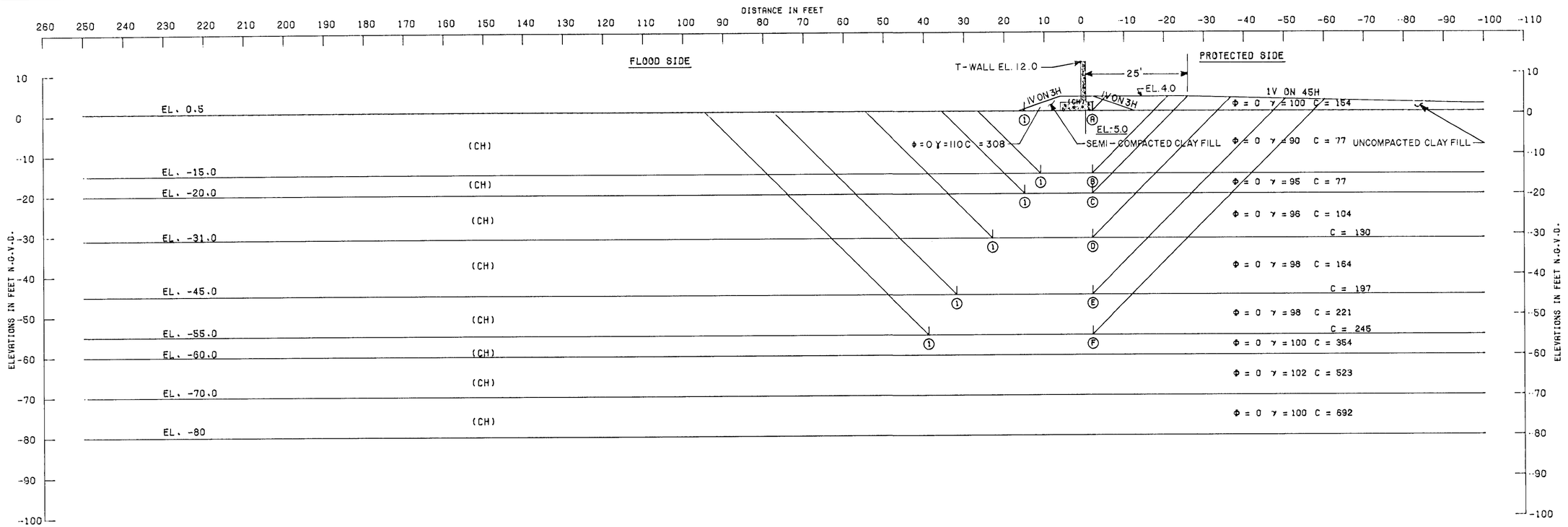
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. A DECREASING TOTAL $U_A - U_P$ INDICATES THAT NO UNBALANCED LOAD EXISTS.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
PARISH LINE RAILROAD GATE
T-WALL APPROX. STA. 518+40-P.S.
DEEP SEATED STABILITY ANALYSIS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	+0.5	3038	1617	0	1886	658	1421	2544	-1123
B-1	-15.0	23708	2389	1001	3458	16897	21319	21356	-37
B-2	-15.0	23708	2389	9548	2387	10848	21319	22783	-1464
C-1	-20.0	34840	3158	1309	4168	26655	31682	32132	-450
C-2	-20.0	34840	3158	9433	3157	19123	31682	31713	-31
D-1	-31.0	67749	5435	3250	6318	56072	62314	65640	-3326
E-1	-45.0	126629	10012	6698	10741	109521	116617	126960	-10343
F-1	-55.0	138445	14432	10045	15047	158761	166013	183853	-17840

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. ANALYSIS WAS PERFORMED WITH A FACTOR OF SAFETY OF 1.3 INCORPORATED INTO THE SOIL PARAMETERS.
3. A DECREASING TOTAL $U_A - U_P$ INDICATES THAT NO UNBALANCED LOAD EXISTS.

NOTES

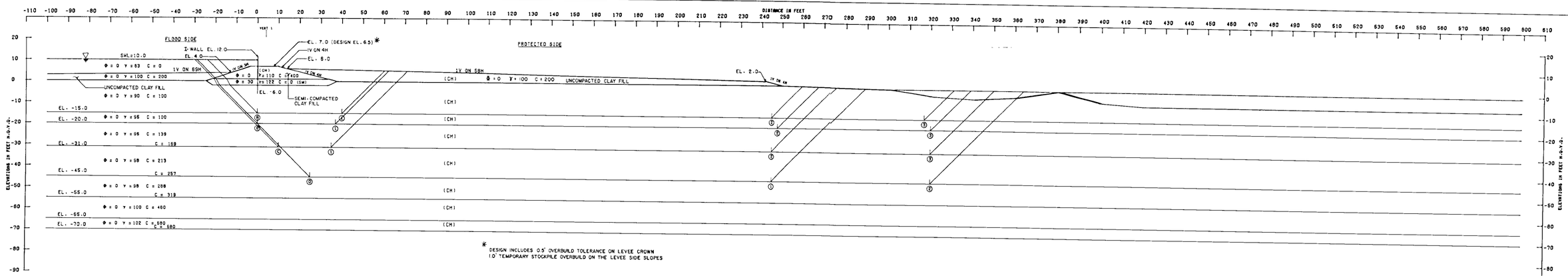
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
PARISH LINE RAILROAD GATE
T-WALL APPROX. STA. 518+40 - F.S.
DEEP SEATED STABILITY ANALYSIS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 128



* DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

BALANCED FAILURE SURFACE NO.	BALANCED FAILURE SURFACE ELEV.	RESISTING FORCES R_B	RESISTING FORCES P_B	RESISTING FORCES P_F	DRIVING FORCES D_B	DRIVING FORCES $-D_F$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(B) (1)	-15.0	4903	4000	5073	28030	13598	13976	8432	1.66
(B) (2)	-15.0	4903	24500	2961	28030	10348	32364	17682	1.83
(B) (3)	-15.0	4903	31700	2108	28030	7767	38712	20273	1.91
(B) (1)	-20.0	5337	3700	8059	40281	30238	16096	10042	1.60
(B) (2)	-20.0	5337	24800	3923	40281	17826	34060	22468	1.52
(B) (3)	-20.0	5337	32000	3019	40281	14664	40356	25617	1.58
(C) (1)	-31.0	8282	4226	9056	76481	61971	21562	13610	1.58
(C) (2)	-31.0	8282	39715	6956	76481	43680	54953	31821	1.73
(C) (3)	-31.0	8282	59390	6082	76481	38337	68754	37144	1.85
(D) (1)	-45.0	14369	56430	12965	135490	98781	83664	48709	1.72
(D) (2)	-45.0	14369	75569	12258	135490	89713	102096	48777	2.09

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE PLATE 130 FOR SHEET PILE ANALYSIS

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
SL -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

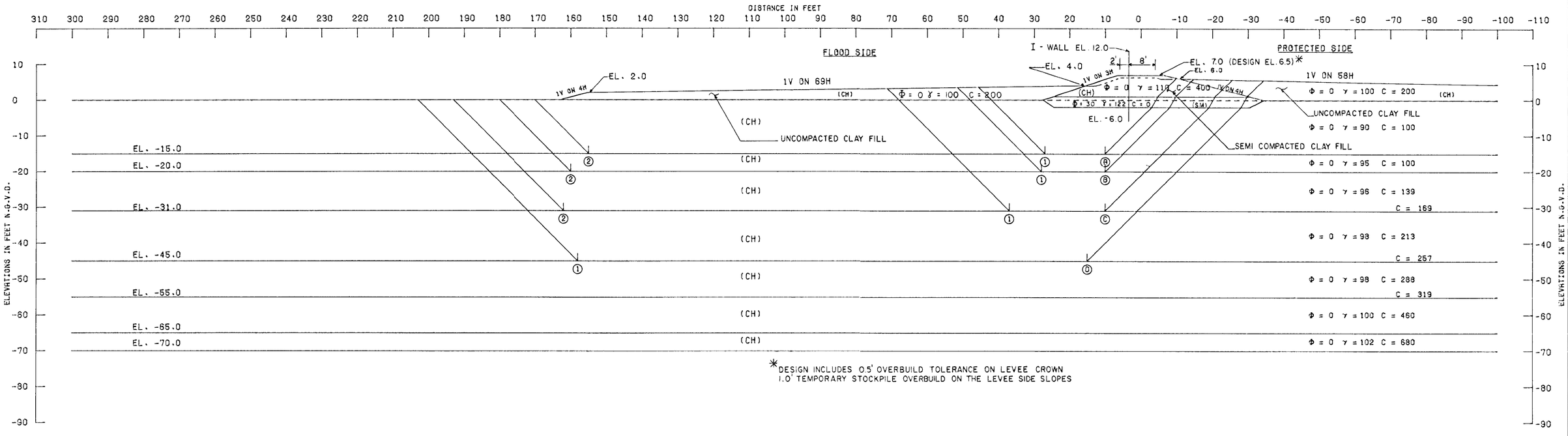
FACTOR OF SAFETY = $\frac{R_B + R_A + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 8, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I-WALL FROM R.R. GATE TO AIRPORT EXT. (1ST LIFT) STABILITY ANALYSIS (F.S. = 1.5) - P.S.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1965 FILE NO. H-E-30423

PLATE 129



*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN
1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-15.0	8327	1700	4428	25028	16365	14455	8663	1.67
Ⓐ ②	-15.0	8327	14500	3000	25028	10924	25827	14104	1.83
Ⓑ ①	-20.0	8706	1800	5394	36537	26032	15900	10505	1.51
Ⓑ ②	-20.0	8706	15000	4000	36537	18174	27705	18363	1.51
Ⓒ ①	-31.0	10636	4563	8339	70007	55219	23538	14788	1.59
Ⓒ ②	-31.0	10636	25688	7058	70007	43957	43382	26050	1.67
Ⓓ ①	-45.0	15739	36680	13022	128980	94193	65441	34787	1.88

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

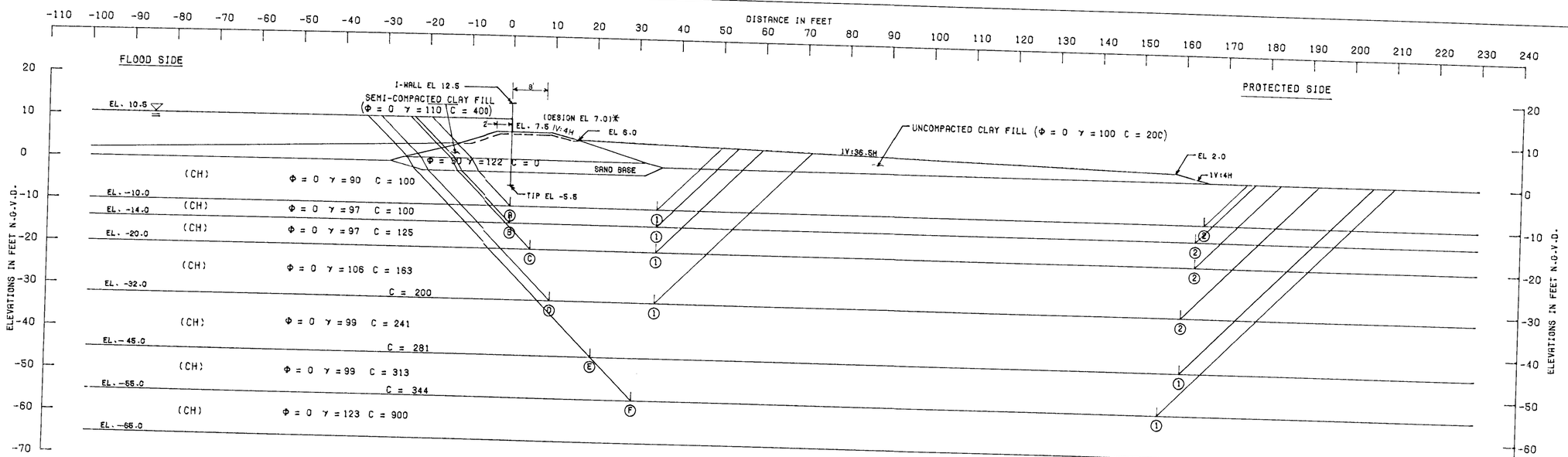
$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

I-WALL FROM R.R. GATE TO AIRPORT EXT. (1ST LIFT)
STABILITY ANALYSIS (F.S. = 1.5) - F.S.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 130



TYPICAL I-WALL SECTION FOR DRAINAGE STRUCTURES

DESIGN BASED ON SOIL REACH 2 - CROSS BAYOU

*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.		ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
A	1	-10.0	4946	3500	4012	19041	11123	12458	7918	1.57
A	2	-10.0	4946	16500	2000	19041	4512	23446	14529	1.61
B	1	-14.0	5239	3500	4768	27090	17489	13507	9601	1.41
B	2	-14.0	5239	16300	2800	27090	8988	24339	18102	1.34
C	1	-20.0	5638	3750	6203	41999	29866	15591	12133	1.37
C	2	-20.0	5638	19750	4300	41999	18462	30688	23537	1.30
D	1	-32.0	9850	5000	9972	82957	58449	24822	17508	1.42
D	2	-32.0	9850	30000	8200	82957	48870	48050	34087	1.41
E	1	-45.0	15790	39340	14453	142559	98080	69583	44479	1.56
F	1	-55.0	22040	43000	20703	198601	148280	85743	50321	1.70

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. SEE PLATE 133 FOR CANTILEVER I-WALL ANALYSIS

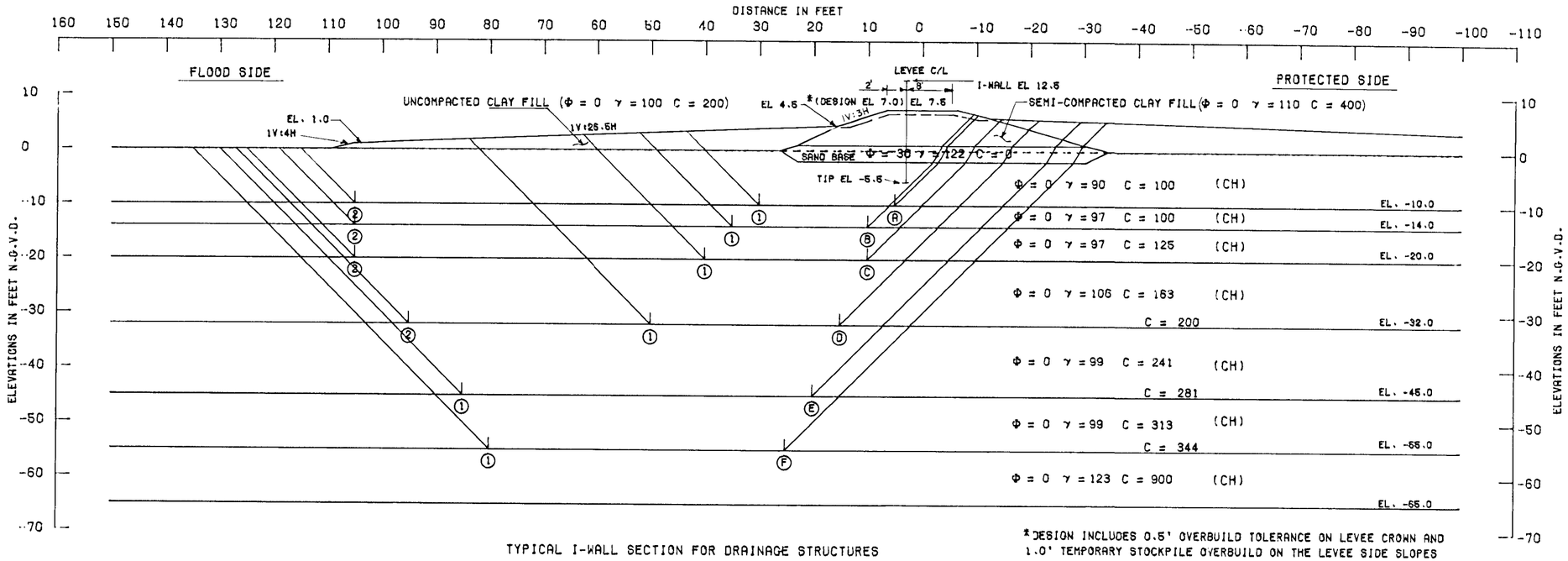
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
DRAINAGE STRUCTURE
TYPICAL I-WALL STABILITY
ANALYSIS - P.S.(1ST LIFT)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989
FILE NO. H-2-30423

PLATE 131



TYPICAL I-WALL SECTION FOR DRAINAGE STRUCTURES
DESIGN BASED ON SOIL REACH 2 - CROSS BAYOU

*DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMPORARY STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES

ASSUMED FAILURE SURFACE NO.		ELEV.	RESISTING FORCES R_A	R_B	R_P	DRIVING FORCES D_A	$-D_P$	SUMMATION OF FORCES RESISTING	DRIVING	FACTOR OF SAFETY
Ⓐ	①	-10.0	7756	2600	3364	16299	8843	13620	7456	1.83
Ⓐ	②	-10.0	7756	10000	2000	16299	4724	19756	11575	1.71
Ⓑ	①	-14.0	8716	2600	4029	24145	14219	15245	9926	1.54
Ⓑ	②	-14.0	8716	9500	2800	24145	9100	21016	15045	1.40
Ⓒ	①	-20.0	9265	3750	5364	38098	25026	18379	13072	1.41
Ⓒ	②	-20.0	9265	11875	4300	38098	18574	25440	19524	1.30
Ⓓ	①	-32.0	12241	7000	8934	76377	56692	28175	19685	1.43
Ⓓ	②	-32.0	12241	16000	8200	76377	49849	36441	26528	1.37
Ⓔ	①	-45.0	17619	18265	14453	133687	100654	50337	33013	1.52
Ⓕ	①	-55.0	23322	18920	20703	188567	150836	62945	37731	1.67

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

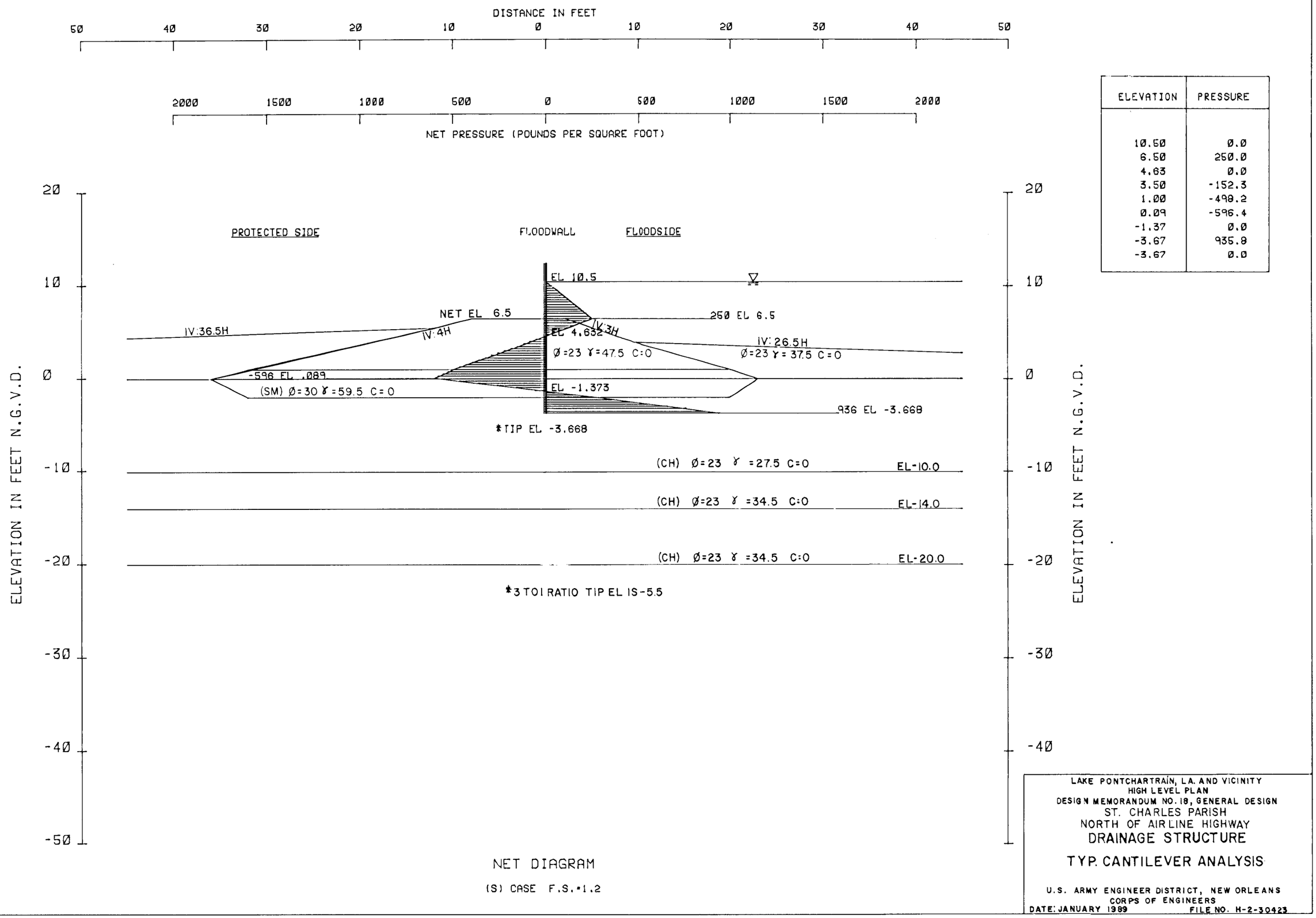
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
DRAINAGE STRUCTURE
TYPICAL I-WALL STABILITY
ANALYSIS - F.S.(1ST LIFT)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 132



ELEVATION	PRESSURE
10.50	0.0
6.50	250.0
4.63	0.0
3.50	-152.3
1.00	-498.2
0.09	-596.4
-1.37	0.0
-3.67	936.8
-3.67	0.0

NET DIAGRAM

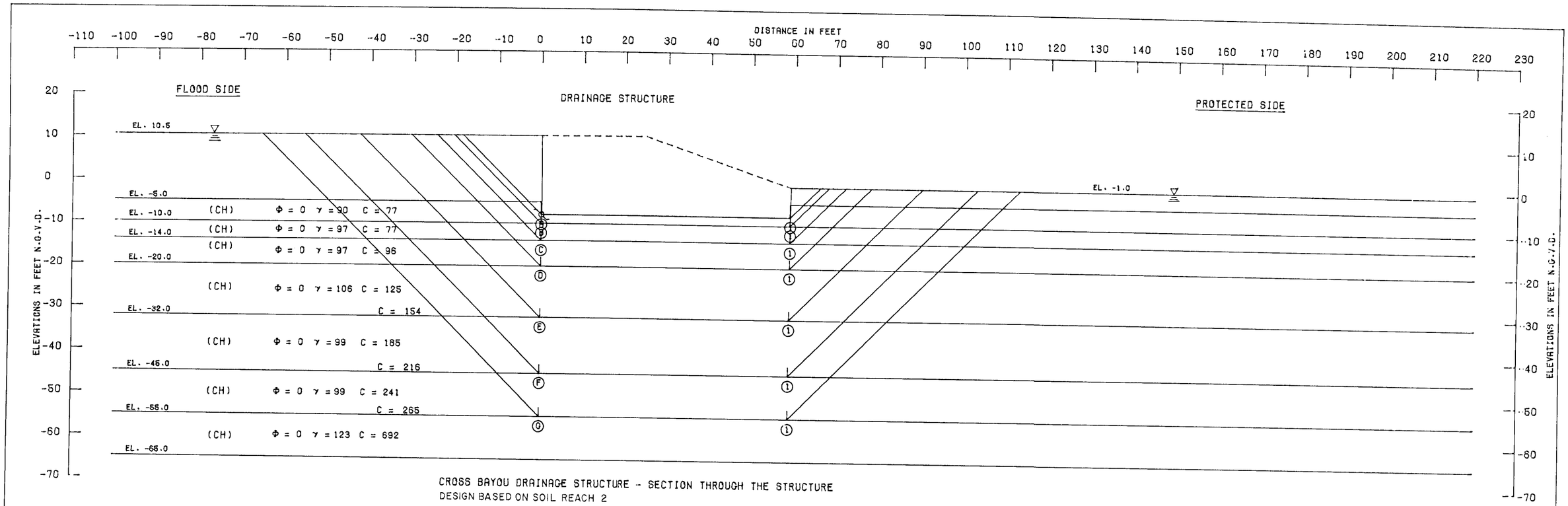
(S) CASE F.S.=1.2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
DRAINAGE STRUCTURE

TYP. CANTILEVER ANALYSIS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 133



CROSS BAYOU DRAINAGE STRUCTURE - SECTION THROUGH THE STRUCTURE
DESIGN BASED ON SOIL REACH 2

DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	-8.0	10818	462	0	462	1631	10356	2093	8263
B-1	-10.0	13476	770	4543	770	2851	12706	8164	4542
C-1	-14.0	19927	1386	4543	1386	6427	18541	12356	6185
D-1	-20.0	32513	2538	5664	2538	14701	29975	22903	7072
E-1	-32.0	68809	5538	9886	5538	42372	63271	56996	6275
F-1	-45.0	124763	10348	12744	10348	88982	114415	112074	2341
G-1	-55.0	179189	15158	15635	15158	136221	164031	167014	-2983

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. DEEP SEATED STABILITY ANALYSIS UTILIZED A FACTOR OF SAFETY 1.3 INCORPORATED INTO THE SOIL PARAMETERS (C = COHESION VALUES/1.3)

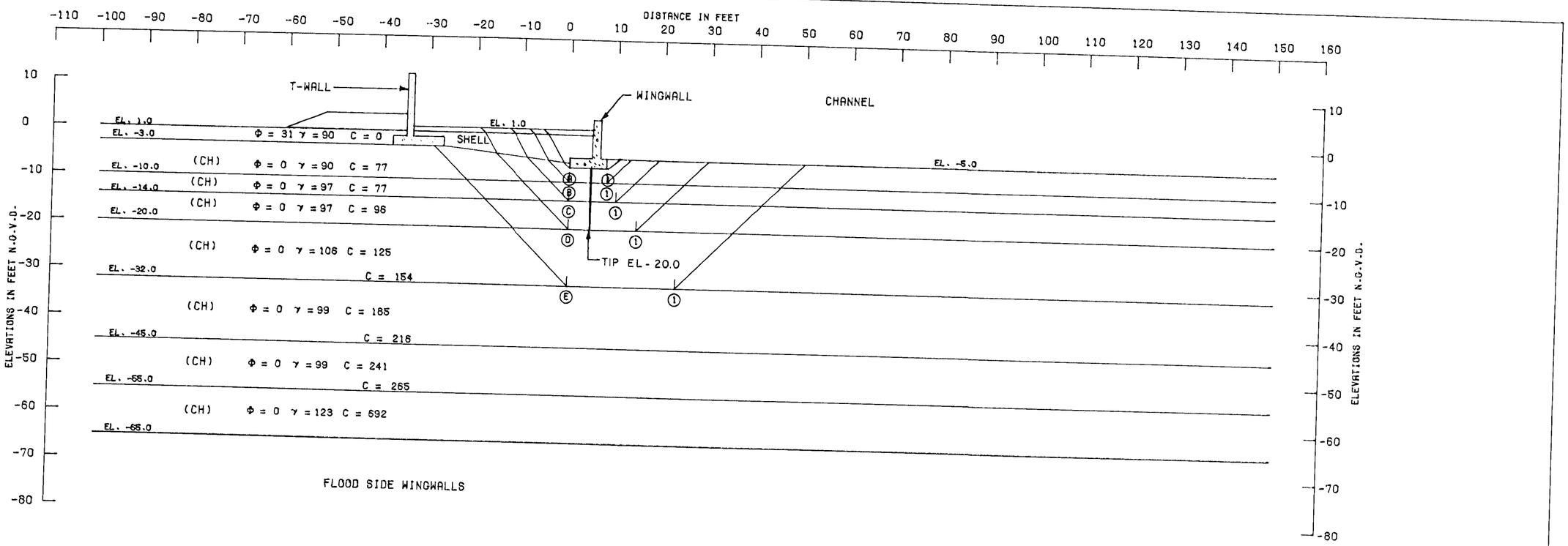
NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
DRAINAGE STRUCTURE
DEEP SEATED STABILITY ANALYSIS
SECTION THRU STRUCTURE
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO.H-2-30423

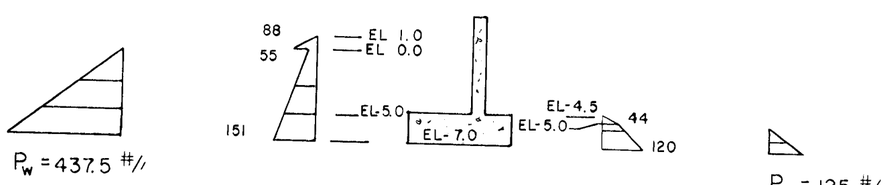
PLATE 134



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	-7.0	3030	1596	0	222	218	1434	440	994
B-1	-10.0	5655	2001	770	616	1191	3654	2577	1077
C-1	-14.0	10471	2608	770	1386	3720	7863	5876	1987
D-1	-20.0	20684	3754	1392	2538	10475	16850	14405	2445
E-1	-32.0	50429	5846	3542	5538	35146	44583	44226	357

AT REST PRESSURE DIAGRAM HURRICANE CONDITIONS LOW WATER EL- 5.0



GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. DEEP SEATED STABILITY ANALYSIS UTILIZED A FACTOR OF SAFETY 1.3 INCORPORATED INTO THE SOIL PARAMETERS (C = COHESION VALUES/1.3)
3. THE STABILITY ANALYSIS OF THE WINGWALL IS VALID TO EL -14.0, SINCE THE WINGWALL IS 23 FT. IN LENGTH (SIMULATE A MASS ANALYSIS)
4. TOTAL UNBALANCED LOAD OF 1451 LB/LIN FT. SHOULD BE APPLIED AT THE BASE OF THE STRUCTURE.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

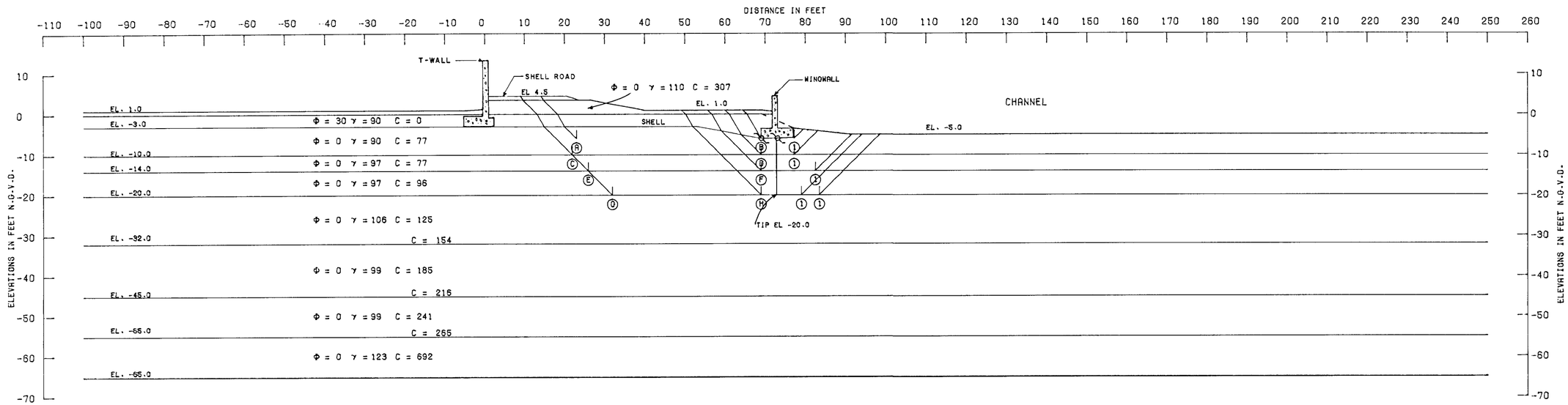
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18 - GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DEEP SEATED STABILITY ANALYSIS
W/EARTH PRESSURES AND
TYPICAL SECTION THRU F.S. WINGWALL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 135

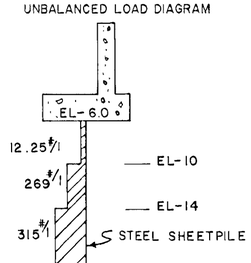


PROTECTED SIDE WINGWALLS

DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	-6.0	5408	3673	3557	330	243	1735	4130	-2395
B-1	-6.0	2335	1383	0	330	243	952	573	379
C-1	-10.0	10248	4289	4250	982	1710	5959	6862	-903
D-1	-10.0	5652	1981	631	982	1710	3671	3243	428
E-1	-14.0	16197	4985	4350	1386	4052	11292	9788	1504
F-1	-14.0	10471	2593	1040	1386	4052	7878	6478	1400
G-1	-20.0	27672	6057	4512	2538	11171	21615	18221	3394
H-1	-20.0	20604	3762	1392	2538	10748	16842	14678	2164

UNBALANCED LOAD DIAGRAM



(CANTILEVER) SEE NOTE 3

GENERAL NOTES:

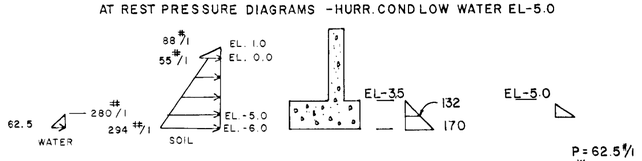
1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. DEEP SEATED STABILITY ANALYSIS UTILIZED A FACTOR OF SAFETY 1.3 INCORPORATED INTO THE SOIL PARAMETERS (C = COHESION VALUES/1.3)
3. TOTAL UNBALANCED LOAD 3015 LB/LINFT SHOULD BE APPLIED AT THE BASE OF THE STRUCTURE.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

AT REST PRESSURE DIAGRAMS -HURR.COND LOW WATER EL-5.0

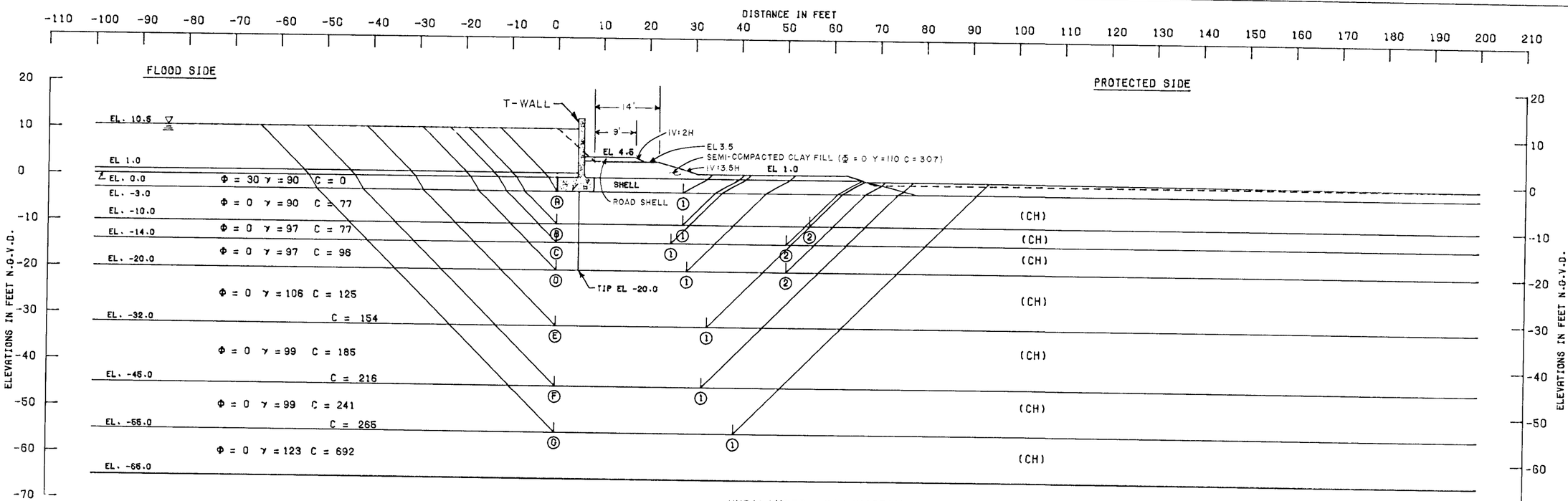


LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DEEP SEATED STABILITY ANALYSIS W/EARTH PRESSURES AND TYPICAL SECTION THRU P.S WINGWALL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 136

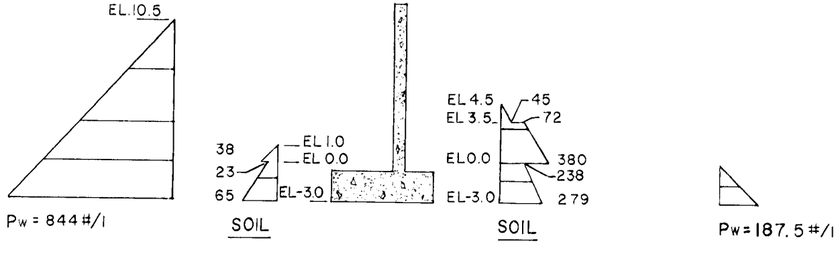


CROSS BAYOU T-WALL

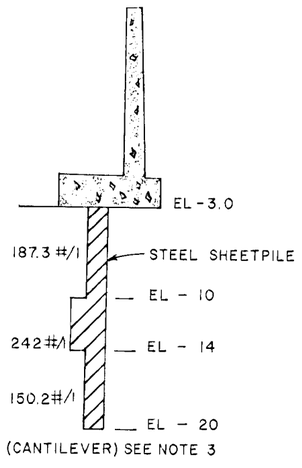
DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$ D_A	R_A	$U_P = R_B + R_P + D_P$ R_B	R_P	D_P	U_A	U_P	$U_A - U_P$
A-1	-3.0	6083	807	1483	1182	937	5276	3602	1674
B-1	-10.0	15006	1869	2069	2224	5898	13137	10183	2954
B-2	-10.0	15006	1869	4235	1519	5427	13137	11181	1956
C-1	-14.0	22197	2485	2295	2839	10484	19712	15618	4894
C-2	-14.0	22197	2485	3850	2221	10311	19712	16382	3330
D-1	-20.0	35893	3637	2767	3998	20661	32256	27418	4838
D-2	-20.0	35893	3637	4800	3647	19896	32256	28343	3913
E-1	-32.0	74489	6637	5116	6266	51748	67772	63138	4642
F-1	-45.0	132768	11447	6912	12082	101137	121321	120131	1190
G-1	-55.0	189844	16257	10335	17062	149935	172787	177332	-4545

AT REST PRESSURE DIAGRAMS – HURR. COND. LOW WATER EL 0.0



UNBALANCED LOAD DIAGRAM



GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. DEEP SEATED STABILITY ANALYSIS UTILIZED A FACTOR OF SAFETY 1.3 INCORPORATED INTO THE SOIL PARAMETERS (C = COHESION VALUES/1.3)
3. TOTAL UNBALANCED LOAD 3180 LB/LIN FT SHOULD BE APPLIED AT THE BASE OF THE STRUCTURE

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

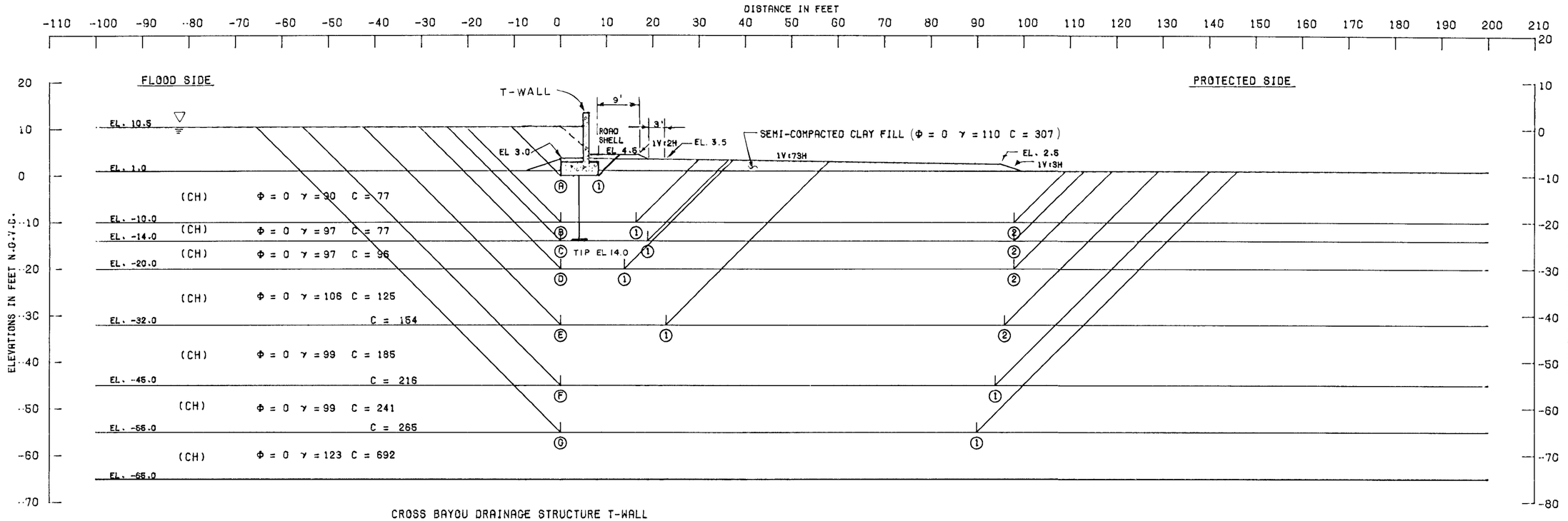
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 8 - GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DEEP SEATED STABILITY ANALYSIS
W/EARTH PRESSURES
TYPICAL T-WALL NEXT TO STRUCTURE

U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 137

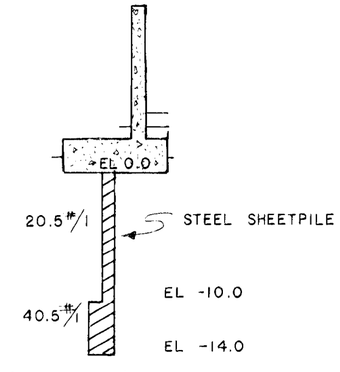


CROSS BAYOU DRAINAGE STRUCTURE T-WALL

DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	0.0	3730	1153	0	2300	1081	2577	3381	-804
B-1	-10.0	15242	1694	1271	3163	8909	13548	13343	205
B-2	-10.0	15242	1694	7546	1694	5486	13548	14726	-1178
C-1	-14.0	22353	2310	1463	3726	14487	20043	19676	367
C-2	-14.0	22353	2310	7546	2310	10222	20043	20078	-35
D-1	-20.0	35929	3462	1344	4868	26493	32467	32705	-238
D-2	-20.0	35929	3462	9408	3462	20235	32467	33105	-638
E-1	-32.0	74205	6462	3542	7694	59773	67743	71009	-3266
E-2	-32.0	74205	6462	14784	6462	51569	67743	72815	-5072
F-1	-45.0	132304	11272	20304	11272	102261	121032	133837	-12805
G-1	-55.0	188380	16082	23850	16082	153076	172298	193008	-20710

UNBALANCED LOAD DIAGRAM



(CANTILEVER) SEE NOTE 3

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES
2. DEEP SEATED STABILITY ANALYSIS UTILIZED A FACTOR OF SAFETY 1.3 INCORPORATED INTO THE SOIL PARAMETERS (C = COHESION VALUES/1.3)
3. TOTAL UNBALANCED LOAD 367 LB/LIN FT SHOULD BE APPLIED AT THE BASE OF THE STRUCTURE.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

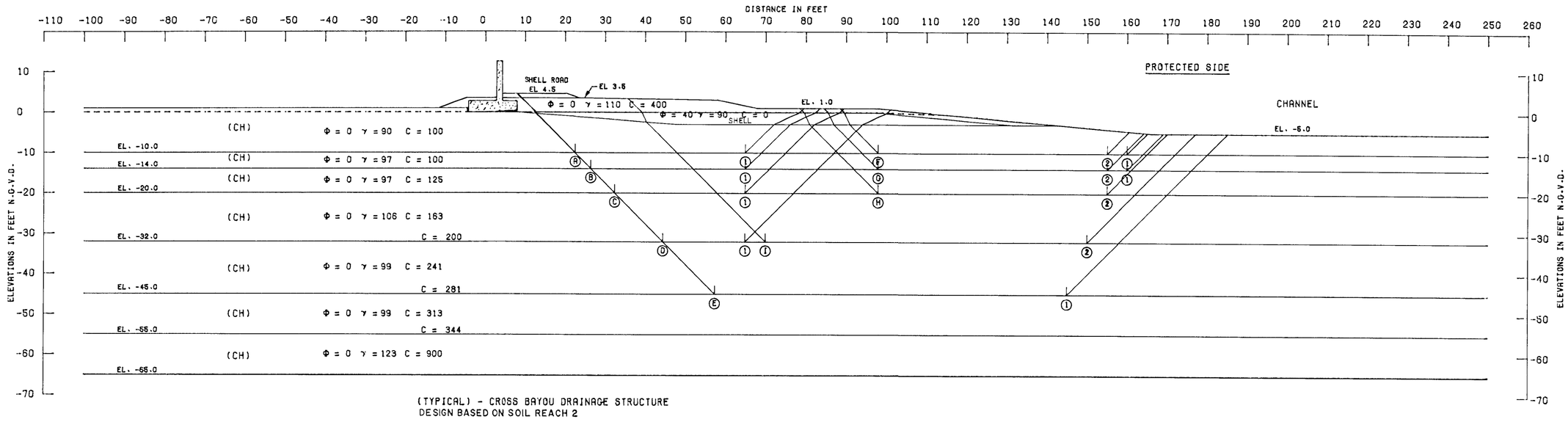
$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DEEP SEATED STABILITY ANALYSIS TYPICAL T-WALL WITH STABILITY BERM APPROX. 90' FROM DRAINAGE STRUCT.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 138



(TYPICAL) - CROSS BAYOU DRAINAGE STRUCTURE
DESIGN BASED ON SOIL REACH 2

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(A) (1)	-10.0	4898	4250	3833	10222	5754	12981	4468	2.91
(A) (2)	-10.0	4898	13250	1096	10222	1469	19244	8753	2.20
(B) (1)	-14.0	5698	3850	4632	16152	10569	14180	5583	2.54
(B) (2)	-14.0	5698	12850	1892	16152	4160	20380	11992	1.70
(C) (1)	-20.0	7198	4063	6132	27905	20703	17393	7202	2.42
(C) (2)	-20.0	7198	15312	3300	27905	10948	25810	16957	1.52
(D) (1)	-32.0	11098	4100	9886	62344	52060	25084	10284	2.44
(D) (2)	-32.0	11098	21100	7200	62344	36147	39398	26197	1.50
(E) (1)	-45.0	17351	24588	13453	116002	80232	55392	35770	1.55
(F) (1)	-10.0	2655	6200	1015	5654	1262	9771	4392	2.22
(G) (1)	-14.0	3355	6200	1800	10470	3842	11355	6628	1.71
(H) (1)	-20.0	4855	7125	3300	20604	10948	15280	9656	1.58
(I) (1)	-32.0	11145	16000	7200	58392	36147	34345	22245	1.54

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

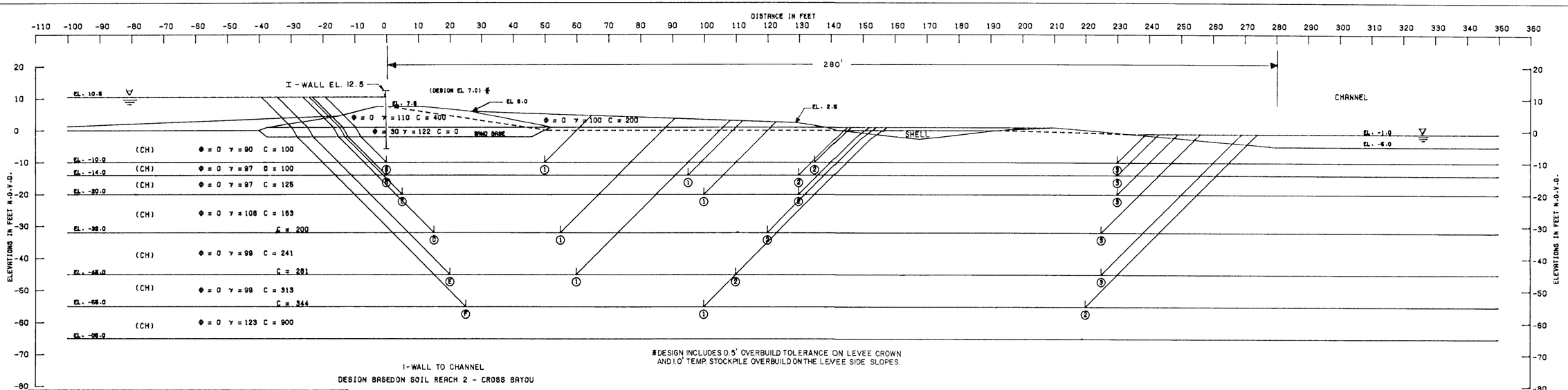
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

STABILITY ANALYSIS
SKEWED SECTION FROM T-WALL TO CHANNEL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 139



#DESIGN INCLUDES 0.5' OVERBUILD TOLERANCE ON LEVEE CROWN AND 1.0' TEMP. STOCKPILE OVERBUILD ON THE LEVEE SIDE SLOPES.

I-WALL TO CHANNEL

DESIGN BASED ON SOIL REACH 2 - CROSS BAYOU

ASSUMED FAILURE SURFACE		REBISTING FORCES			DRIVING FORCES		SUMMATION OF FORCES		FACTOR OF SAFETY
NO.	ELEV.	R_A	R_B	R_P	D_A	$-D_P$	REBISTING	DRIVING	
(A) (1)	-10.0	5541	8000	3674	19188	10679	14015	8609	1.63
(A) (2)	-10.0	5541	13500	2449	19188	5594	21290	13594	1.57
(A) (3)	-10.0	5541	23000	1710	19188	3683	30051	15535	1.93
(B) (1)	-14.0	5811	9500	3630	27298	14002	18941	13294	1.42
(B) (2)	-14.0	5811	13000	3232	27298	10793	21843	16503	1.32
(B) (3)	-14.0	5811	23000	2447	27298	7602	31058	19694	1.58
(C) (1)	-20.0	7019	11876	5186	42207	24814	24079	17393	1.38
(C) (2)	-20.0	7019	15625	4848	42207	20887	27492	21340	1.29
(C) (3)	-20.0	7019	28126	3663	42207	16371	38997	25836	1.51
(D) (1)	-32.0	10760	8000	9619	83087	53146	28289	19921	1.42
(D) (2)	-32.0	10760	21000	8784	83087	53687	40544	29400	1.38
(D) (3)	-32.0	10760	42000	7842	83087	46295	60392	37772	1.60
(E) (1)	-46.0	16410	11240	15536	143779	116064	43186	27715	1.56
(E) (2)	-46.0	16410	26290	15123	143779	106051	58823	37728	1.51
(E) (3)	-46.0	16410	57606	13890	143779	92512	87706	51267	1.71
(F) (1)	-58.0	22288	25800	21373	201398	158505	69461	42891	1.62
(F) (2)	-58.0	22288	67090	19881	201398	140864	109229	60542	1.80

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

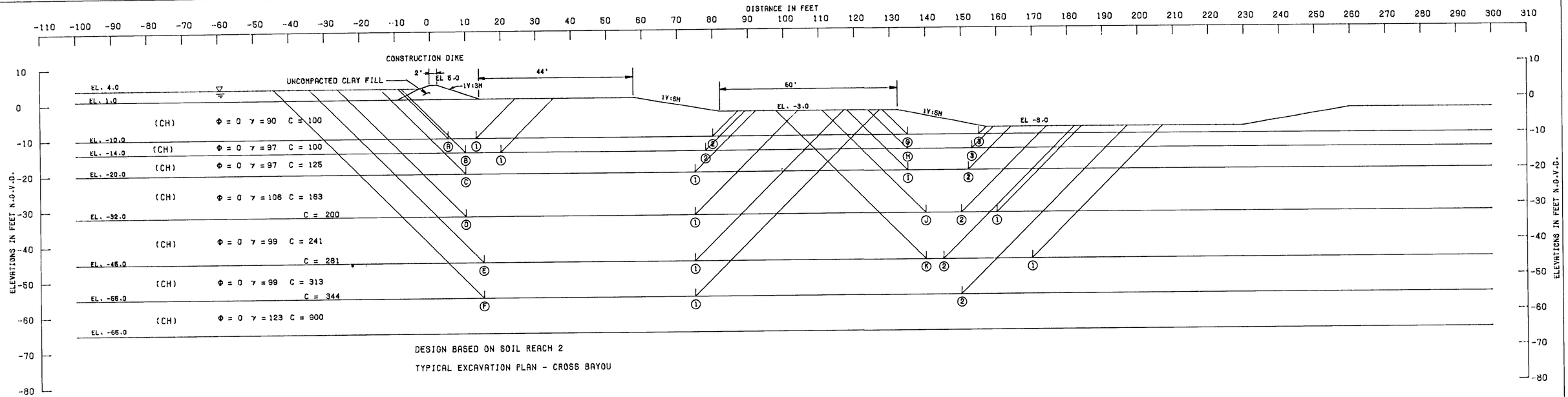
Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 1B GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
STABILITY ANALYSIS
SKEWED SECTION FROM I-WALL TO CHANNEL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 140



DESIGN BASED ON SOIL REACH 2

TYPICAL EXCAVATION PLAN - CROSS BAYOU

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
Ⓐ ①	-10.0	2401	800	2200	9470	5461	5401	4009	1.35
Ⓐ ②	-10.0	2401	7500	1400	9470	2235	11301	7235	1.56
Ⓐ ③	-10.0	2401	15000	400	9470	216	17801	9254	1.92
Ⓑ ①	-14.0	3267	1000	3000	15057	10180	7267	4877	1.49
Ⓑ ②	-14.0	3267	6800	2200	15057	5621	12267	9436	1.30
Ⓑ ③	-14.0	3267	14300	1200	15057	1820	18767	13237	1.42
Ⓒ ①	-20.0	4501	8125	3700	26297	13722	16326	12575	1.30
Ⓒ ②	-20.0	4501	17750	2700	26297	7055	24951	19242	1.30
Ⓓ ①	-32.0	8401	13000	7600	59700	40553	29001	19147	1.51
Ⓓ ②	-32.0	8401	28000	6600	59700	28702	43001	30998	1.39
Ⓔ ①	-45.0	14654	15860	13853	111848	86252	45367	25596	1.77
Ⓔ ②	-45.0	14654	36530	12853	111848	69408	64037	42440	1.51
Ⓕ ①	-55.0	20904	20640	20103	163862	132789	61647	31073	1.98
Ⓕ ②	-55.0	20904	45440	19103	163862	110593	85447	53269	1.62
Ⓖ ①	-10.0	1400	2000	400	2123	216	3800	1907	1.99
Ⓗ ①	-14.0	2200	1800	1200	5418	1820	5200	3598	1.45
Ⓘ ①	-20.0	3700	2125	2700	13271	7055	8525	6216	1.37
Ⓙ ①	-32.0	7600	4000	6600	39606	28262	18200	11344	1.60
Ⓚ ①	-45.0	13853	8430	12853	85305	68114	35136	17192	2.04

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

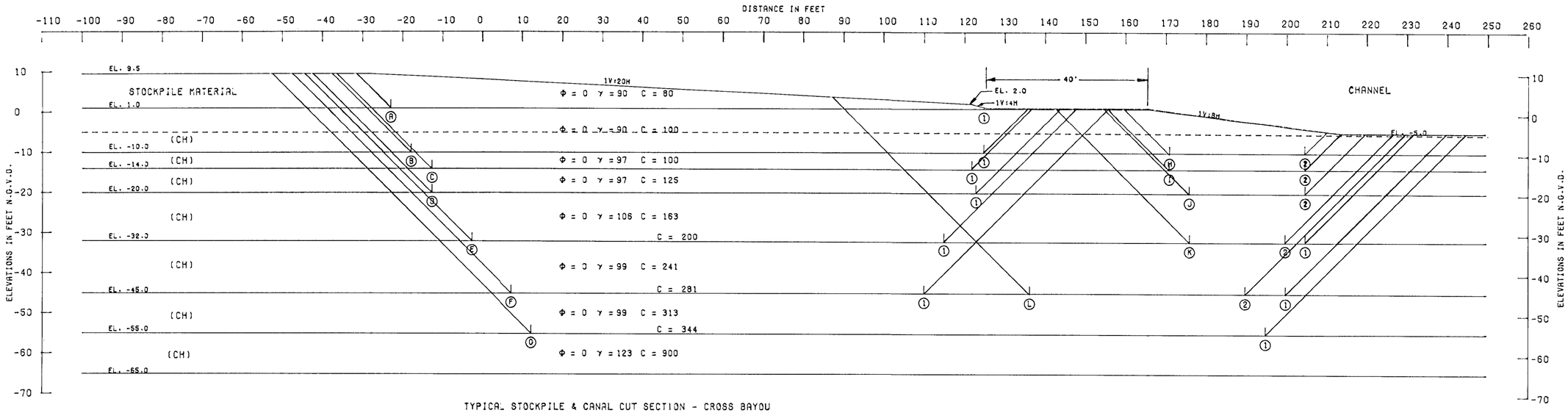
$$\text{FACTOR OF SAFETY} = \frac{R_A + R_B + R_P}{D_A - D_P}$$

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

DRAINAGE STRUCTURE TYP. EXCAVATION CUT STABILITY ANALYSIS

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 141



TYPICAL STOCKPILE & CANAL CUT SECTION - CROSS BAYOU
DESIGN BASED ON SOIL REACH 2

ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_R	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
R 1	1.0	1360	11840	32	3195	2	13232	3193	4.14
B 1	-10.0	3560	14300	2200	16885	5456	20060	11429	1.76
B 2	-10.0	3560	22300	1089	16885	1501	25949	15384	1.75
C 1	-14.0	4360	13500	3000	24399	10360	20860	14039	1.49
C 2	-14.0	4360	21800	1800	24399	4156	27960	20243	1.38
D 1	-20.0	5860	17000	4530	39003	20295	27360	18708	1.46
D 2	-20.0	5860	27250	3300	39003	10930	36410	28073	1.30
E 1	-32.0	9760	23600	8400	78434	52264	41760	26170	1.60
E 2	-32.0	9760	40600	7200	78434	36248	57560	42186	1.36
F 1	-45.0	16013	28943	14653	137408	103306	59609	34102	1.75
F 2	-45.0	16013	51423	13453	137408	81746	80889	55662	1.45
G 1	-55.0	22263	62952	15703	194363	125275	104918	69078	1.52
H 1	-10.0	2200	3400	1089	5303	1501	6689	3802	1.76
I 1	-14.0	3000	3400	1800	10039	4156	8200	5883	1.39
J 1	-20.0	4500	3625	3300	19830	10930	11425	8700	1.31
K 1	-32.0	8400	5800	7200	50781	35601	21400	15180	1.41
L 1	-45.0	15091	17584	13453	107403	79608	46528	27755	1.67

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
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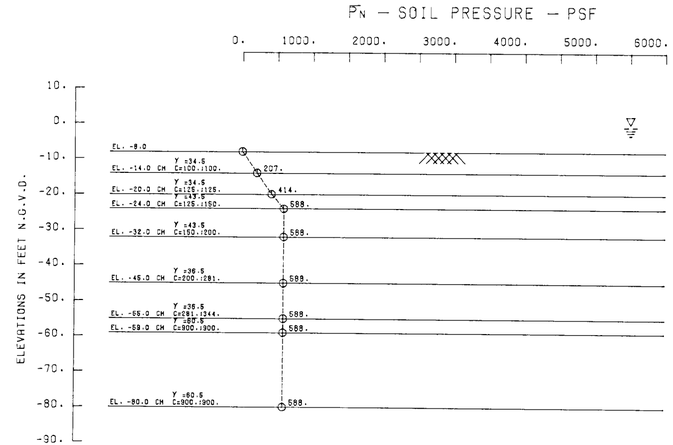
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_R - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
DRAINAGE STRUCTURE
TYPICAL STOCKPILE & CHANNEL CUT
STABILITY ANALYSIS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE JANUARY 1989 FILE NO. H-2-30423

PLATE 142



S-CASE

CH.CL- ϕ=23°

ML- ϕ=28°

SM.SP- ϕ=30°

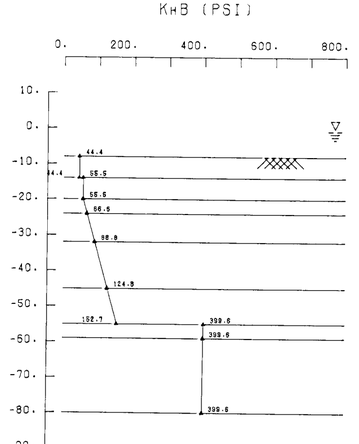
TYPICAL SOIL PROFILE

SOIL STRATIFICATION IS BASED ON GEOLOGIC PROFILE

SHEAR STRENGTH AND WET DENSITIES SEE PLATE 79

SECOND ORDER STATIONS

D	PILE SPACING IN DIRECTION OF LOADING
1.00	8B
0.85	7B
0.70	6B
0.55	5B
0.40	4B
0.25	3B
C	LOADING CONDITION
1.00	INITIAL LOADING
0.30	CYCLIC LOADING



NOTES: $K_H = *K_1/B = (0.2222\,q_u/B)(C)(D)$ COHESIVE

$*$ = 0.4 = Factor of material properties of soil and pile

K_1 = Modulus of subgrade reaction for test plate (psi)

B_1 = Width or diameter of test plate (in)

$K_1 = K_1 B_1 = 80\,q_u$ (psf) = $0.5556\,q_u$ (psi)

q_u = 2·0 = Unconfined compressive strength (psf)

C = Reduction for cyclic loading-not applicable

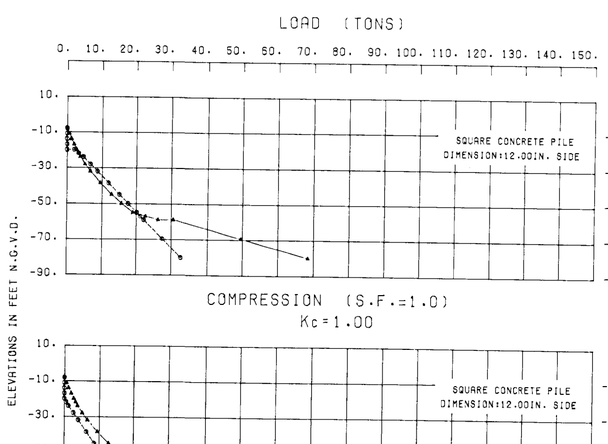
D = Group effect reduction factor

B = Width of pile measured at right angles to the direction of displacement (in)

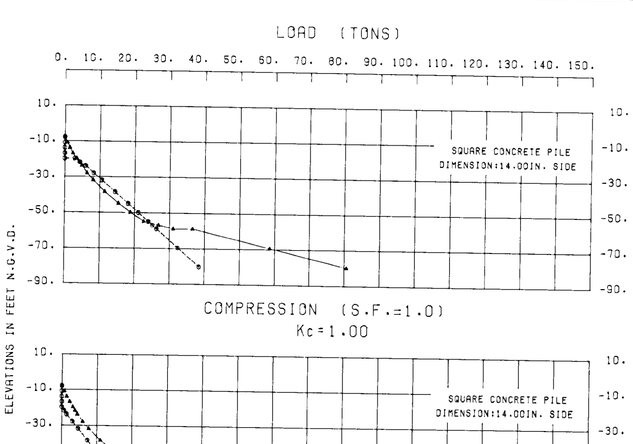
$K_H = (nh)(Z/B)(C)(D)$ COHESIONLESS

nh = Coefficient of horizontal subgrade reaction (psi)

Z = Depth below equivalent ground surface (in)



THE FACTOR SHOWN, (MODULUS OF HORIZONTAL SUBGRADE K_H), TIMES THE PILE WIDTH IN INCHES (B), MEASURED AT RIGHT ANGLES TO THE DIRECTION OF DISPLACEMENT, MUST BE MODIFIED BY A REDUCTION FACTOR FOR THE EFFECT OF GROUP ACTION (D) AND A REDUCTION FACTOR FOR CYCLIC LOADING (C). EX: $K_H = \frac{0.2222\,q_u\,(C)(D)}{(B)}$



LOAD VS. TIP ELEVATION

----- S-CASE

——— Q-CASE

*PILE NOTES

1. ALLOWABLE CAPACITIES SHOULD BE DETERMINED INCORPORATING F.S. = 2.0 WITH PILE TEST OR F.S. = 3.0 WITHOUT PILE TEST.
2. MINIMUN PILE TIP ELEVATION FOR COMPRESSION IS ELEV. -60 N.G.V.D
3. PILE CURVES BASED ON SOIL REACH 2

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 8, GENERAL DESIGN
ST CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

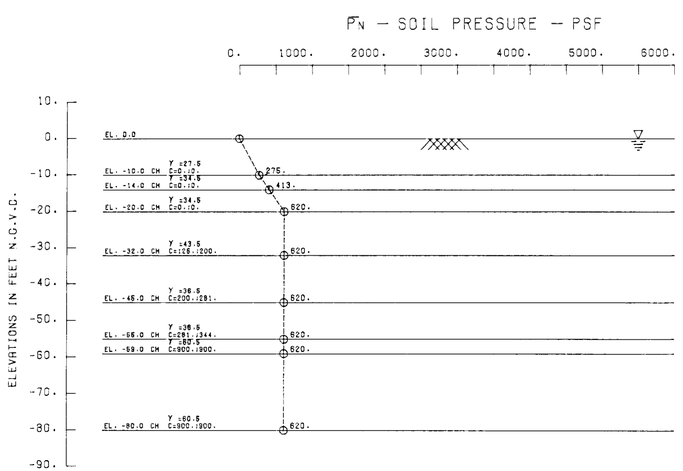
DRAINAGE STRUCTURE
TYPICAL PILE CAPACITY CURVES
STA. 72+50 TO STA 490+00

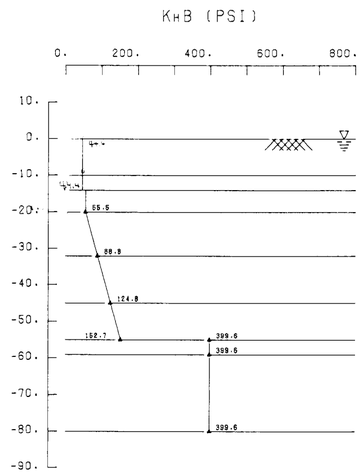
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE JANUARY 1968

FILE NO. H-2-30423

PLATE 143





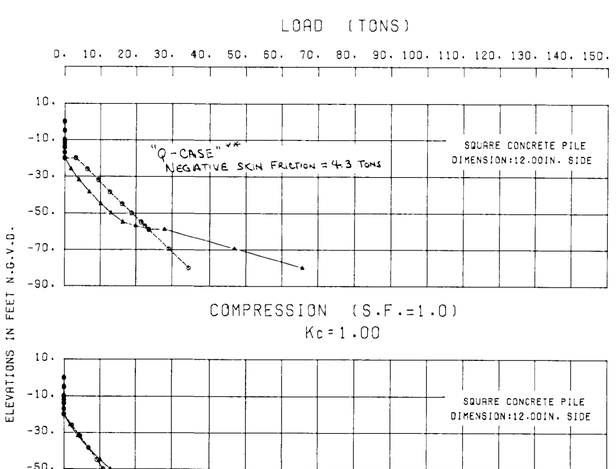
S-CASE
CH,CL- ϕ=23°
ML- ϕ=28°
SM,SP- ϕ=30°

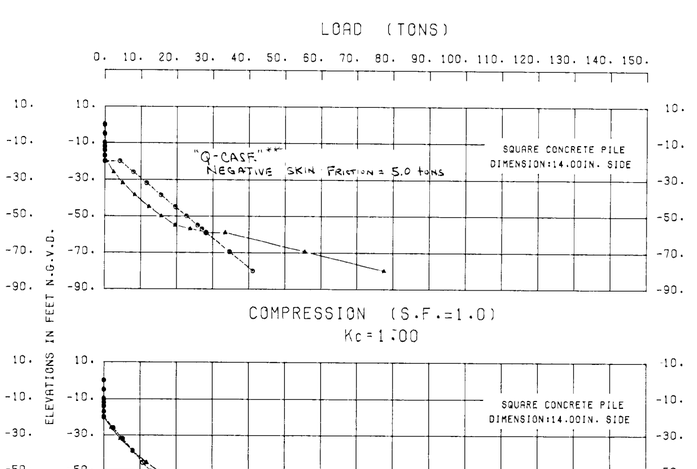
TYPICAL SOIL PROFILE

SOIL STRATIFICATION IS BASED ON GEOLOGIC PROFILE
SHEAR STRENGTH AND WET DENSITIES SEE PLATE 79
SECOND ORDER STATIONS

D	PILE SPACING IN DIRECTION OF LOADING
1.00	8B
0.85	7B
0.70	6B
0.55	5B
0.40	4B
0.25	3B
C	LOADING CONDITION
1.00	INITIAL LOADING
0.30	CYCLIC LOADING

NOTES: $K_H = \alpha K_1/B = (0.2222\,q_u/B)(C)(D)$ COHESIVE
α = 0.4 = Factor of material properties of soil and pile
K_1 = Modulus of subgrade reaction for test plate (pcf)
B = Width or diameter of test plate (in)
$K_1 = k_1 B_1 = 80\,q_u$ (psf) = $0.5555\,q_u$ (psi)
q_u = 2·c = Unconfined compressive strength (psf)
C = Reduction for cyclic loading-not applicable
D = Group effect reduction factor
B = Width of pile measured at right angles to the direction of displacement (in)
$K_H = (nh)(Z/B)(C)(D)$ COHESIONLESS
nh = Coefficient of horizontal subgrade reaction (pci)
Z = Depth below equivalent ground surface (in)





THE FACTOR SHOWN, (MODULUS OF HORIZONTAL SUBGRADE K_H) TIMES THE PILE WIDTH IN INCHES (B), MEASURED AT RIGHT ANGLES TO THE DIRECTION OF DISPLACEMENT MUST BE MODIFIED BY A REDUCTION FACTOR FOR THE EFFECT OF GROUP ACTION (D) AND A REDUCTION FACTOR FOR CYCLIC LOADING (C) EX; $K_H = \frac{0.2222\,q_u\,(C)(D)}{(B)}$

** "Q-CASE" (COMPRESSION)
Q ALLOW (COMP) = $\frac{Q_{ULT}}{F.S.}$ - NEGATIVE SKIN FRICTION

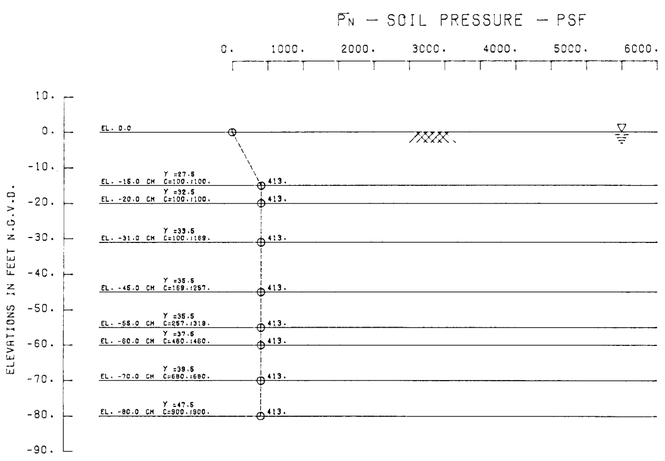
LOAD VS. TIP ELEVATION
----- S-CASE
——— Q-CASE

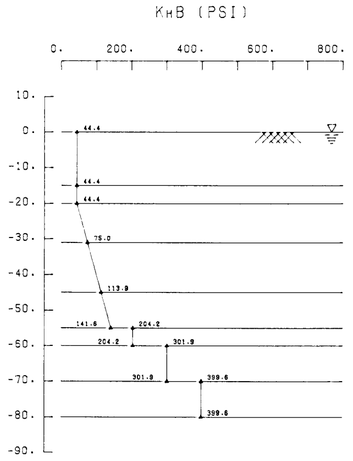
PILE NOTES

1. ALLOWABLE CAPACITIES SHOULD BE DETERMINED INCORPORATING F.S. = 2.0 WITH PILE TEST OR F.S. = 3.0 WITHOUT PILE TEST.
2. MINIMUM PILE TIP ELEVATION FOR COMPRESSION IS ELEV -60 N.G.V.D.
3. PILE CURVES BASED ON SOIL REACH 2

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 19, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
T-WALL
TYP. PILE CAPACITY CURVES
STA 72+50 to STA. 490+00
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1969 FILE NO. H-2-30438

PLATE 144





S-CASE

CH,CL- Φ=23°

ML- Φ=28°

SM,SP- Φ=30°

TYPICAL SOIL PROFILE

SOIL STRATIFICATION IS BASED ON GEOLOGIC PROFILE

SHEAR STRENGTH AND WET DENSITIES SEE PLATE 81

SECOND ORDER STATIONS

D	PILE SPACING IN DIRECTION OF LOADING
1.00	8B
0.85	7B
0.70	6B
0.55	5B
0.40	4B
0.25	3B
C	LOADING CONDITION
1.00	INITIAL LOADING
0.30	CYCLIC LOADING

NOTES: $K_H = \alpha K_1/B = (0.2222\,q_u/B)(C)(D)$ COHESIVE

α = 0.4 = Factor of material properties of soil and pile

k_1 = Modulus of subgrade reaction for test plate (pci)

B_1 = Width or diameter of test plate (in)

$K_1 = k_1 B_1 = 80\,q_u$ (psf) = 0.5556 q_u (psf)

q_u = 2·c = Unconfined compressive strength (psf)

C = Reduction for cyclic loading-not applicable

D = Group effect reduction factor

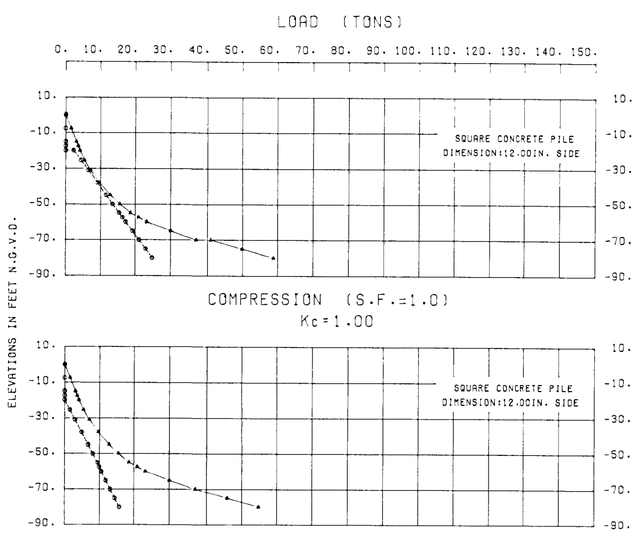
B = Width of pile measured at right angles to the direction of displacement (in)

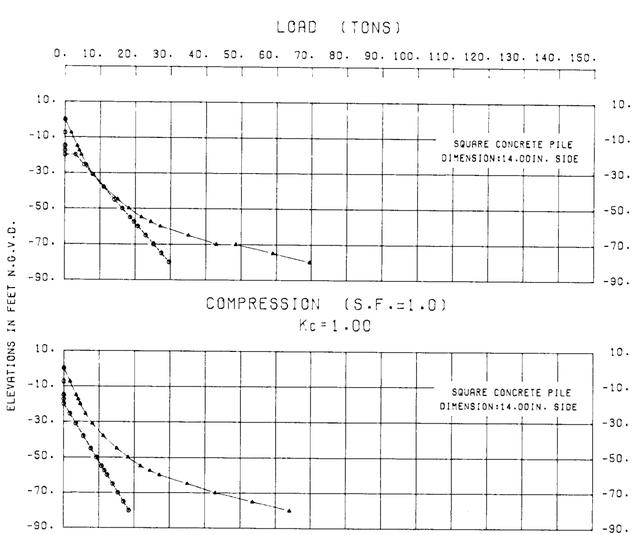
$K_H = (nh)(Z/B)(C)(D)$ COHESIONLESS

nh = Coefficient of horizontal subgrade reaction (pci)

Z = Depth below equivalent ground surface (in)

THE FACTOR SHOWN, (MODULUS OF HORIZONTAL SUBGRADE K_H, TIMES THE PILE WIDTH IN INCHES (B); MEASURED AT RIGHT ANGLES TO THE DIRECTION OF DISPLACEMENT) MUST BE MODIFIED BY A REDUCTION FACTOR FOR THE EFFECT OF GROUP ACTION (D) AND A REDUCTION FACTOR FOR CYCLIC LOADING (C). EX: $K_H = \frac{0.2222\,q_u\,(C)(D)}{(B)}$





LOAD VS. TIP ELEVATION

- - - - - S-CASE

——— Q-CASE

*PILE NOTES

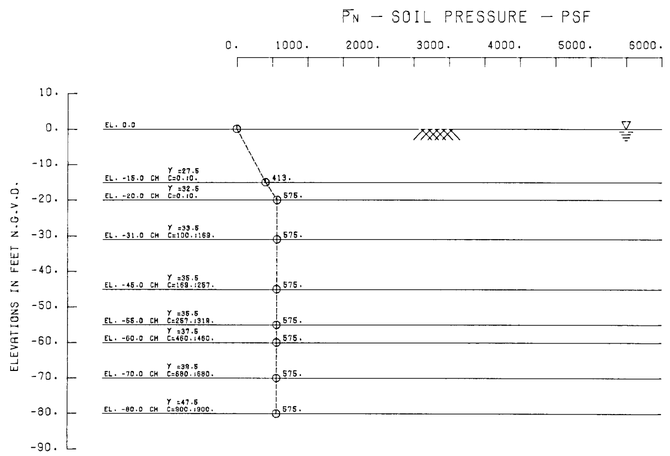
1. ALLOWABLE CAPACITIES SHOULD BE DETERMINED INCORPORATING F.S.= 2.0 WITH PILE TEST OR F.S. = 3.0 WITHOUT PILE TEST.
2. MINIMUN PILE TIP ELEVATION FOR COMPRESSION IS ELEV. -70 N.G.V.D.
3. PILE CURVES BASED ON SOIL REACH 8

LAKE PONTCHARTRAIN, LA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO.19, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

T-WALL AND WINGWALL
HP 12"X53" TYP. PILE CAP. CURVES
STA. 72+50 to STA. 490+00

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1969 FILE NO. H-Z-30463

PLATE 145



S-CASE

CH,CL- ϕ=23°

ML- ϕ=28°

SM,SP- ϕ=30°

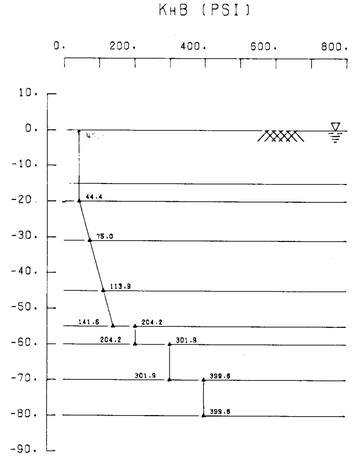
TYPICAL SOIL PROFILE

SOIL STRATIFICATION IS BASED ON GEOLOGIC PROFILE

SHEAR STRENGTH AND WET DENSITIES SEE PLATE 81

SECOND ORDER STATIONS

D	PILE SPACING IN DIRECTION OF LOADING
1.00	8B
0.85	7B
0.70	6B
0.55	5B
0.40	4B
0.25	3B
C	LOADING CONDITION
1.00	INITIAL LOADING
0.30	CYCLIC LOADING



NOTES: $K_H = \alpha K_1/B = (0.2222\,q_u/B)(C)(D)$ COHESIVE

α = 0.4 = Factor of material properties of soil and pile

k_1 = Modulus of subgrade reaction for test plate (pci)

B_1 = Width or diameter of test plate (in)

$K_1 = k_1 B_1 = 80\,q_u$ (psf) = $0.5556\,q_u$ (psi)

q_u = 2·c = Unconfined compressive strength (psf)

C = Reduction for cyclic loading-not applicable

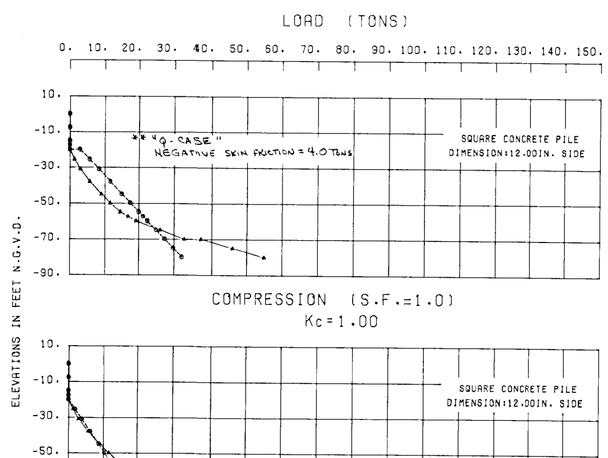
D = Group effect reduction factor

B = Width of pile measured at right angles to the direction of displacement (in)

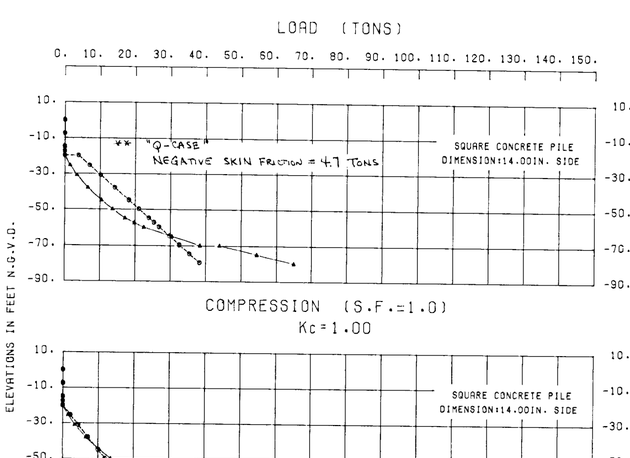
$K_H = (nh)(Z/B)(C)(D)$ COHESIONLESS

nh = Coefficient of horizontal subgrade reaction (pci)

Z = Depth below equivalent ground surface (in)



THE FACTOR SHOWN, (MODULUS OF HORIZONTAL SUBGRADE K_H), TIMES THE PILE WIDTH IN INCHES (B), MEASURED AT RIGHT ANGLES TO THE DIRECTION OF DISPLACEMENT MUST BE MODIFIED BY A REDUCTION FACTOR FOR THE EFFECT OF GROUP ACTION (D) AND A REDUCTION FACTOR FOR CYCLIC LOADING (C) EX: $K_H = \frac{0.2222\,q_u\,(C)(D)}{(B)}$



** "Q-CASE" (COMPRESSION)

Q ALLOW (COMP) = $\frac{QULT}{FS}$ − NEGATIVE SKIN FRICTION

LOAD VS. TIP ELEVATION

----- S-CASE

——— Q-CASE

PILE NOTES

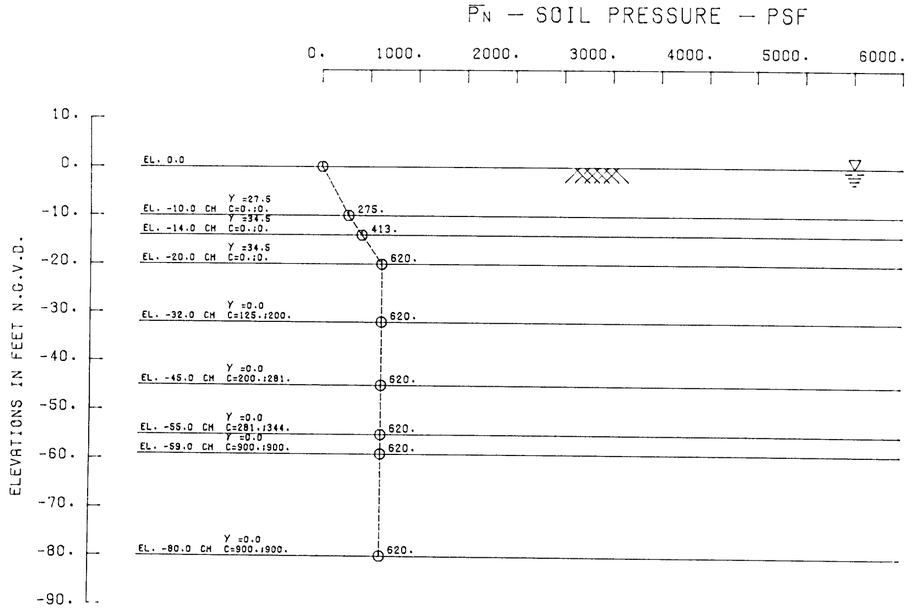
1. ALLOWABLE CAPACITIES SHOULD BE DETERMINED INCORPORATING F.S. = 2.0 WITH PILE TEST OR F.S. = 3.0 WITHOUT PILE TEST.
2. MINIMUM PILE TIP ELEVATION FOR COMPRESSION IS ELEV. -70 N.G.V.D.
3. PILE CURVES BASED ON SOIL REACH B

LAKE PONTCHARTRAIN, LA., AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 8, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

RAILROAD GATE
PILE CAPACITY CURVES

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1969
FILE NO. H-2-30423

PLATE 146



S-CASE

CH,CL- Φ=23°

ML- Φ=28°

SM,SP- Φ=30°

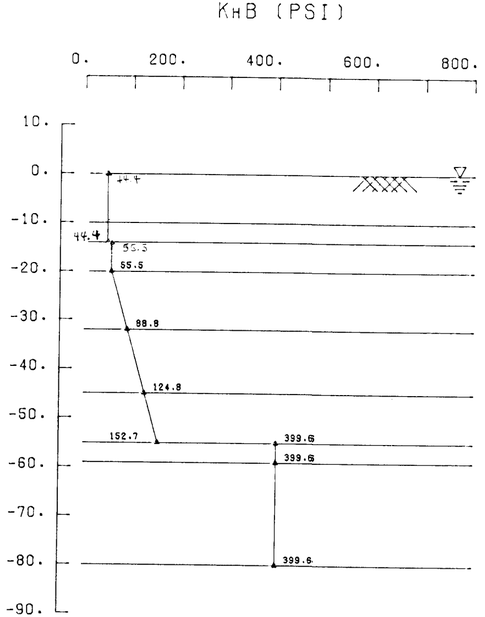
TYPICAL SOIL PROFILE

SOIL STRATIFICATION IS BASED ON GEOLOGIC PROFILE

SHEAR STRENGTH AND WET DENSITIES SEE PLATE 79

SECOND ORDER STATIONS

D	PILE SPACING IN DIRECTION OF LOADING
1.00	8B
0.85	7B
0.70	6B
0.55	5B
0.40	4B
0.25	3B
C	LOADING CONDITION
1.00	INITIAL LOADING
0.30	CYCLIC LOADING



NOTES: $K_H = \alpha K_1/B = (0.2222\,q_u/B)(C)(D)$ COHESIVE

α = 0.4 = Factor of material properties of soil and pile

k_1 = Modulus of subgrade reaction for test plate (pci)

B_1 = Width or diameter of test plate (in)

$K_1 = k_1 B_1 = 80\,q_u$ (psf) $= 0.5556\,q_u$ (psi)

$q_u = 2{\cdot}c$ = Unconfined compressive strength (psf)

C = Reduction for cyclic loading-not applicable

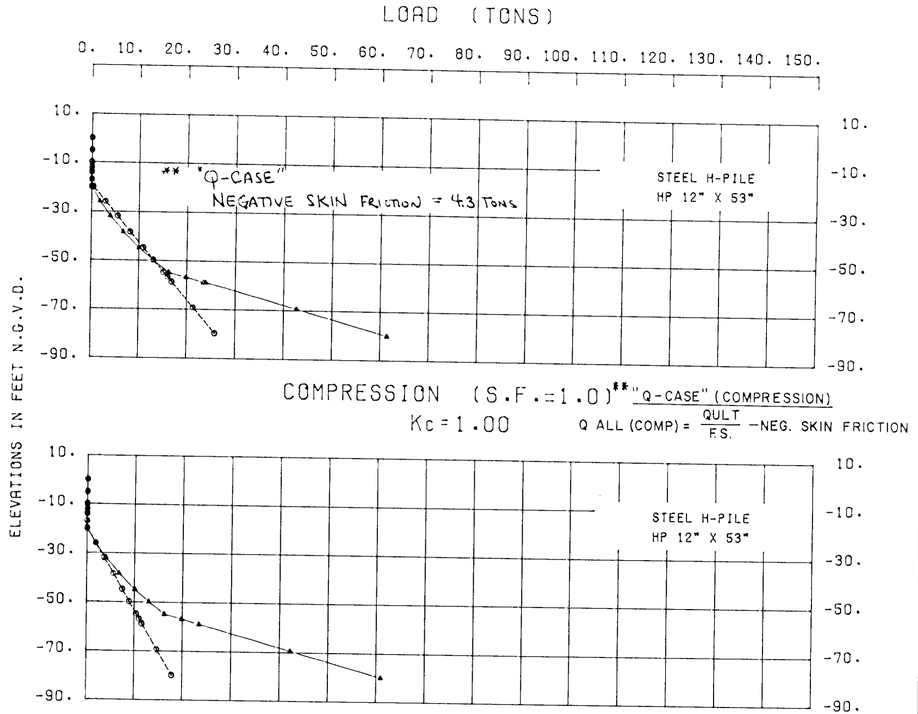
D = Group effect reduction factor

B = Width of pile measured at right angles to the direction of displacement (in)

$K_H = (nh)(Z/B)(C)(D)$ COHESIONLESS

nh = Coefficient of horizontal subgrade reaction (pci)

Z = Depth below equivalent ground surface (in)



THE FACTOR SHOWN, (MODULUS OF HORIZONTAL SUBGRADE K_h . TIMES THE PILE WIDTH IN INCHES (B), MEASURED AT RIGHT ANGLES TO THE DIRECTION OF DISPLACEMENT) MUST BE MODIFIED BY A REDUCTION FACTOR FOR THE EFFECT OF GROUP ACTION (D) AND A REDUCTION FACTOR FOR CYCLIC LOADING (C) EX; $K_h = \frac{0.2222\,q_u\,(C)(D)}{(B)}$

* PILE NOTES

SEE PLATE 144

----- S-CASE

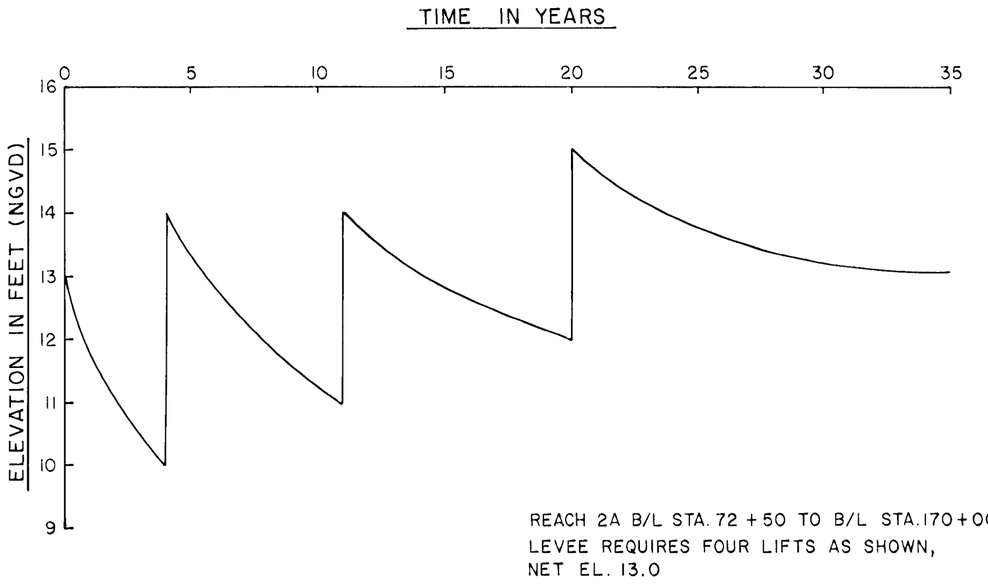
——— Q-CASE

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 1B, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY
T-WALL

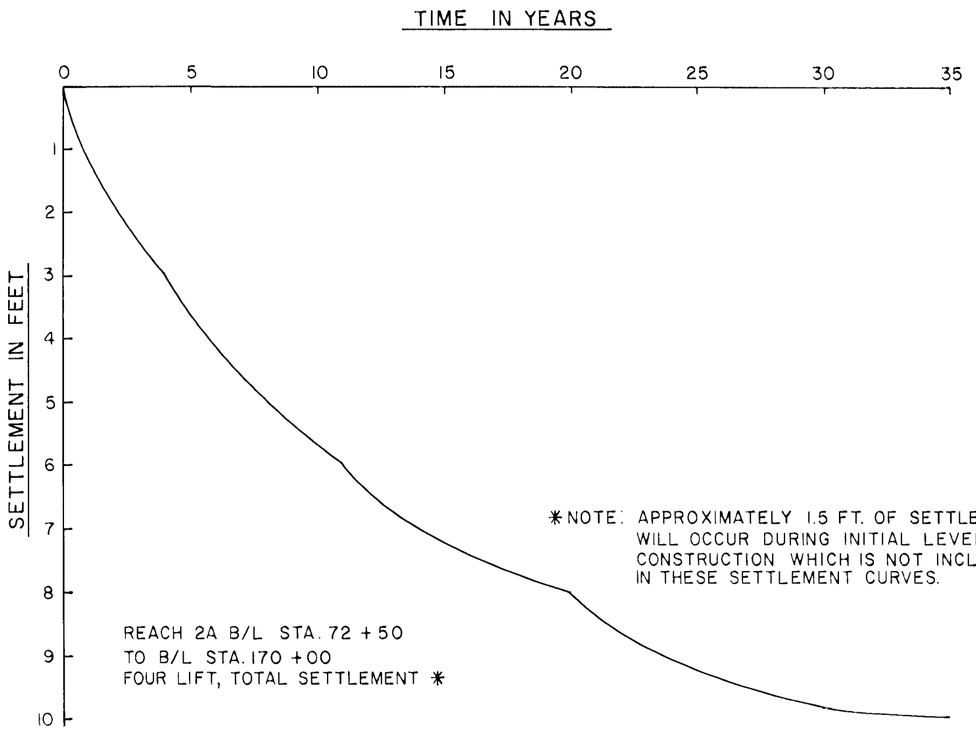
TYP. PILE CAPACITY CURVES

STA. 490+00 to AIRPORT EXT.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989
FILE NO. H-2-30423



SETTLEMENT OF LEVEE CROWN

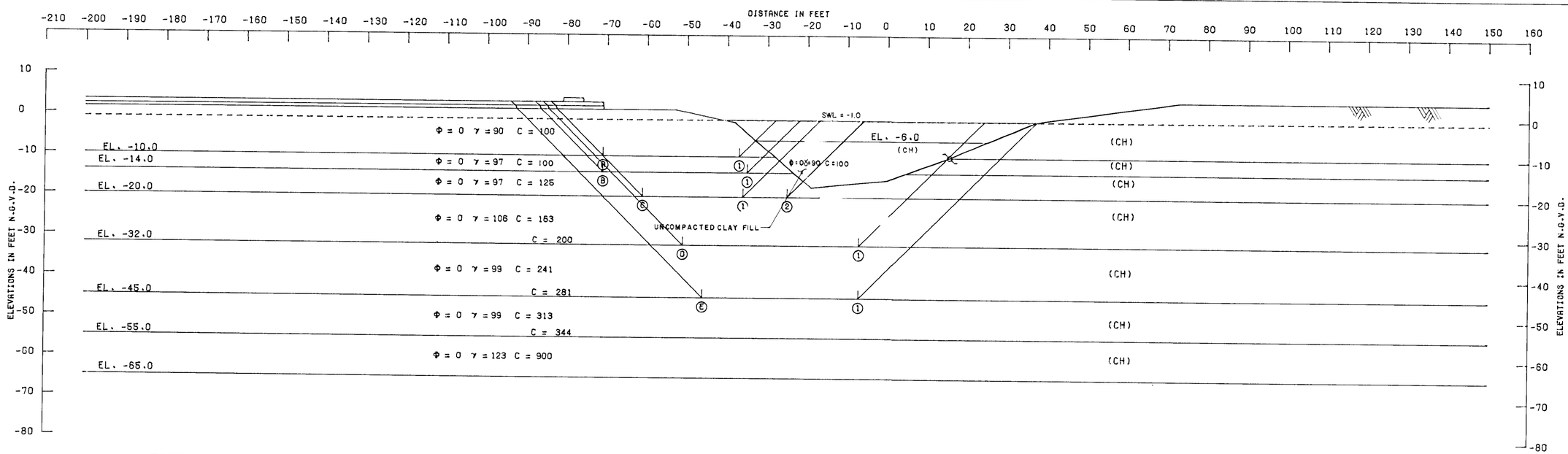


ACCUMULATIVE SETTLEMENT

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

SETTLEMENT VS. TIME

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423



ASSUMED FAILURE SURFACE NO.	ASSUMED FAILURE SURFACE ELEV.	RESISTING FORCES R_A	RESISTING FORCES R_B	RESISTING FORCES R_P	DRIVING FORCES D_A	DRIVING FORCES $-D_P$	SUMMATION OF FORCES RESISTING	SUMMATION OF FORCES DRIVING	FACTOR OF SAFETY
(R) (1)	-10.0	2330	3400	800	7363	2944	6530	4419	1.48
(B) (1)	-14.0	3129	3600	1600	12626	6265	8329	6361	1.31
(C) (1)	-20.0	4630	3125	3100	22555	14427	10655	8128	1.34
(C) (2)	-20.0	4630	4500	3000	22555	14077	12130	8478	1.43
(D) (1)	-32.0	8529	8800	7000	54364	41064	24329	13300	1.83
(E) (1)	-45.0	14780	10959	14253	105582	87799	39992	17783	2.25

GENERAL NOTES:

CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.

NOTES

Φ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

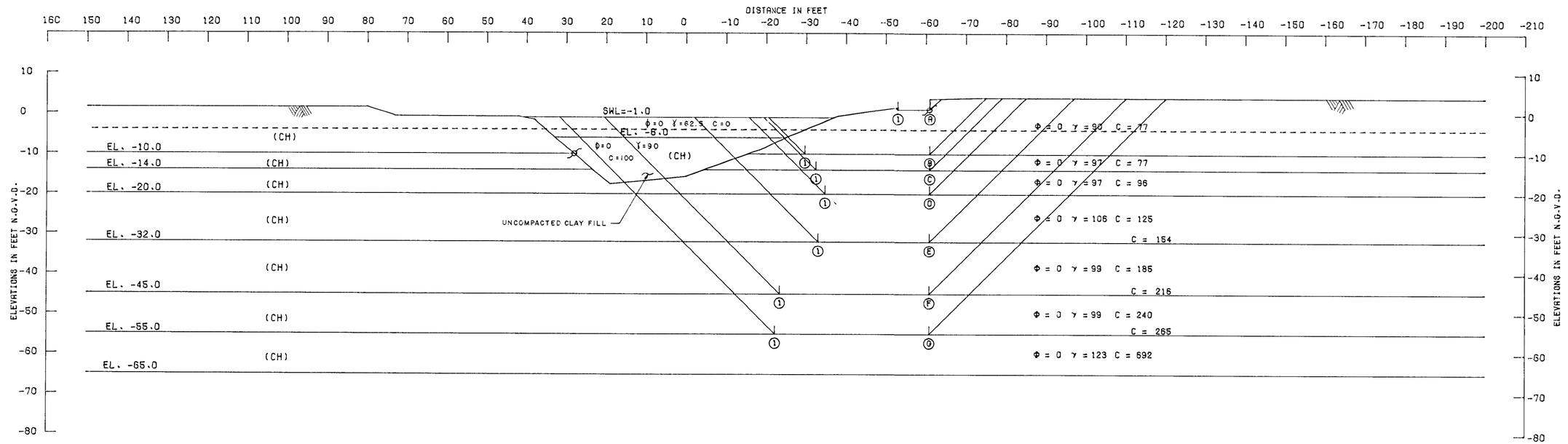
FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

BRIDGE CROSSING STABILITY ANALYSIS NORTH SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

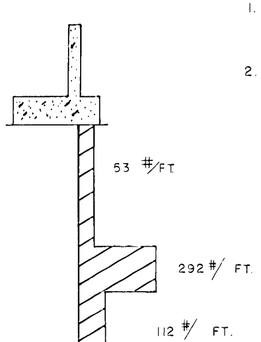
PLATE 149



DEEP SEATED STABILITY ANALYSIS

NO	ELEV.	$U_A = D_A - R_A$		$U_P = R_B + R_P + D_P$			U_A	U_P	$U_A - U_P$
		D_A	R_A	R_B	R_P	D_P			
A-1	1.0	343	430	0	69	8	-87	77	-164
B-1	-10.0	8673	2156	2410	648	2876	6517	5934	583
C-1	-14.0	14489	2772	2192	1232	6542	11717	9966	1751
D-1	-20.0	26123	3924	2515	2384	14876	22199	19775	2424
E-1	-32.0	60514	6924	4296	5384	42025	53590	51705	1885
F-1	-45.0	114484	11734	8106	10109	87255	102670	105470	-2800
G-1	-55.0	167243	16534	10246	14870	133693	150709	158809	-8100

UNBALANCED LOAD DIAGRAM



CANTILEVER (SEE NOTE 2)

GENERAL NOTES:

1. CLASSIFICATION, STRATIFICATION, SHEAR STRENGTH, AND UNIT WEIGHT OF THE SOIL WERE BASED ON THE RESULTS OF UNDISTURBED BORINGS. SEE BORING DATA PLATES.
2. TOTAL UNBALANCED LOAD 2424 LB/LIN FT SHOULD BE APPLIED AT THE BASE OF THE STRUCTURE.

NOTES

ϕ -- ANGLE OF INTERNAL FRICTION, DEGREES
C -- UNIT COHESION, P.S.F.
▽ -- STATIC WATER SURFACE
D -- HORIZONTAL DRIVING FORCE IN POUNDS
R -- HORIZONTAL RESISTING FORCE IN POUNDS
A -- AS A SUBSCRIPT, REFERS TO ACTIVE WEDGE
B -- AS A SUBSCRIPT, REFERS TO CENTRAL BLOCK
P -- AS A SUBSCRIPT, REFERS TO PASSIVE WEDGE

FACTOR OF SAFETY = $\frac{R_A + R_B + R_P}{D_A - D_P}$

LAKE PONTCHARTRAIN, LA. AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM NO. 18, GENERAL DESIGN
ST. CHARLES PARISH
NORTH OF AIRLINE HIGHWAY

BRIDGE CROSSING STABILITY ANALYSIS SOUTH SIDE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: JANUARY 1989 FILE NO. H-2-30423

PLATE 150

UNIFIED SOIL CLASSIFICATION

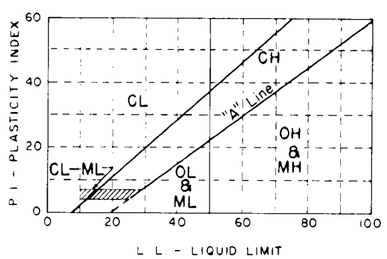
MAJOR DIVISION		TYPE	LETTER SYMBOL	SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS More than half of material is larger than No 200 sieve size	GRAVELS More than half of coarse fraction is larger than No 4 sieve size	CLEAN GRAVEL (Little or No Fines)	GW		GRAVEL, Well Graded, gravel-sand mixtures, little or no fines
			GP		GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GM		SILTY GRAVEL, gravel-sand-silt mixtures
			GC		CLAYEY GRAVEL, gravel-sand-clay mixtures
	SANDS More than half of coarse fraction is smaller than No 4 sieve size	CLEAN SAND (Little or No Fines)	SW		SAND, Well-Graded, gravelly sands
			SP		SAND, Poorly-Graded, gravelly sands
		SANDS WITH FINES (Appreciable Amount of Fines)	SM		SILTY SAND, sand-silt mixtures
			SC		CLAYEY SAND, sand-clay mixtures
FINE GRAINED SOILS More than half the material is smaller than No 200 sieve size		SILTS AND CLAYS (Liquid Limit <50)	ML		SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL		LEAN CLAY; Sandy Clay; Silty Clay; of low to medium plasticity
			OL		ORGANIC SILTS and organic silty clays of low plasticity
		SILTS AND CLAYS (Liquid Limit >50)	MH		SILT, fine sandy or silty soil with high plasticity
			CH		FAT CLAY, inorganic clay of high plasticity
			OH		ORGANIC CLAYS of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt		PEAT, and other highly organic soil
WOOD			Wd		WOOD
SHELLS			Sl		SHELLS
NO SAMPLE					

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

DESCRIPTIVE SYMBOLS

COLOR	SYMBOL
TAN	T
YELLOW	Y
RED	R
BLACK	Bk
GRAY	Gr
LIGHT GRAY	lGr
DARK GRAY	dGr
BROWN	Br
LIGHT BROWN	lBr
DARK BROWN	dBr
BROWNISH-GRAY	br Gr
GRAYISH-BROWN	gy Br
GREENISH-GRAY	gn Gr
GRAYISH-GREEN	gy Gn
GREEN	Gn
BLUE	Bl
BLUE-GREEN	Bl Gn
WHITE	Wh
MOTTLED	Mot

CONSISTENCY FOR COHESIVE SOILS		
CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL
VERY SOFT	< 250	vSo
SOFT	250 - 500	So
MEDIUM	500 - 1000	M
STIFF	1000 - 2000	St
VERY STIFF	2000 - 4000	vSt
HARD	> 4000	H



PLASTICITY CHART
For classification of fine-grained soils

MODIFICATIONS	
MODIFICATION	SYMBOL
Traces	Tr-
Fine	F
Medium	M
Coarse	C
Concretions	cc
Rootlets	rt
Lignite fragments	lg
Shale fragments	sh
Sandstone fragments	sds
Shell fragments	slf
Organic matter	O
Clay strata or lenses	CS
Silt strata or lenses	SIS
Sand strata or lenses	SS
Sandy	S
Gravelly	G
Boulders	B
Slickensides	SL
Wood	Wd
Oxidized	Ox

NOTES:

FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D_{10}"

Are natural water contents in percent dry weight

When underlined denotes D_{10} size in mm*

FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"

Are liquid and plastic limits, respectively

SYMBOLS TO LEFT OF BORING

▽ Ground-water surface and date observed

Ⓒ Denotes location of consolidation test**

Ⓢ Denotes location of consolidated-drained direct shear test**

Ⓡ Denotes location of consolidated-undrained triaxial compression test**

Ⓠ Denotes location of unconsolidated-undrained triaxial compression test**

Ⓣ Denotes location of sample subjected to consolidation test and each of the above three types of shear tests**

FW Denotes free water encountered in boring or sample

FIGURES TO RIGHT OF BORING

Are values of cohesion in lbs./sq. ft. from unconfined compression tests

In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler ($1\frac{3}{8}$" I.D., 2" O.D.) and a 140 lb. driving hammer with a 30" drop

Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample

Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio

*The D_{10} size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D_{10}

**Results of these tests are available for inspection in the U. S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings

TYPICAL NOTES

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of the contract clause entitled "Differing Site Conditions".

Ground-water elevations shown on the boring logs represents ground-water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground-water data are available from the boring but does not necessarily mean that ground-water will not be encountered at the locations or within the vertical reaches of such borings.

Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.

SOIL BORING LEGEND

U S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
1 JUNE 1987 FILE NO. H-2-21800

PLATE A

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM No. 18 - GENERAL DESIGN
ST. CHARLES PARISH NORTH OF AIRLINE HIGHWAY

APPENDIX D, VOLUME II

GEOTECHNICAL DESIGN CALCULATIONS

TABLE OF CONTENT

Bearing Capacity. FOR LEVEES WITH GEOTEXTILE

Overall bearing capacity of the embankment must be satisfied. If the embankment bearing capacity factor of safety (FS) is less than 1.0, the embankment cannot be constructed without large foundation displacements. To improve overall bearing, berms could be added or the base of the embankment could be extended to provide a wider mat. Analysis for bearing follows along classical geotechnical engineering methods for infinitely long strip foundations and for undrained (ϕ=0) conditions; i.e.:

$$q_u = cN_c + q_s$$

where q_s = surcharge outside the effective base.

Presently at COE New Orleans District, we are using bearing capacity factors for rigid footings developed by Davis and Booker, 1973, and Matar and Salencon, 1977, which is presented in a report by R.K. Rowe and K.L. Soderman. These factors have considered the effect of increasing undrained strength with depth as well as the effect of the relative thickness of the soil deposit. A synopsis of the figures and equations as presented in the Rowe and Soderman report are included to analyze overall bearing capacity. Figure 1 includes the bearing capacity factor N_c based on Davis and Booker and Matar and Salencon studies plotted in terms of the dimensionless quantity $\rho_c b/C_{uo}$. These terms and the terms below are defined in figures 1 through 3. The equations for overall bearings are;

1) effective width of the footing b

$$b = B + 2n\,(H-h)$$

where B is the crest width, H is the embankment height and n is the cotangent of the slope angle.

2) The bearing capacity qu of the rigid footing

$$q_u = N_c \, C_{uo} + q_s$$

where C_{uo} is the undrained strength directly beneath the embankment and q_s is a uniform surcharge pressure applied to the soil surface outside of the effective width (b). As shown in Figures 1 and 2, the berm outside the effective width provides a surcharge that would increase stability. This surcharge load must be applied as a pressure q_s over the expected failure zone. Based on the Matar and Salencon (1977) studies, Figures 2 and 3 show the depth d to which the failure mechanisms is expected to extend. It has been found that the lateral

extent of the plastic region involved in the collapse of a rigid footing extends a distance x from the footing. Where x is approximately equal to the minimum of d as determined from Figure 3 or the actual thickness of the deposit (D), i.e. x = min (d,D). Where,

q_s = surcharge/x.

3) Average applied pressure q_a due to the embankment over the effective width b

$$q_a = \text{load}/b$$

4) F.S. = q_u/q_a

The COE New Orleans District recommends a Factor-of-Safety of 1.2 to 1.3 for overall bearing capacity.

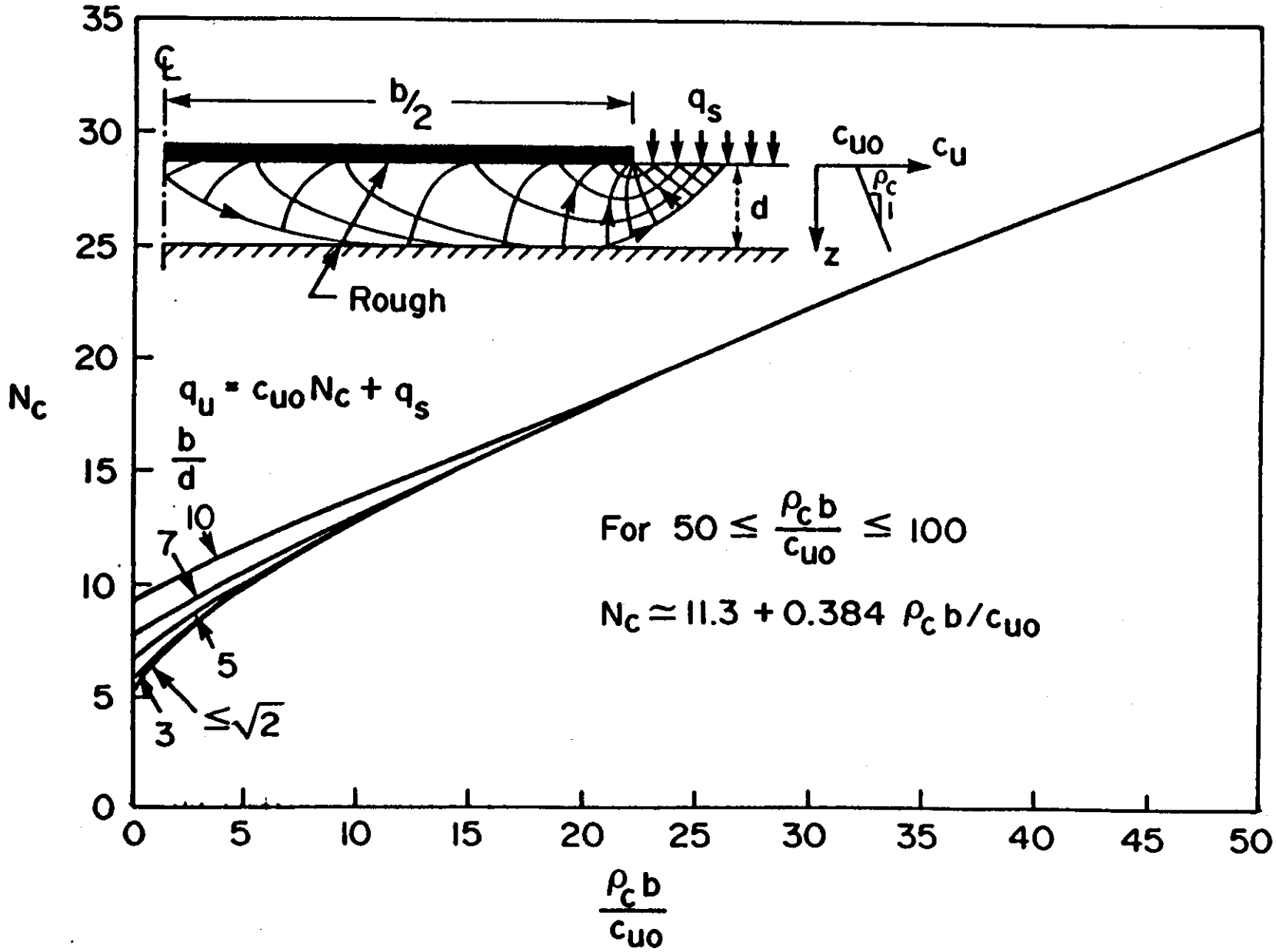


FIGURE 1 BEARING CAPACITY FACTOR FOR NON-HOMOGENEOUS SOIL (SYNTHESIZED FROM RESULTS BY DAVIS AND BOOKER, 1973; MATAR AND SALENCON, 1977)

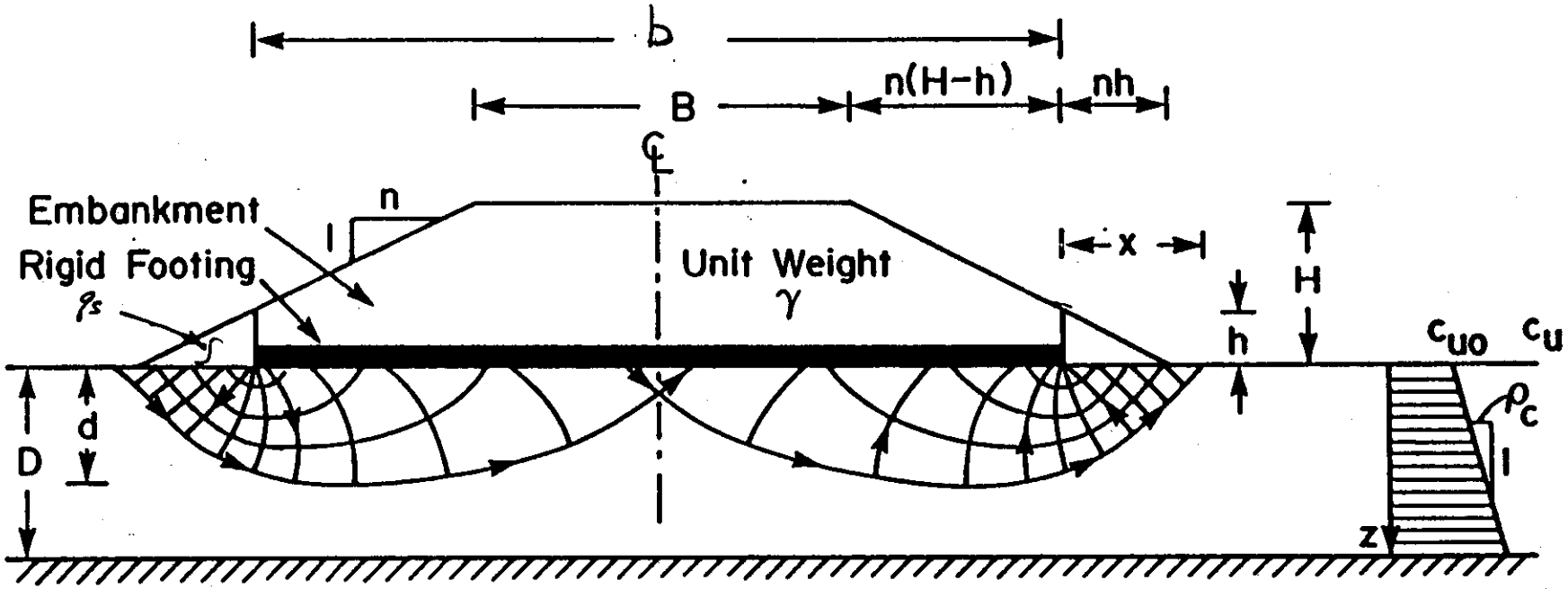


FIGURE 2. DEFINITION OF VARIABLES USED TO ESTIMATE COLLAPSE HEIGHT FOR A PERFECTLY REINFORCED EMBANKMENT

$$q_u = c_{uo} N_c + q_s$$

D-4

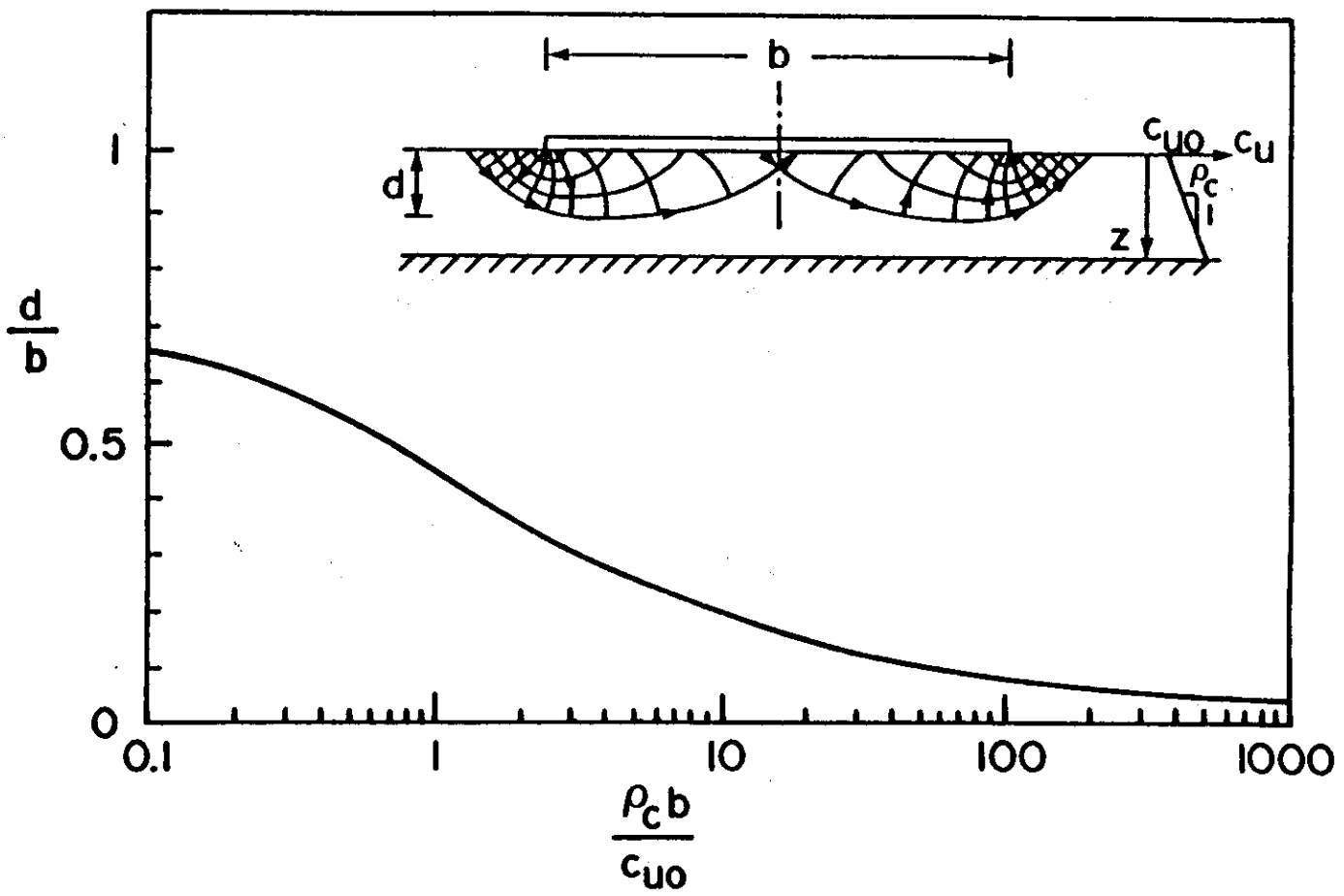
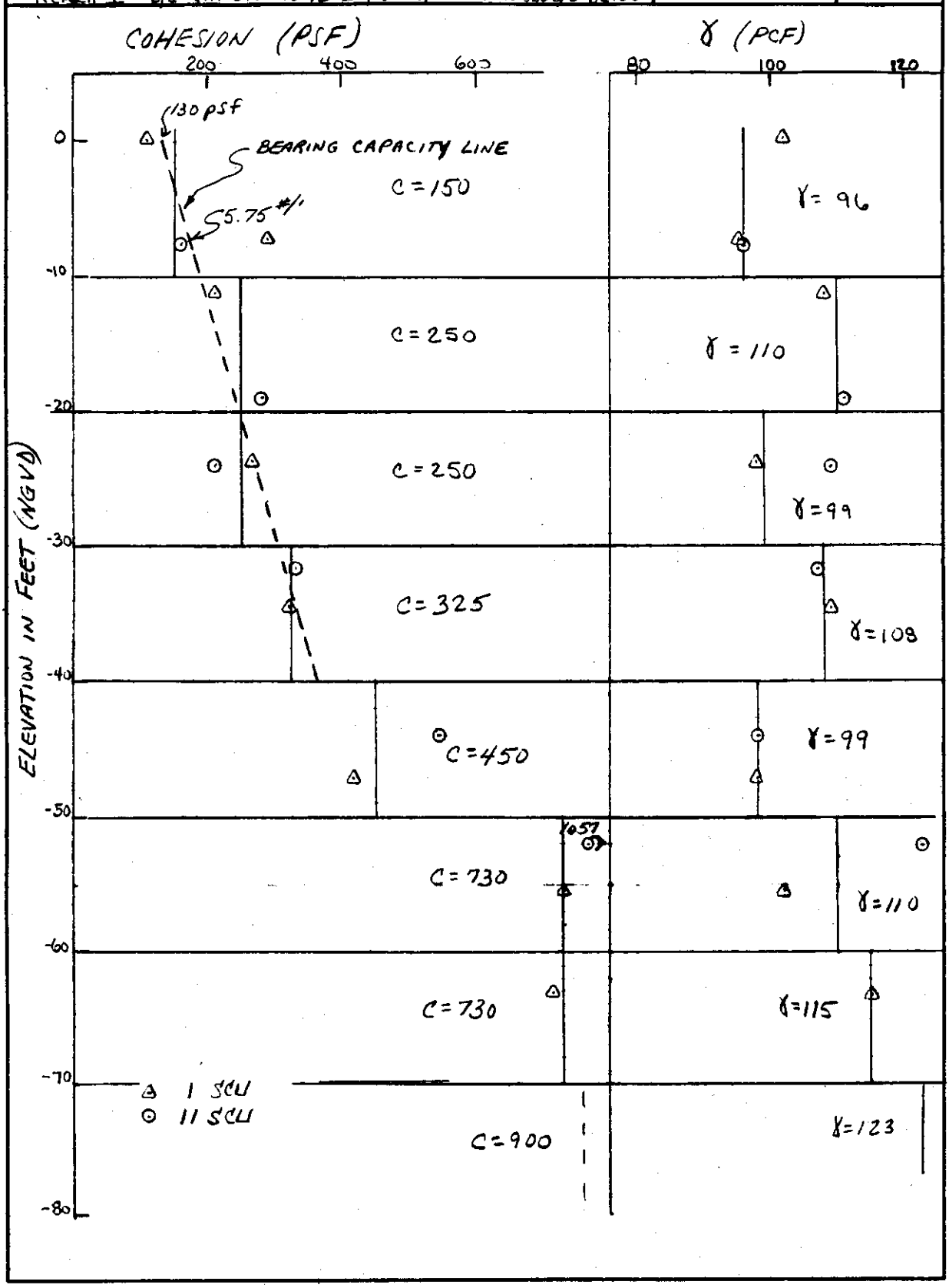


FIGURE 3 EFFECT OF NON-HOMOGENEITY ON DEPTH OF THE FAILURE ZONE BENEATH A ROUGH RIGID FOOTING (MODIFIED FROM MATAR AND SALENCON, 1977)

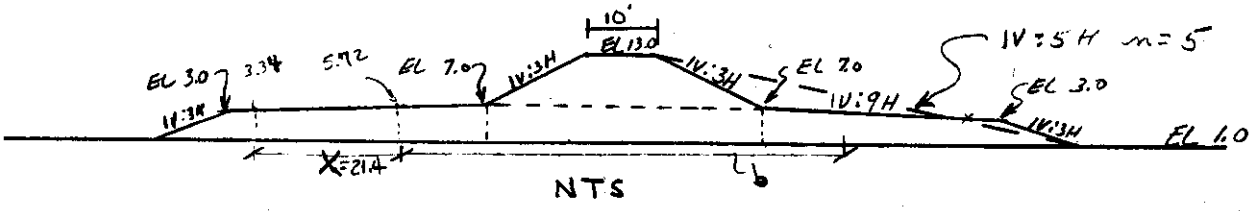
COMPUTATION SHEET

PROJECT	PAGE	COMPUTED BY	DATE
ST CHARLES PARISH - GDM	1 OF	PCP	28 Oct 97
SUBJECT REACH I B/L STA 0+00 to 72+50 ~~SUB B/L 0+00 to SUB B/L 62+83~~		CHECKED BY	DATE



COMPUTATION SHEET

PROJECT ST CHARLES PARISH – REACH I	PAGE OF	COMPUTED BY RBP	DATE 4/8Y
SUBJECT BEARING CAPACITY		CHECKED BY	DATE



$C_{UO} = 130$ psf $\gamma_3 = 5.75$ #/ $H = 12.0$ $n = 5$

$h = (2+\pi) C_{UO} / \gamma = (2+\pi)\, 130/110 = 6.08$

$b = B + 2n(H-h) = 10 + 2(5)(12 - 6.08) = 69'$

USING FIG 7 with $\frac{\rho_c b}{C_{UO}} = \frac{5.75(69)}{130} = 3.1$; $d/b = .31$

USING FIG 5 with $\frac{\rho_c b}{C_{UO}} = 3.1$ & $b/d = 3.2$; $N_c = 8.6$

$X = (\min D, d)$; $d = .31(69) = 21.4$ & $D = 50$; $X = 21.4$

$q_s = 100\left(\frac{3.34 + 5.72}{2}(21.4)\right) / 21.4 = 453$ psf

$q_u = C_u N_c + q_s = 130(8.6) + 453 = 1571$

$q_a = 110\left[\frac{10+46}{2}(6) + 46(7) + 2(11.5)\left(7 + \frac{5.72}{2}\right)\right] / 69$

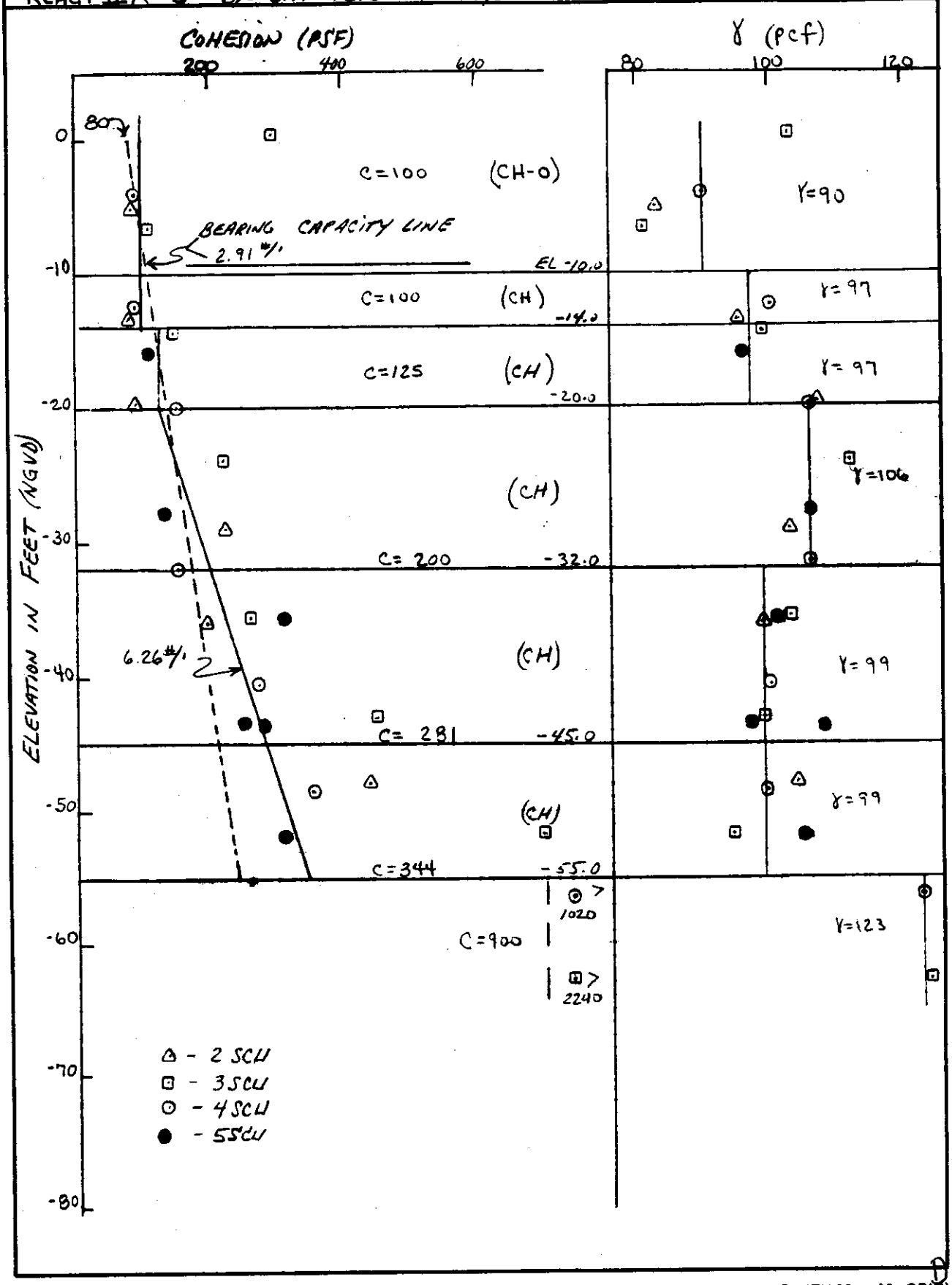
$q_a = 1014$

$F.S. = \frac{q_u}{q_a} = \frac{1571}{1014} = 1.55$ O.K.

NOTE: COULD DECREASE BERM SLOPE FROM 1V:9H TO 1V:8H WITH VERY LITTLE EFFECT ON THE BEARING CAPACITY F.S.

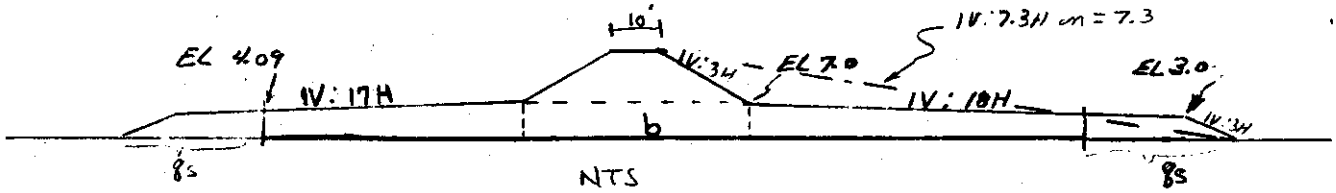
COMPUTATION SHEET

PROJECT ST CHARLES PARISH - GDM	PAGE 2 OF	COMPUTED BY RBP	DATE 27 Oct 87
SUBJECT REACH IIA-B B/L STA 72+50 TO B/L STA 265+00		CHECKED BY	DATE



COMPUTATION SHEET

PROJECT	ST CHARLES PARISH - REACH 2A	PAGE 1 OF 1	COMPUTED BY	DATE 4/21/88
SUBJECT	BEARING CAPACITY		CHECKED BY	DATE



$C_{uo} = 80$ psf $\quad \rho_c = 2.91$ #/. $\quad H = 13 \quad m = 7.3 \quad$ (1V:17H)

$h = (2+H) C_{uo} / \gamma = (2+H)\ 80 / 110 = 3.74$

$b = B + 2m(H-h)$

$= 10 + 2(7.3)(13 - 3.74) = 145$

USING FIG 7 with $\frac{\rho_c b}{C_{uo}} = \frac{2.91(145)}{80} = 5.27$; $d/b = .26$

USING FIG 5 with $\frac{\rho_c b}{C_{uo}} = 5.27$ & $b/d = 3.85$; $N_c = 10$

$X =$ min of (d, D) ; $d = .26(145) = 38'$ $\quad D = 55$; $X = 38'$

$q_s = \left[\frac{4.09+3}{2}(18.5)(100) + \frac{1}{2}(9)(3)(100) \right] / 38 \cong 208$ psf

$q_u = N_c C_{uo} + q_s = 10(80) + 208 = 1008$ psf

$q_a = \left[\left(\frac{10+46}{2}\right)(6)(110) + 46(7)(110) + 2\left(\frac{7+4.09}{2}\right)(49.5)(110) \right] / 145$

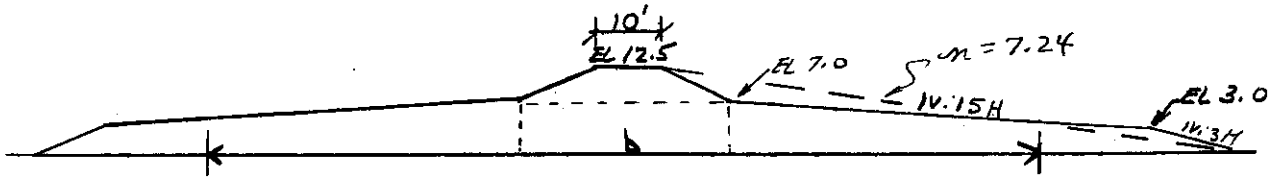
$q_a = 788$ psf

$F.S. = \frac{1008}{788} = 1.28$ BETWEEN (1.2 to 1.3) O.K.

D-9

COMPUTATION SHEET

PROJECT ST CHARLES PARISH - REACH 2B	PAGE 1 OF 1	COMPUTED BY RBP	DATE
SUBJECT BEARING CAPACITY		CHECKED BY	DATE



$C_{u0} = 80$ $\quad \rho_c = 2.91$ #/' $\quad H = 12.5$ $\quad m = 7.24$

$h = (2+H) C_{u0} / \gamma = (2+H)\, 80/110 = 3.74$

$b = B + 2m(H-h)$

$10 + 2(7.24)(12.5 - 3.74) \cong 137$

USING FIG 7 WITH $\frac{\rho_c b}{C_{u0}} = \frac{2.91(137)}{80} = 4.98$; $d/b = .26$

USING FIG 5 WITH $\frac{\rho_c b}{C_{u0}} = 4.98$ & $b/d = 3.85$; $N_c \cong 10$

$X = \min$ of (d, Δ); $d = .26(137) = 35.62$ $\quad \Delta = 55'$ $\quad \therefore \quad X = 35.62'$

$$q_s = \left[\frac{3.87+3}{2} (13.05)(100) + \tfrac{1}{2}(9)(3)(100) \right] / 35.62 = 164 \text{ psf}$$

$$q_u = N_c C_{u0} + q_s = 10(80) + 164 = 964 \text{ psf}$$

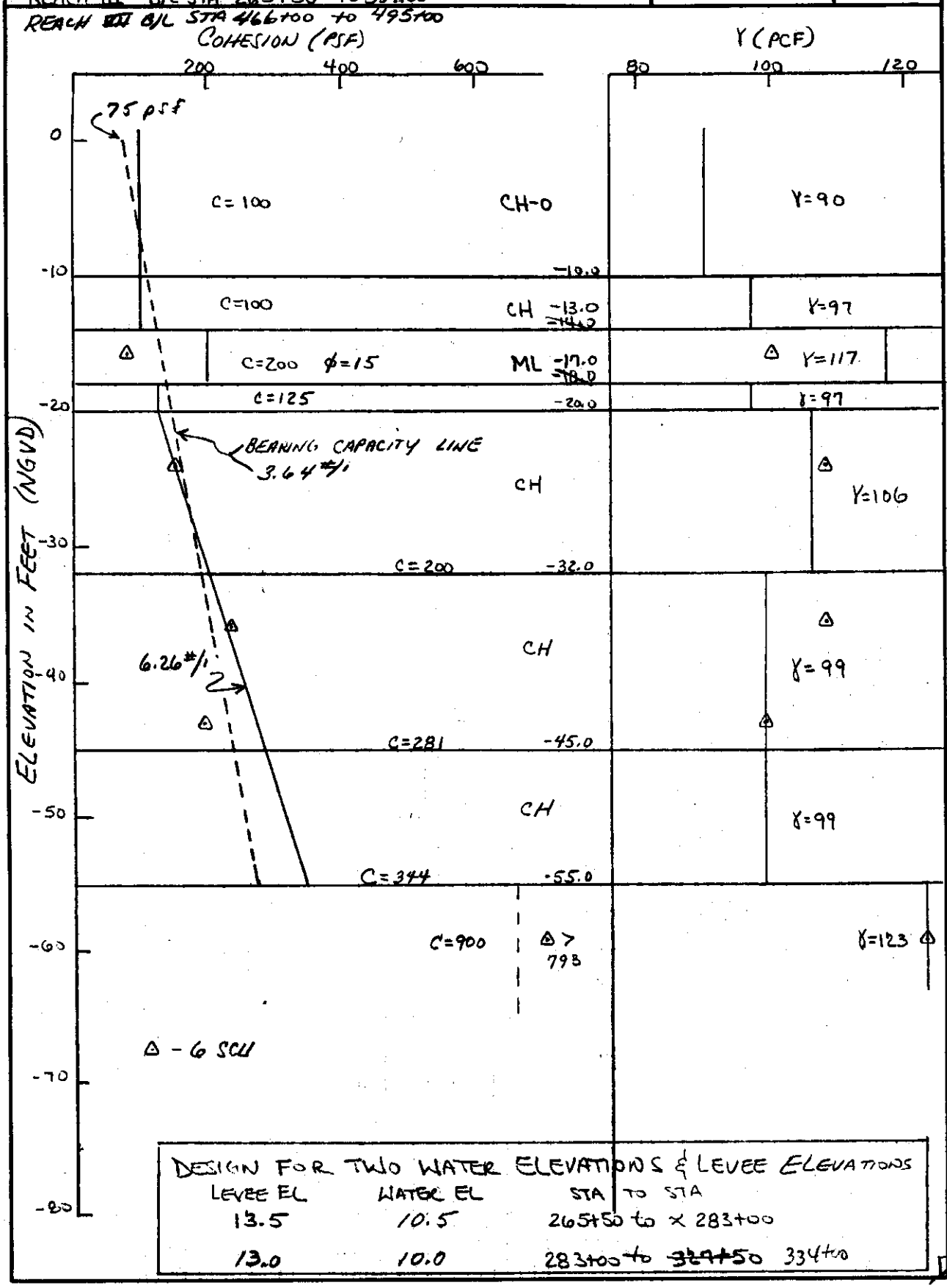
$$q_a = \left[\frac{10+43}{2} (5.5)(110) + 43(7)(110) + 2\left(\frac{7+3.87}{2}\right)(46.95)(110) \right] / 137$$

$q_a = 768$ psf

$$F.S. = \frac{q_u}{q_a} = \frac{964}{768} = \underline{1.26} \quad \underline{\text{O.K.}} \quad (\text{SLOPE } 1V:1.5H)$$

COMPUTATION SHEET

PROJECT	PAGE	COMPUTED BY	DATE
ST CHARLES PARISH - GDM	3 OF	RBP	27 Oct 87
SUBJECT		CHECKED BY	DATE
REACH III B/L STA 265+50 to 334+00			
REACH ~~III~~ B/L STA 466+00 to 495+00			



DESIGN FOR TWO WATER ELEVATIONS & LEVEE ELEVATIONS

LEVEE EL	WATER EL	STA TO STA
13.5	10.5	265+50 to ~~283+00~~
13.0	10.0	283+00 to ~~329+50~~ 334+00

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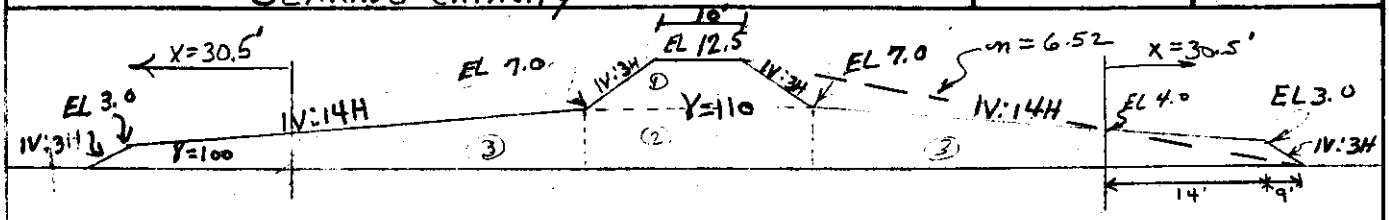
COMPUTATION SHEET

PROJECT ST CHARLES PARISH – REACH 3A	PAGE 1 OF 2	COMPUTED BY RBP	DATE 4/29/88
SUBJECT BEARING CAPACITY		CHECKED BY	DATE



$C_{u0} = 75$ psf $H = 12.5$ $\rho_c = 3.64$ #/, $m = 6.52$

$h = (2+\pi) C_{u0}/\gamma = (2+\pi)(75)/110 = 3.51$

$b = B + 2m(H-h)$

$= 10 + 2(6.52)(12.5 - 3.51) = 127$

USING FIG 7 with $\frac{\rho_c b}{C_{u0}} = \frac{(3.64)(127)}{75} = 6.16$; $d/b = .24$

USING FIG 5 with $\frac{\rho_c b}{C_{u0}} = 6.16$ & $b/d = 4.2$; $N_c = 10.5$

$X = \min$ of (d, D); $d = .24(127) = 30.5$; $D = 55$; $\therefore X = 30.5$

$q_s = 100\left[\left(\frac{4+3}{2}\right)(14) + \frac{1}{2}(9)(3)\right] / 30.5 = 205$ psf

$q_u = N_c C_{u0} + q_s = 10.5(75) + 205 = 992.5$ psf

$q_a = 110\left[\left(\frac{10+43}{2}\right)(5.5) + (43)(7) + 2\left(\frac{7+4}{2}\right)(42)\right] / 127 = 787.1$ psf

$F.S. = \frac{q_u}{q_a} = \frac{992.5}{787.1} = 1.26$ (SLOPE 1V:14H) O.K.

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COMPUTATION SHEET

PROJECT ST CHARLES PARISH - REACH 3A	PAGE 2 OF 2	COMPUTED BY RBP	DATE 4/25/88
SUBJECT		CHECKED BY	DATE

CHANGED 1V on 14H TO 1V ON 13H

$C_{u0} = 75 psf \quad H = 12.5 \quad \rho = 3.64^{\#}/_{ft} \quad n = 6.2$

$h = (2+H) C_{u0} / \gamma = (2+12.5)(75)/110 = 3.51$

$b = B + 2n(H-h)$

$= 10 + 2(6.2)(12.5 - 3.51) = 121.5$

USING FIG 7 with $\frac{\rho_c b}{C_{u0}} = \frac{(3.64)(121.5)}{75} = 5.9$; $d/b = .25$

USING FIG 5 with $\frac{\rho_c b}{C_{u0}} = 5.9$ & $b/d = 4$; $N_c = 10.4$

$X = \min \%(d, D)$; $d = .25(121.5) = 30.4$; $D = 55$; $\therefore X = 30.4$

$q_s = 100\left[\left(\frac{3.98+3}{2}\right)(12.75) + \frac{1}{2}(9)(3)\right] / 30.4 = 191$

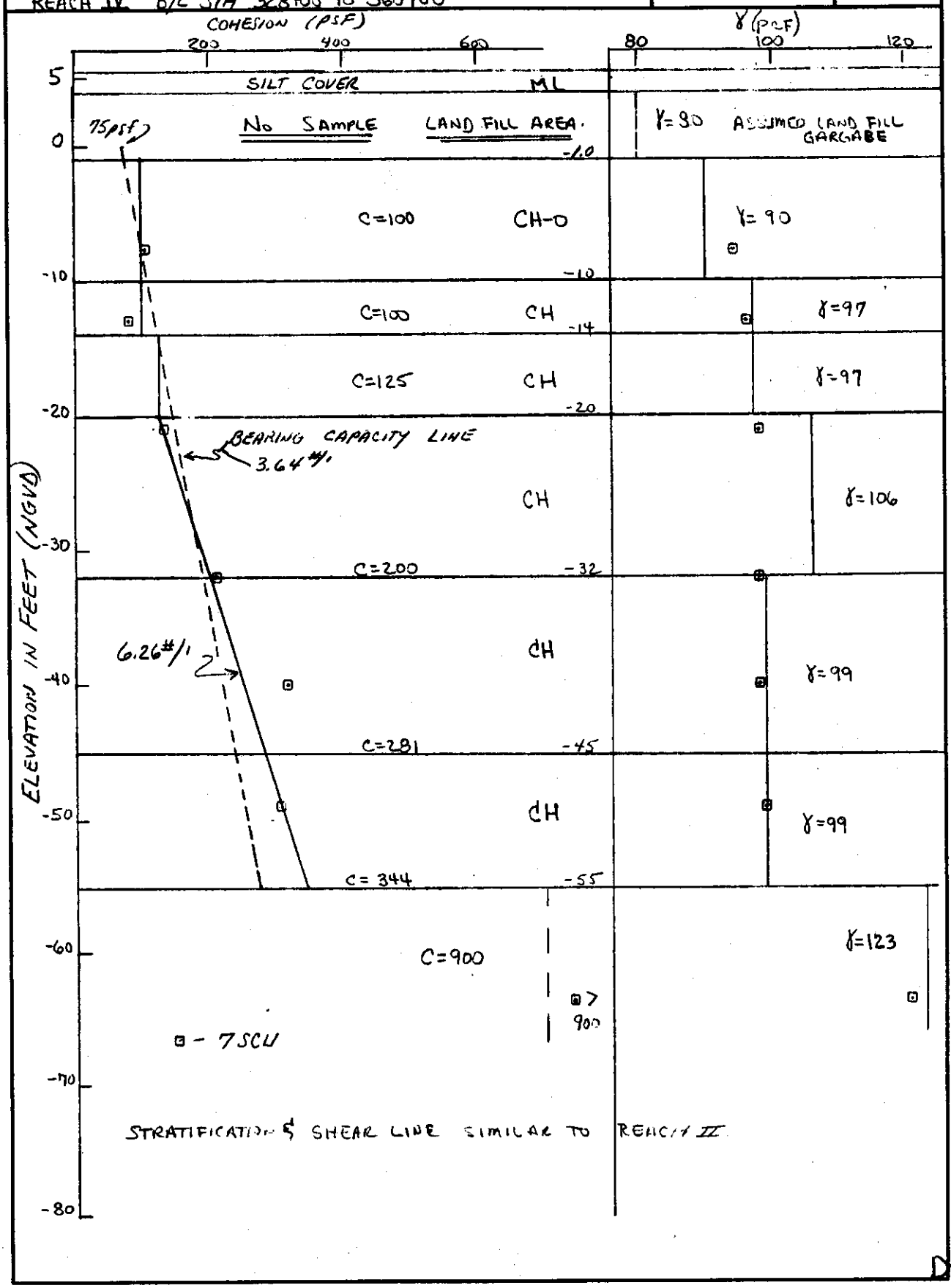
$q_u = N_c C_{u0} + q_s = 10.4(75) + 191 = 971 psf$

$q_a = 110\left[\left(\frac{10+43}{2}\right)(5.5) + 43(7) + 2\left(\frac{7+3.98}{2}\right)(39.26)\right] / 121.5 = 794.7$

$F.S. = \frac{q_u}{q_a} = \frac{971}{795} = 1.22$ (SLOPE 1V:13H) - MIN

COMPUTATION SHEET

PROJECT	PAGE	COMPUTED BY	DATE
ST CHARLES PARISH - GDM	4 OF	RBP	27 Oct 87
SUBJECT		CHECKED BY	DATE
REACH IV B/L STA 328+00 to 360+00			



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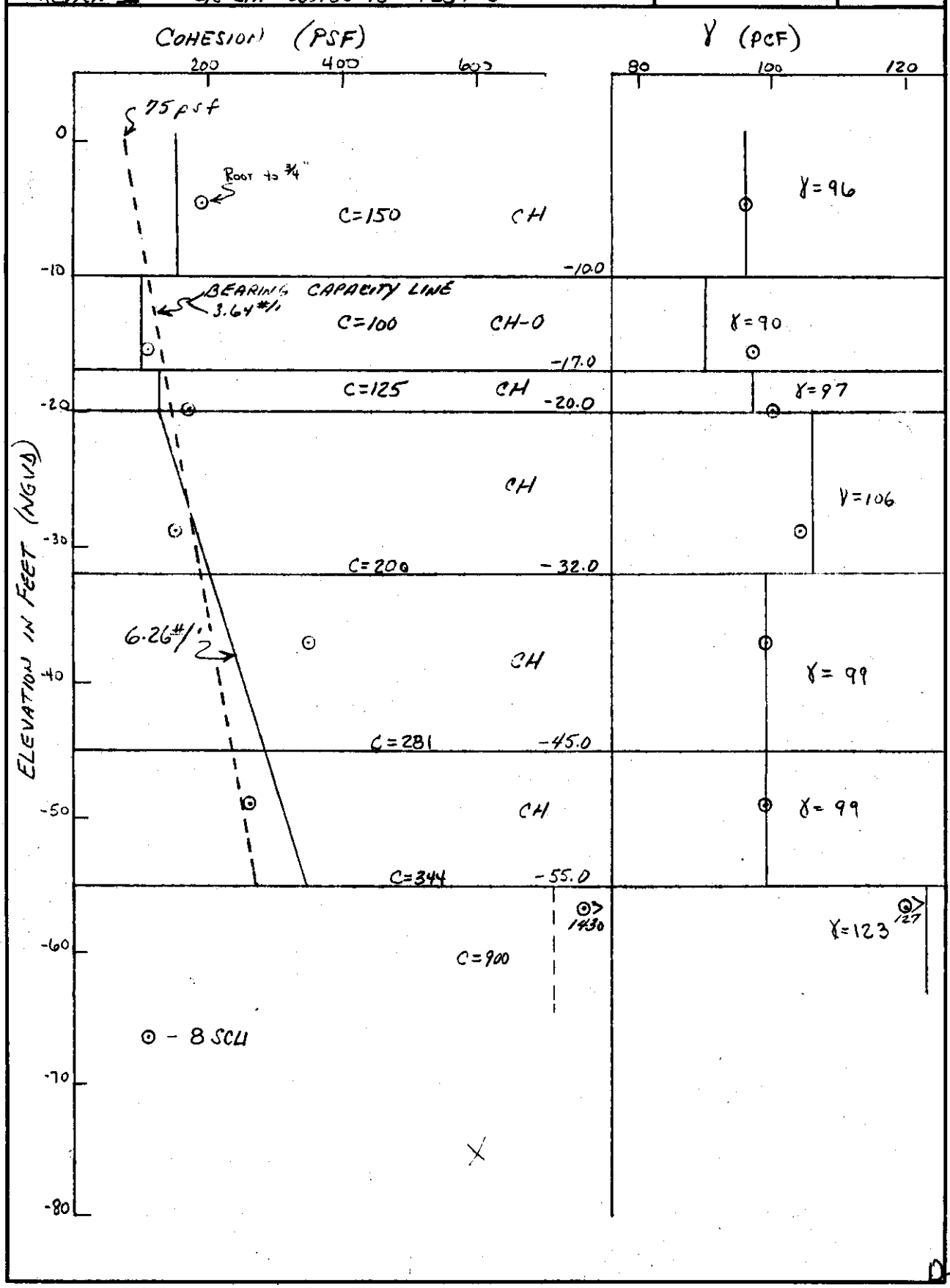
COMPUTATION SHEET

PROJECT	PAGE	COMPUTED BY	DATE
ST CHARLES PARISH - GDM	5 OF	RRP	22 Oct 87
SUBJECT		CHECKED BY	DATE
REACH V B/L STA 360+50 to 425+00			



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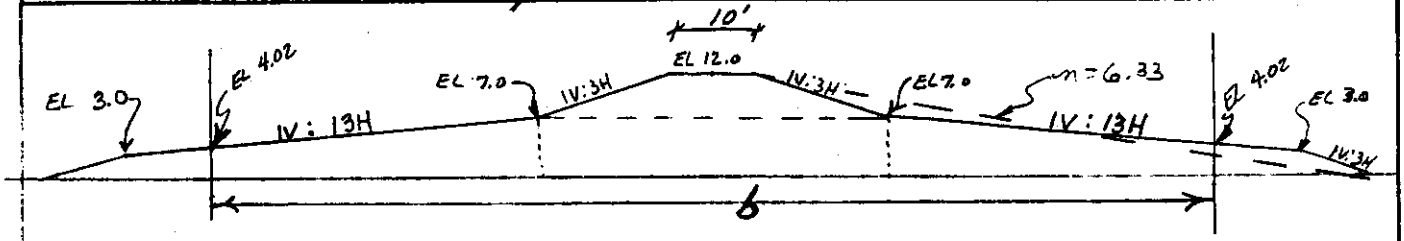
COMPUTATION SHEET

PROJECT ST CHARLES PARISH – REACH 3B, 4, 5, & 7	PAGE 1 OF 1	COMPUTED BY RAP	DATE 5/89
SUBJECT BEARING CAPACITY		CHECKED BY	DATE



$C_{u0} = 75$ psf $H = 12$ $\rho_c = 3.64$ $n = 6.33$

$h = (2+\pi) C_{u0}/\gamma = (2+\pi)(75)/110 = 3.51$

$b = B + 2m(H-h) = 10 + 2(6.33)(12-3.51) = 117.5$

USING FIG 7 with $\frac{\rho_c b}{C_{u0}} = \frac{3.64(117.5)}{75} = 5.7$; $d/b = .25$

$\therefore d = .25(117.5) = 29.4'$

USING FIG 5 WITH $\frac{\rho_c b}{C_{u0}} = 5.7$ & $b/d = 4$; $N_c = 10.2$

$X =$ min of (d, D) ; $d = 29.4$; $D = 55$ $\therefore X = 29.4$

$q_s = 100\left[\left(\frac{4.02+3}{2}\right)(13.25) + \frac{1}{2}(9)(3)\right] / 29.4 = 204$ psf

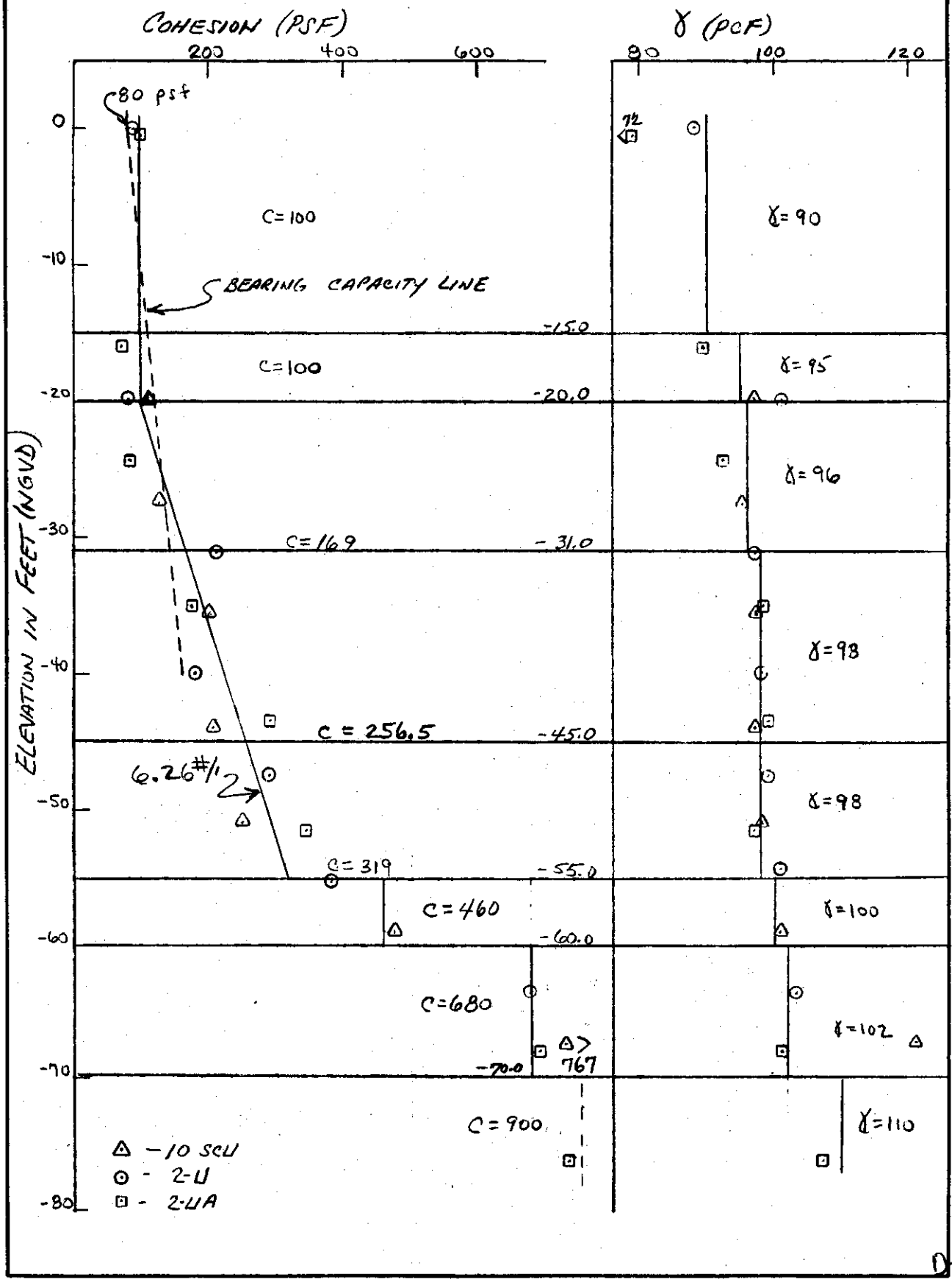
$q_u = N_c C_{u0} + q_s = 10.2(75) + 204 = 969$ psf

$q_a = 110\left[\left(\frac{10+40}{2}\right)(5) + (40)(7) + 2\left(\frac{7+4.02}{2}\right)(38.75)\right] / 117.5 = 779$ psf

$F.S. = \frac{q_u}{q_a} = \frac{969}{779} = 1.24$ (BERM SLOPE 1V:13H) o.k.

COMPUTATION SHEET

PROJECT ST CHARLES PARISH I/C AIRPORT EXT.	PAGE 7 OF	COMPUTED BY RBP	DATE 29 Oct 87
SUBJECT REACH VIII B/L STA +7[illegible] to I/C AIRPORT EXT		CHECKED BY	DATE



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COMPUTATION SHEET

PROJECT ST CHARLES PARISH LF AIRPORT EXT	PAGE 1 OF 4	COMPUTED BY RBP	DATE 6/88
SUBJECT REACH 8 STA 490+00 TO AIRPORT EXT		CHECKED BY	DATE

BEARING CALCULATIONS

1) $C_{u_0} = 80$ $\quad \rho = 2$ $\quad H = (12+2) = 14$ $\quad m = 7.0$

$h = (2+\pi) C_{u_0} / \gamma = (2+\pi)\, 80 / 110 = 3.74$

$b = B + 2m.(H-h) = 10 + 2(7)(14-3.74) = 154$

FIG 7

with $\frac{\rho_c b}{C_{u_0}} = \frac{2 \times 154}{80} = 3.85$ $\quad d/b = 0.29$

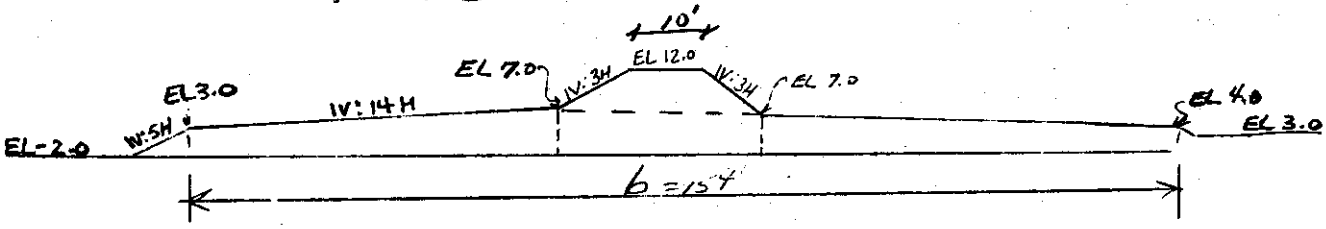
$\therefore d = 0.29 \times 154 \cong 45'$

FIG. 5

with $b/d = \frac{154}{45} \cong 3.45$ & $\frac{\rho_c b}{C_{u_0}} = 3.85$

$N_c = 9.2$

$X = \min$ of $(d, D) = 45'$



$q_s = \frac{1}{2}(5)(25)110/45 = 153$ psf

$q_u = N_c C_{u_0} + q_s = 9.2(80) + 153 = 889$ psf

$q_a = 110\left[\left(\frac{10+40}{2}\right)(5) + (40)9 + 2\left(\frac{7+3}{2}\right)(57)\right]/154 = 753$ psf

$F.S. = \frac{q_u}{q_a} = \frac{889}{753} = 1.18$ add a berm at Elev 0.0

D-18

PROJECT ST CHARLES PARISH / S AIRPORT EXT	PAGE 2 OF 4	COMPUTED BY RBP	DATE 6/88
SUBJECT REACH 8 STA 490+00 TO AIRPORT EXT.		CHECKED BY	DATE

add a 40' WIDE BERM AT ELEV. 0.0

$\therefore q_s = [\frac{1}{2}(3)(15) + 45(2)]\,100/45 = 250$

$q_u = 9.2(80) + 250 = 996$

$q_a = 753$ psf (AS SHOWN ABOVE)

$F.S. = \frac{q_u}{q_a} = \frac{996}{753} = \underline{1.31}$

(2) RECHECK BEARING INCLUDING THE BERM IN N

$C_{u_0} = 80$ $\rho = 2$ $H = (12+2) = 14'$ $m = 9.36$

$h = (2+\pi)\,C_{u_0}/\gamma = (2+\pi)\,80/110 = 3.74$

$b = B + 2m(H-h) = 10 + 2(9.36)(14 - 3.74) = 202$

FIG 7

with $\frac{\rho c b}{C_{u_0}} = \frac{2 \times 202}{80} = 5.05$ $d/b = 0.26$; $d = 52.5$

Fig 5

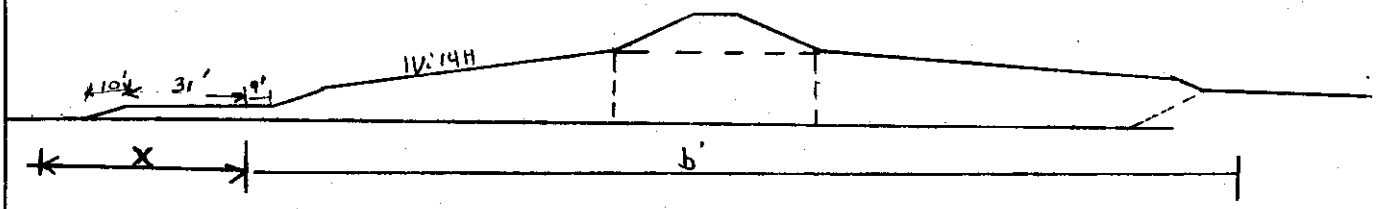
with $b/d = 3.85$ & $\frac{\rho c b}{C_{u_0}} = 5.05$

$N_c = 9.9$

$X = \min$ of $(d, D) = 52.5$

COMPUTATION SHEET

PROJECT ST CHARLES PARISH / E AIRPORT EXT.	PAGE 3 OF 4	COMPUTED BY RBP	DATE 6/88
SUBJECT REACH 8 STA. 490+00 TO AIRPORT EXT.		CHECKED BY	DATE



$q_s = 100[31(2) + \frac{1}{2}(10)(2)]/525 \approx 137$

$q_u = 9.9(80) + 137 \approx 930$

$q_a = 110\left[\frac{10+40}{2}(5) + 40(9) + 2\left(\frac{9+5}{2}\right)(56) + 2\left(\frac{5+2}{2}\right)(15) + 2(9)(2)\right]/202$

$q_a = 768$ psf

$F.S. = \frac{q_u}{q_c} = \frac{930}{768} = 1.21$

(3) CHECK IF NATURAL GRND IS ELEV 0.0

$C_{u0} = 80$ psf $\quad \rho = 2 \quad H = 12' \quad m = 7.6$

$h = (2+H)C_{u0}/\gamma = 3.74$

$b = B + 2m(H-h) = 10 + 2(7.6)(12-3.74) = 136'$

FIG 7

with $\frac{\rho_c b}{C_{u0}} = \frac{2 \times 136}{80} = 3.4 \quad d/b = 0.3 \; ; \; d \approx 41'$

FIG 5

with $\frac{\rho_c b}{C_{u0}} = 3.4$ & $b/d = 3.33$

$N_c = 8.8$

D 20

COMPUTATION SHEET

PROJECT ST CHARLES PARISH / S AIRPORT EXT	PAGE 4 OF 4	COMPUTED BY RBP	DATE
SUBJECT REACH 8 STA 420+00 TO AIRPORT EXT		CHECKED BY	DATE

$N_c = 9.2$

$q_s = 100\left[\left(\frac{3+3.69}{2}\right)(11) + \frac{1}{2}(3)(15)\right]/42 = 142$ psf

$q_u = 9.2(80) + 142 = 878$ psf

$q_s = 110\left[\frac{10+40}{2}(5) + (40)(7) + 2\left(\frac{7+3.69}{2}\right)(53)\right]/146 = 732$

$F.S. = \frac{q_u}{q_c} = \frac{878}{732} \cong 1.20$ O.K.

NOTE: BERMS SHOULD BE NO STEEPER THAN IV:16 & TOE IV:5H.

(FOR NATURAL GROUND @ EL 0.0)

GEOTEXTILE DESIGN

Stability.

(1) Shear Stabilities of the Earthen Levee with Geotextile Reinforcement. The stability of the levee was determined by the LMVD Method of Planes using the design "Q" shear strengths with hydraulic loading. To overcome the weak foundation soil strengths, geotextile reinforcement was introduced to stabilize the levee section. The required geotextile tensile strength for factor-of-safety of 1.3 was based on the larger value of the following two analyses:

(a) From the LMVD Method of Planes analyses, the following equation was used to determine the critical wedges which required the maximum tensile strength for the geotextile

$$T = \frac{(D_a - D_p)\ F.S. - (R_a + R_b + R_p)}{12}$$

Where

T = tensile strength in lbs/in. at 5% strain and less than 40% of ultimate

F.S. = factor-of-safety.

(b) Once the critical wedges were determined by the LMVD Methods of Planes, these failure surfaces were checked by the Spencer method with the PC-SLOPE micro computer program. The Spencer method considered the location of the Geotextile in determining the required Geotextile tensile strength. For Geotextile tensile strength requirements larger than 1600 lb/in, a two layer system was used with two-thirds (2/3) of the required tensile strength in the bottom layer and one-third (1/3) in the upper layer with a minimum 3 feet of fill between and over the fabric layers.

The embedment length (L) of the fabric for pull-out was calculated by the following equation:

$$L = \frac{T}{(\gamma_1' h_1 \tan \phi_1 + C_1) + (\gamma_2' h_2 \tan \phi_2 + C_2)}$$

1 denotes soil parameter above geotextile
2 denotes soil parameter below geotextile

"L" was measured from the critical active wedge into the anchorage zone and an equal length was placed in the active wedge zone. Also, the bottom layer of fabric was extended past the anchorage embedment requirement to attain a factor-of-safety of 1.3 of the levee berm in certain cases. Plates ___ through ____ show the stability analyses and the placement of the geotextile.

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

REACH I - PROTECTED SIDE

1.) FACTOR-OF-SAFETY OF EMBEDMENT WITHOUT FABRIC BY METHOD OF PLANES & SPENCER METHOD (P.C. SLOPE PROGRAM)

ELEV.	METHOD OF PLANES (SEE STABILITY PLATE)	SPENCER METHOD
-10.0	1.07	1.08
-20.0	1.06	1.18
-30.0	0.97	1.10
-40.0	1.03	1.26
-50.0	1.21	1.60

2.) REQUIRED FABRIC STRENGTH BASED ON THE FOLLOWING EQUATIONS

METHOD OF PLANES: $$T = \frac{(D_A - D_P)\,F.S. - (R_A + R_B + R_P)}{12}$$

SPENCER METHOD $$T = \frac{F.S.(\Sigma \text{ DRIVING MOMENT}) - (\Sigma \text{ RESISTING MOMENT})}{Y(\text{COORD OF ORIGIN}) \times 12}$$

ELEV.	METHOD OF PLANES	SPENCER METHOD (FABRIC @ EL 1.0)
-10.0	462 #/"	485 #/"
-20.0	700 #/"	458 #/"
-30.0	1252 #/"	1210 #/"
-40.0	1220 #/"	292 #/"
-50.0	489 #/"	NO FABRIC

COMPUTATION SHEET

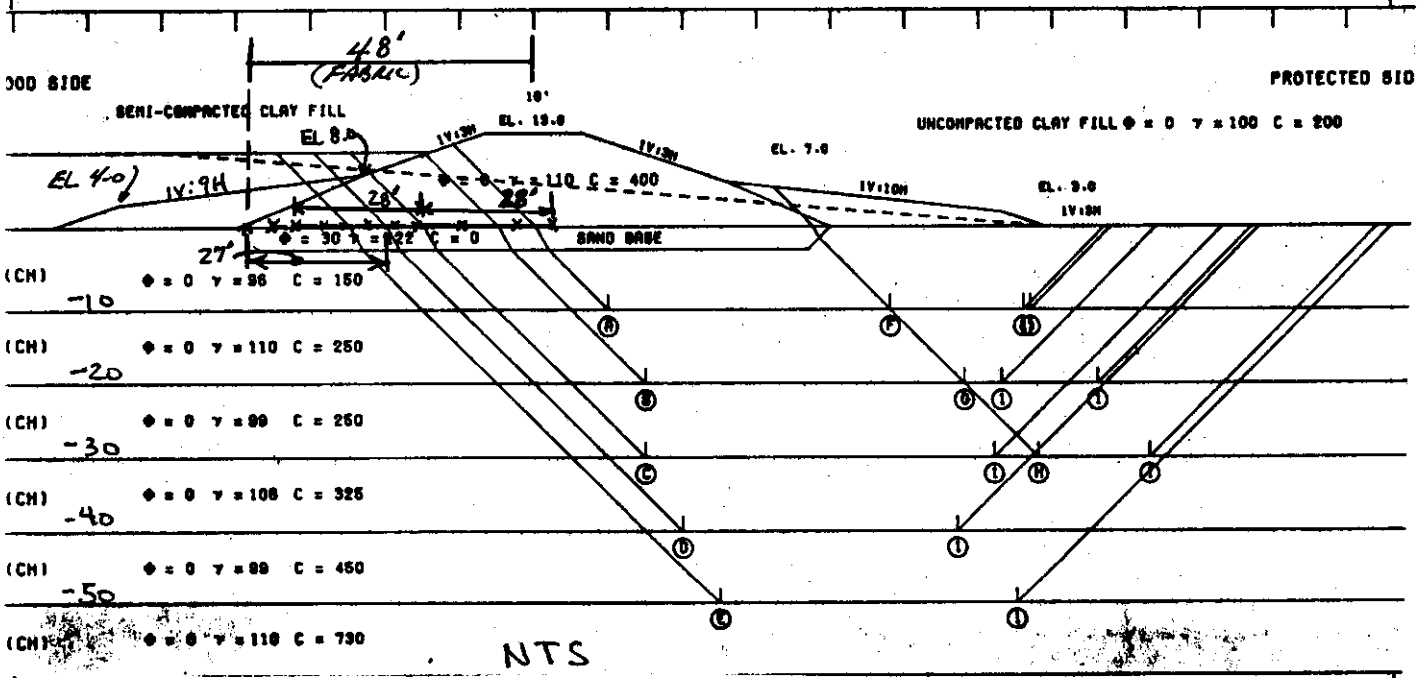
PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

COMPARING RESULTS OF THE ABOVE ANALYSES, THE METHOD OF PLANES CONTROLS THE FABRIC STRENGTH

$T = 1250^{\#/'}$ AT EL 1.0

3.) EMBEDMENT LENGTH

$$L = \frac{T}{(\gamma_1' h_1 \tan\phi_1 + c_1) + (\gamma_2' h_2 \tan\phi_2 + c_2)}$$



NTS

CHECK EMBEDMENT LENGTH OF FABRIC AT ELEV. 1.0 FOR

EL -30.0 $T = 1250^{\#/'}$

EL -40.0 $T = 1220^{\#/'}$

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

AVE HGT OF FILL ABOVE FABRIC IS 5.3' BASED ON PRELIMINARY EMBEDMENT COMPUTATIONS.

EL -30.0

$$L = \frac{1250 \times 12}{\underbrace{5.3(110-62.5)\tan 30}_{\text{SAND BASE}} + \underbrace{400}_{\text{TOP}}} \cong 28' \text{ OR } 44 \text{ FROM LEVEE c/L}$$

EL -40.0

$$L = \frac{1220 \times 12}{5.3(110-62.5)\tan 30 + 400} \cong 27' \text{ OR } 48' \text{ FROM LEVEE c/L}$$

CONTROLS

NOW CHECK FLOODSIDE REQUIRED FABRIC STRENGTH AND LENGTH.

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

REACH I - FLOOD SIDE

1.) FACTOR-OF-SAFETY OF EMBEDMENT WITHOUT FABRIC BY METHOD OF PLANES & SPENCER METHOD (P.C. SLOPE PROGRAM)

ELEV	METHOD OF PLANES (SEE STABILITY PLATE)	SPENCER METHOD
-10.0	1.16	—
-20.0	1.06	1.20
-30.0	0.98	1.14
-40.0	1.06	1.32
-50.0	1.32	1.87

2.) REQUIRED FABRIC STRENGTH BASED ON THE FOLLOWING EQUATIONS

METHOD OF PLANES: $$T = \frac{(D_A - D_P)F.S. - (R_A + R_B + R_P)}{12}$$

SPENCER METHOD $$T = \frac{F.S.(\Sigma \text{ DRIVING MOMENT}) - (\Sigma \text{ RESISTING MOMENT})}{Y \text{ COORD OF ORIGIN} \times 12}$$

ELEV	METHOD OF PLANES	SPENCER METHOD
-10.0	232 #/ft	—
-20.0	719 #/ft	380 #/ft
-30.0	1230 #/ft	975 #/ft
-40.0	1117 #/ft	NONE
-50.0	NONE	NONE

COMPUTATION SHEET

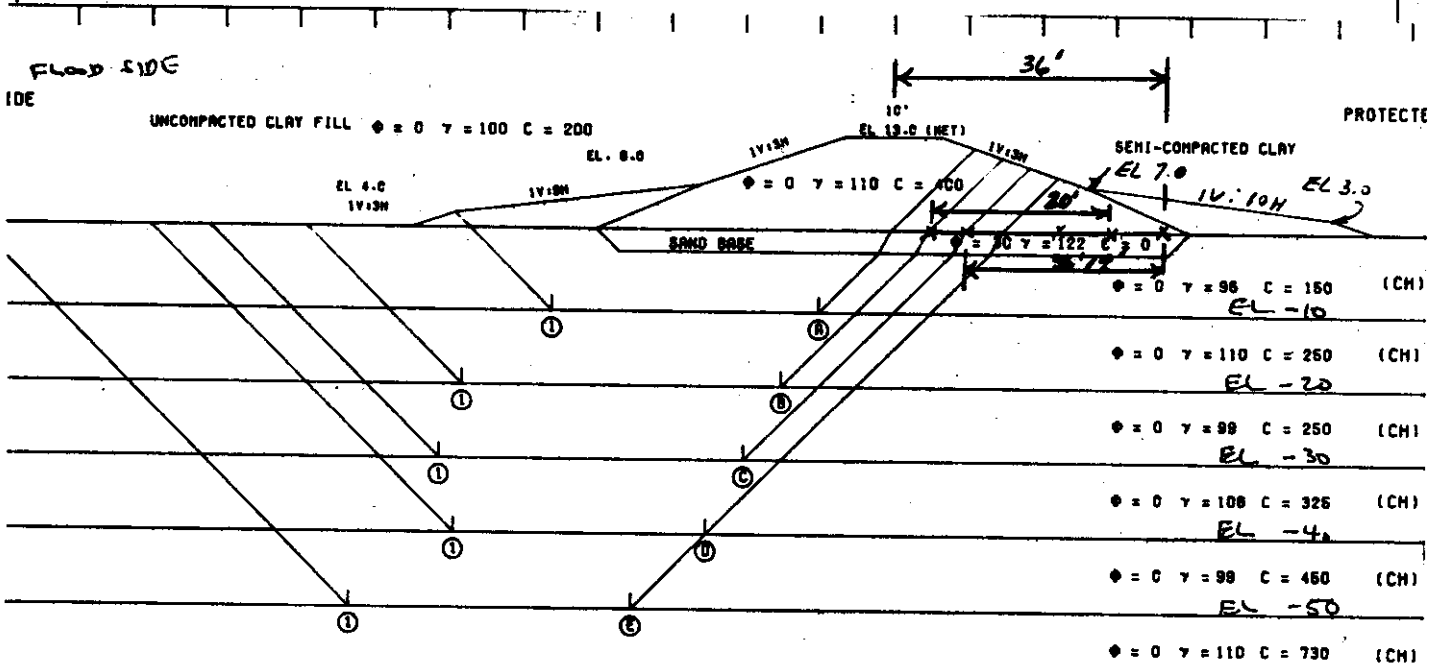
PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

COMPARING RESULTS OF THE ABOVE ANALYSES THE METHOD OF PLANES CONTROLS THE FABRIC STRENGTH

$T \cong 1250^{\#}/_{LF}$ AT EL 1.0

3.) EMBEDMENT LENGTH

$$L = \frac{T}{(\gamma'_1 h_1 \tan\phi_1 + c_1) + (\gamma'_2 h_2 \tan\phi_2 + c_2)}$$



CHECK EMBEDMENT LENGTH OF FABRIC AT ELEV. 1.0 FOR

EL -30.0 $T \cong 1250^{\#}/_{LF}$

EL -40.0 $T = 1150^{\#}/_{LF}$

COMPUTATION SHEET

PROJECT ST. CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

AVE HGT OF FILL ABOVE FABRIC IS 5.6' BASED ON PRELIMINARY EMBEDMENT COMPUTATIONS:

EL -30

$$L = \frac{1250 \times 12}{5.6(110)\tan 30 + 400} \cong 20' \quad \text{OR} \quad 31' \text{ FROM LEVEE C/L}$$

EL -40

$$L = \frac{1150 \times 12}{5.6(110)\tan 30 + 400} \cong 19' \quad \text{OR} \quad 36' \text{ FROM LEVEE C/L}$$

THEREFORE: FABRIC LENGTH PERPENDICULAR TO THE LEVEE CENTERLINE FOR 1250 #/in FABRIC IS (48+36) = 84 FEET.

COMPUTATION SHEET

PROJECT ST. CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

REACH 2A - PROTECTED SIDE (2 LAYER SYSTEM)

1.) FACTOR-OF-SAFETY OF EMBEDMENT WITHOUT FABRIC BY METHOD OF PLANES & SPENCER METHOD (P.C. SLOPE PROGRAM)

ELEV.	METHOD OF PLANES	SPENCER METHOD
-20	0.78	0.81
-32	0.78	0.87
-45	0.85	1.04
-55	0.93	1.27

2.) REQUIRED FABRIC STRENGTH BASED ON THE FOLLOWING EQUATIONS

METHOD OF PLANES: $T = \dfrac{(D_A - D_P)\,F.S. - (R_A + R_B + R_P)}{12}$

SPENCER METHOD: $T = \dfrac{F.S.(\Sigma \text{ DRIVING MOMENT}) - (\Sigma \text{ RESISTING MOMENT})}{Y \text{ COORD. OF ORIGIN} \times 12}$

ELEV.	METH. OF PLANES SINGLE	METH. OF PLANES 2 LAYERS *	SPENCER SINGLE LAYER @ EL 0.0	METHOD 2 LAYER SYSTEM @ EL 3.0 & 0.0
-20	1648 #/'	548 & 1100 #/'	1875 #/'	
-32	2279 #/'	760 & 1519 #/'	2476 #/'	950 #/' & 1600 #/'
-45	2500 #/'	900 & 1600 #/'	2048 #/'	700 #/' & 1400 #/'
-55	2310 #/'	770 & 1540 #/'	276 #/'	

* MAX. FABRIC STRENGTH USED IS 1600 #/'. APPROX. 1/3 OF THE REQUIRED T IS IN THE UPPER FABRIC & APPROX. 2/3 IN THE BOTTOM FABRIC

COMPUTATION SHEET

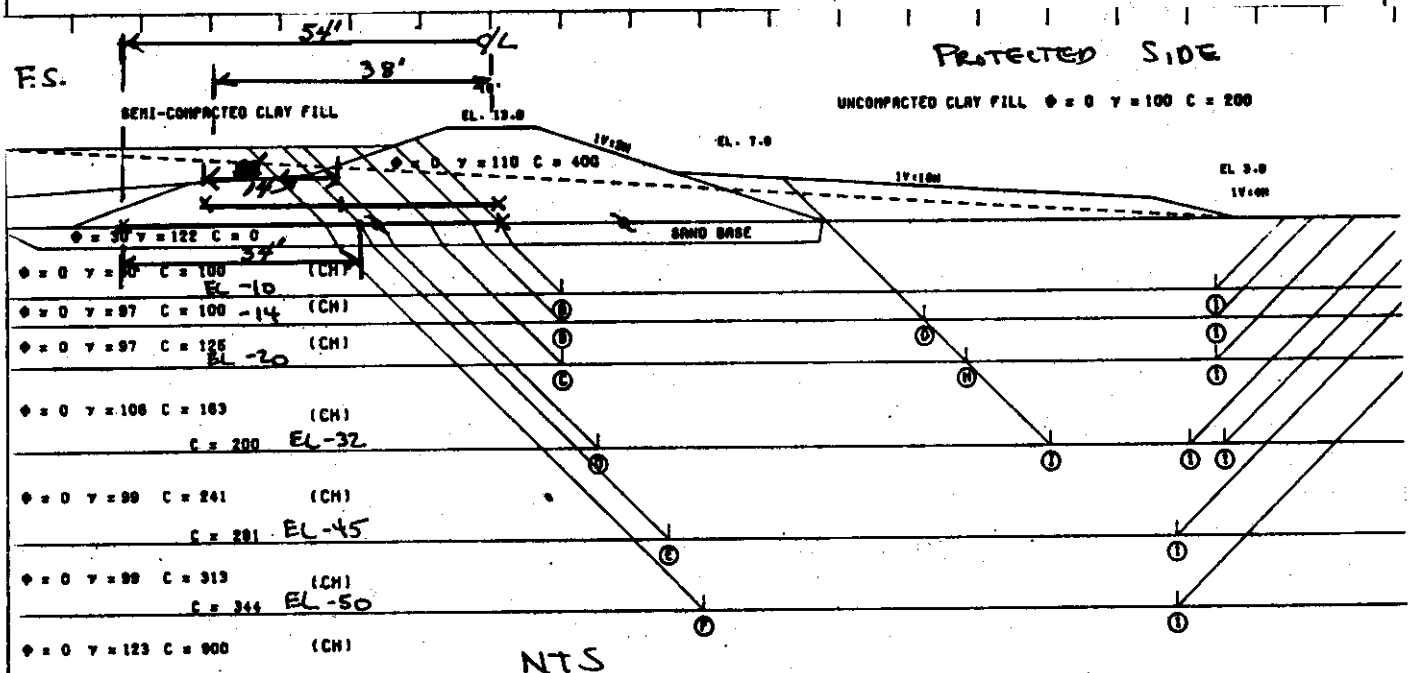
PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY RMP	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

COMPARING RESULTS OF THE ABOVE ANALYSES, SPENCER METHOD CONTROLS THE REQUIRED FABRIC STRENGTHS (SLIP SURFACE EL -32)

"2 FABRIC LAYER SYSTEM"

T = 950 #/" @ EL 3.0
1600 #/" @ EL 0.0

3.) EMBEDMENT LENGTH



NTS

CHECK EMBEDMENT OF FABRIC FOR:

a) SPENCER METHOD FOR EL -32.0 T = 950 #/" @ EL 3.0 & 1600 #/" @ EL 0.0

b) METHOD OF PLANES FOR EL -45.0 T = 900 #/" @ EL 3.0 & 1600 #/" @ EL 0.0

D-30

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY RBP	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

a) SPENCER METHOD: SLIP SURFACE @ EL -32.0

EL 3.0

$$L = \frac{950 \times 12}{400 + 400} = 14.3' \approx 15'$$ DIST FROM C/L = 35'

EL 0.0 (AVE HGT OF FILL 6.25')

$$L = \frac{1600 \times 12}{6.25(110-62.5)\tan 30 + 400} \cong 34'$$ DIST FROM C/L = 51'

b) METHOD OF PLANES: SLIP SURFACE @ EL -45.0

EL 3.0

$$L = \frac{900 \times 12}{400 + 400} \cong 14'$$ DIST FROM C/L = 38'

CONTROLS

EL 0.0

$$L = \frac{1600 \times 12}{6.25(110-62.5)\tan 30 + 400} \cong 34'$$ DIST FROM C/L = 54'

*** THEREFORE: SPENCER METHOD, SLIP SURFACE EL -32, CONTROLLED THE FABRIC TENSILE STRENGTH. AND METHOD OF PLANES, SLIP SURFACE EL -45.0, CONTROLLED THE FABRIC EMBEDMENT LENGTH.

NOW CHECK FLOOD SIDE

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY RRP	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

REACH 2A - FLOOD SIDE

1.) FACTOR-OF-SAFETY OF EMBEDMENT WITHOUT FABRIC BY METHOD OF PLANES & SPENCER METHOD (P.C. SLOPE PROGRAM)

ELEV.	METHOD OF PLANES	SPENCER METHOD
-20	0.78	0.82
-32	0.78	0.88
-45	0.86	1.05
-55	0.94	1.28

2.) REQUIRED FABRIC STRENGTH BASED ON THE FOLLOWING EQUATIONS

METHOD OF PLANES: $T = \dfrac{(D_A - D_P)\,F.S. - (R_A + R_B + R_P)}{12}$

SPENCER METHOD $T = \dfrac{F.S.(\Sigma \text{DRIVING MOMENT}) - (\Sigma \text{RESISTING MOMENT})}{Y \text{ COORD. OF ORIGIN} \times 12}$

ELEV.	METHOD OF PLANES SINGLE	METHOD OF PLANES 2 LAYERS	SPENCER METHOD SINGLE LAYER @ EL 0.0	SPENCER METHOD 2 LAYER SYSTEM @ EL 3.0 & 0.0
-20	1657 #/in		1890 #/in	
-32	2245 #/in	745 #/in & 1500 #/in	2460 #/in	950 #/in & 1600 #/in @ EL 0.0
-45	2347 #/in	780 #/in & 1570 #/in	2006 #/in	714 #/in & 1350 #/in
-55	2144 #/in		210 #/in	

COMPARING RESULTS OF THE ABOVE ANALYSIS, SPENCER METHODS CONTROLS THE REQUIRED FABRIC STRENGTHS (SLIP SURFACE EL -32.0)

"2 LAYER SYSTEM"

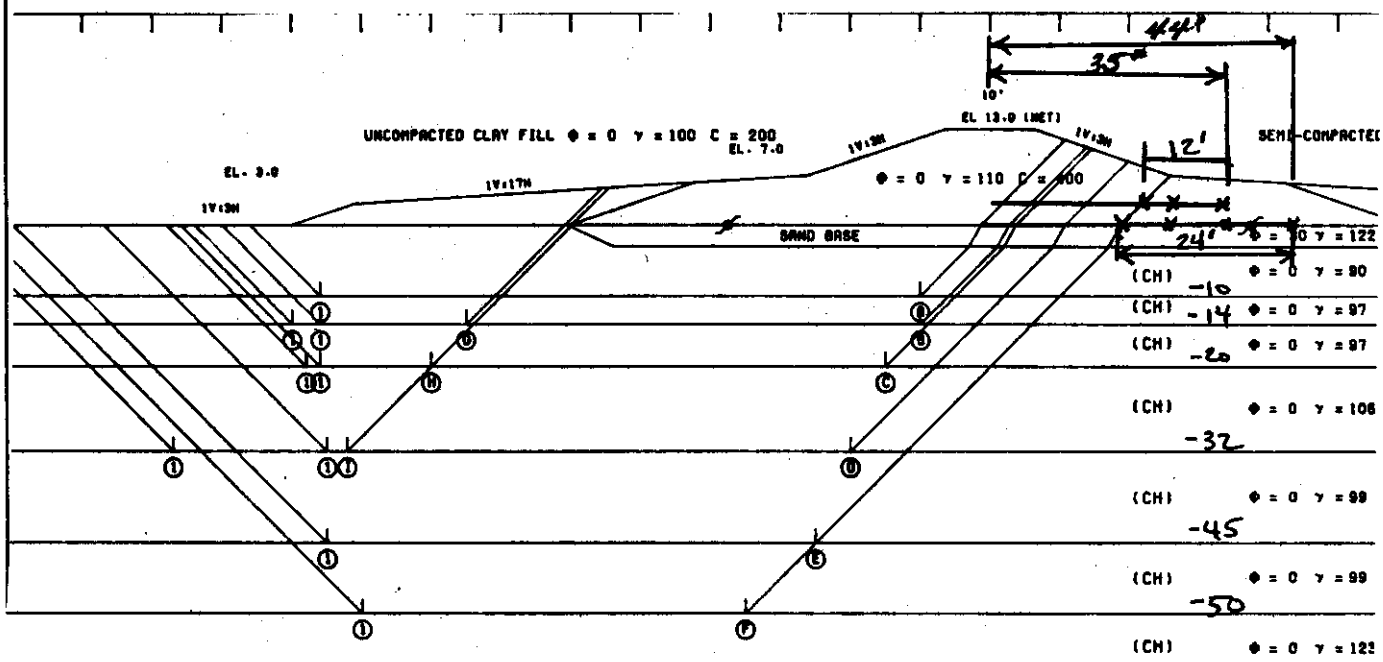
T= 950 #/in @ EL 3.0 & 1600 #/in @ EL 0.0

D-32

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

3. EMBEDMENT LENGTH



CHECK EMBEDMENT OF FABRIC FOR:

a) SPENCER METHOD FOR EL -32.0 T= 950 #/' @ EL 3.0 & 1600 #/' @ EL 0.0

b) METHOD OF PLANES FOR EL -45.0 T= 780 #/' @ EL 3.0 & 1570 #/' @ EL 0.0

a) SPENCER METHOD: SLIP SURFACE EL -32.0

EL 3.0

$$L = \frac{950 \times 12}{400+400} \cong 15'$$ DIST FROM C/L = 30'

EL 0.0

$$L = \frac{1600 \times 12}{6.5(110)\tan 30 + 400} = 24'$$ DIST FROM C/L = 36'

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY REP	DATE
SUBJECT GEOTEXTILE DESIGN COMPUTATIONS		CHECKED BY	DATE

b) METHOD OF PLANES: SLIP SURFACE @ EL -45.0

EL 3.0

$$L = \frac{780 \times 12}{400 + 400} = 12'$$

DIST FROM C/L = 35'

CONTROLS

EL 0.0

$$L = \frac{1570 \times 12}{6.5(110)\tan 30 + 400} \cong 24'$$

DIST FROM C/L = 44'

THEREFORE: FABRIC LENGTH PERPENDICULAR TO THE LEVEE CENTERLINE FOR 950#/11 FABRIC IS (38+35') = 73 FEET

1600#/11 FABRIC IS (54+44) = 98 FEET MIN

NOTE: BOTTOM FABRIC WAS EXTENDED TO ATTAIN A F.S.=1.3 IN THE LEVEE BERM.

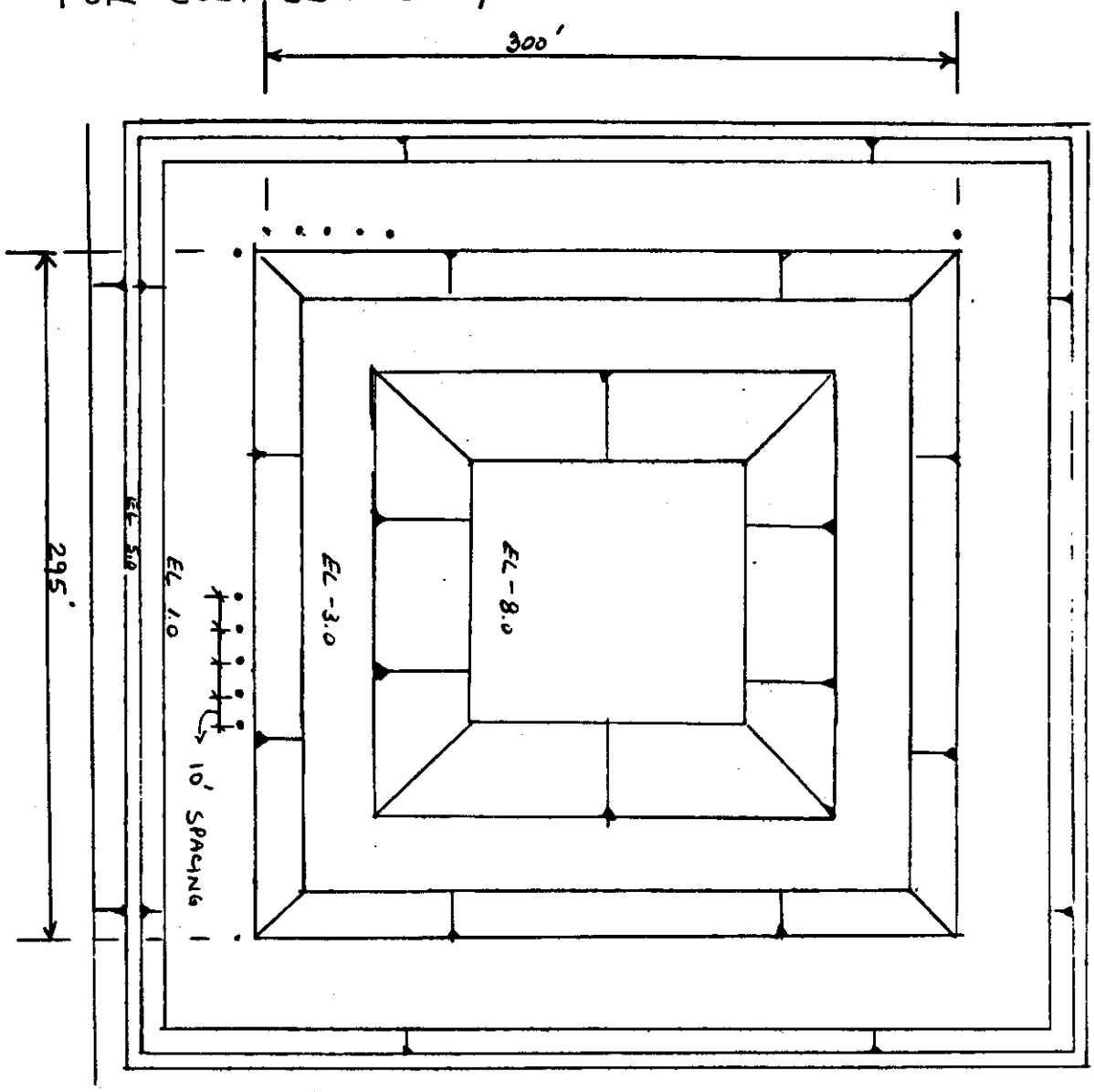
EMBEDMENT

THE ABOVE CALCULATIONS ARE FOR REACH 1 & 2A. THE EMBEDMENT CALCULATIONS FOR REACH 2B THRU 8 ARE CALCULATED THE SAME BUT ARE NOT SHOWN.

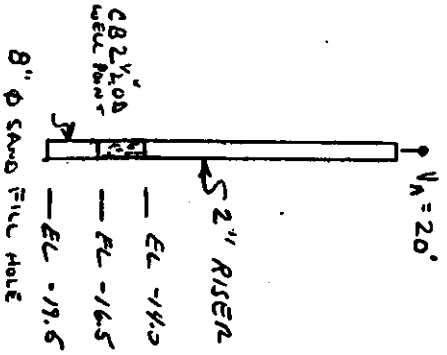
COMPUTATION SHEET

PROJECT ST CHARLES PARISH - DEWATERING	PAGE OF	COMPUTED BY	DATE
SUBJECT CROSS BAYOU - WELL POINT LAY-OUT		CHECKED BY	DATE

FOR COST EST. ONLY



APPROX. 120' WELLS



D-35

COMPUTATION SHEET

PROJECT	ST. CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT	DEWATERING - CROSS BAYOU		CHECKED BY	DATE

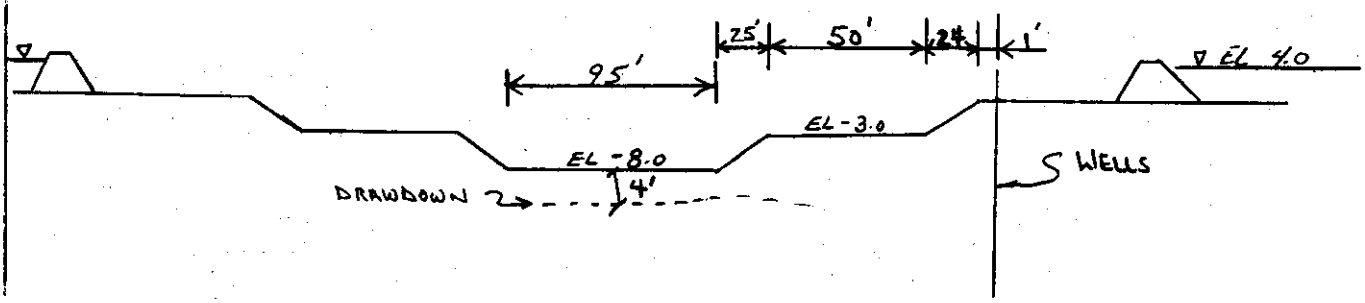
COMPILATION FOR COST ESTIMATING PURPOSES

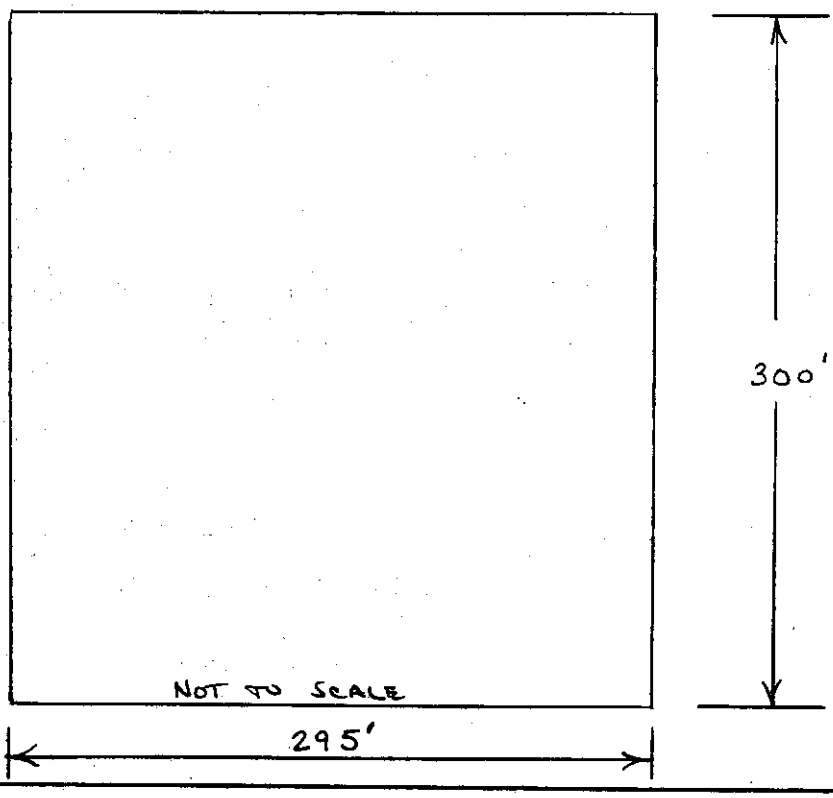
INSTALL 120 POINTS; 2340' OF 8-IN ϕ DRILLED HOLE BACKFILLED WITH CONCRETE SAND, 1800' OF 2-IN RISER PIPE, 120 EACH CB 2.5-IN OD WELL POINTS, 1190' OF COLLECTOR PIPE, INSTALL AND READ 4 EA OPEN TYPE PIEZOMETER WITH TOP AT EL 1.0 AND TIP AT EL -12.5

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT DEWATERING		CHECKED BY	DATE

FOR COST ESTIMATING ONLY





D-37

LMV Form 107e
OCT 86

PREVIOUS EDITIONS MAY BE USED

(FOR USE WITH 10 x 10 GRID)

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT DEWATERING		CHECKED BY	DATE

EQUIVALENT RADIUS — WELL

$$R_e = \sqrt{\frac{a \cdot b}{\pi}} = \sqrt{\frac{300 \times 295}{\pi}} \cong 168'$$

REQUIRED DRAWDOWN: 16' (SWL EL 4.0, DRAWDOWN BELOW EXCAVATION EL-12)

ASSUMED: $K = 500 \times 10^{-4}$ cm per sec = 0.1 ft per min for PEAT OR VERY ORG. CLAYS

THICKNESS OF DRAINED STRATUM: $D = 12'$

$$Q = \frac{2\pi KD(H-h)}{\ln(R/Re)}$$

FROM CHARTS $R = 700'$ FOR $H-h = 10'$

for $H-h = 16'$ then $R = 700 \times \frac{16}{10} = 1120'$

$$Q = \frac{2\pi(.1)(12)(16)}{\ln(1120/168)} = \frac{120.637}{1.8971} = 63.6 \text{ cfm} \cong 477 \text{ gpm}$$

ASSUMED FLOW PER WELL POINT = 5 gpm

$$\text{NUMBER OF WELLS} = \frac{Q}{\text{FLOW PER WELL}} = \frac{477}{5} = 95.4 \text{ WELLS}$$

COMPUTATION SHEET

PROJECT ST CHARLES PARISH	PAGE OF	COMPUTED BY	DATE
SUBJECT DEWATERING		CHECKED BY	DATE

CHECK HEAD LOSS:

CB = 2.5" OD WITH 2" RISER PIPE

WELL SPACING 10' APART = a (APPROX 118 WELLS)

$r_w = 0.33'$

$K = 500 \times 10^{-4}$ cm/sec

$Q \cong 4$ gpm $= 0.533$ cfm

$$\Delta h = \sqrt{\frac{Q}{2\pi K} \ln \frac{a}{2\pi r_w}}$$

$$= \sqrt{\frac{.533}{.314} \ln \frac{10}{2.07}} = 1.64'$$

$H_w = H_e + H_s + H_f + H_v = 0.5'$ assumed

REQUIRED VACUUM AT TOP OF RISER = $1 + 12 + 1.64 + 0.5 = 15.14'$

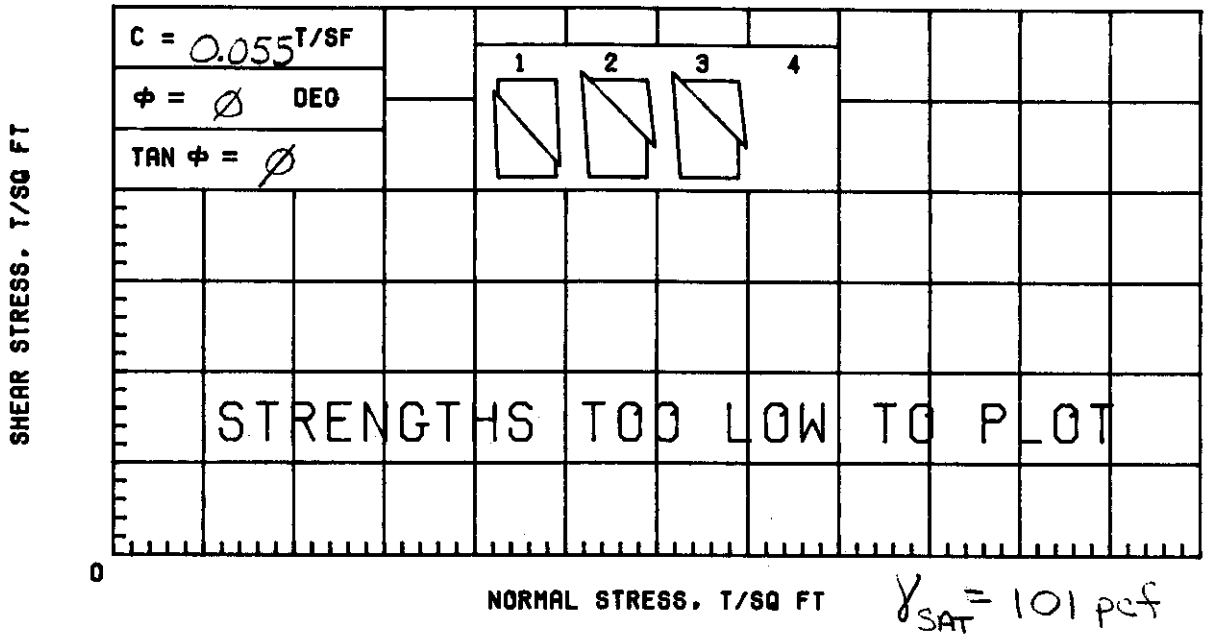
$< 20'$
O.K.

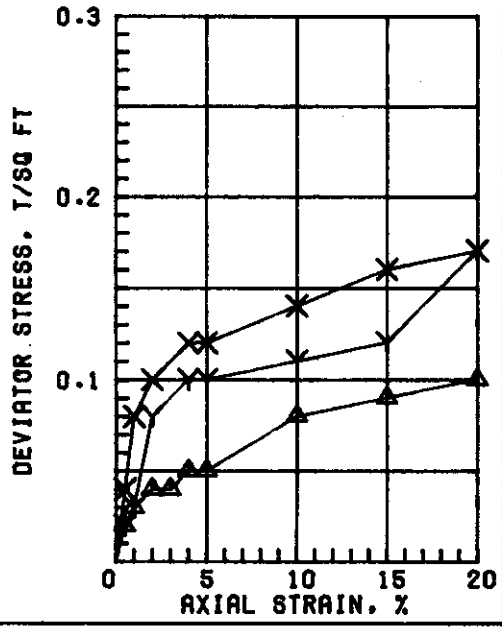
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
HIGH LEVEL PLAN
DESIGN MEMORANDUM No. 18 - GENERAL DESIGN
ST. CHARLES PARISH NORTH OF AIRLINE HIGHWAY

APPENDIX E, VOLUME II

SOIL TEST DATA SHEETS

TABLE OF CONTENT





	SPECIMEN NO.	Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	68.8	70.5	52.9	
	DRY DENSITY, PCF	58.1	57.8	66.6	
	SATURATION, %	97.6	99.2	98.1	
	VOID RATIO	1.903	1.918	1.456	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.04	0.10	0.12	
TIME TO FAILURE, MIN.		4	8	8	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 64.1

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 110	PL 28	PI 82	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

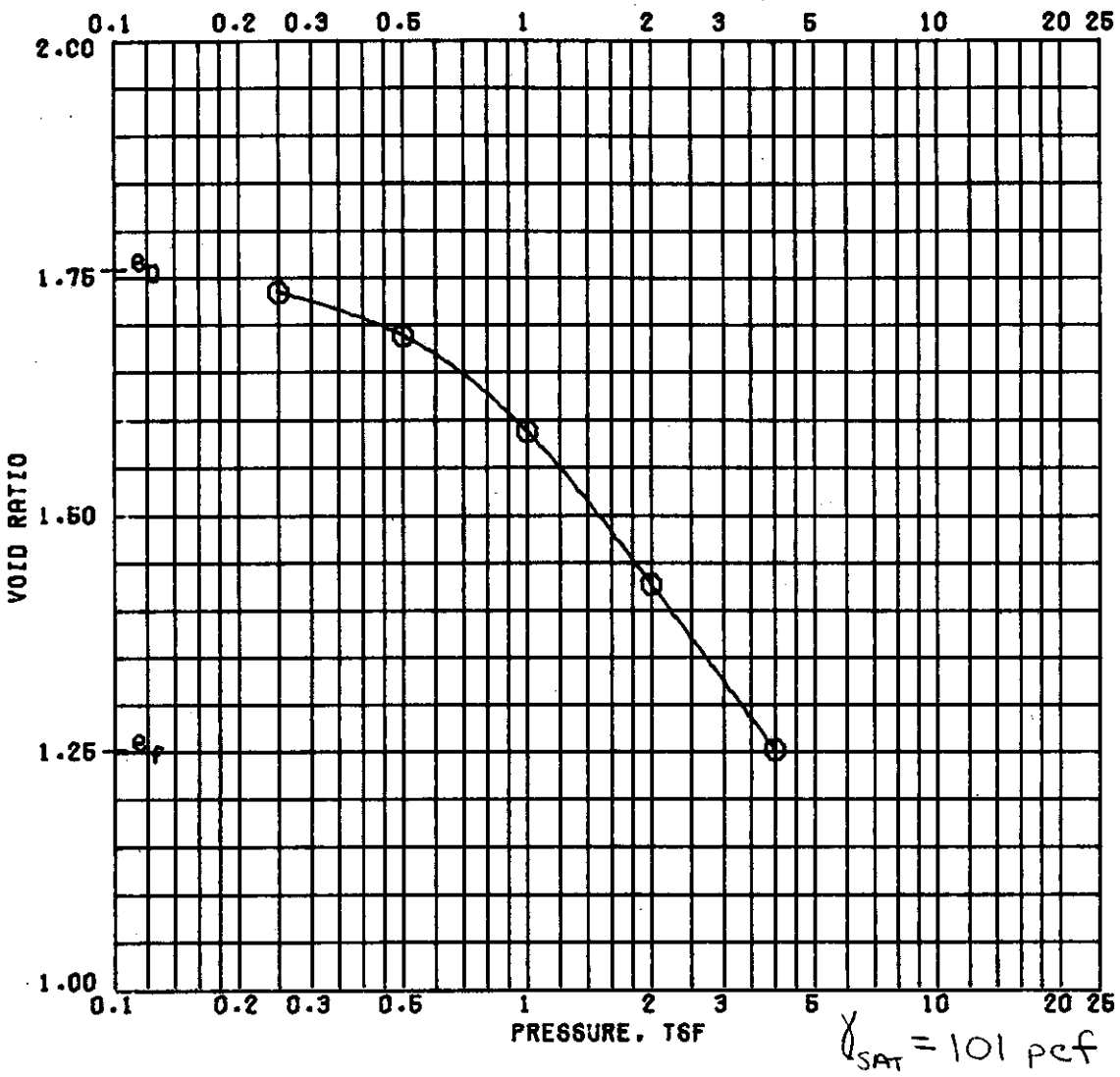
BORING NO. 1-SCU | SAMPLE NO. 1-C

DEPTH/ELEV 1.5/+0.2 | TECH. KOC

LABORATORY USAE WES | DATE 01 MAY 87

TRIAXIAL COMPRESSION TEST REPORT

1



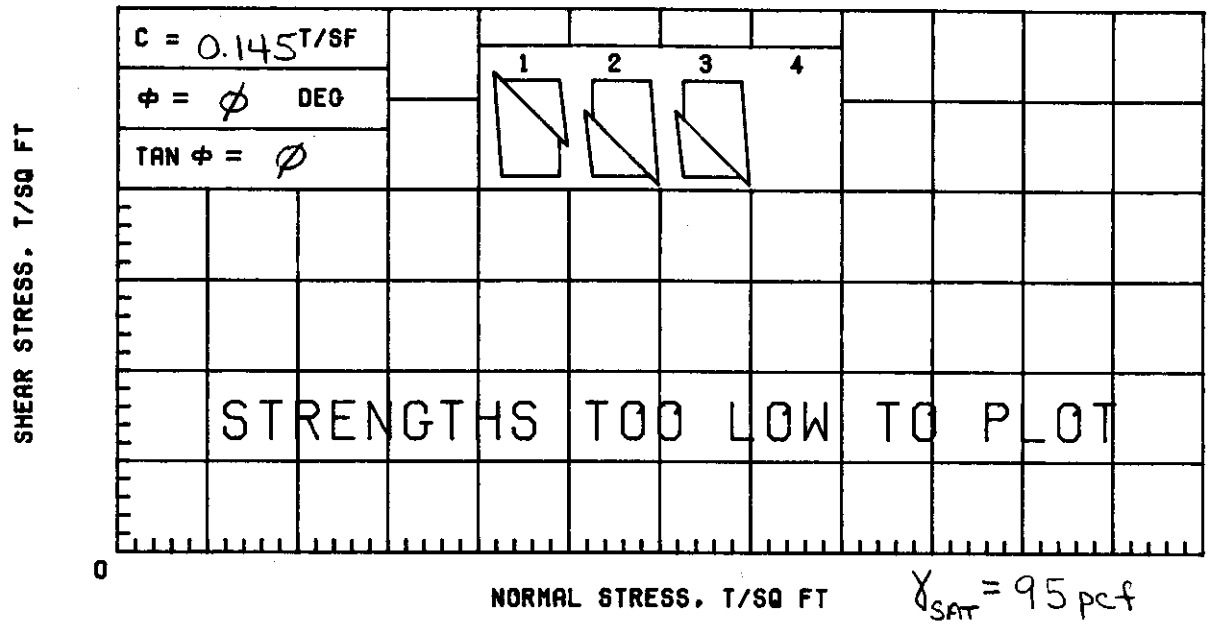
$\gamma_{SAT} = 101$ pcf

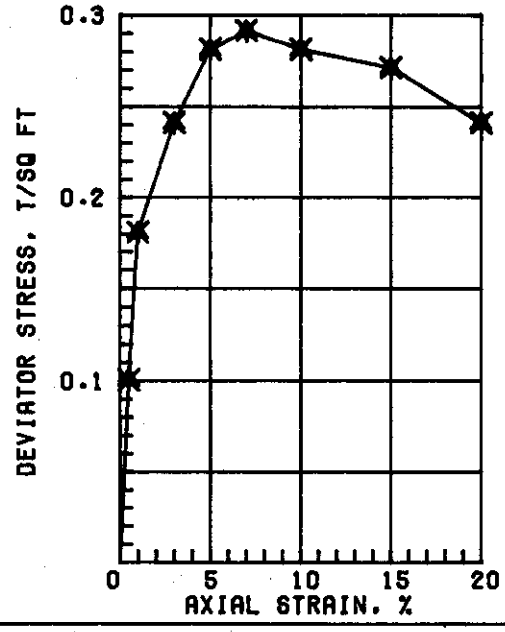
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	62.4	49.4
PRECONSOL. PRESSURE, TSF	0.74	DRY DENSITY, PCF	61.1	74.9
COMPRESSION INDEX	0.55	SATURATION, %	95.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.757	1.250
DIA. IN 4.44	HT. IN 1.125	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; ROOTLETS

LL	PL	PI	PROJECT LK. PCNT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS			BORING NO. 1-SCU	SAMPLE NO. 3-B
			DEPTH/ELEV 8.5/-6.8	DATE 24 JUN 87

CONSOLIDATION TEST REPORT





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	81.4	83.8	89.1	
	DRY DENSITY, PCF	52.9	51.3	48.5	
	SATURATION, %	100+	99.1	97.2	
	VOID RATIO	2.186	2.283	2.476	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.29	0.29	0.29	
TIME TO FAILURE, MIN.		14	14	14	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 84.8

CONTROLLED-STRAIN TEST

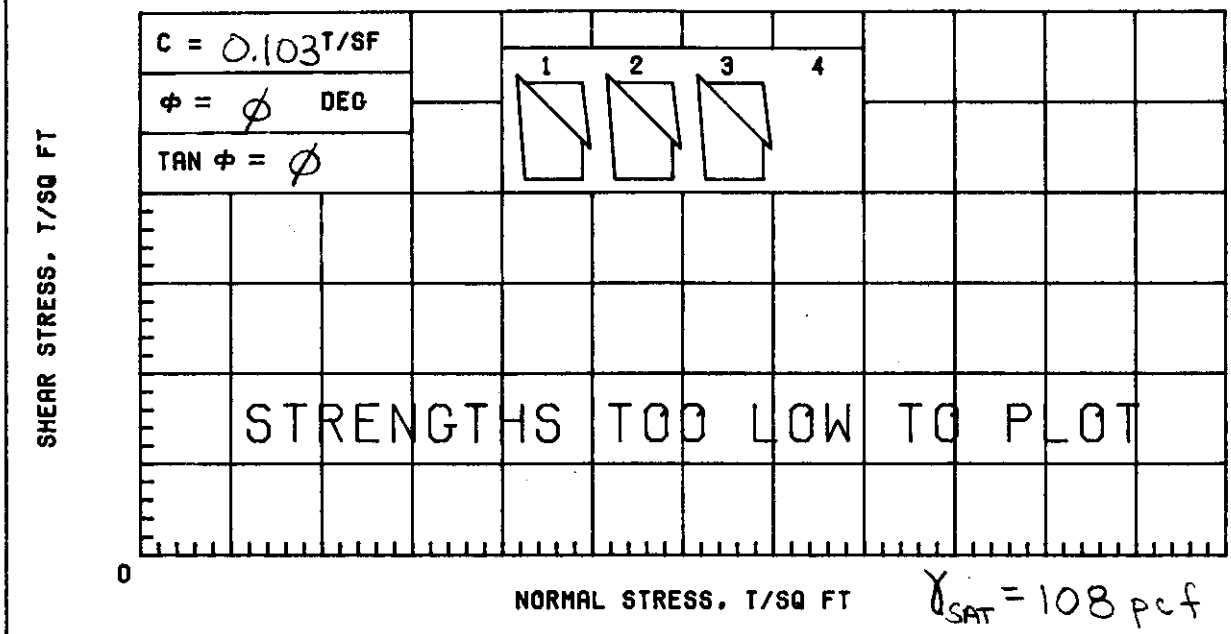
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

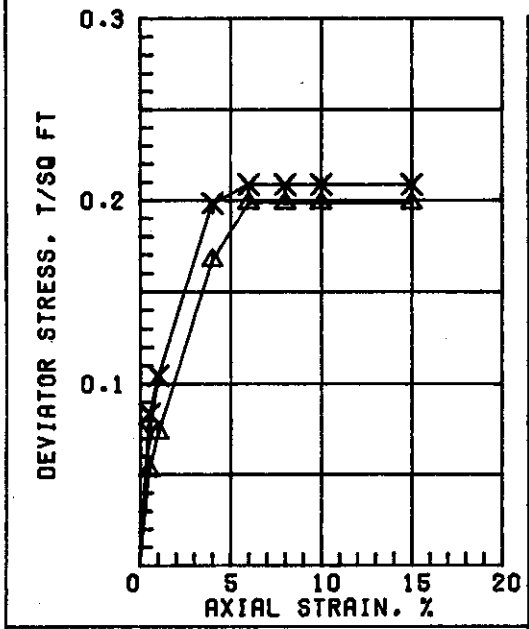
LL 125	PL 32	PI 93	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 1-SCU | SAMPLE NO. 3-C
DEPTH/ELEV 9.0/-7.3 | TECH. KOC
LABORATORY USAE WES | DATE 01 MAY 87

TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	46.9	48.0	48.9	
	DRY DENSITY, PCF	73.1	72.3	71.3	
	SATURATION, %	96.8	97.2	96.8	
	VOID RATIO	1.307	1.333	1.365	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.20	0.21	0.21	
TIME TO FAILURE, MIN.		12	13	13	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.37	1.37	1.37	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 47.9

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), DARK BROWN; ORGANIC MATERIAL

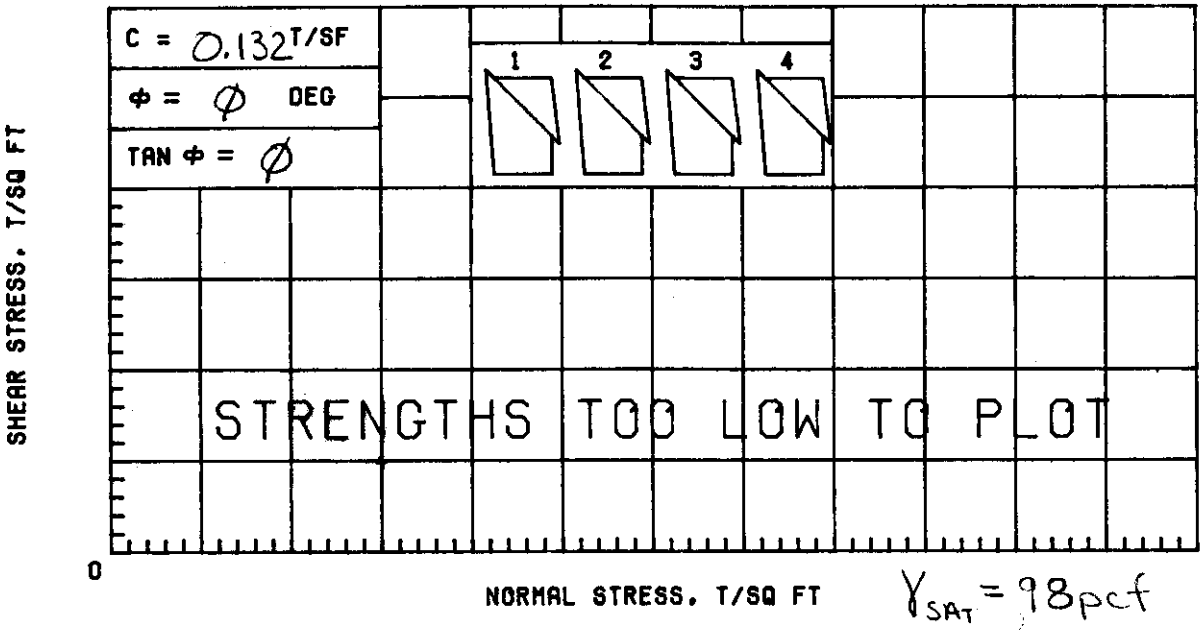
LL 50	PL 17	PI 33	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

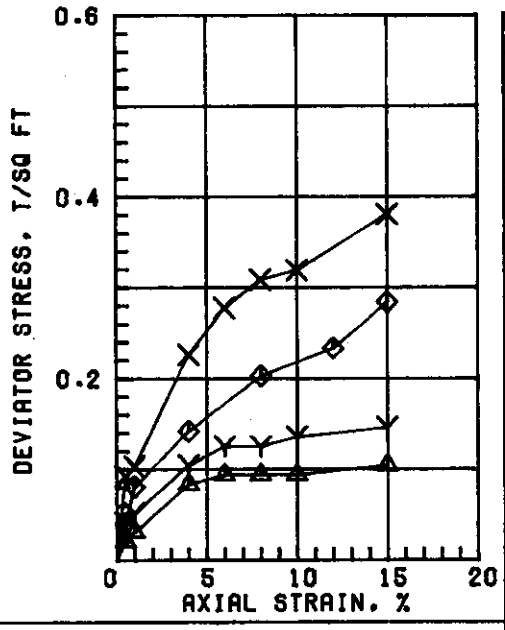
REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 1-SCU | SAMPLE NO. 4-C
DEPTH/ELEV 13.0/-11.3 | TECH. BD
LABORATORY USAE WES | DATE 01 MAY 87

TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	61.0	74.8	76.1	65.6
	DRY DENSITY, PCF	62.7	55.7	53.2	54.1
	SATURATION, %	97.6	99.6	94.6	83.6
	VOID RATIO	1.688	2.027	2.171	2.117
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.09	0.13	0.38	0.28
TIME TO FAILURE, MIN.		12	13	32	31
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.37	1.37	1.38	1.39
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 67.4

CONTROLLED-STRAIN TEST

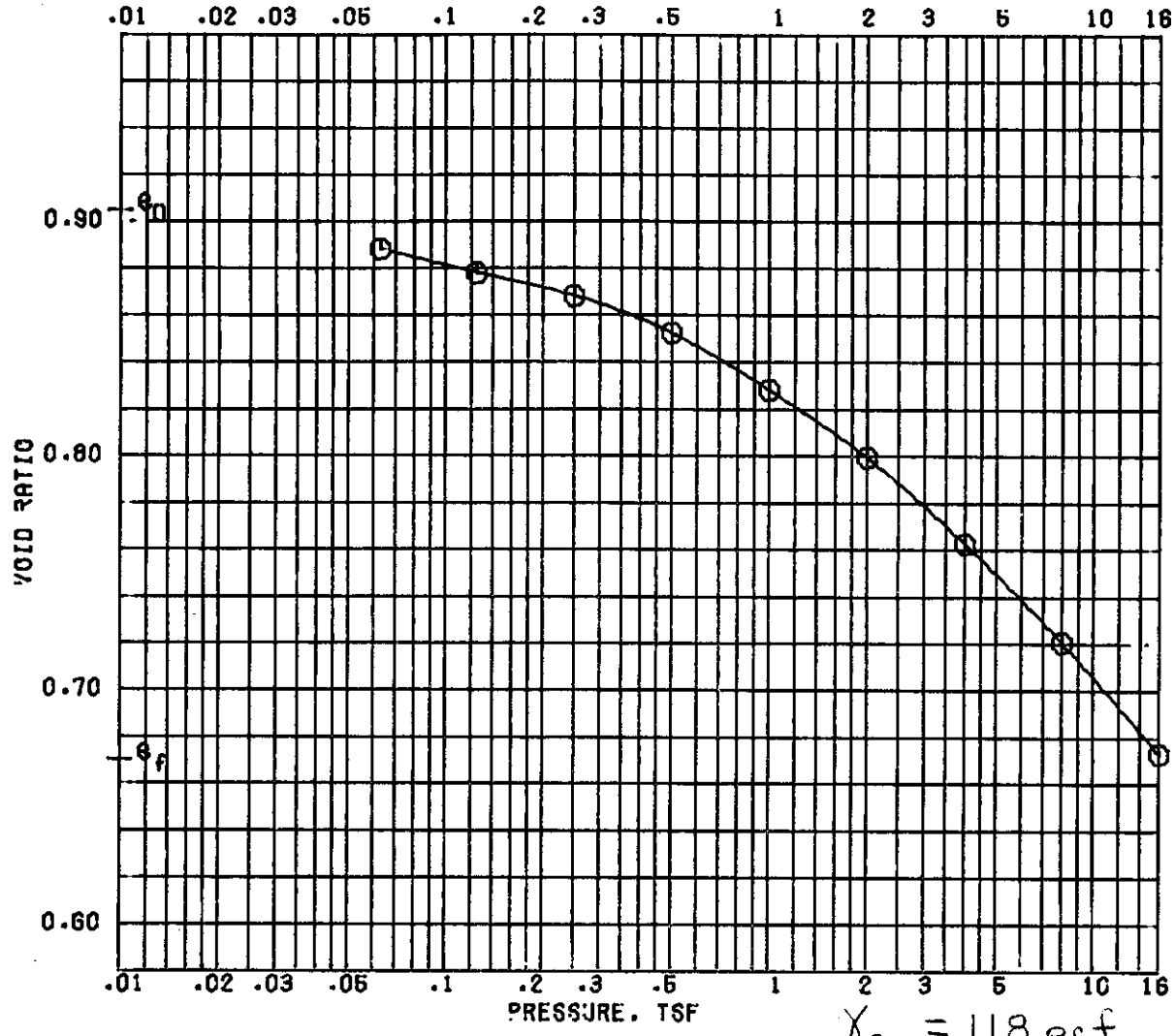
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT & FINE SAND SEAMS

LL 62	PL 18	PI 44	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: THIRD & FOURTH SPECIMENS TAKEN FROM DIFFERENT LIFT

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 1-SCU — SAMPLE NO. 7-C
DEPTH/ELEV 25.4/-23.7 — TECH. BD
LABORATORY USAE WES — DATE 01 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 118$ pcf

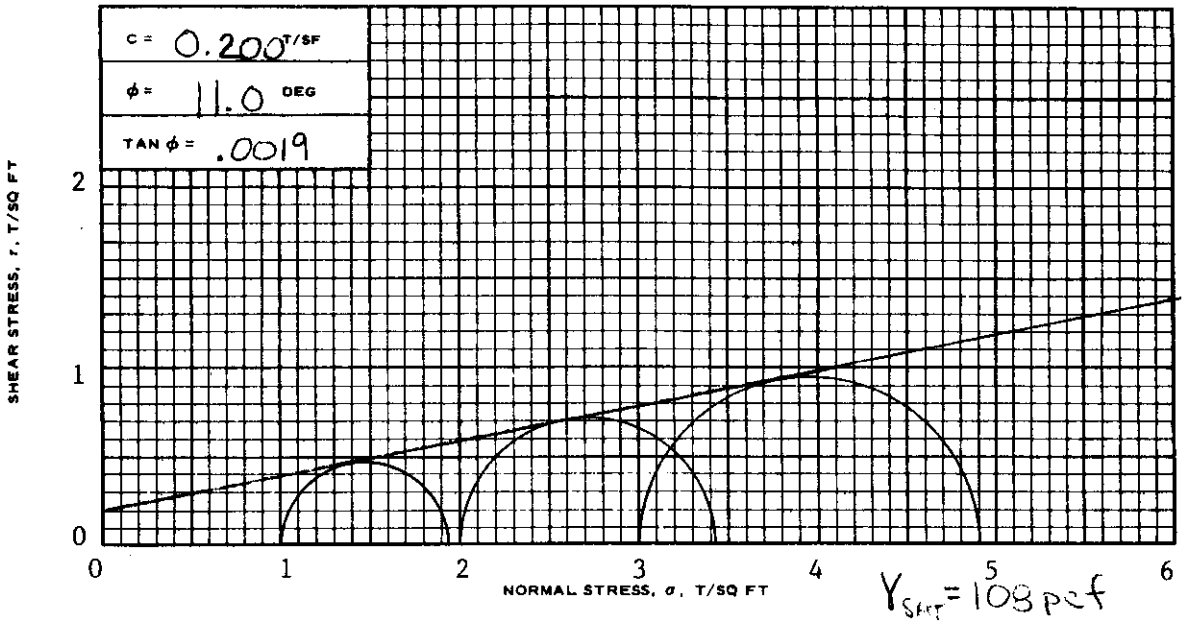
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		WATER CONTENT. %	33.3	24.7
PRECONSOL. PRESSURE. TSF	1.19	DRY DENSITY. PCF	88.5	101.0
COMPRESSION INDEX	0.15	SATURATION. %	99.4	99.6
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.904	0.669
DIA. IN 4.44	HT. IN 1.132	BACK PRESSURE. TSF		

CLASSIFICATION CLAY (CL), GRAY

LL 31	PL 20	PI 11	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 1-SCU	SAMPLE NO. 8-B
		DEPTH/ELEV 28.5/-26.8	DATE 06 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 10



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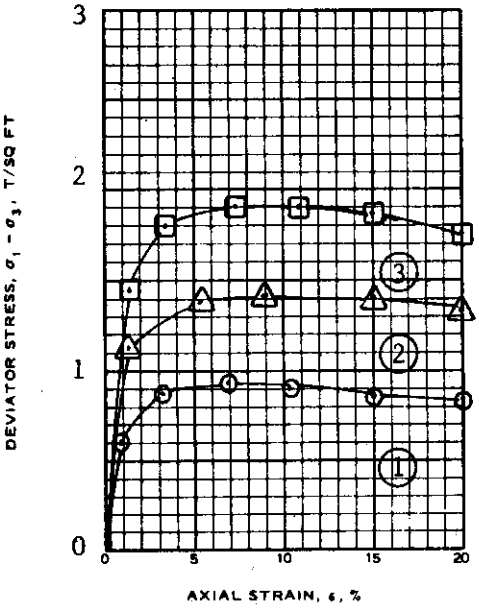


SPECIMEN NO.			1	2	3	AVE
INITIAL	WATER CONTENT, %	w_o	48.6	52.6	50.3	50.5
	DRY DENSITY LB/ CU FT	γ_{d_o}	73.3	70.1	71.2	
	SATURATION, %	s_o	100+	100+	99.3	
	VOID RATIO	e_o	1.300	1.403	1.368	
BEFORE SHEAR	WATER CONTENT, %	w_c	44.8	39.9	37.7	
	DRY DENSITY LB/CU FT	γ_{d_c}	78.7	81.0	85.6	
	SATURATION, %	s_c	100+	99.7*	100+	
	VOID RATIO	e_c	1.141	1.080	0.970	
	FINAL BACK PRESSURE, T/SQ FT	u_o	5.76	5.76	5.76	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	0.93	1.42	1.90	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	460	600	486	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o	1.38	1.37	1.38	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS CLAY (CH), GRAY: SILT POCKETS

LL 51 | PL 17 | PI 34 | G_s 2.70 | TYPE OF SPECIMEN UNDISTURBED | TYPE OF TEST $\bar{R}$

REMARKS: (EST)

* PORE PRESSURE RESPONSE

INDICATED 100% SATURATION

PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

BORING NO. 1-SCU | SAMPLE NO. 8-C

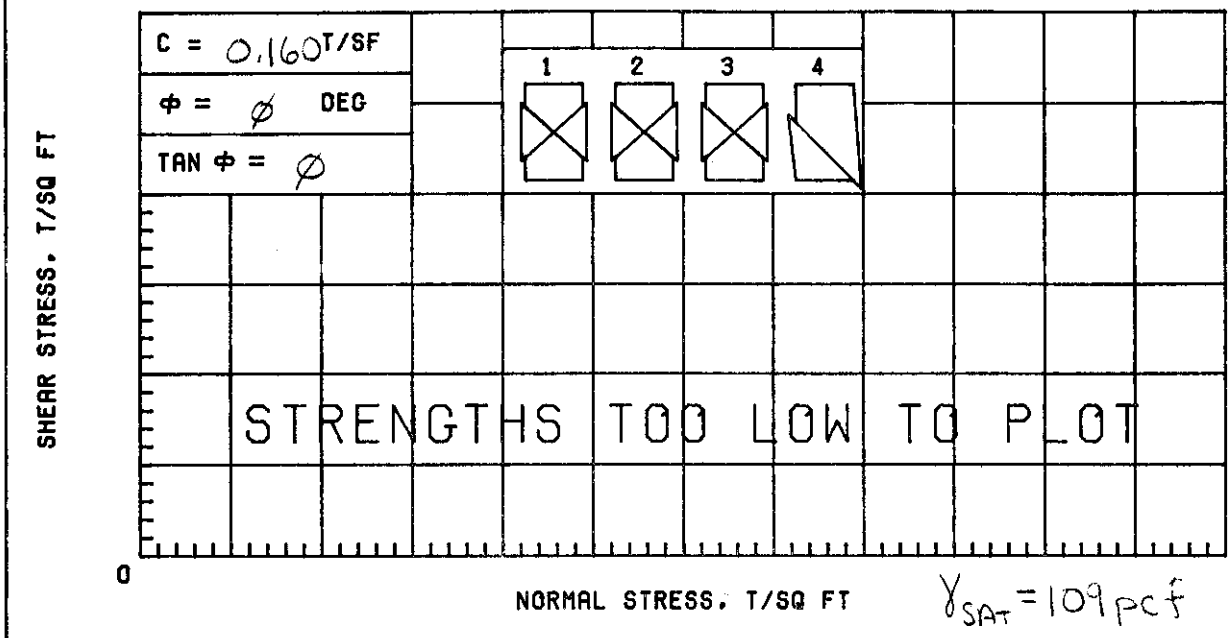
DEPTH/ELEV 29.0/27.3

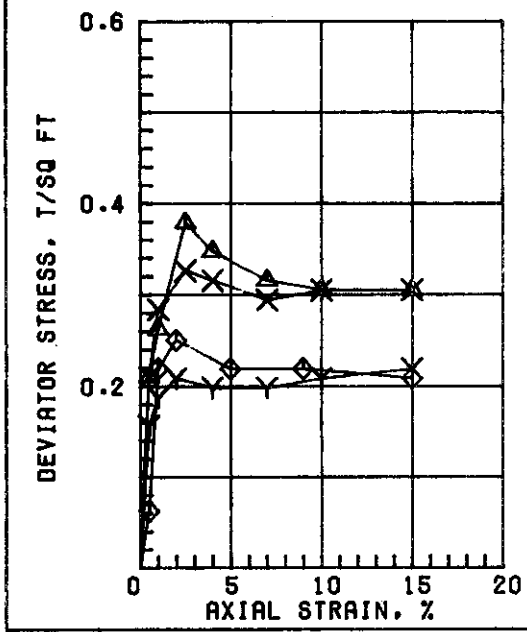
LABORATORY USAEWES | DATE 19 MAY 87

SHEET 1 OF 2 JMS

TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT *(EM 1110-2-1906)*





SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	49.1	46.7	46.4	48.4
	DRY DENSITY, PCF	72.7	74.2	74.5	74.0
	SATURATION, %	100+	99.1	99.4	100+
	VOID RATIO	1.319	1.272	1.261	1.279
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	1.5
MAX. DEV. STRESS, TSF		0.38	0.21	0.33	0.25
TIME TO FAILURE, MIN.		5	9	13	6
RATE OF STRAIN INCR.%			7	7	
INITIAL DIAMETER, IN.		1.36	1.37	1.36	1.37
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 47.7

CONTROLLED-STRAIN TEST

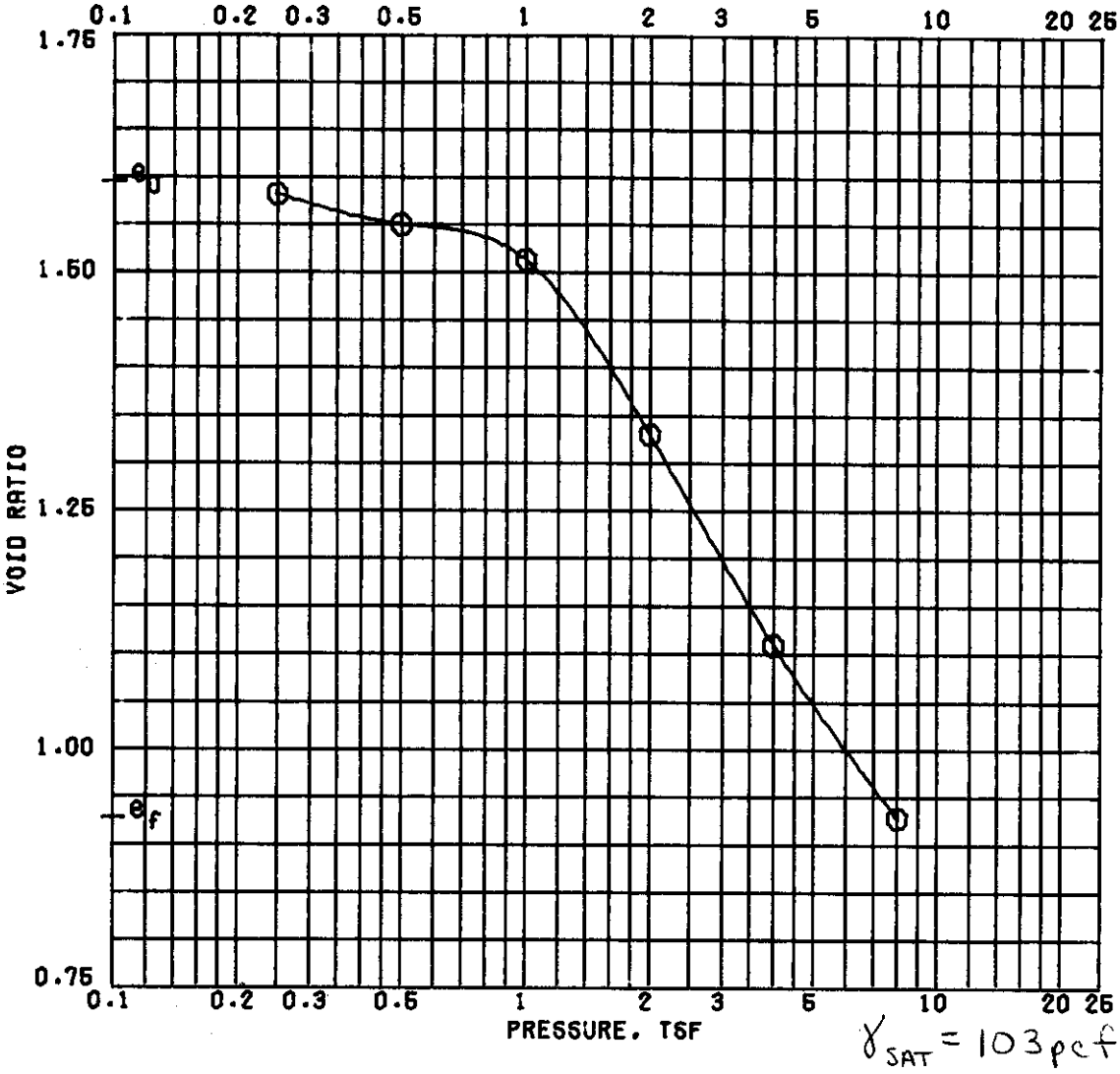
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY ; CONCRETIONS

LL 55	PL 17	PI 38	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 1-SCU | SAMPLE NO. 10-B
DEPTH/ELEV 36.2/-34.5 | TECH. BD
LABORATORY USAE WES | DATE 04 MAY 67

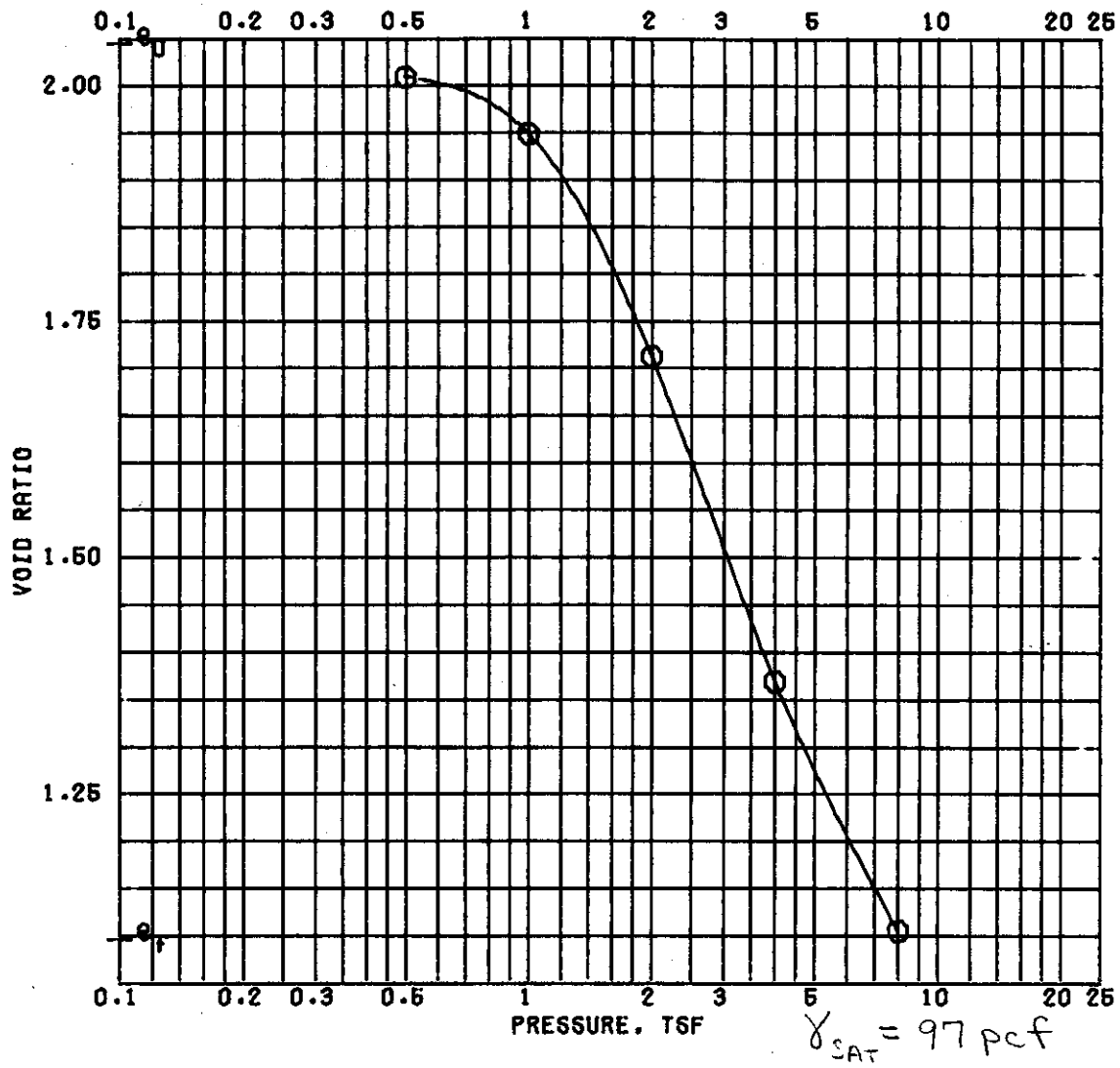
TRIAXIAL COMPRESSION TEST REPORT



			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	58.4	38.1
PRECONSOL. PRESSURE, TSF	1.17	DRY DENSITY, PCF	65.0	87.5
COMPRESSION INDEX	0.74	SATURATION, %	99.0	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.593	0.926
DIA. IN 4.44	HT. IN 1.128	BACK PRESSURE, TSF		
CLASSIFICATION	CLAY (CH), GRAY; SILT SEAMS & POCKETS			
LL / PL / PI		PROJECT	LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. 1-SCU	SAMPLE NO. 10-C	
		DEPTH/ELEV 36.9/-35.2	DATE 02 JUL 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



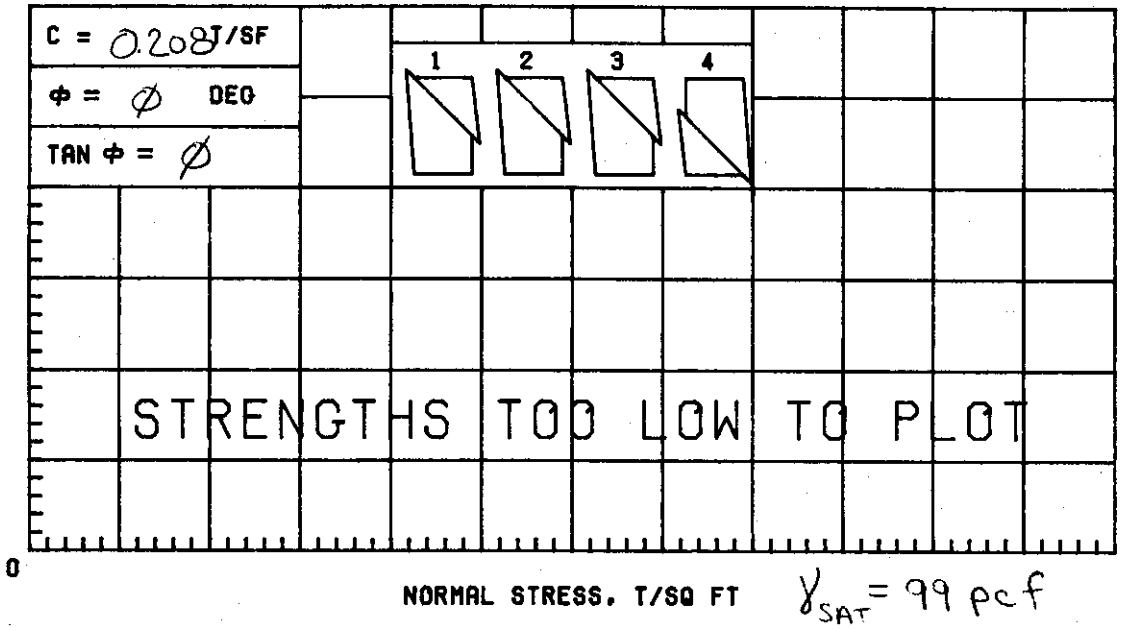
γ_{SAT} = 97 pcf

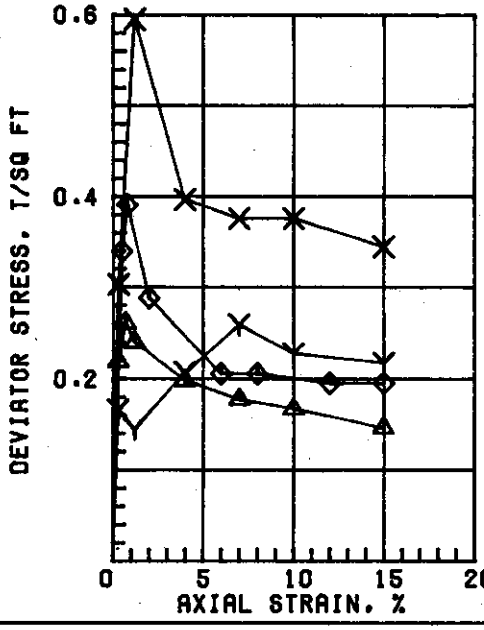
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	74.4	41.4
PRECONSOL. PRESSURE, TSF	1.20	DRY DENSITY, PCF	55.4	80.5
COMPRESSION INDEX	1.13	SATURATION, %	98.4	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.043	1.095
DIA. IN 4.44	HT. IN 1.135	BACK PRESSURE, TSF		

CLASSIFICATION	CLAY (CH), GRAY		
LL / PL / PI		PROJECT	I.K PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 1-SCU	SAMPLE NO. 13-B
		DEPTH/ELEV 48.5/-46.8	DATE 06 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	76.0	77.8	75.3	70.8
	DRY DENSITY, PCF	56.2	54.9	56.8	57.8
	SATURATION, %	100+	100+	100+	99.8
	VOID RATIO	2.002	2.070	1.969	1.915
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.26	0.17	0.60	0.39
TIME TO FAILURE, MIN.		1	3	9	6
RATE OF STRAIN INCR.%			4	7	5
INITIAL DIAMETER, IN.		1.37	1.37	1.37	1.38
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 75.0

CONTROLLED-STRAIN TEST

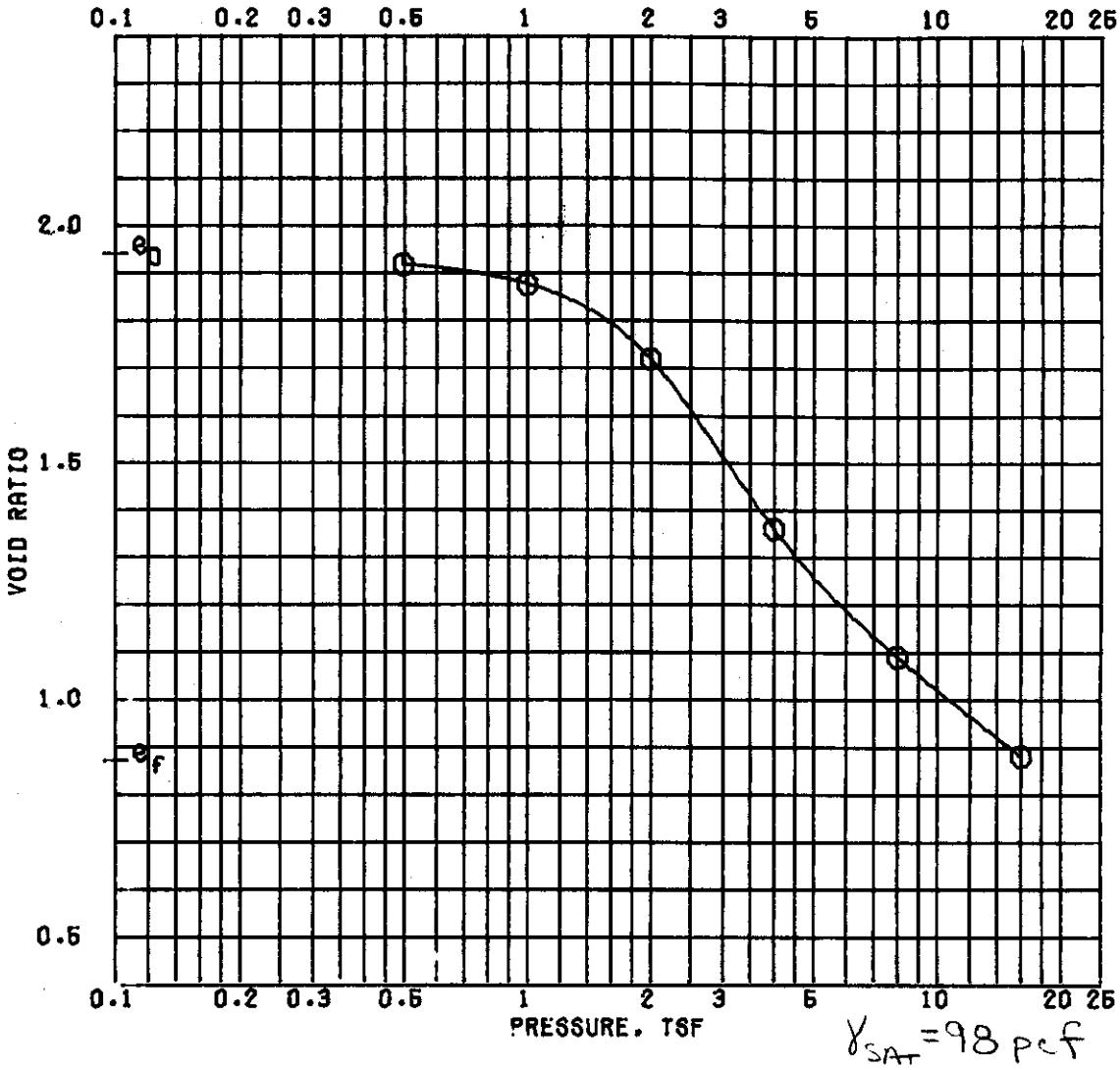
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 101	PL 24	PI 77	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 1-SCU | SAMPLE NO. 13-C
DEPTH/ELEV 49.0/-47.3 | TECH. BD
LABORATORY USAE WES | DATE 04 MAY 87

TRIAXIAL COMPRESSION TEST REPORT

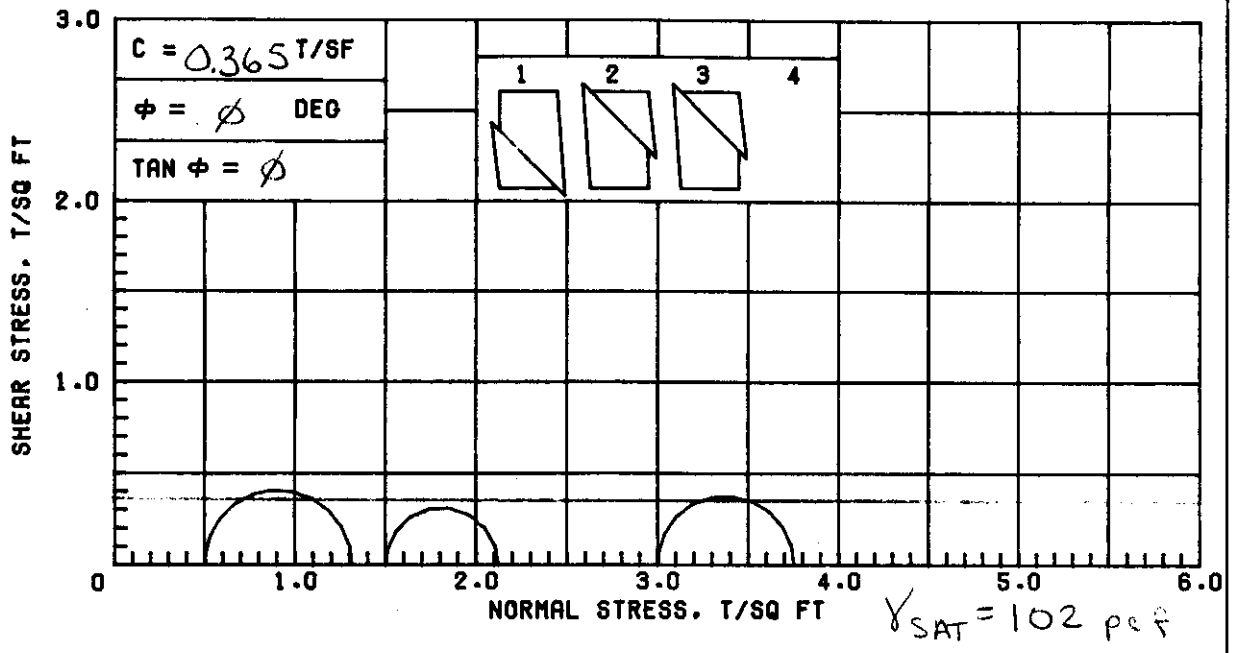


$\gamma_{SAT} = 98$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	71.5	35.1
PRECONSOL. PRESSURE, TSF	1.80	DRY DENSITY, PCF	57.3	90.2
COMPRESSION INDEX	1.23	SATURATION, %	99.6	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	1.939	0.869
DIA. IN 4.44 / HT. IN 1.111		BACK PRESSURE, TSF		
CLASSIFICATION: CLAY (CH), GRAY				
LL / PL / PI		PROJECT: LK PONT & VIC HURR PRCT		
GS 2.70 (EST) / D:0		ST CHARLES PARISH		
REMARKS		BORING NO. 1-SCU	SAMPLE NO. 15-B	
		DEPTH/ELEV 56.2/-54.5	DATE 09 JUL 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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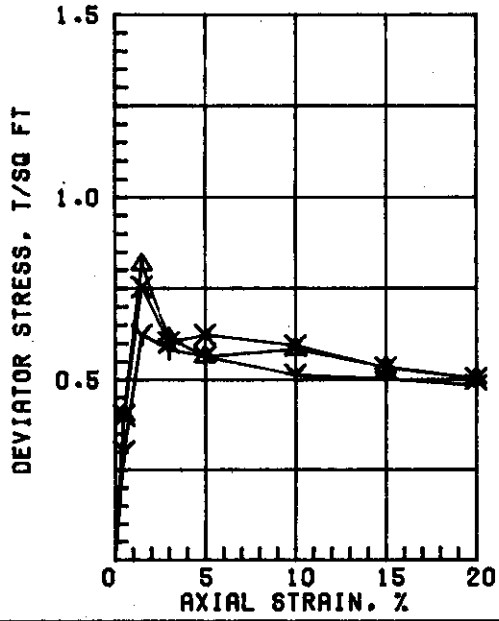


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	61.1	61.6	60.4	
	DRY DENSITY, PCF	62.3	63.4	63.8	
	SATURATION, %	96.7	100+	99.2	
	VOID RATIO	1.707	1.660	1.643	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.82	0.62	0.75	
TIME TO FAILURE, MIN.		3	16	16	
RATE OF STRAIN INCR.%			3	3	
INITIAL DIAMETER, IN.		1.39	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 61.0

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

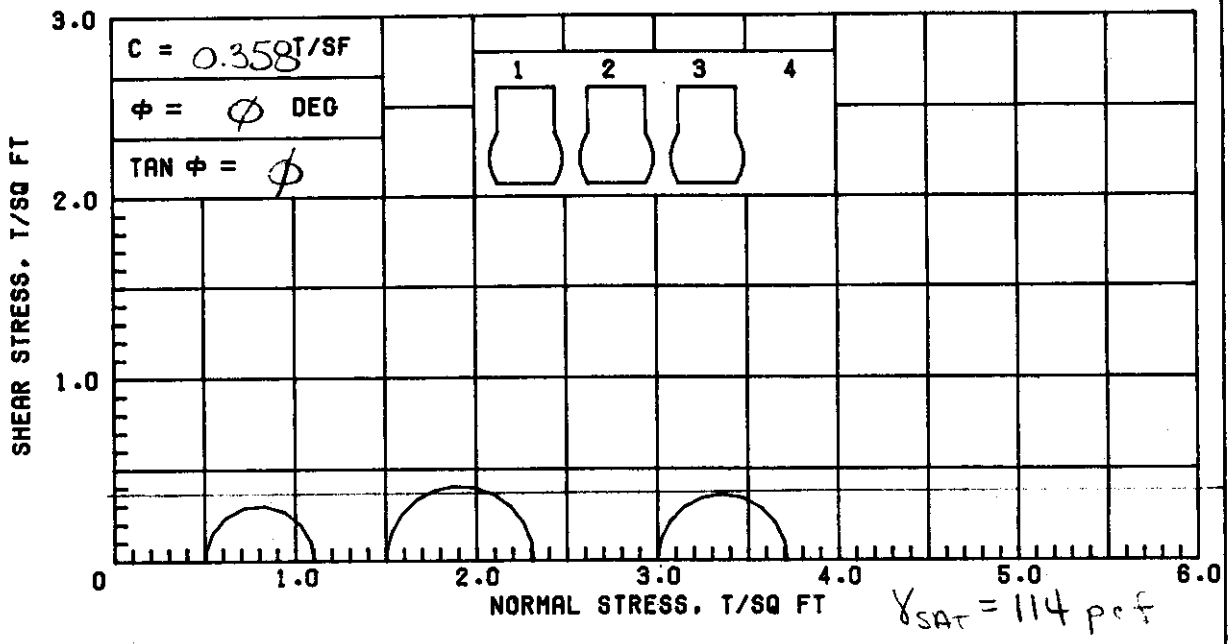
LL 81	PL 23	PI 58	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 1-6CU | SAMPLE NO. 15-C
DEPTH/ELEV 57.1/-55.4 | TECH. KOC
LABORATORY USAE WES | DATE 04 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



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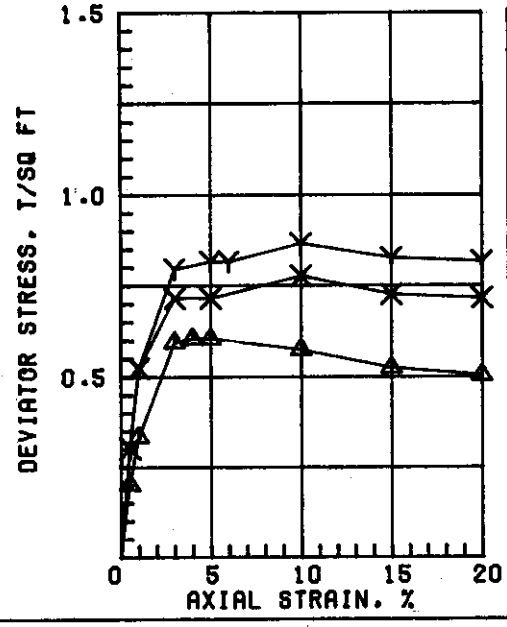


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	35.7	31.4	36.5	
	DRY DENSITY, PCF	81.3	85.6	80.5	
	SATURATION, %	89.9	87.5	90.0	
	VOID RATIO	1.073	0.969	1.095	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.61	0.82	0.72	
TIME TO FAILURE, MIN.		8	21	13	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVG 34.5

CONTROLLED-STRAIN TEST

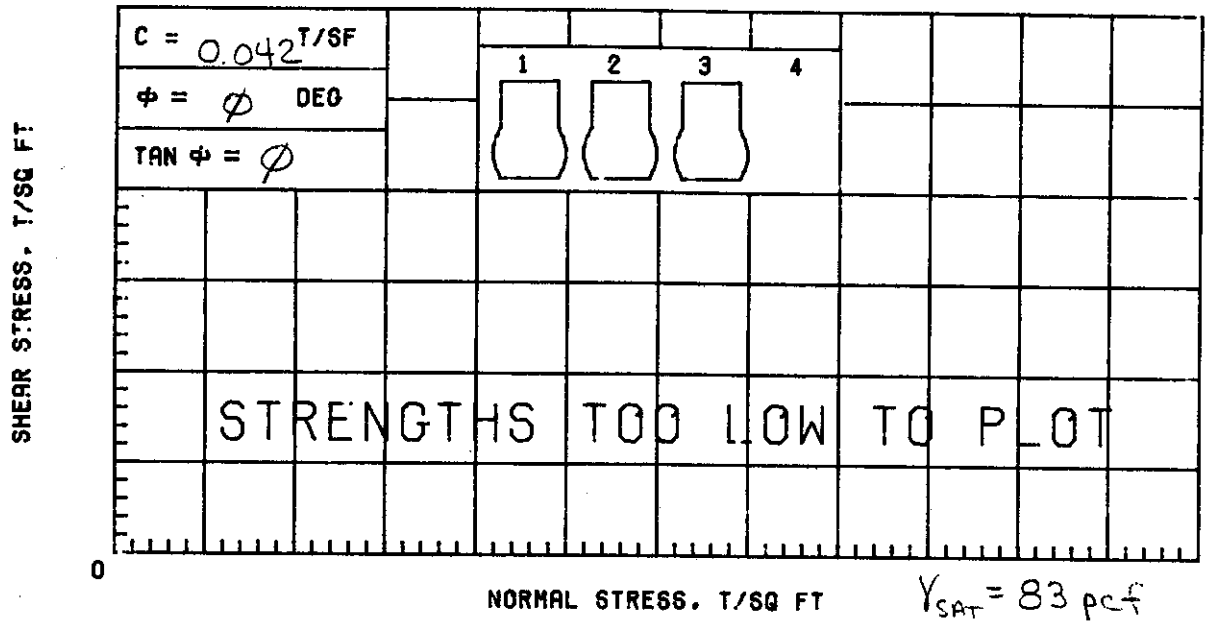
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; 3/4" SILT LAYER

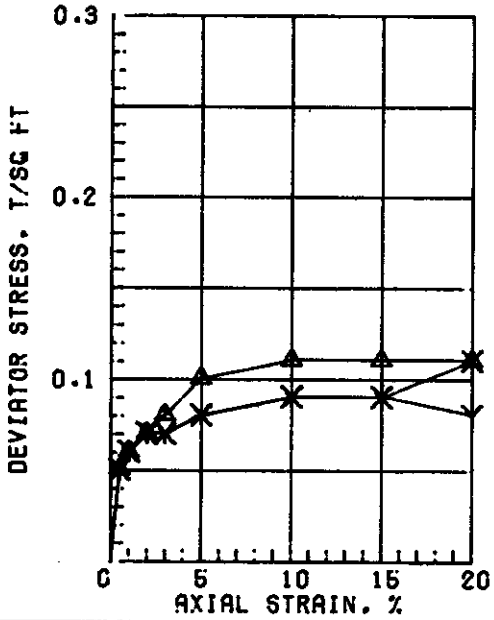
LL 41	PL 14	PI 27	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 1-SCU | SAMPLE NO. 17-C
DEPTH/ELEV 64.9/-63.2 | TECH. KOC
LABORATORY USAE WES | DATE 05 MAY 87

TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	146.1	176.1	128.6	
	DRY DENSITY, PCF	33.7	28.5	37.4	
	SATURATION, %	98.6	96.7	99.2	
	VOID RATIO	3.999	4.915	3.502	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.11	0.07	0.07	
TIME TO FAILURE, MIN.		20	4	4	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 150.3

CONTROLLED-STRAIN TEST

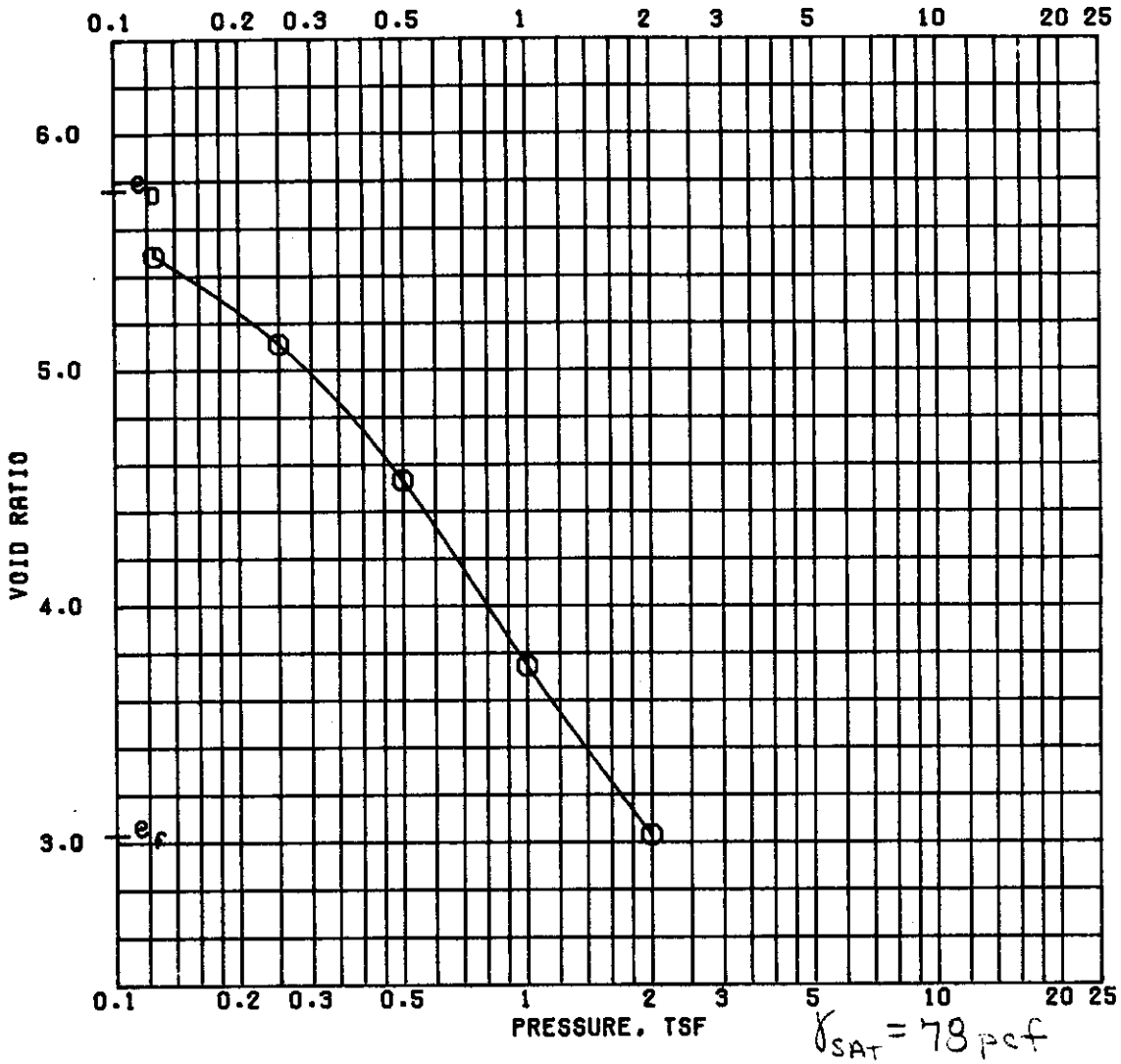
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 167	PL 36	PI 131	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 2-SCU | SAMPLE NO. 2-C
DEPTH/ELEV 5.5/-5.3 | TECH. KOC
LABORATORY USAE WES | DATE 20 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



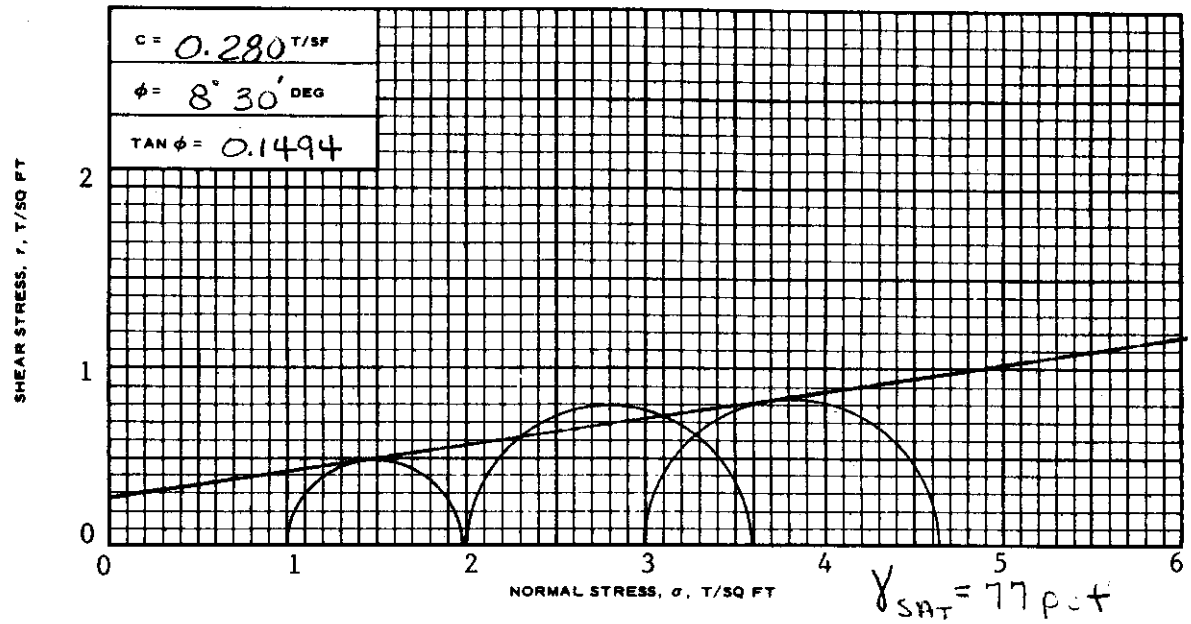
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	204.2	110.0
PRECONSOL. PRESSURE, TSF	0.34	DRY DENSITY, PCF	25.0	41.9
COMPRESSION INDEX	2.70	SATURATION, %	95.9	98.2
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	5.752	3.023
DIA. IN 4.44	HT. IN 1.117	BACK PRESSURE, TSF		

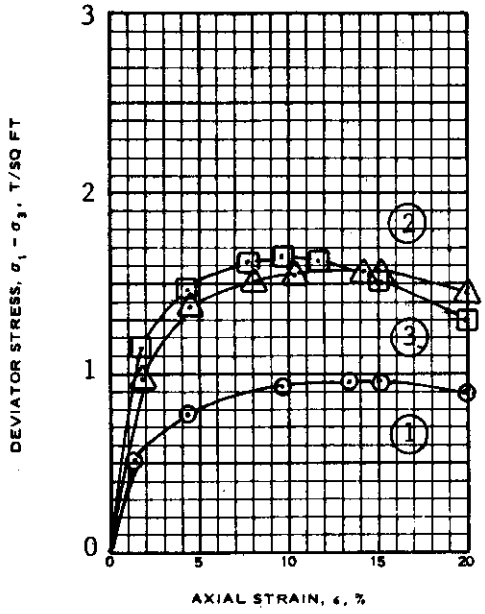
CLASSIFICATION CLAY (CH), GRAY; ORGANIC MATERIAL

LL	PL	PI	PROJECT LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS			BORING NO. 2-SCU	SAMPLE NO. 2-D
			DEPTH/ELEV 6.2/-6.0	DATE 28 FEB 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





SPECIMEN NO.			1	2	3
INITIAL	WATER CONTENT, %	w_o	210.3	195.5	198.3
	DRY DENSITY LB/ CU FT	γ_{d_o}	23.5	25.1	25.1
	SATURATION, %	S_o	92.7	93.2	94.6
	VOID RATIO	e_o	5.788	5.350	5.348
BEFORE SHEAR	WATER CONTENT, %	w_c	161.9	131.1	112.2
	DRY DENSITY LB/CU FT	γ_{d_c}	32.5	37.2	30.3
	SATURATION, %	S_c	100+	100+	90.6*
	VOID RATIO	e_c	3.896	3.278	3.158
	FINAL BACK PRESSURE, T/SQ FT	u_o	4.32	4.32	4.32
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	0.96	1.57	1.64
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	837	788	570
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$			
INITIAL DIAMETER, IN.		D_o	1.39	1.38	1.35
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS CLAY (CH), GRAY; ORGANIC MATERIAL

LL 244	PL 33	PI 211	Gs 2.55	TYPE OF SPECIMEN UNDISTURBED	TYPE OF TEST R

REMARKS: (EST)

*PORE PRESSURE RESPONSE INDICATED

100% SATURATION.

PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

BORING NO. 2-SCU SAMPLE NO. 3-C

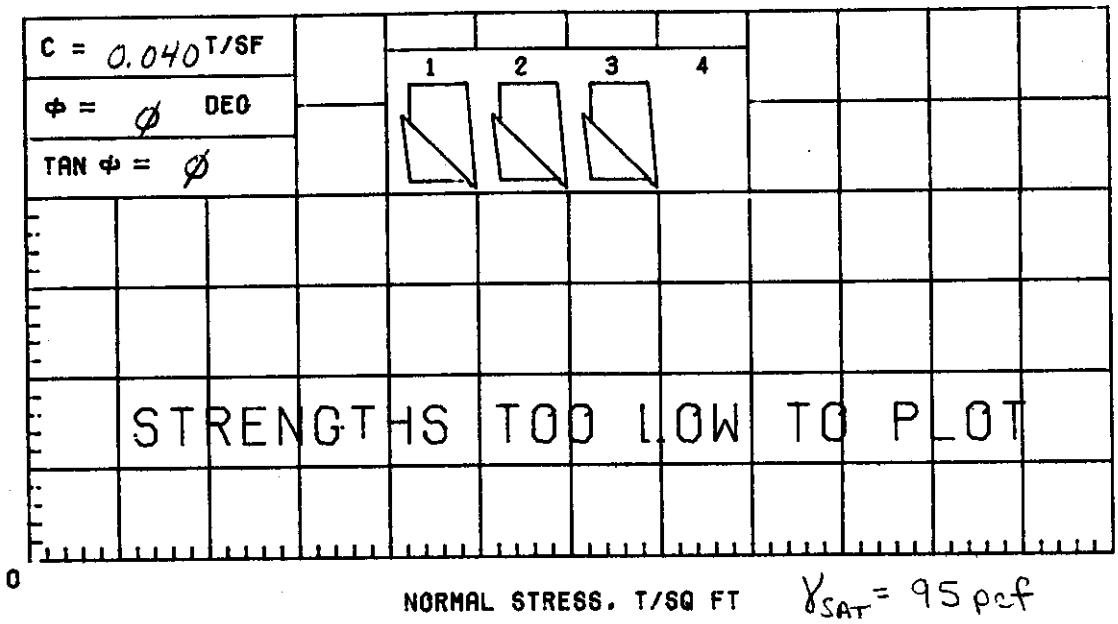
DEPTH/ELEV 9.4/-9.2

LABORATORY USAEWES DATE 1 APR 1987

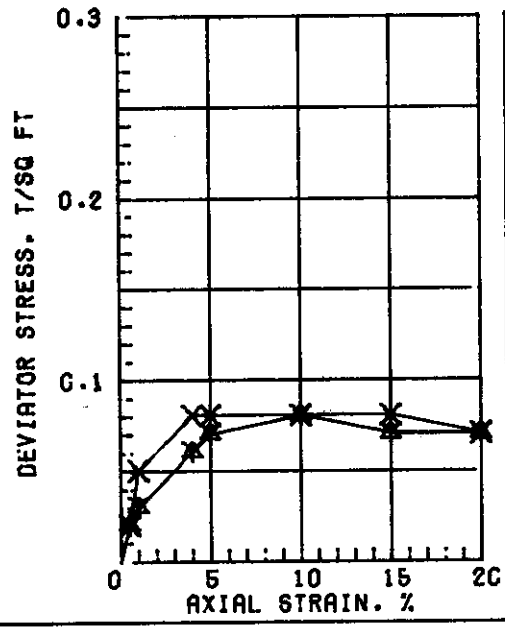
SHEET 1 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)



γ_{SAT} = 95 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT. %	79.6	86.8	83.1	
	DRY DENSITY. PCF	52.8	50.7	51.8	
	SATURATION. %	98.0	100+	99.5	
	VOID RATIO	2.193	2.326	2.256	
BEFORE SHEAR	WATER CONTENT. %				
	DRY DENSITY. PCF				
	SATURATION. %				
	VOID RATIO				
	BACK PRESS.. TSF				
MIN PRIN. STRESS. TSF		0.5	1.5	3.0	
MAX. DEV. STRESS. TSF		0.08	0.08	0.08	
TIME TO FAILURE. MIN.		20	20	8	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER. IN.		1.39	1.39	1.39	
INITIAL HEIGHT. IN.		3.00	3.00	3.00	

AVE 83.2

CONTROLLED--STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT SEAMS

LL 71	PL 20	PI 51	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

LIMITS ON MIXTURE OF MATERIAL.

PROJECT LK PONT & VIC HURR PROT

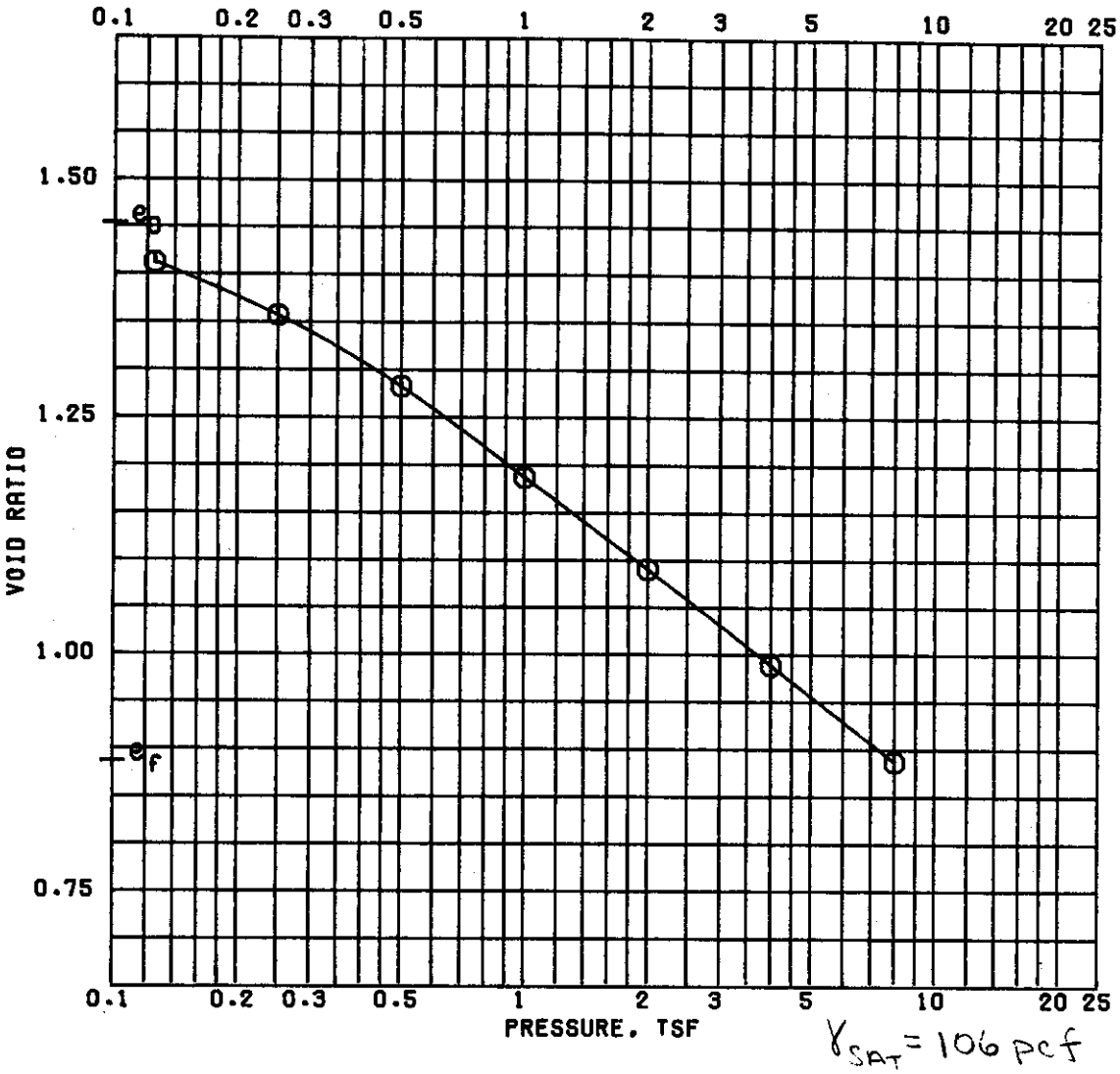
ST CHARLES PARISH

BORING NO. 2-SCU | SAMPLE NO. 4-D

DEPTH/ELEV 13.8/-13.6 | TECH. KOC

LABORATORY USAE WES | DATE 23 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 106$ pcf

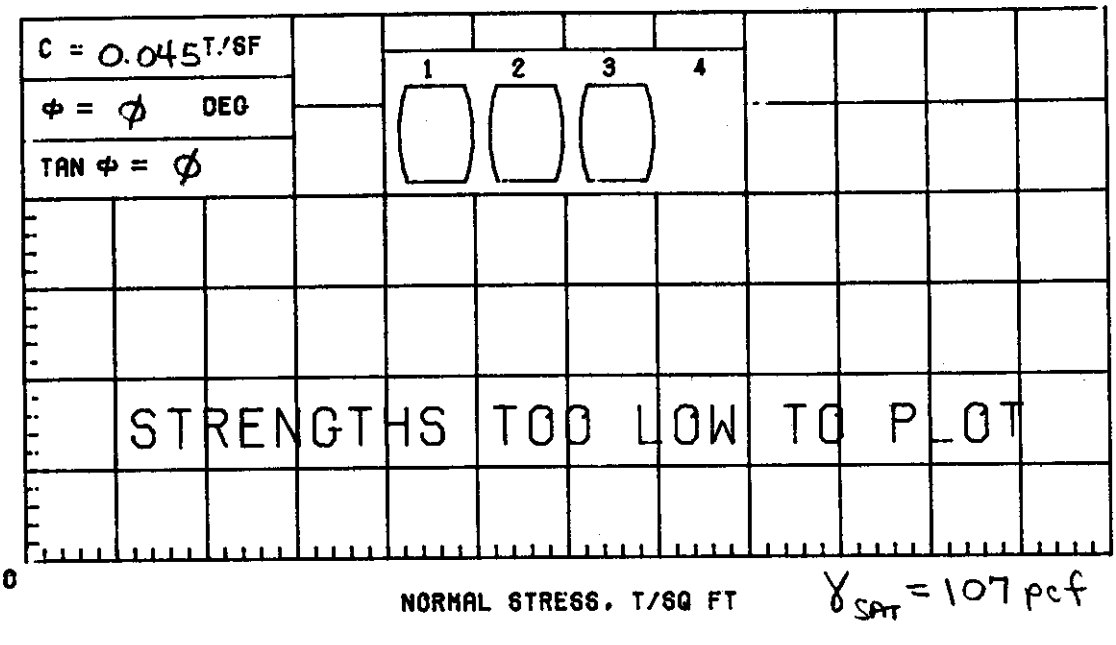
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	52.7	33.9
PRECONSOL. PRESSURE, TSF	0.420	DRY DENSITY, PCF	68.7	89.4
COMPRESSION INDEX	0.260	SATURATION, %	98.0	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.452	0.885
DIA. IN 4.44	HT. IN 1.113	BACK PRESSURE, TSF		

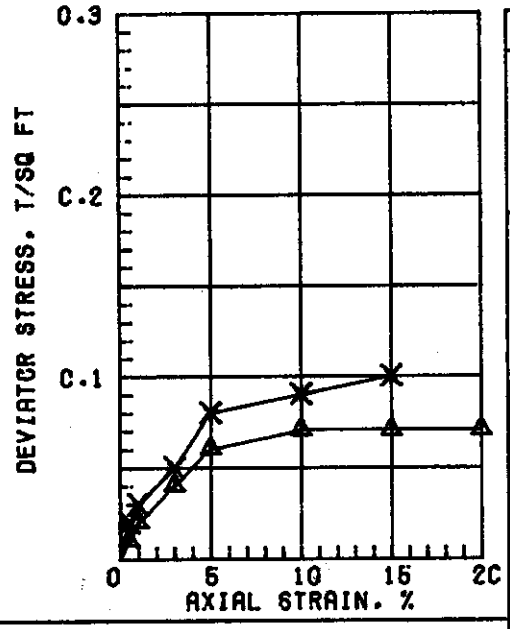
CLASSIFICATION CLAY (CH), GRAY; SILT POCKETS

LL 69	PL 19	PI 50	PROJECT	LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS			BORING NO. 2-SCU	SAMPLE NO. 5-B
			DEPTH/ELEV 16.6/-16.4	DATE 03 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	55.5	47.3	44.7	
	DRY DENSITY, PCF	65.8	71.8	72.9	
	SATURATION, %	96.0	94.8	92.0	
	VOID RATIO	1.561	1.348	1.312	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.07	0.10	0.10	
TIME TO FAILURE, MIN.		20	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 49.2

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; 1/4" SILT LAYERS

LL 41	PL 18	PI 23	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT

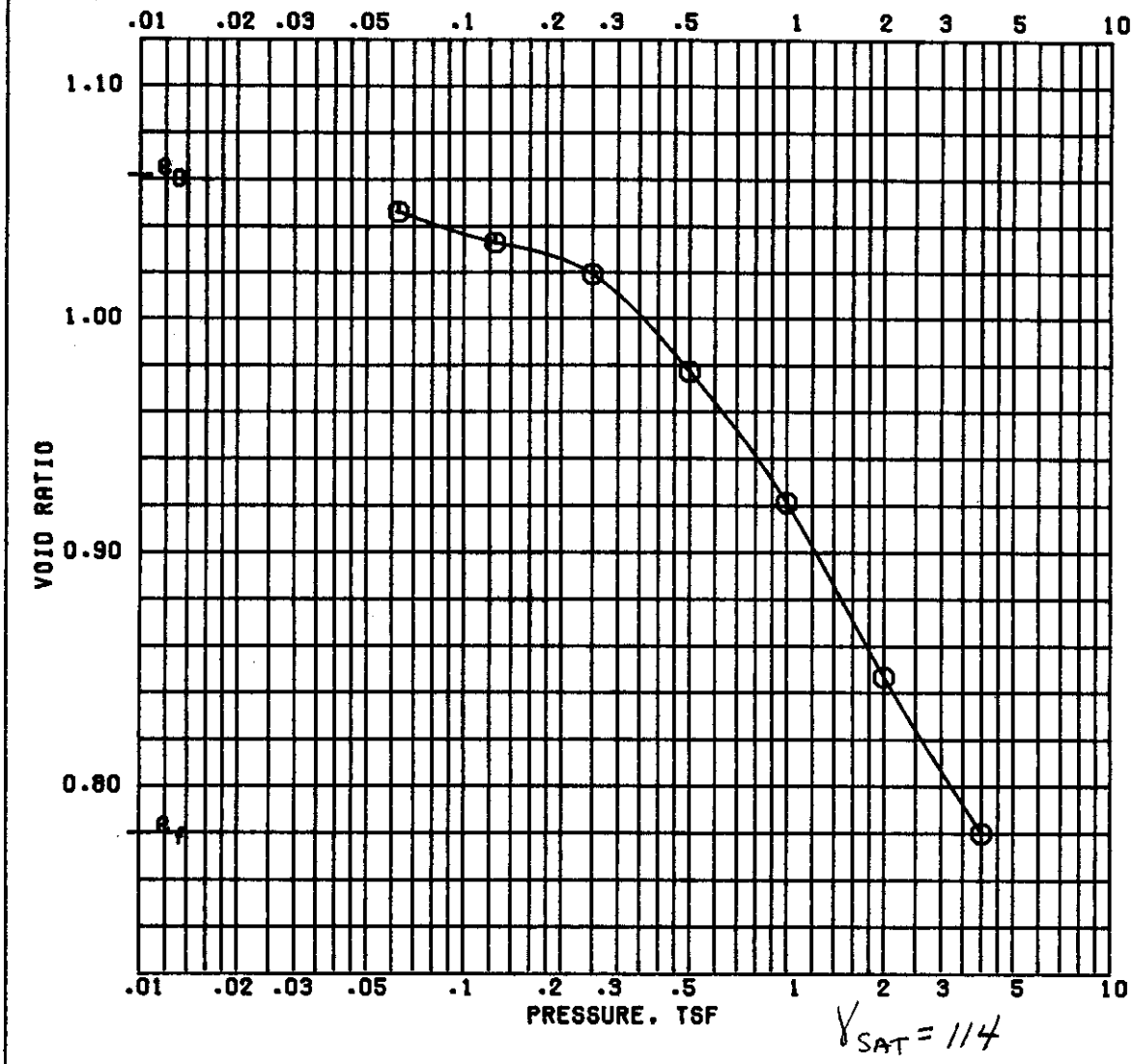
ST CHARLES PARISH

BORING NO. 2-SCU | SAMPLE NO. 6-8

DEPTH/ELEV 20.0/-19.8 | TECH. KOC

LABORATORY USAE WES | DATE 23 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.452	DRY DENSITY, PCF	81.8	94.7
COMPRESSION INDEX 0.260	SATURATION, %	100 +	99.8
TYPE SPECIMEN UNDISTURBED	VOID RATIO	1.061	0.779
DIA. IN 4.44 HT. IN 1.107	BACK PRESSURE, TSF		

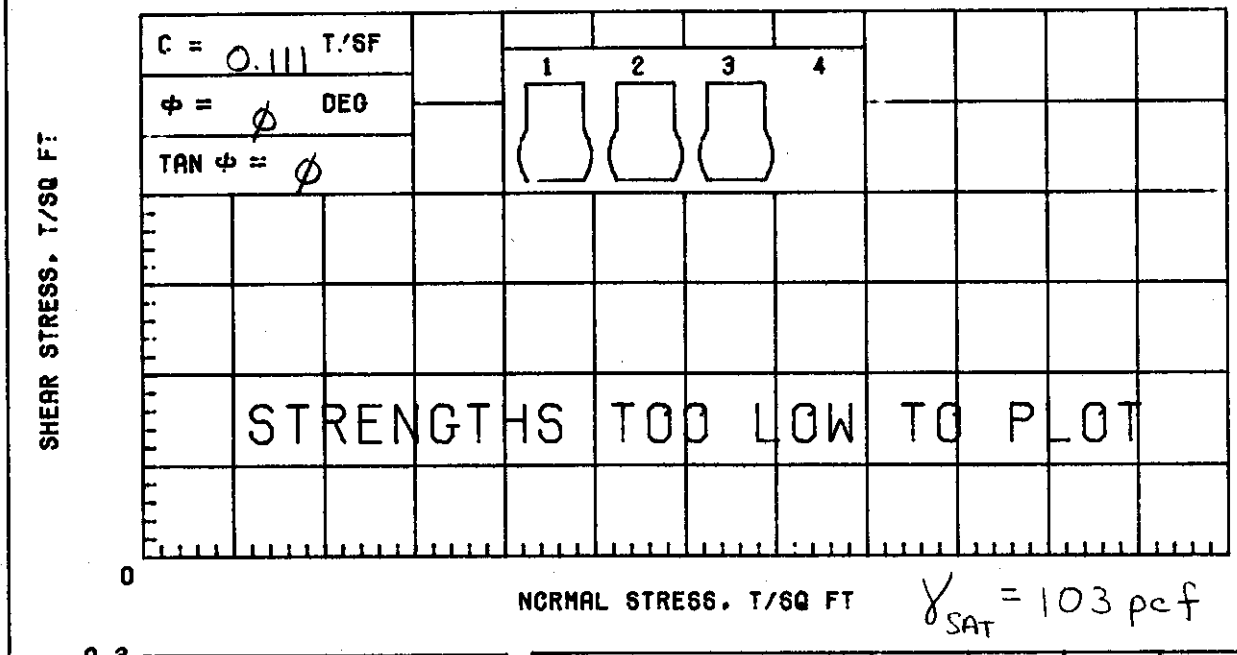
CLASSIFICATION CLAY (CL), GRAY; SILT POCKETS

LL 35	PL 17	PI 18
GS 2.70 (EST)	D_{10}	
REMARKS		

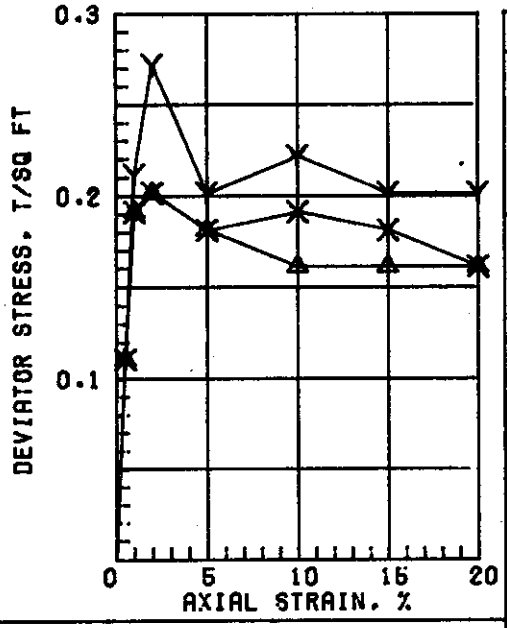
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 2-SCU SAMPLE NO. 7-C
DEPTH/ELEV 24.9/-24.7 DATE 04 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 103 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	60.3	61.7	56.9	
	DRY DENSITY, PCF	63.7	63.1	65.1	
	SATURATION, %	99.0	99.6	96.7	
	VOID RATIO	1.645	1.673	1.588	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.20	0.27	0.20	
TIME TO FAILURE, MIN.		4	12	12	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 59.6

CONTROLLED-STRAIN TEST

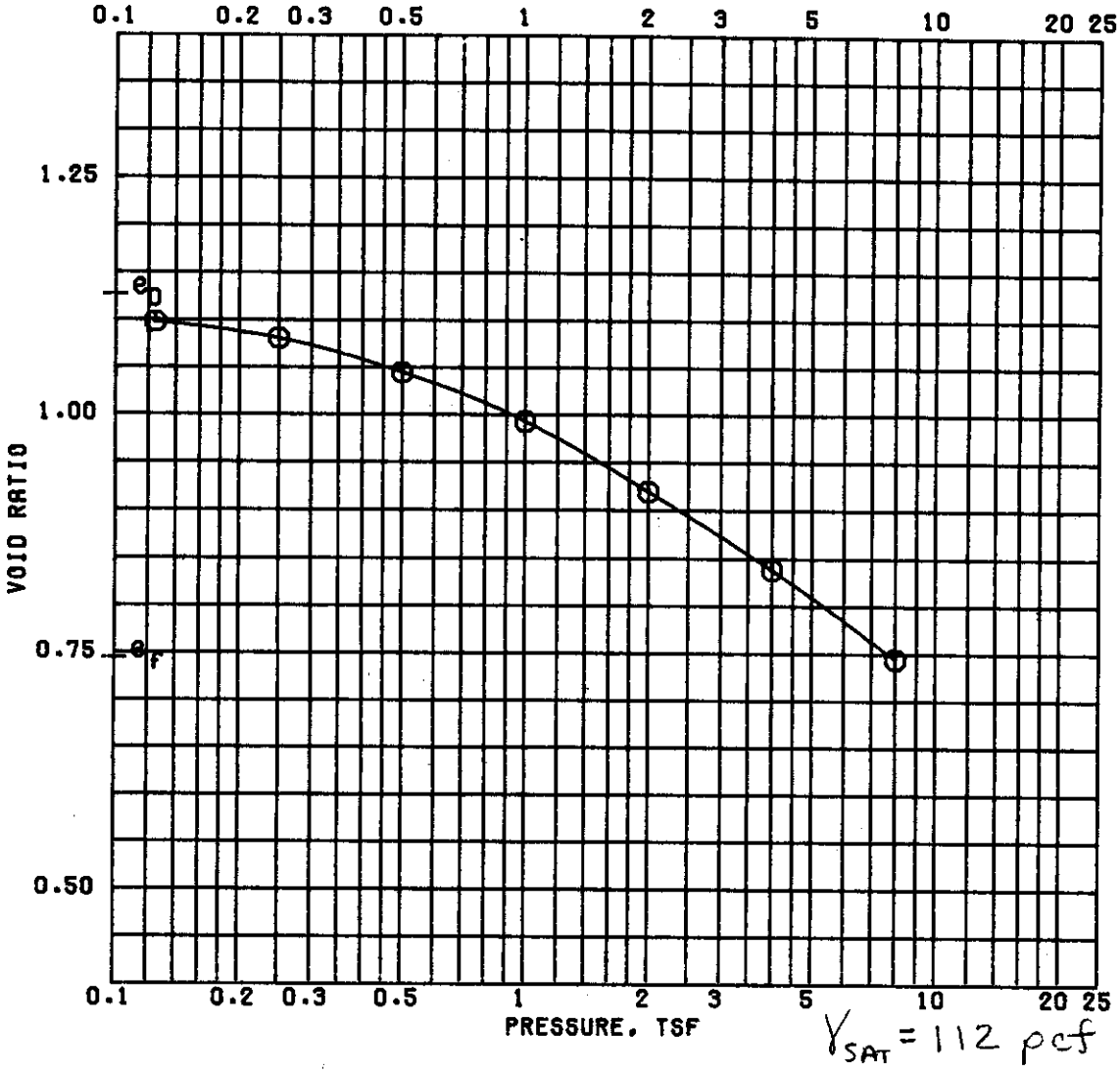
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES & POCKETS

LL 63	PL 20	PI 43	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 2-SCU | SAMPLE NO. 8-C
DEPTH/ELEV 29.3/-29.1 | TECH. KOC
LABORATORY USAE WES | DATE 24 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



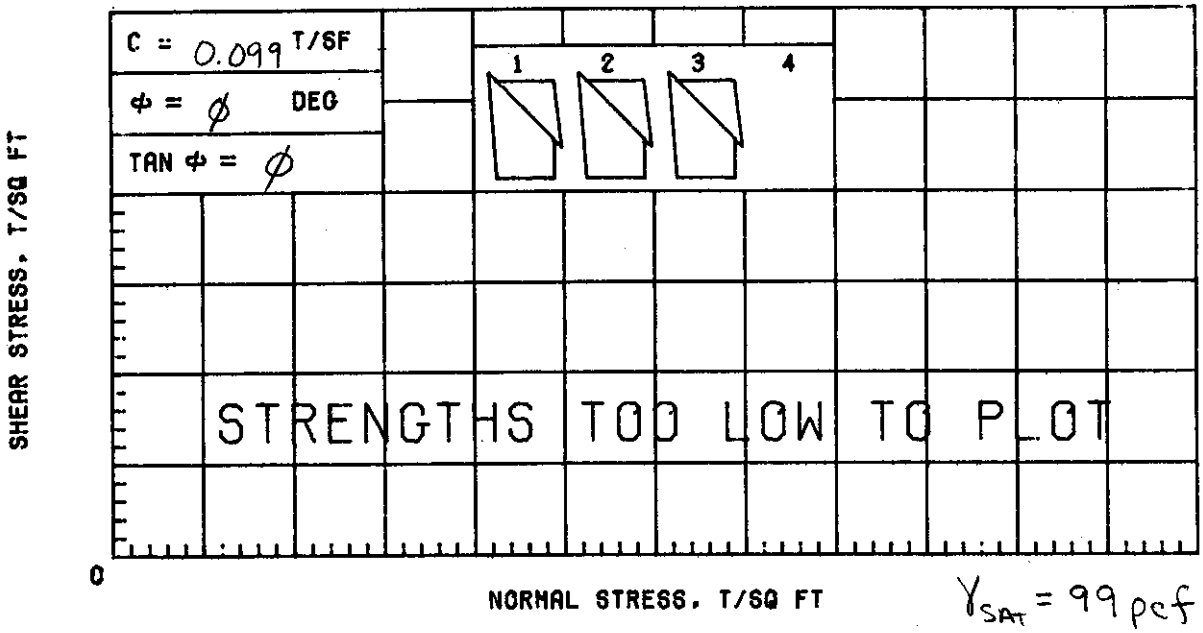
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	41.5	28.8
PRECONSOL. PRESSURE, TSF	0.90	DRY DENSITY, PCF	79.3	96.7
COMPRESSION INDEX	0.31	SATURATION, %	99.5	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.125	0.743
DIA. IN 4.44	HT. IN 1.112	BACK PRESSURE, TSF		

CLASSIFICATION SILTY CLAY (CL), GRAY

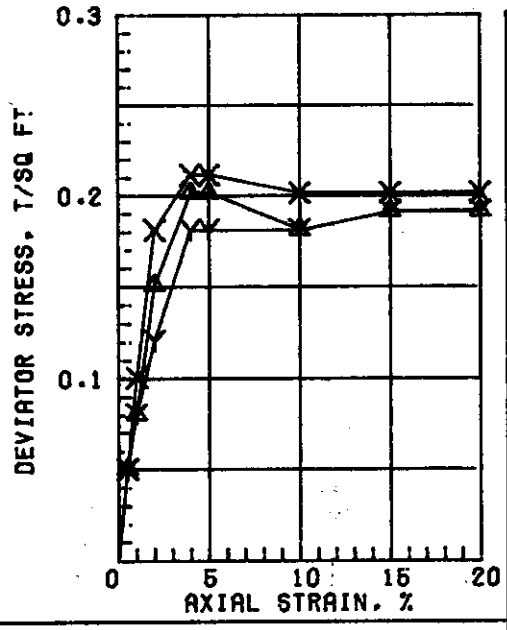
LL 35	PL 22	PI 13	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 2-SCU	SAMPLE NO. 9-C
		DEPTH/ELEV 32.9/-32.7	DATE 05 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



γ_{SAT} = 99 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	69.1	69.4	67.5	
	DRY DENSITY, PCF	58.8	58.2	59.1	
	SATURATION, %	99.8	98.9	98.4	
	VOID RATIO	1.869	1.895	1.852	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.20	0.18	0.21	
TIME TO FAILURE, MIN.		8	26	24	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 68.7

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT POCKETS

LL 77	PL 22	PI 55	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

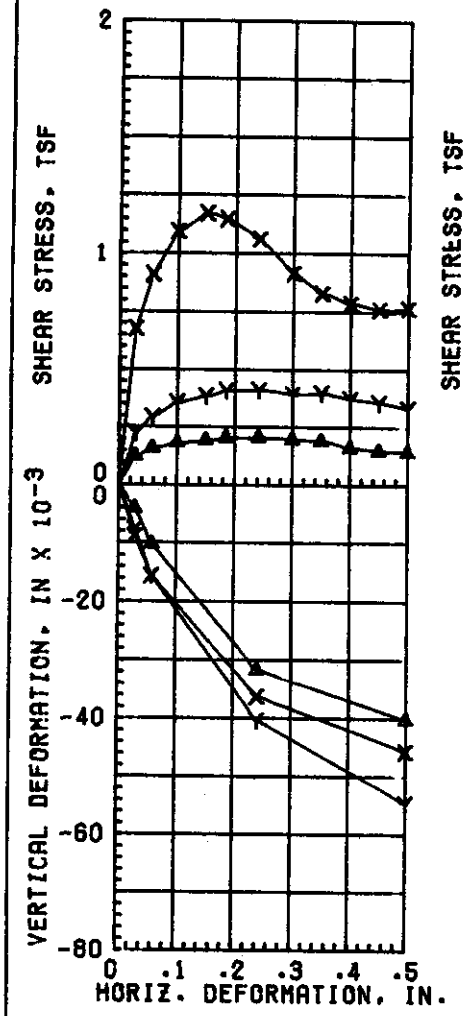
ST CHARLES PARISH

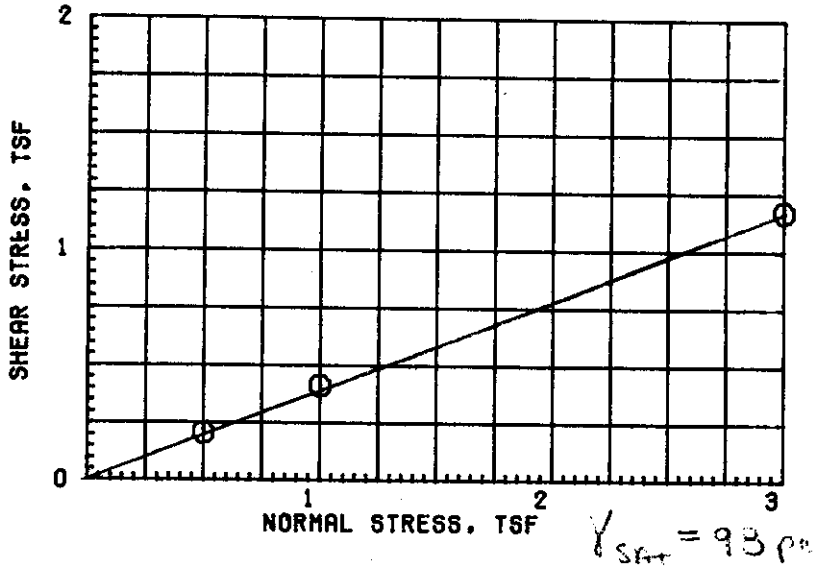
BORING NO. 2-SCU | SAMPLE NO. 10-B

DEPTH/ELEV 36.5/-36.3 | TECH. KOC

LABORATORY USAE WES | DATE 24 FEB 87

TRIAXIAL COMPRESSION TEST REPORT





$\gamma_{SAT} = 93$ pcf

$\Phi = 21°$

TAN $\Phi = 0.384$

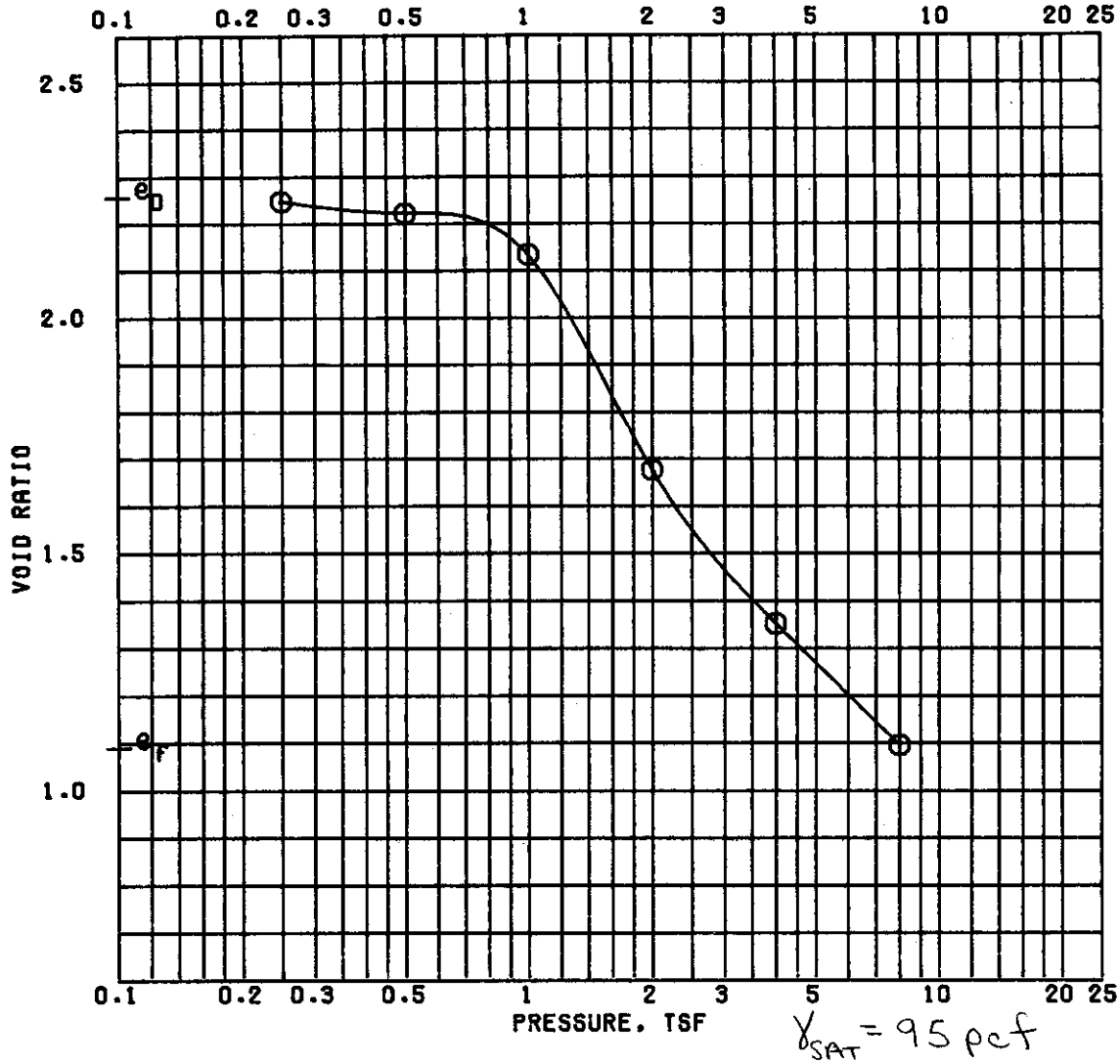
C = Ø

TEST NO.		1 ▲	2 Y	3 X	
INITAL	WATER CONTENT, %	71.1	69.1	68.5	
	VOID RATIO	2.088	1.920	1.937	
	SATURATION, %	91.9	97.2	96.4	
	DRY DENSITY, PCF	54.6	57.7	57.4	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	69.5	48.0	40.4	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.21	0.41	1.17	
TIME TO FAILURE, MIN		1315	1315	817	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

Ave. 69.6

TYPE SPECIMEN UNDISTURBED	3.00 IN. SQUARE	0.628 IN. THICK
CLASSIFICATION CLAY (CH), GRAY		
LL 79	PL 21	PI 58		GS 2.70 (EST)

REMARKS:	PROJECT LK PONT & VIC HURR PROT
	ST CHARLES PARISH
	BORING NO. 2-SCU / SAMPLE 10-D
	DEPTH/ELEV 37.8/-37.6 / DATE 14 APR 87
	DIRECT SHEAR TEST REPORT



$\gamma_{SAT} = 95$ pcf

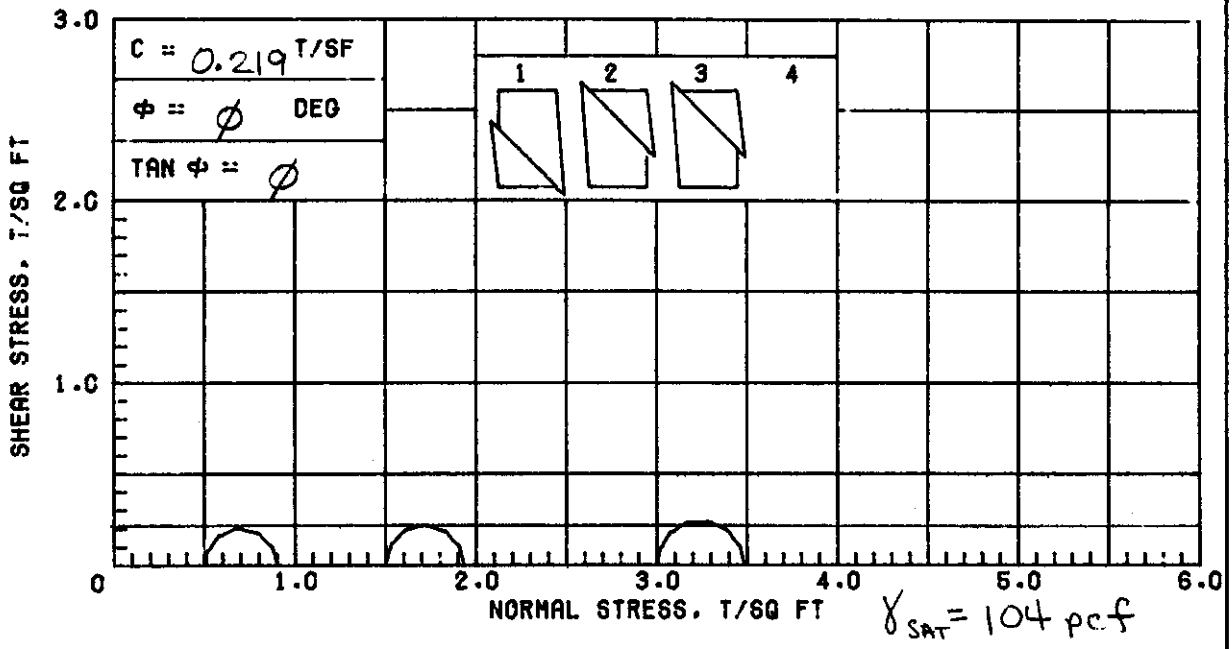
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	83.9	42.4
PRECONSOL. PRESSURE, TSF	1.00	DRY DENSITY, PCF	51.8	80.8
COMPRESSION INDEX	1.56	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.254	1.087
DIA. IN 4.44	HT. IN 1.121	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

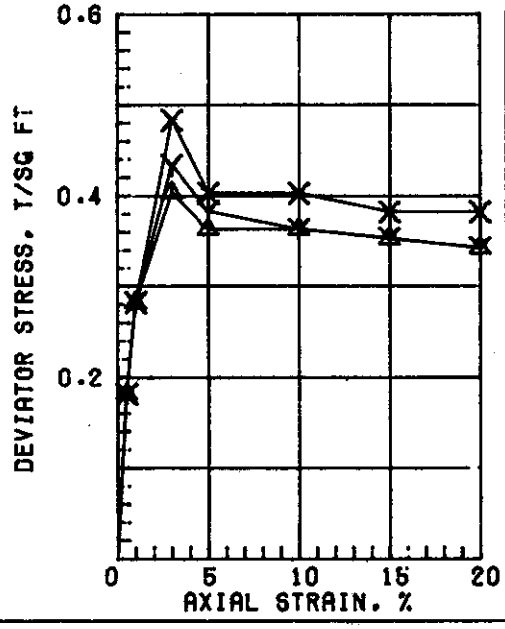
LL 85	PL 24	PI 61	PROJECT	LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS			BORING NO. 2-SCU	SAMPLE NO. 11-B
			DEPTH/ELEV 40.5/-40.3	DATE 07 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 104 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	58.3	58.3	56.2	
	DRY DENSITY, PCF	65.0	65.2	66.5	
	SATURATION, %	98.7	99.2	98.8	
	VOID RATIO	1.595	1.586	1.536	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.40	0.43	0.48	
TIME TO FAILURE, MIN.		6	18	18	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 57.6

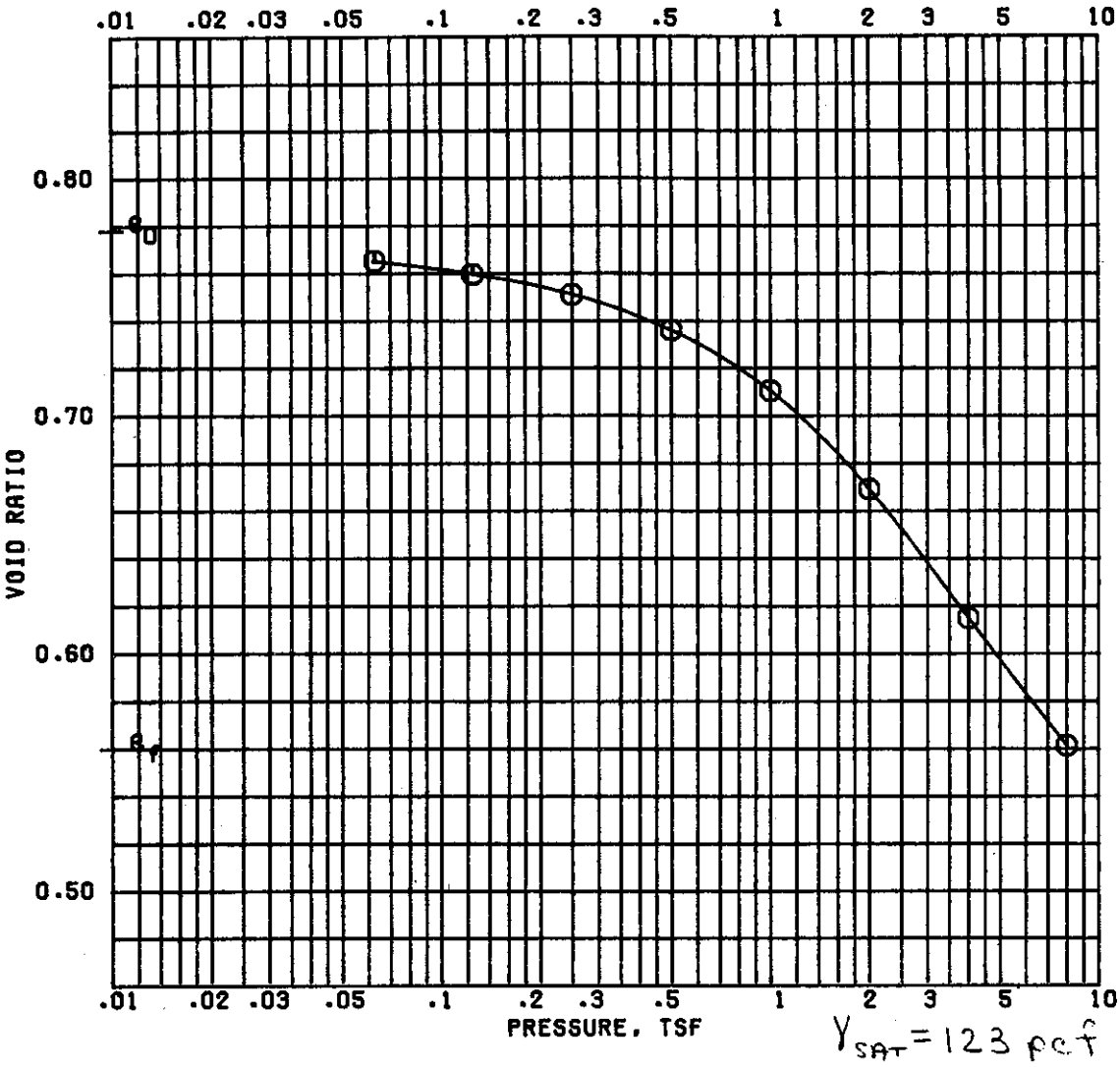
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 72	PL 18	PI 54	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 2-SCU	SAMPLE NO. 13-B
	DEPTH/ELEV 48.1/-47.9	TECH. KOC
	LABORATORY USAE WES	DATE 25 FEB 67

TRIAXIAL COMPRESSION TEST REPORT



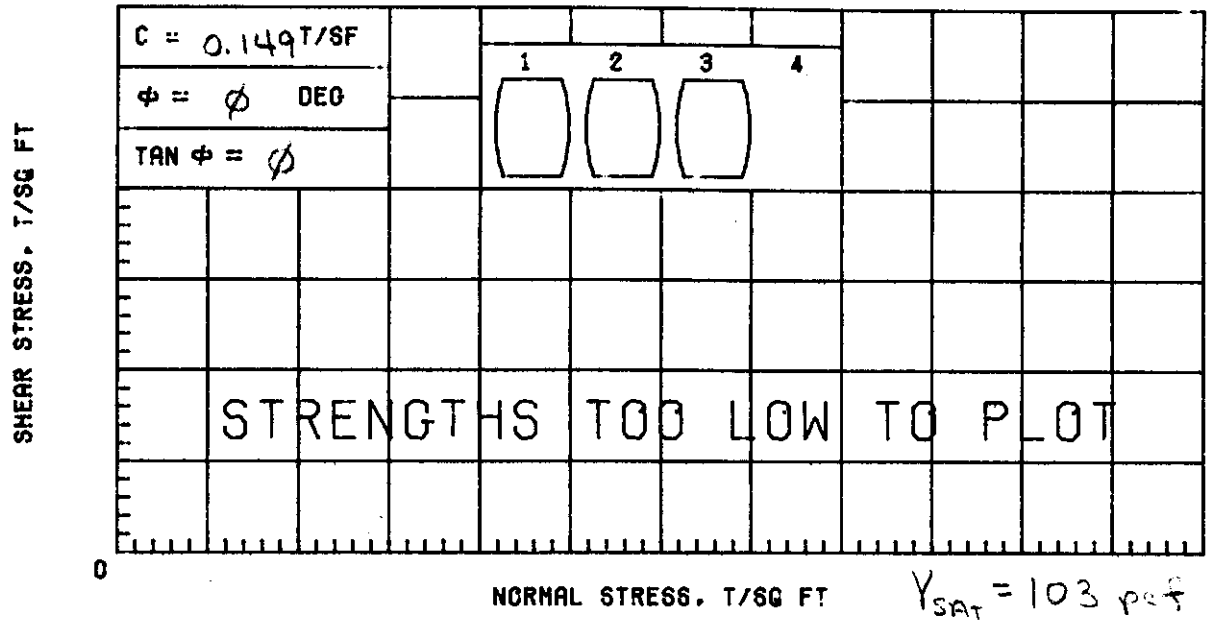
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	29.3	21.1
PRECONSOL. PRESSURE, TSF	1.05	DRY DENSITY, PCF	94.8	108.1
COMPRESSION INDEX	0.18	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.777	0.559
DIA. IN 4.44	HT. IN 1.113	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY; CONCRETIONS

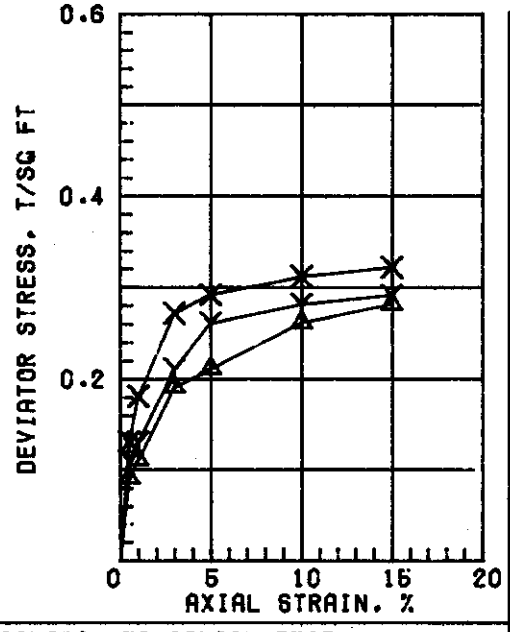
LL 30	PL 14	PI 16	PROJECT	LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS			BORING NO. 2-SCU	SAMPLE NO. 13-C
			DEPTH/ELEV 49.4/-49.2	DATE 06 FEB 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



γ_{SAT} = 103 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	60.8	53.4	58.0	
	DRY DENSITY, PCF	62.3	67.5	64.0	
	SATURATION, %	96.3	96.4	95.8	
	VOID RATIO	1.704	1.495	1.634	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.28	0.29	0.32	
TIME TO FAILURE, MIN.		30	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.40	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 57.4

CONTROLLED-STRAIN TEST

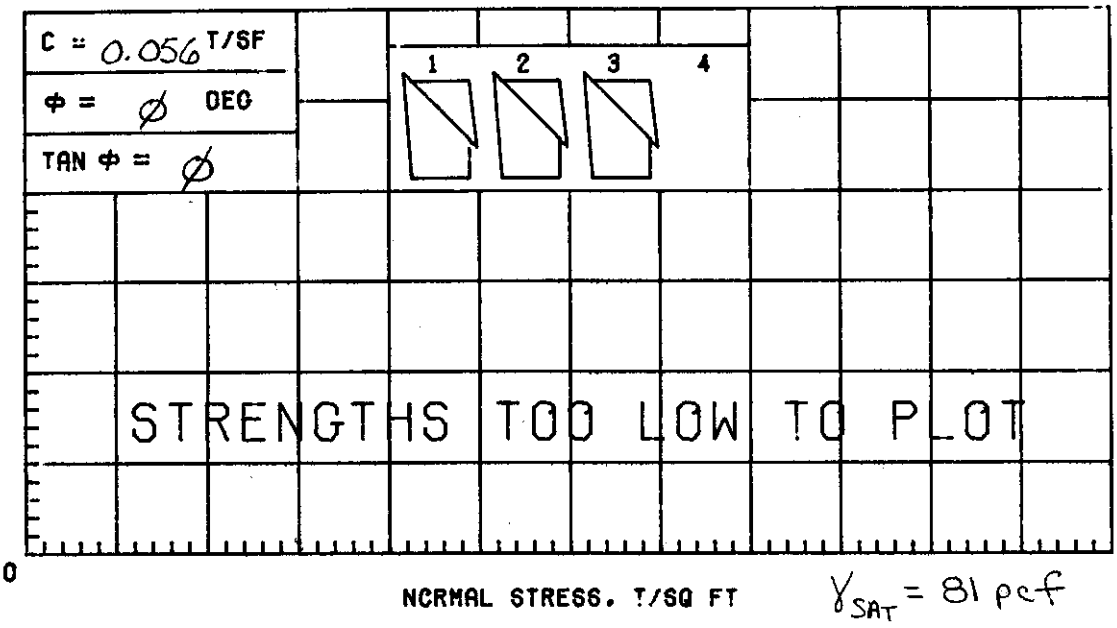
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ROOTLETS

LL 91	PL 25	PI 66	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 3-SCU | SAMPLE NO. 1-B
DEPTH/ELEV 1.0/+0.4 | TECH. KOC
LABORATORY USAE WES | DATE 25 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



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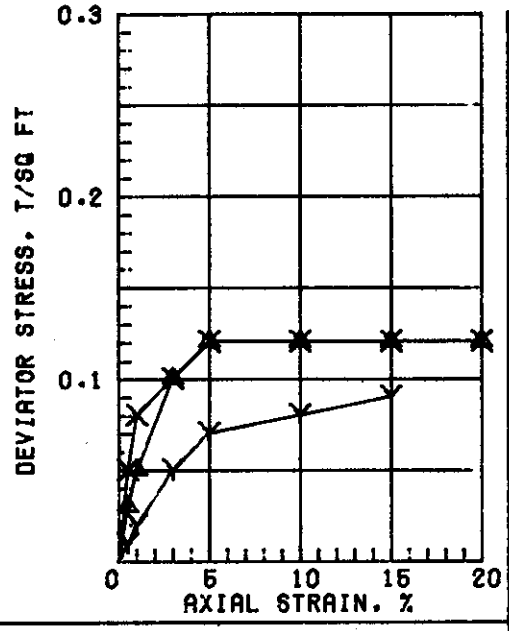


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	166.6	177.8	163.4	
	DRY DENSITY, PCF	29.5	28.2	30.3	
	SATURATION, %	94.7	96.5	96.5	
	VOID RATIO	4.722	4.977	4.570	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.12	0.09	0.12	
TIME TO FAILURE, MIN.		10	30	10	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVG 168.9

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 190	PL 50	PI 140	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PCHT & VIC HURR PROT

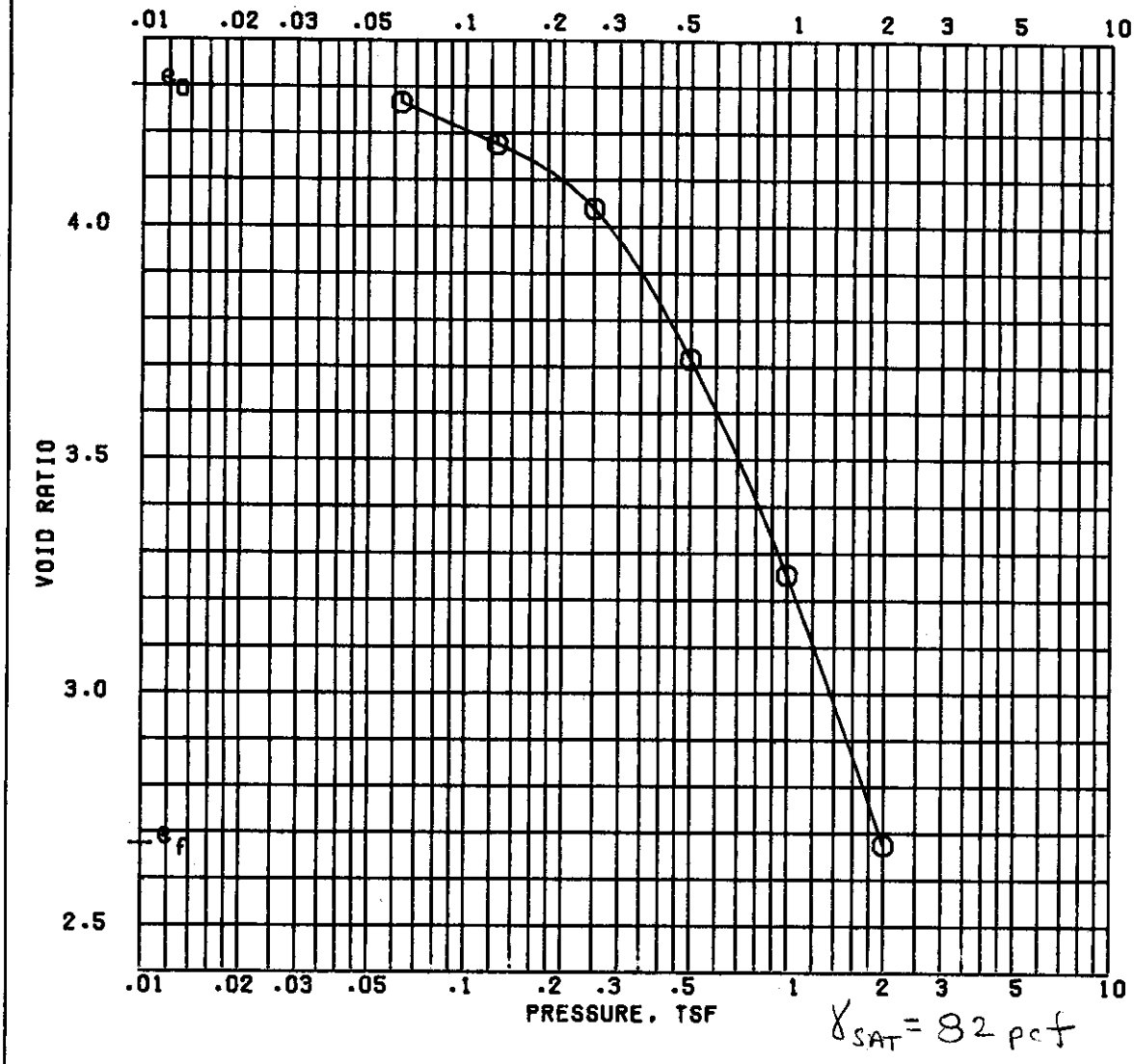
ST CHARLES PARISH

BORING NO. 3-SCU | SAMPLE NO. 3-B

DEPTH/ELEV 8.2/-6.8 | TECH. KOC

LABORATORY USAE WES | DATE 26 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	154.3	97.2
PRECONSOL. PRESSURE, TSF	0.375	DRY DENSITY, PCF	31.8	45.9
COMPRESSION INDEX	1.750	SATURATION, %	97.0	98.2
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	4.296	2.671
DIA. IN 4.44	HT. IN 1.114	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), BROWN; ORGANIC MATERIAL

LL	PL	PI
GS 2.70 (EST)	D_{10}	
REMARKS		

PROJECT LK PONT & VIC HURR PROT

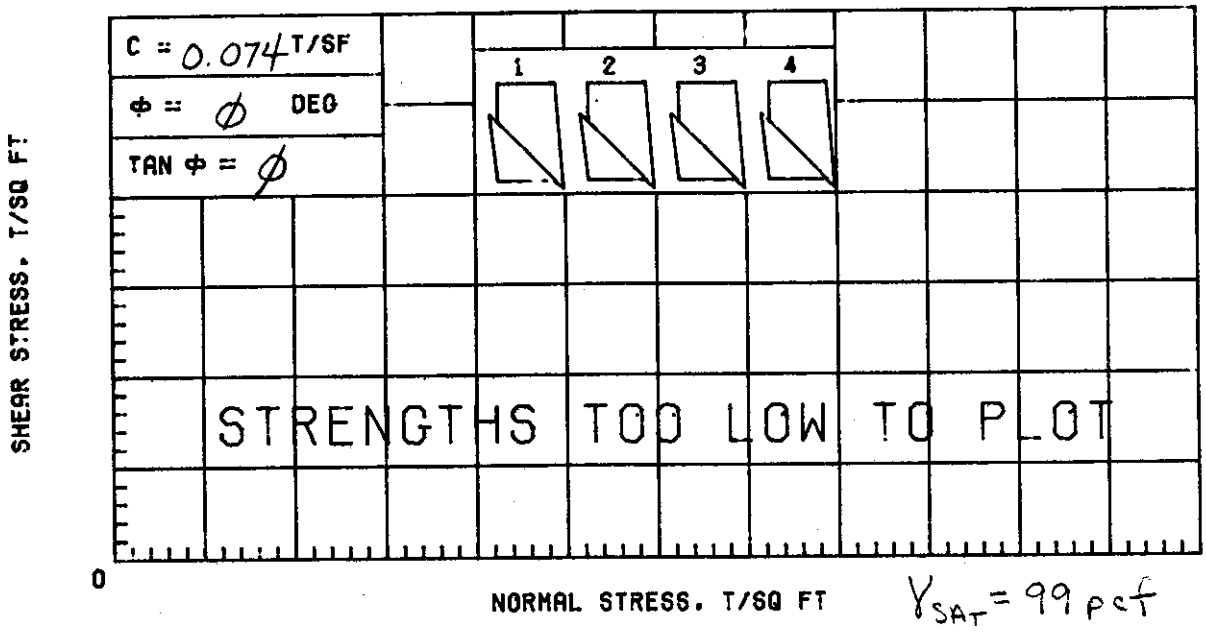
ST CHARLES PARISH

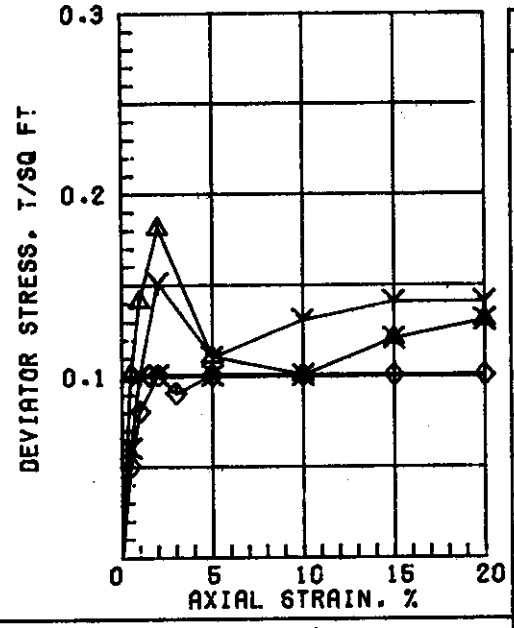
BORING NO. 3-SCU | SAMPLE NO. 3-C

DEPTH/ELEV 9.1/-7.7 | DATE 09 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





	SPECIMEN NO.	Δ1	Y2	X3	Φ4
INITIAL	WATER CONTENT, %	67.6	72.1	69.3	72.9
	DRY DENSITY, PCF	59.2	56.9	58.2	57.3
	SATURATION, %	98.9	99.3	98.6	100+
	VOID RATIO	1.845	1.961	1.897	1.943
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	3.0
	MAX. DEV. STRESS, TSF	0.18	0.15	0.10	0.10
	TIME TO FAILURE, MIN.	4	12	6	15
	RATE OF STRAIN INCR.%		6	6	4
	INITIAL DIAMETER, IN.	1.39	1.39	1.39	1.39
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	3.00

AVE 70.5

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; 1/4" SILT LAYERS

LL 65	PL 19	PI 46	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	G TEST

REMARKS:

LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT

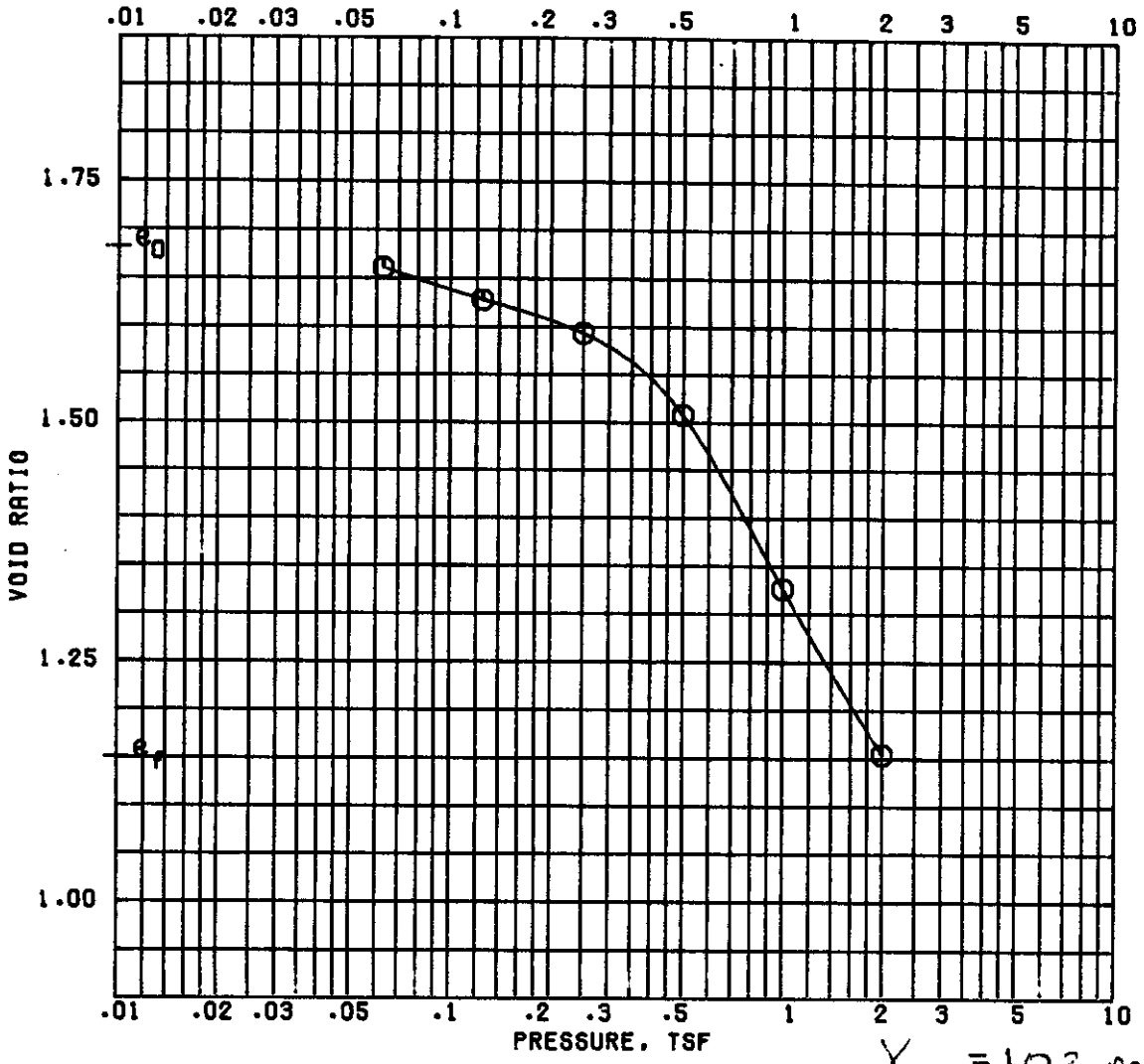
ST CHARLES PARISH

BORING NO. 3-SCU | SAMPLE NO. 5-B

DEPTH/ELEV 16.0/-14.6 | TECH. KOC

LABORATORY USAE WES | DATE 26 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 102$ pcf

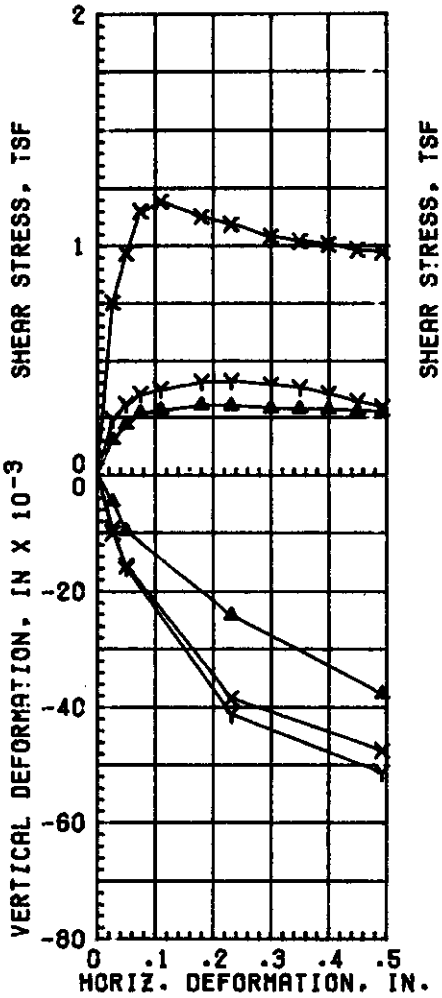
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	62.1	42.6
PRECONSOL. PRESSURE, TSF	0.460	DRY DENSITY, PCF	62.9	78.4
COMPRESSION INDEX	0.650	SATURATION, %	99.8	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.680	1.149
DIA. IN 4.44	HT. IN 1.118	BACK PRESSURE, TSF		

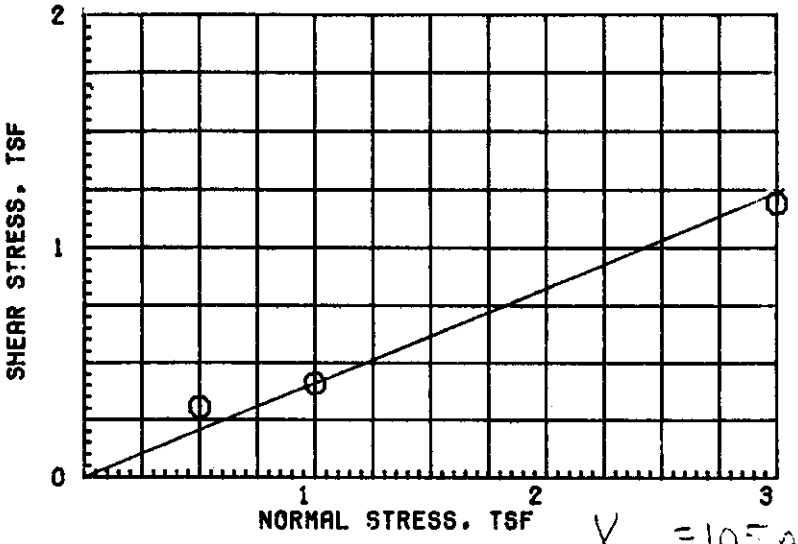
CLASSIFICATION CLAY (CH), GRAY

LL 76	PL 22	PI 54	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 3-SCU	SAMPLE NO. 5-C
		DEPTH/ELEV 16.8/-15.4	DATE 09 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





γ_{SAT} = 105 pcf

Φ = 22.5°

TAN Φ = 0.4142

C = $\emptyset$

TEST NO.		1 ▲	2 Y	3 X		AVE
INITAL	WATER CONTENT, %	61.5	46.0	58.4		55.3
	VOID RATIC	1.558	1.432	1.615		
	SATURATICN, %	100 +	86.6	97.5		
	DRY CENSITY, PCF	65.9	69.3	64.4		
VOID RATIC AFTER CCNSCL						
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1		
FINAL	WATER CONTENT, %	42.7	46.2	36.5		
	VOID RATIO					
	SATURATION, %					
NORMAL STRESS, TSF		0.5	1.0	3.C		
MAXIMUM SHEAR STRESS, TSF		0.30	0.41	1.19		
TIME TO FAILURE, MIN		1008	1295	616		
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018		
ULTIMATE SHEAR STRESS, TSF						

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.744 IN. THICK

CLASSIFICATICN CLAY (CL), GRAY; FINE SAND SEAMS

LL 44 | PL 16 | PI 28 | | GS 2.70 (EST)

REMARKS:

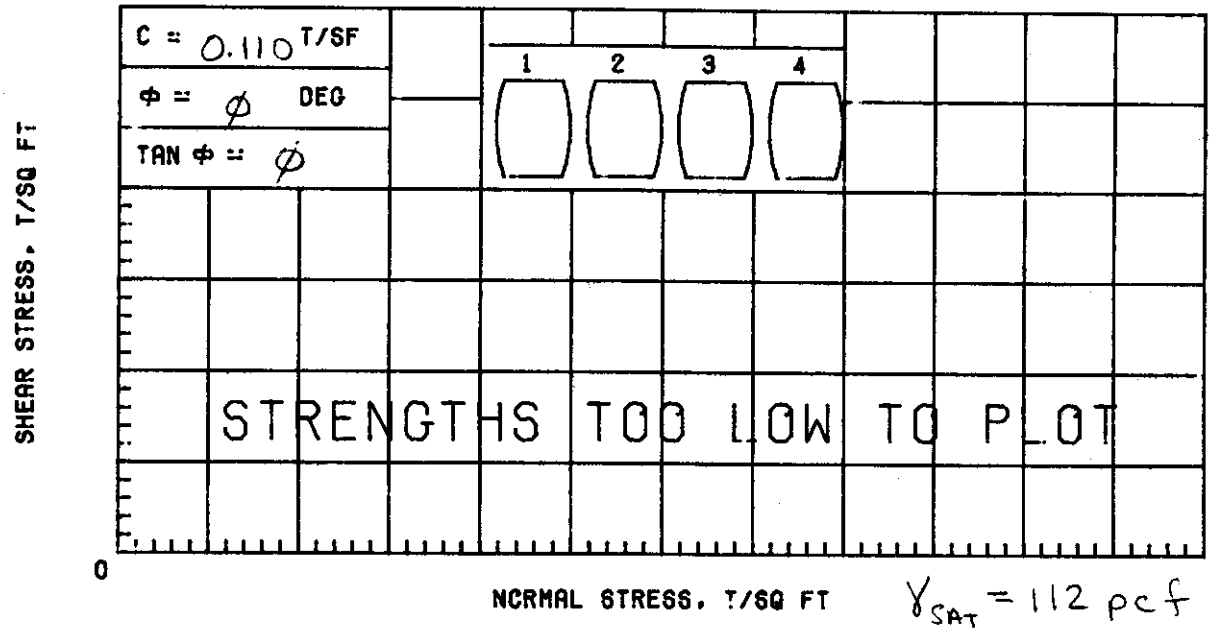
PROJECT LK PONT & VIC HURR PROT

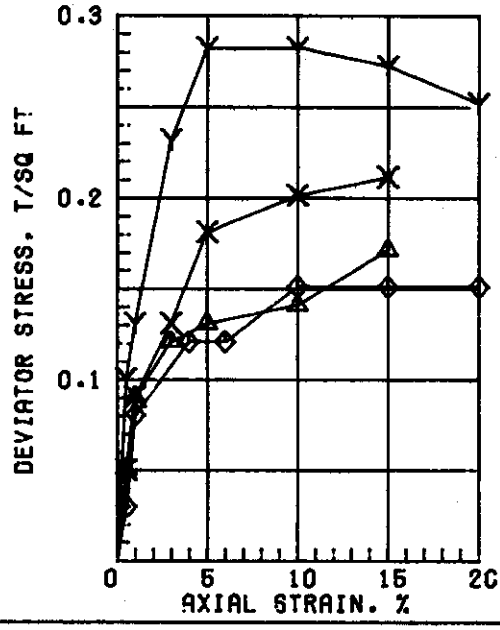
ST CHARLES PARISH

BORING NO. 3-SCU | SAMPLE 6-C

DEPTH/ELEV 21.4/-20.0 | DATE 22 APR 87

DIRECT SHEAR TEST REPORT





SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	37.9	44.1	42.2	41.3
	DRY DENSITY, PCF	82.2	76.2	77.4	77.6
	SATURATION, %	97.5	96.0	96.7	95.1
	VOID RATIO	1.049	1.241	1.178	1.172
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.17	0.28	0.21	0.12
TIME TO FAILURE, MIN.		30	30	30	24
RATE OF STRAIN INCR.%					6
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.39
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 41.4

CONTROLLED-STRAIN TEST

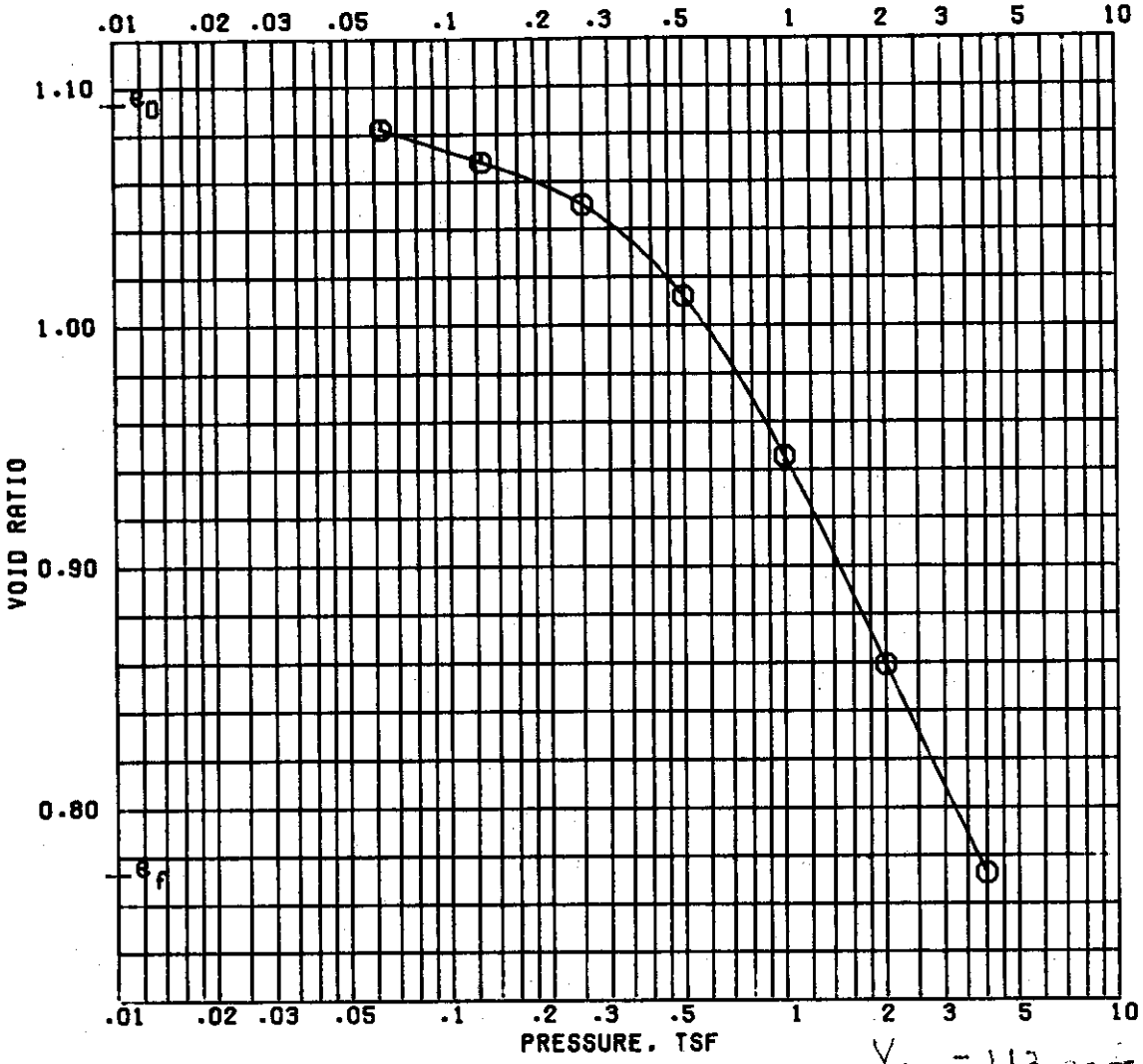
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY

LL 38	PL 16	PI 22	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 3-SCU | SAMPLE NO. 7-C
DEPTH/ELEV 25.4/-24.0 | TECH. KOC
LABORATORY USAE WES | DATE 27 FEB 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 113$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.58		
COMPRESSION INDEX 0.29		
TYPE SPECIMEN UNDISTURBED		
DIA. IN 4.44 HT. IN 1.126		
WATER CONTENT, %	39.9	28.4
DRY DENSITY, PCF	80.6	95.1
SATURATION, %	98.6	99.5
VOID RATIO	1.092	0.772
BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY

LL 40 PL 18 PI 22

GS 2.70 (EST) D_{10}

REMARKS

PROJECT LK PONT & VIC HURR PROT

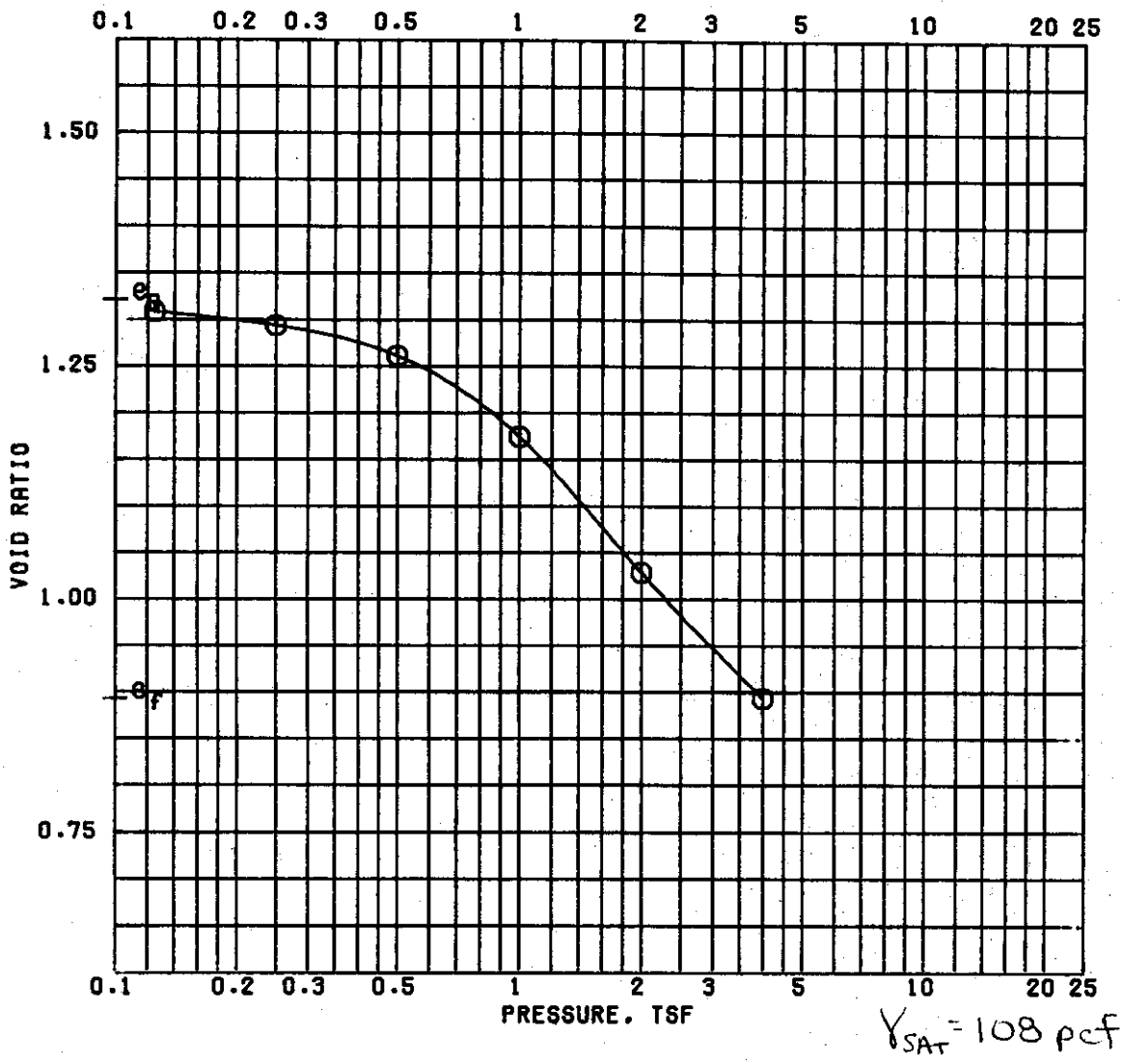
ST CHARLES PARISH

BORING NO. 3-SCU SAMPLE NO. 8-B

DEPTH/ELEV 28.5/-27.1 DATE 10 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 108 pcf

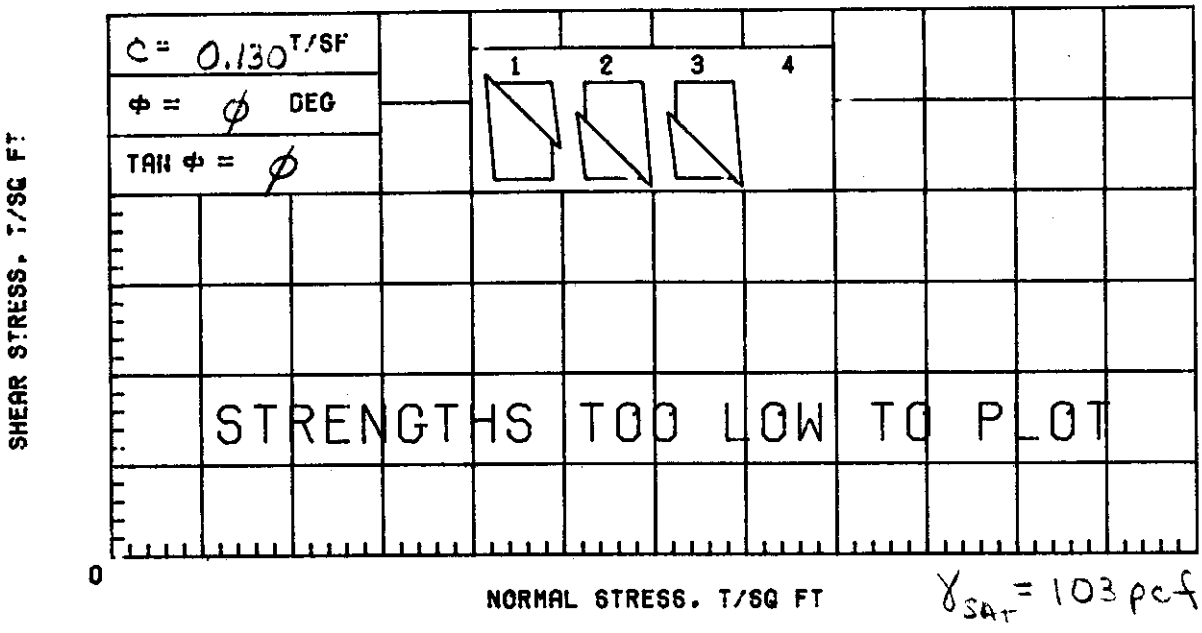
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	47.4	35.8
PRECONSOL. PRESSURE, TSF	0.79	DRY DENSITY, PCF	72.7	89.1
COMPRESSION INDEX	0.52	SATURATION, %	97.0	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.320	0.891
DIA. IN 4.44	HT. IN 1.153	BACK PRESSURE, TSF		

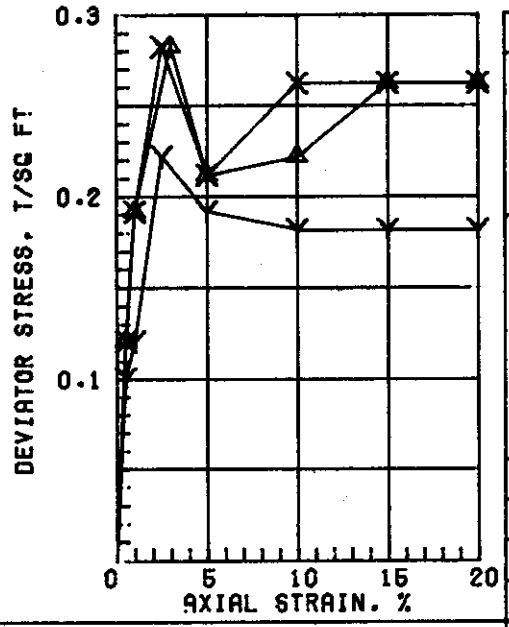
CLASSIFICATION: CLAY (CL), GRAY; SILT POCKETS

LL 43	PL 18	PI 25	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 3-SCU	SAMPLE NO. 9-C
		DEPTH/ELEV 33.4/-32.0	DATE 04 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8





SPECIMEN NO.		1	2	3	4
INITIAL	WATER CONTENT, %	57.5	60.7	60.7	
	DRY DENSITY, PCF	65.7	63.5	63.9	
	SATURATION, %	99.3	99.2	100+	
	VOID RATIO	1.564	1.663	1.637	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.28	0.22	0.28	
TIME TO FAILURE, MIN.		6	15	15	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 59.6

CONTROLLED-STRAIN TEST

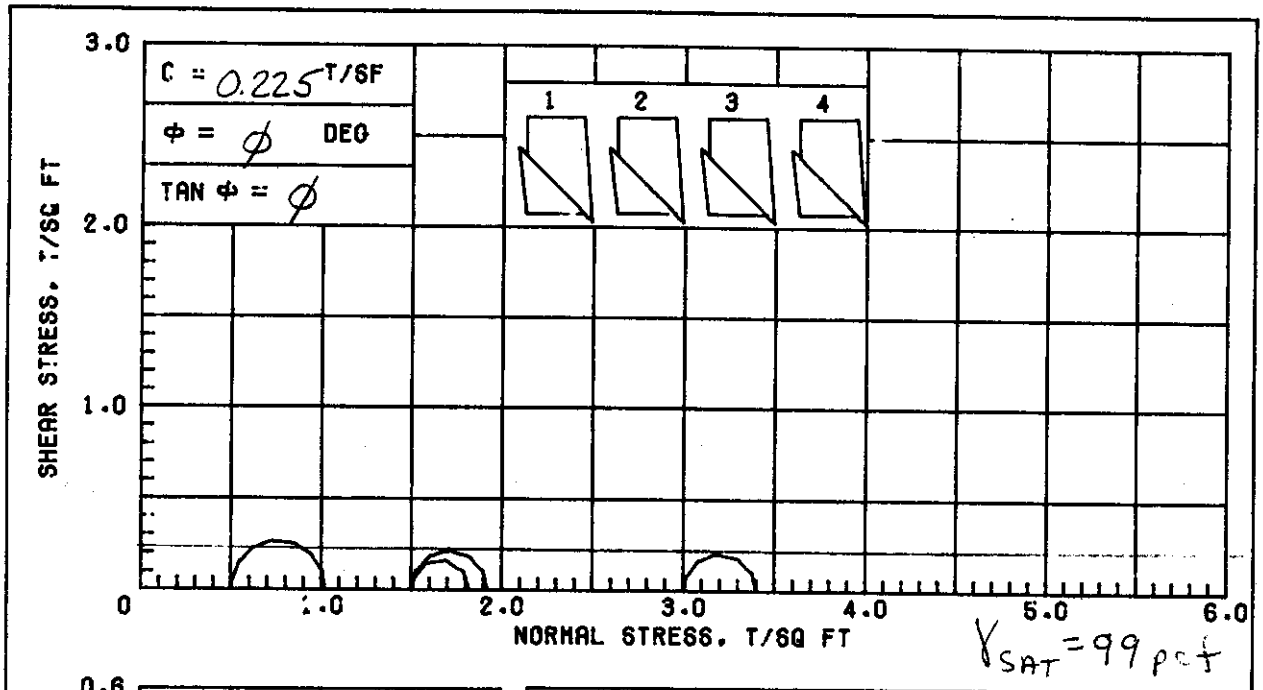
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES & POCKETS

LL 66	PL 22	PI 43	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

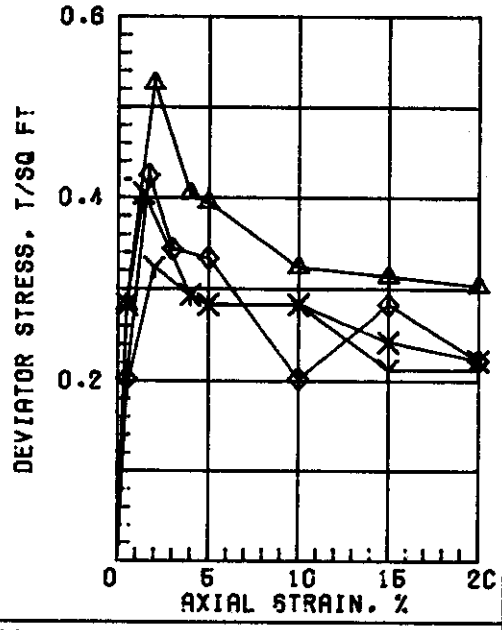
REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 3-SCU | SAMPLE NO. 10-D
DEPTH/ELEV 37.8/-36.4 | TECH. KOC
LABORATORY USAE WES | DATE 27 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 99$ pcf



SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	68.5	70.9	70.3	68.5
	DRY DENSITY, PCF	59.2	57.6	58.2	58.9
	SATURATION, %	100+	99.4	100+	99.5
	VOID RATIO	1.849	1.926	1.897	1.859
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	1.5
MAX. DEV. STRESS, TSF		0.53	0.32	0.40	0.42
TIME TO FAILURE, MIN.		4	13	9	15
RATE OF STRAIN INCR.%			6	6	3
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.39
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 69.6

CONTROLLED-STRAIN TEST

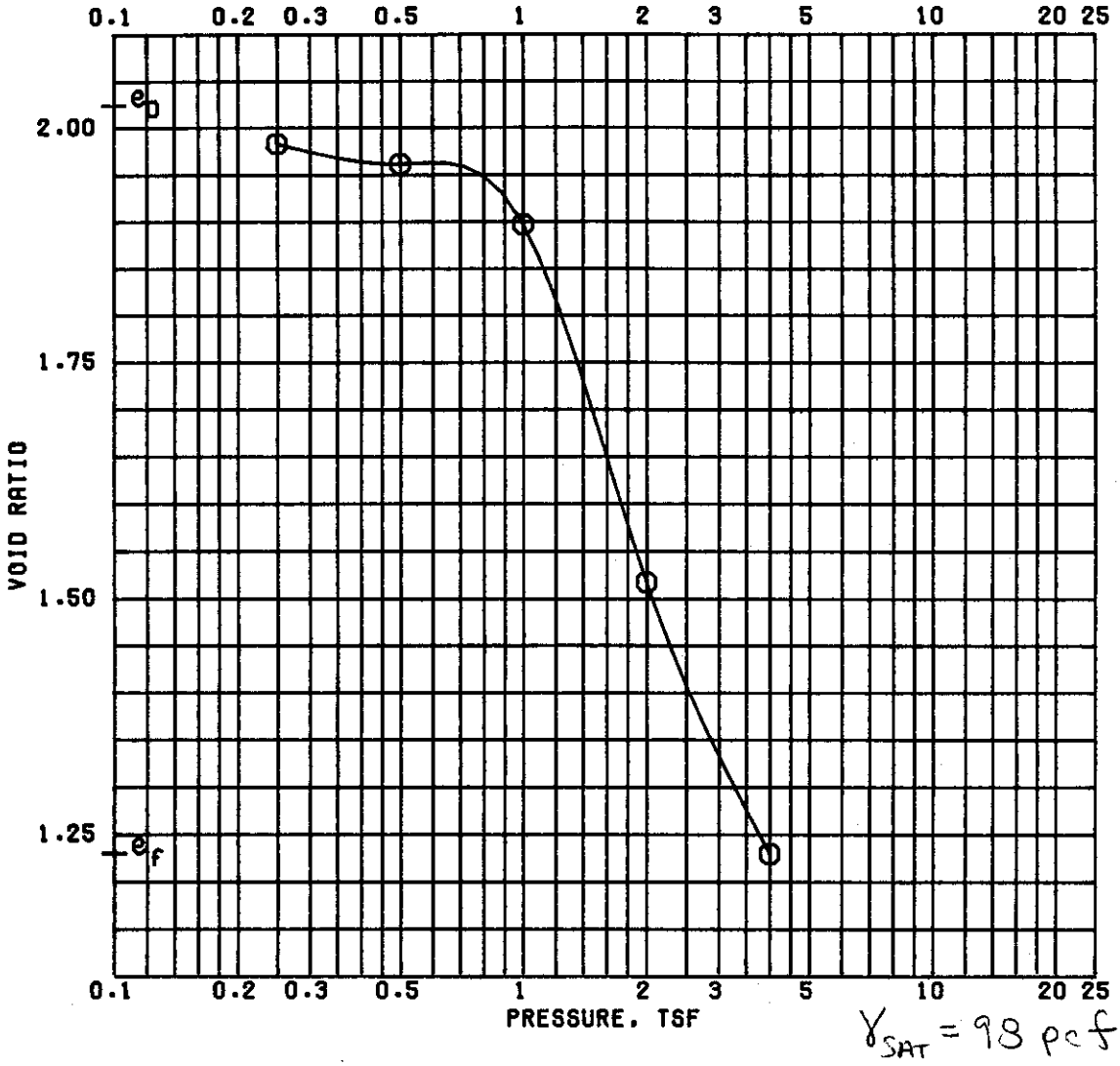
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 82	PL 23	PI 59	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	G TEST

REMARKS:

PROJECT LK PCHT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 3-SCU | SAMPLE NO. 12-B
DEPTH/ELEV 44.5/-43.1 | TECH. KCC
LABORATORY USAE WES | DATE 02 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 98$ pcf

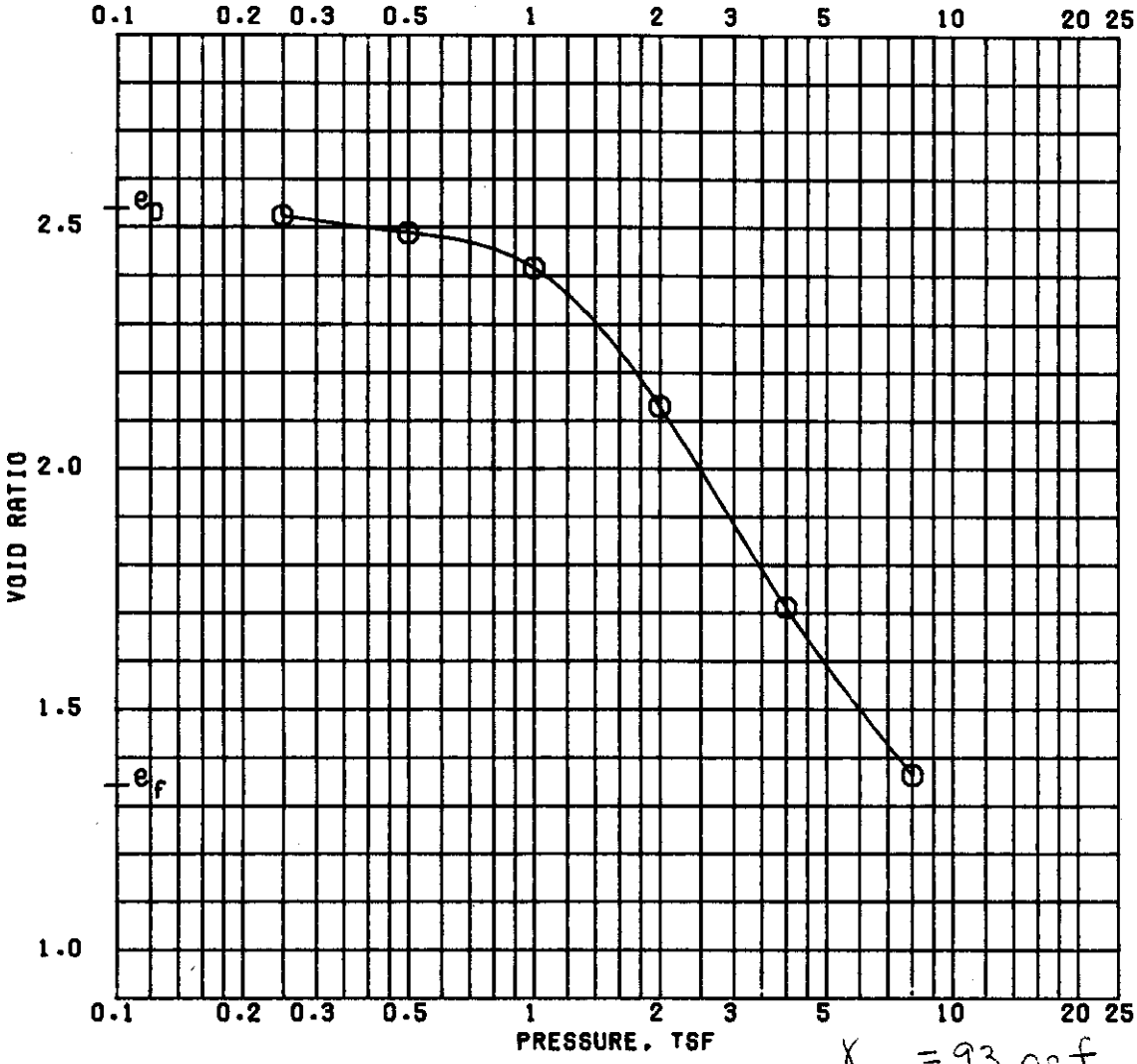
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	75.0	49.3
PRECONSOL. PRESSURE, TSF	0.98	DRY DENSITY, PCF	55.8	75.7
COMPRESSION INDEX	1.37	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.023	1.228
DIA. IN 4.44	HT. IN 1.120	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL	PL	PI	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 3-SCU	SAMPLE NO. 12-C
		DEPTH/ELEV 44.9/-43.5	DATE 05 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



$\gamma_{SAT} = 93$ pcf

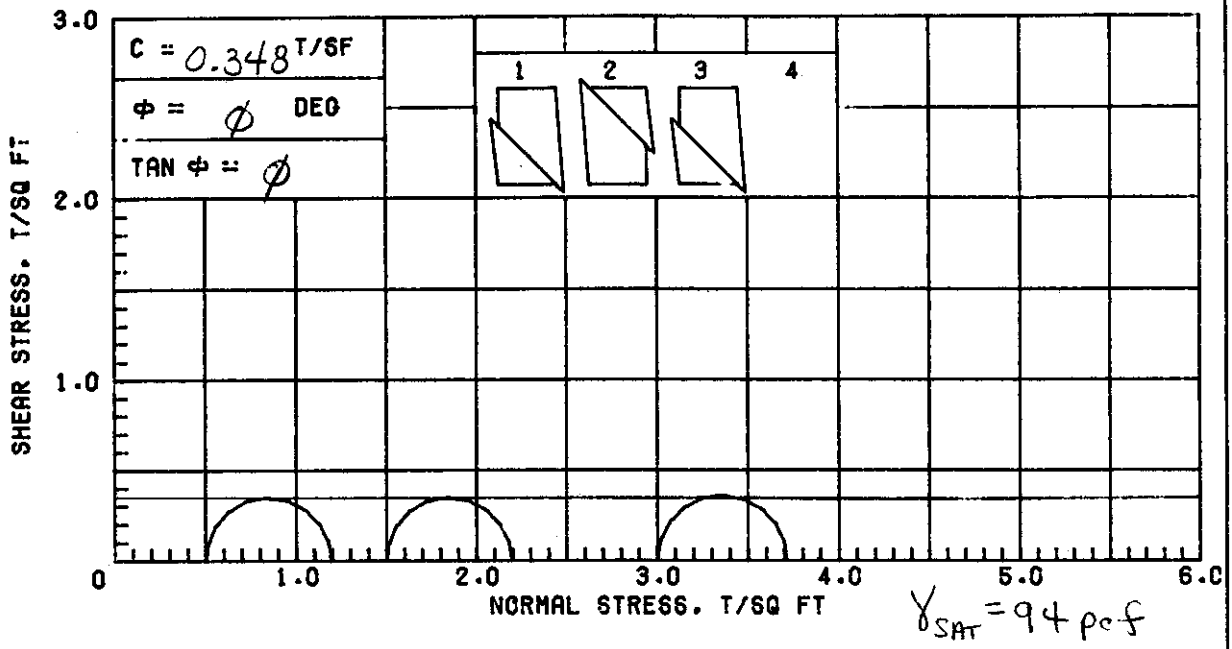
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 1.31	DRY DENSITY, PCF	47.7	72.1
COMPRESSION INDEX 1.42	SATURATION, %	57.4	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	2.534	1.339
DIA. IN 4.44 HT. IN 1.139	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; SILT POCKETS; SHELL PARTICLES

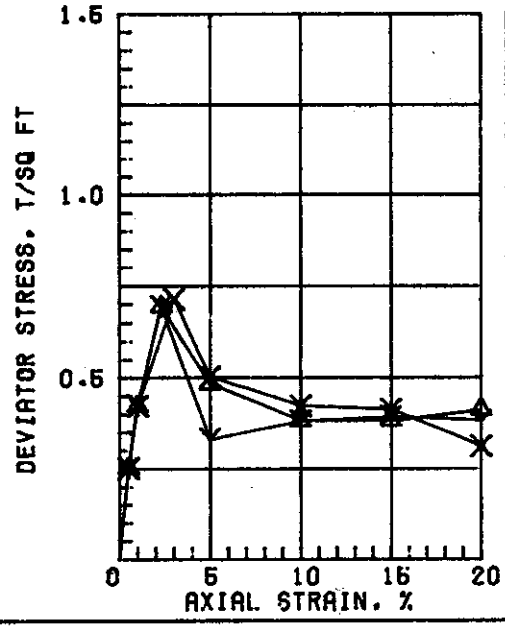
LL 85 PL 21 PI 64	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST) D_{10}	ST CHARLES PARISH
REMARKS	BORING NO. 3-SCU SAMPLE NO. 14-B
	DEPTH/ELEV 52.1/-50.7 DATE 09 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



$\gamma_{SAT} = 94$ pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	88.2	82.6	85.5	
	DRY DENSITY, PCF	48.9	51.5	50.0	
	SATURATION, %	97.3	98.1	97.3	
	VOID RATIO	2.448	2.274	2.372	
BEFORE SHEAR	WATER CONTENT, %				
	DRY CENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.69	0.69	0.71	
TIME TO FAILURE, MIN.		5	14	18	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 85.4

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 120	PL 31	PI 89	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

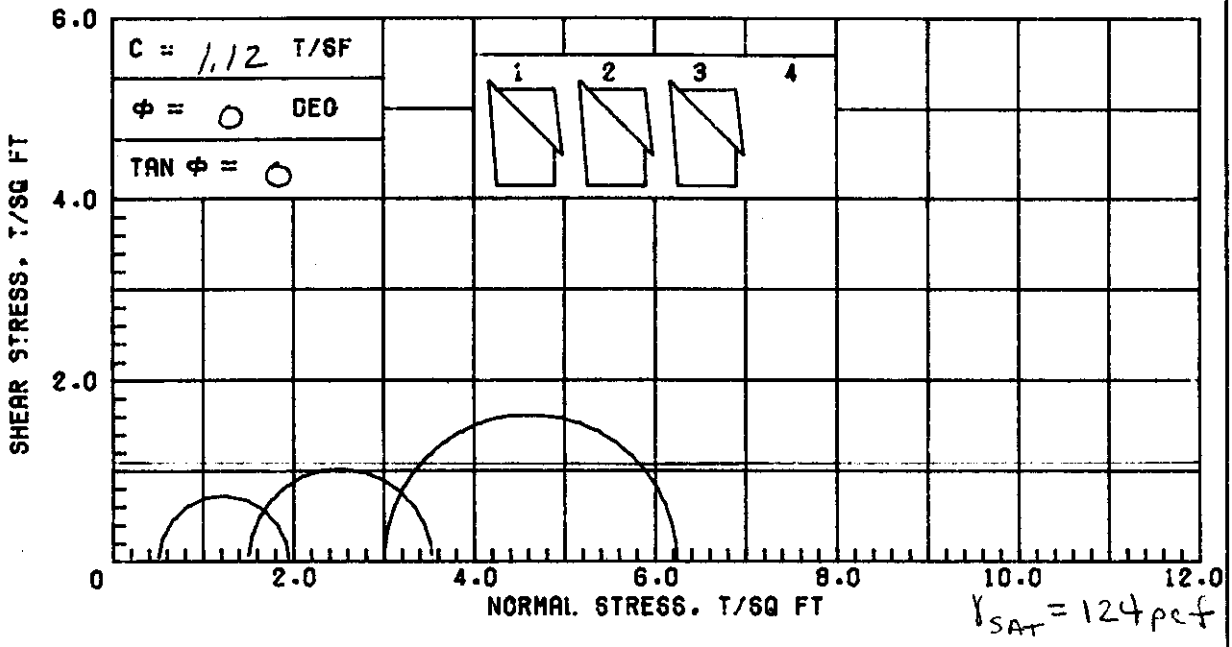
ST CHARLES PARISH

BORING NO. 3-SCU | SAMPLE NO. 14-C

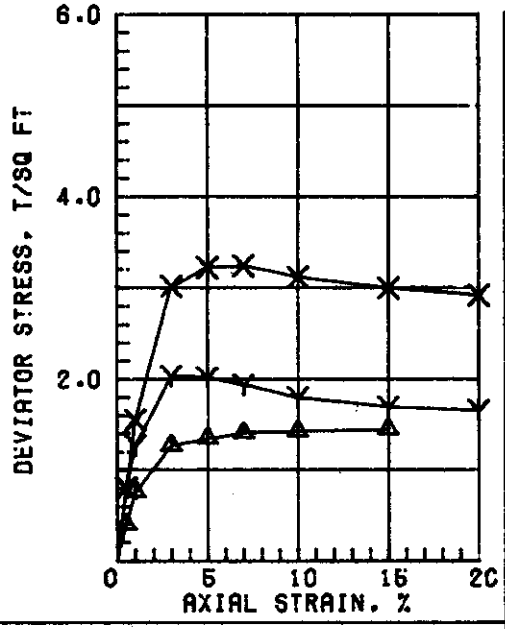
DEPTH/ELEV 53.3/-51.9 | TECH. KOC

LABORATORY USAE WES | DATE 02 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 124$ pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	23.8	25.3	22.6	
	DRY DENSITY, PCF	99.1	95.7	97.1	
	SATURATION, %	91.7	89.8	82.9	
	VOID RATIO	0.701	0.761	0.736	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.45	2.03	3.24	
TIME TO FAILURE, MIN.		30	6	14	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.39	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 23.9

CONTROLLED-STRAIN TEST

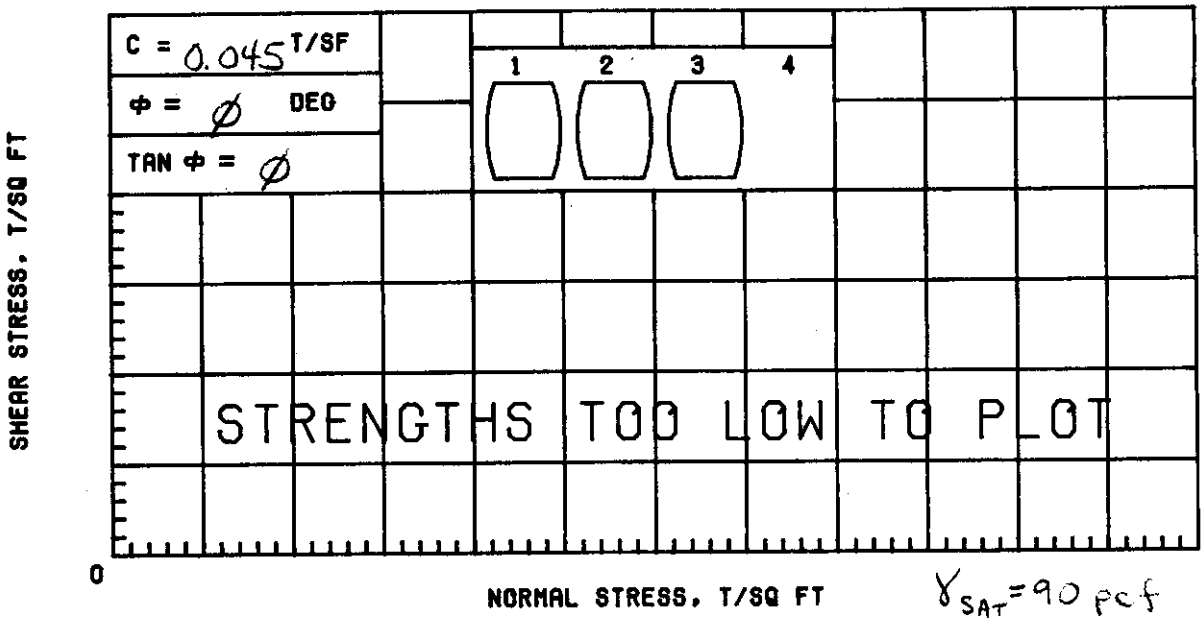
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; CONCRETIONS; SILT POCKETS

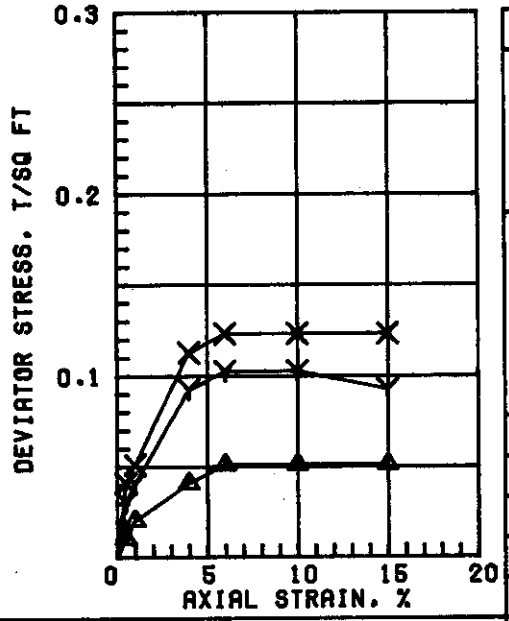
LL 52	PL 15	PI 37	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 3-SCU | SAMPLE NO. 17-B
DEPTH/ELEV 64.1/-62.7 | TECH. KOC
LABORATORY USAE WES | DATE 03 MAR 87

TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	114.6	104.3	95.6	
	DRY DENSITY, PCF	40.4	43.1	47.5	
	SATURATION, %	97.5	96.7	100+	
	VOID RATIO	3.175	2.914	2.548	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.05	0.10	0.12	
TIME TO FAILURE, MIN.		13	13	13	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.38	1.38	1.38	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 104.8

CONTROLLED-STRAIN TEST

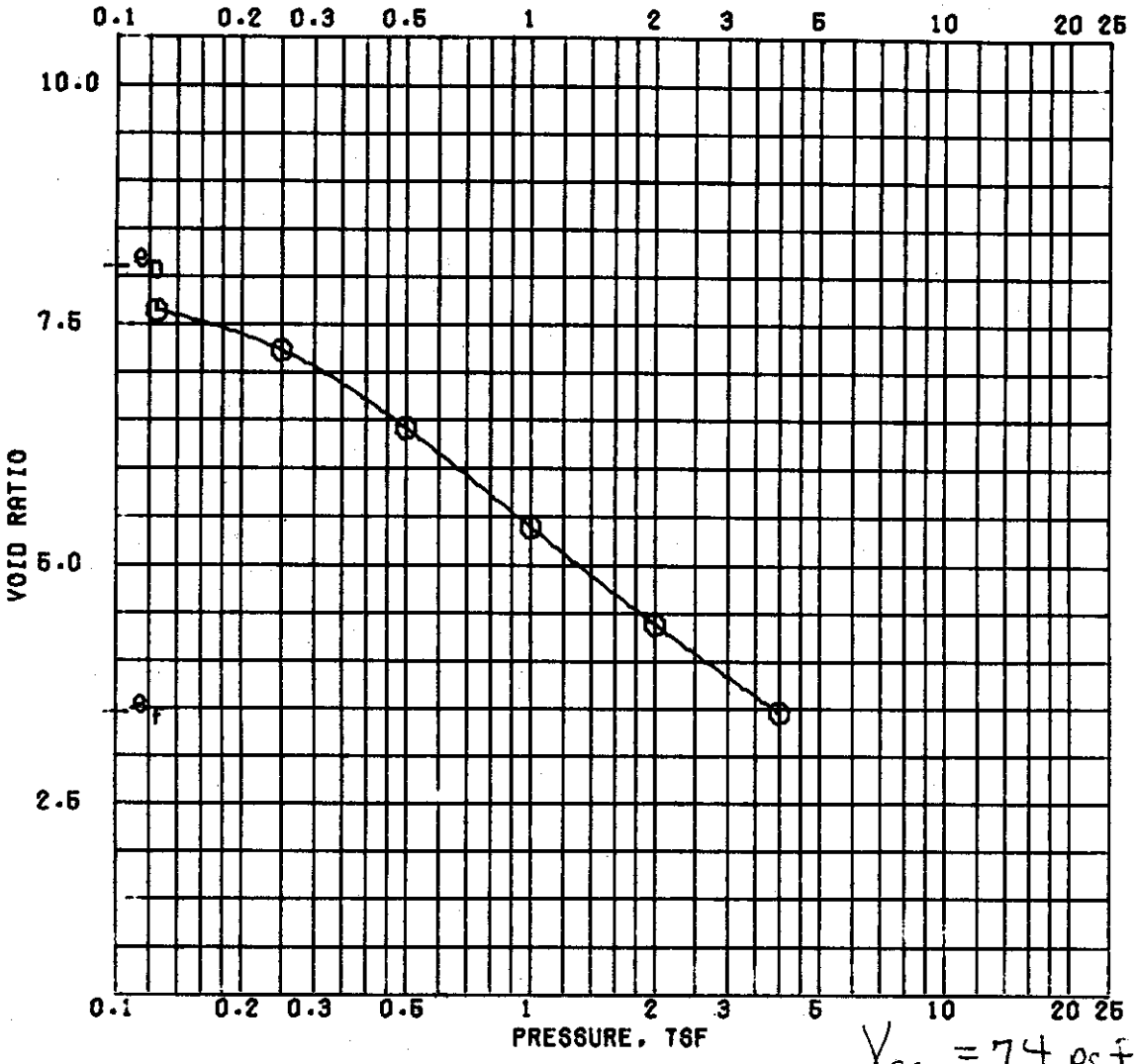
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 129	PL 31	PI 98	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 4-SCU | SAMPLE NO. 2-8
DEPTH/ELEV 4.9/-4.0 | TECH. BD
LABORATORY USAE WES | DATE 06 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 74$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	281.3	121.3
PRECONSOL. PRESSURE, TSF	0.33	DRY DENSITY, PCF	18.5	38.0
COMPRESSION INDEX	3.30	SATURATION, %	93.9	95.3
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	8.089	3.436
DIA. IN 4.44	HT. IN 1.120	BACK PRESSURE, TSF		

CLASSIFICATION: CLAY (CH), BROWN & GRAY; HIGHLY ORGANIC

LL	PL	PI
OS 2.70 (EST)	D_{10}	

PROJECT: LK PONT & VIC HURR PROT

ST CHARLES PARISH

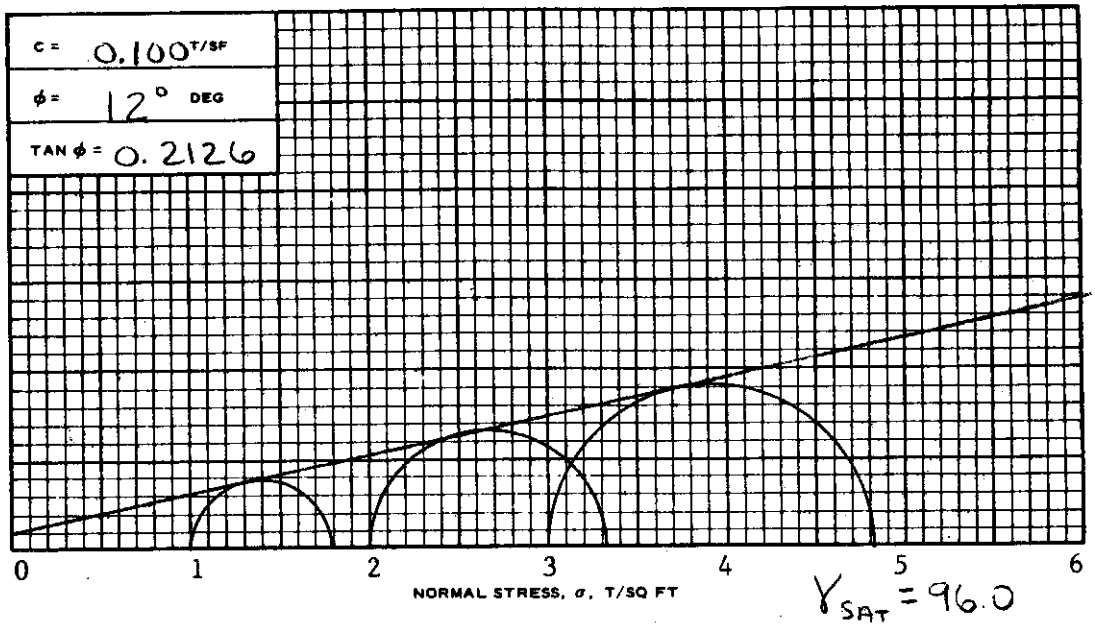
REMARKS

BORING NO. 4-SCU | SAMPLE NO. 2-C

DEPTH/ELEV 5.4/-4.5 | DATE 13 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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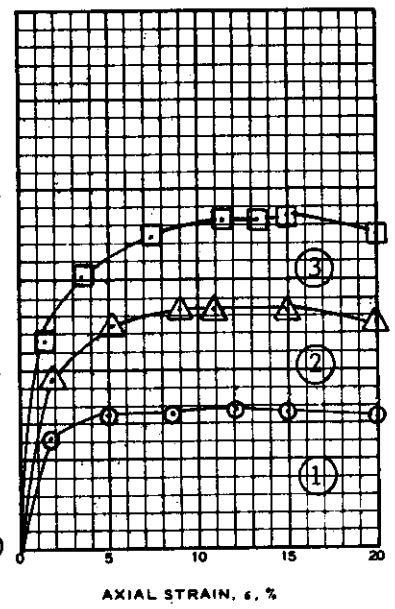


SPECIMEN NO.			1	2	3	AVE
INITIAL	WATER CONTENT, %	w_o	81.3	80.7	81.6	81.2
	DRY DENSITY LB/CU FT	γ_{d_o}	53.0	53.4	52.0	
	SATURATION, %	S_o	100+	100+	97.8	
	VOID RATIO	e_o	2.206	2.179	2.268	
BEFORE SHEAR	WATER CONTENT, %	w_c	66.8	54.5	50.4	
	DRY DENSITY LB/CU FT	γ_{d_c}	63.0	71.3	74.0	
	SATURATION, %	S_c	100+	100+	100+	
	VOID RATIO	e_c	1.696	1.381	1.296	
	FINAL BACK PRESSURE, T/SQ FT	u_o	5.76	5.76	5.76	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	0.79	1.33	1.82	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	806	562	706	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o	1.37	1.37	1.39	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS CLAY (CH), GRAY; ORGANIC MATERIAL

LL 93 | PL 24 | PI 69 | G_s 2.72

TYPE OF SPECIMEN UNDISTURBED | TYPE OF TEST $\bar{R}$

REMARKS: (EST)

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

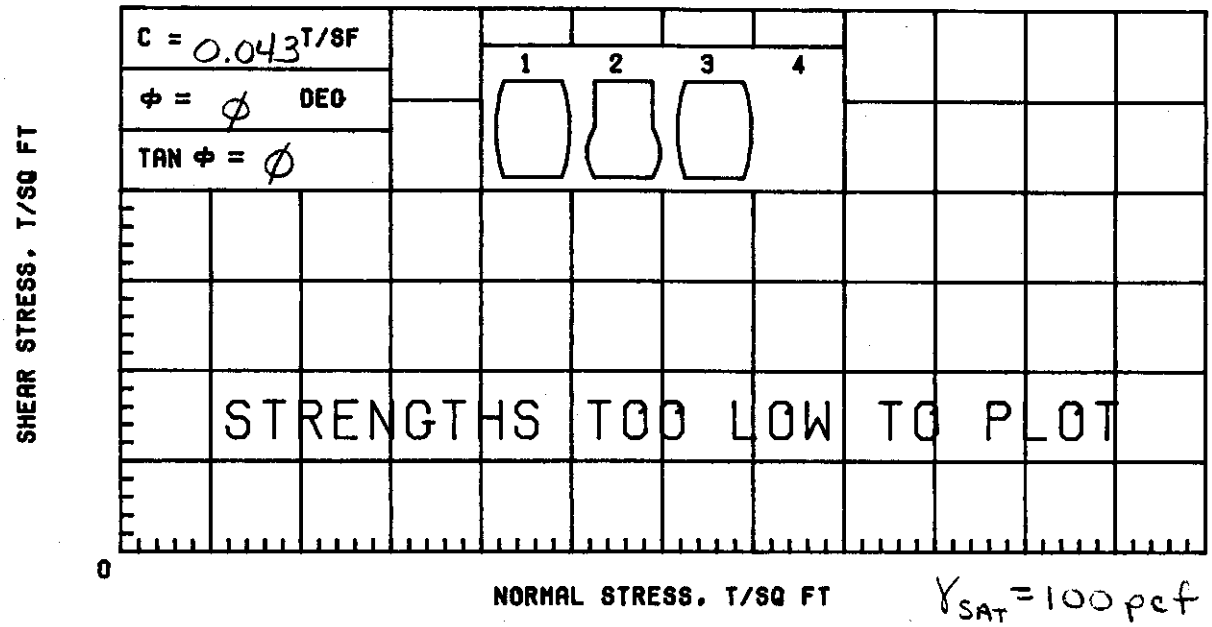
BORING NO. 4-SCU | SAMPLE NO. 4-B

DEPTH/ELEV 12.5/-11.6

LABORATORY USAEWES | DATE 22 MAY 87

SHEET 1 OF 2 | JMS | TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)



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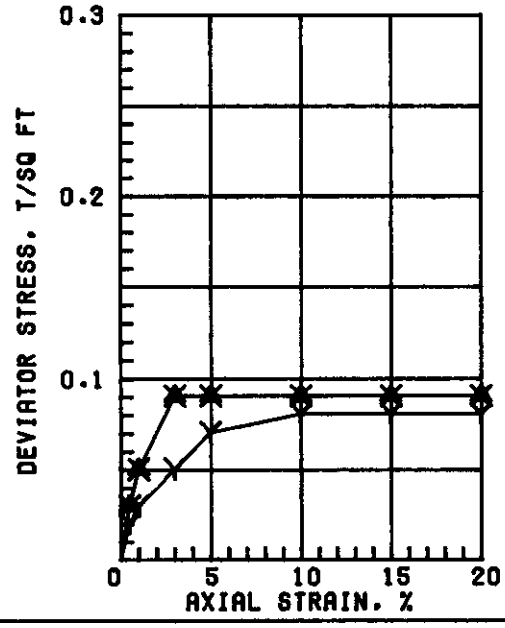


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	63.8	69.4	67.7	
	DRY DENSITY, PCF	61.2	57.5	58.3	
	SATURATION, %	98.3	97.1	96.6	
	VOID RATIO	1.753	1.930	1.893	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.09	0.08	0.09	
TIME TO FAILURE, MIN.		6	20	6	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 67.0

CONTROLLED-STRAIN TEST

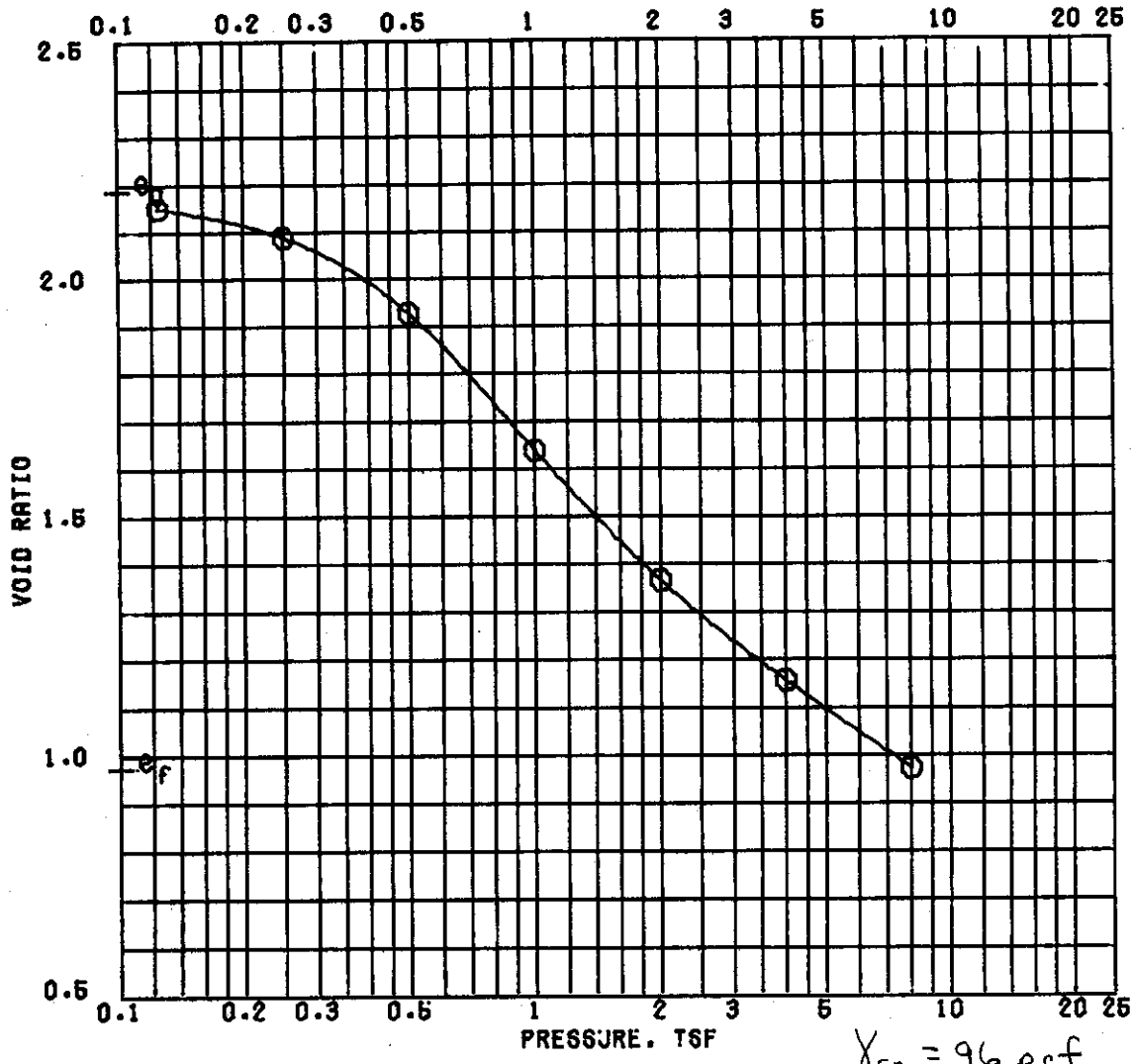
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 67	PL 21	PI 46	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 4-SCU | SAMPLE NO. 4-C
DEPTH/ELEV 13.3/-12.4 | TECH. KOC
LABORATORY USAE WES | DATE 07 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 96$ pcf

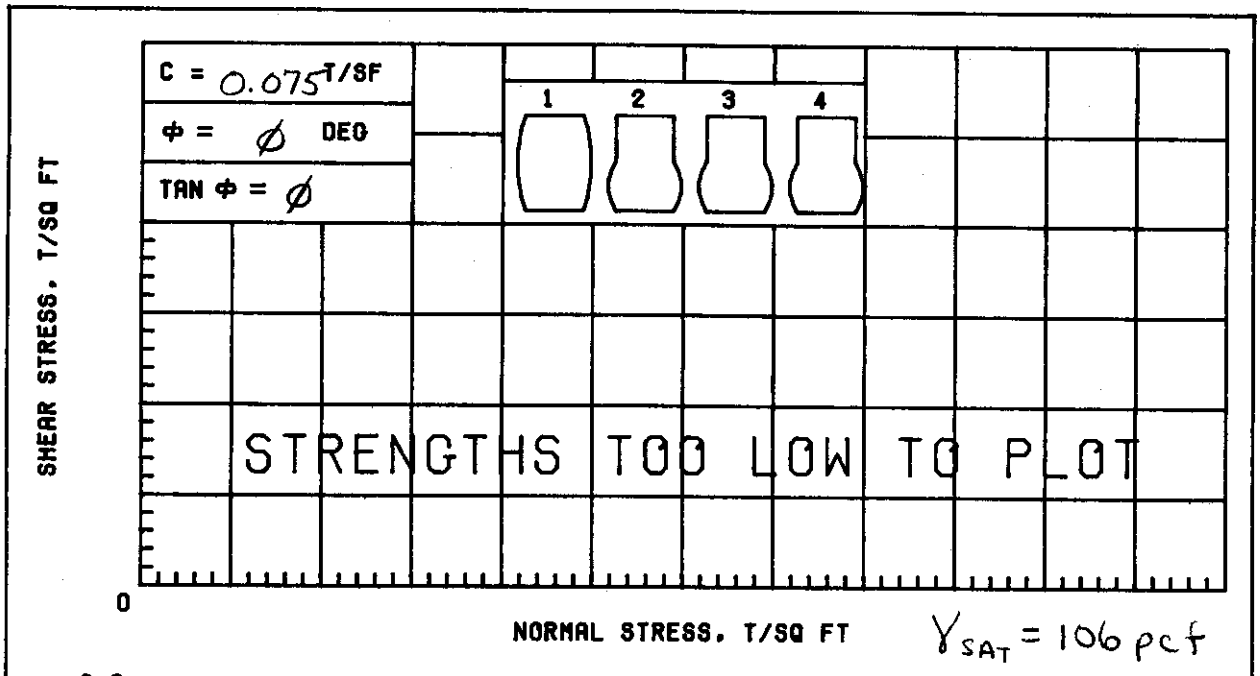
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	80.9	37.9
PRECONSOL. PRESSURE, TSF	0.35	DRY DENSITY, PCF	52.9	85.6
COMPRESSION INDEX	1.01	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.184	0.970
DIA. IN 4.44	HT. IN 1.148	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; SILT POCKETS

LL 71	PL 18	PI 53	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D:0		ST CHARLES PARISH
REMARKS		BORING NO. 4-SCU	SAMPLE NO. 5-B
		DEPTH/ELEV 16.5/-15.6	DATE 14 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



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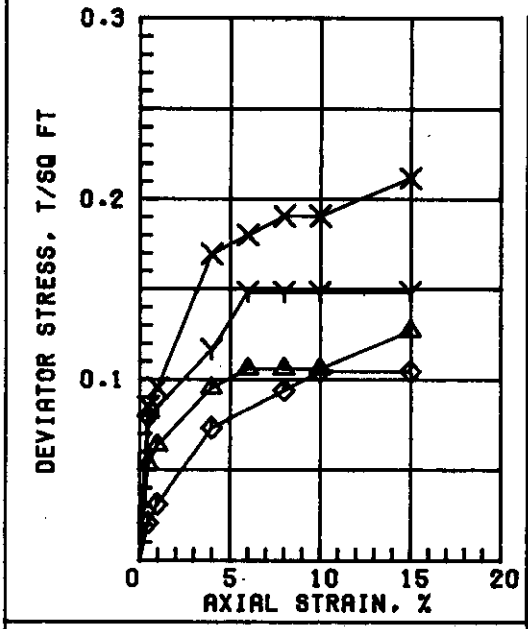


SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	49.0	52.7	45.7	46.9
	DRY DENSITY, PCF	68.9	66.5	73.2	69.0
	SATURATION, %	91.6	92.8	94.7	87.7
	VOID RATIO	1.445	1.533	1.302	1.443
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.11	0.15	0.19	0.10
TIME TO FAILURE, MIN.		12	12	16	19
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.36	1.36	1.36	1.37
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 48.6

CONTROLLED-STRAIN TEST

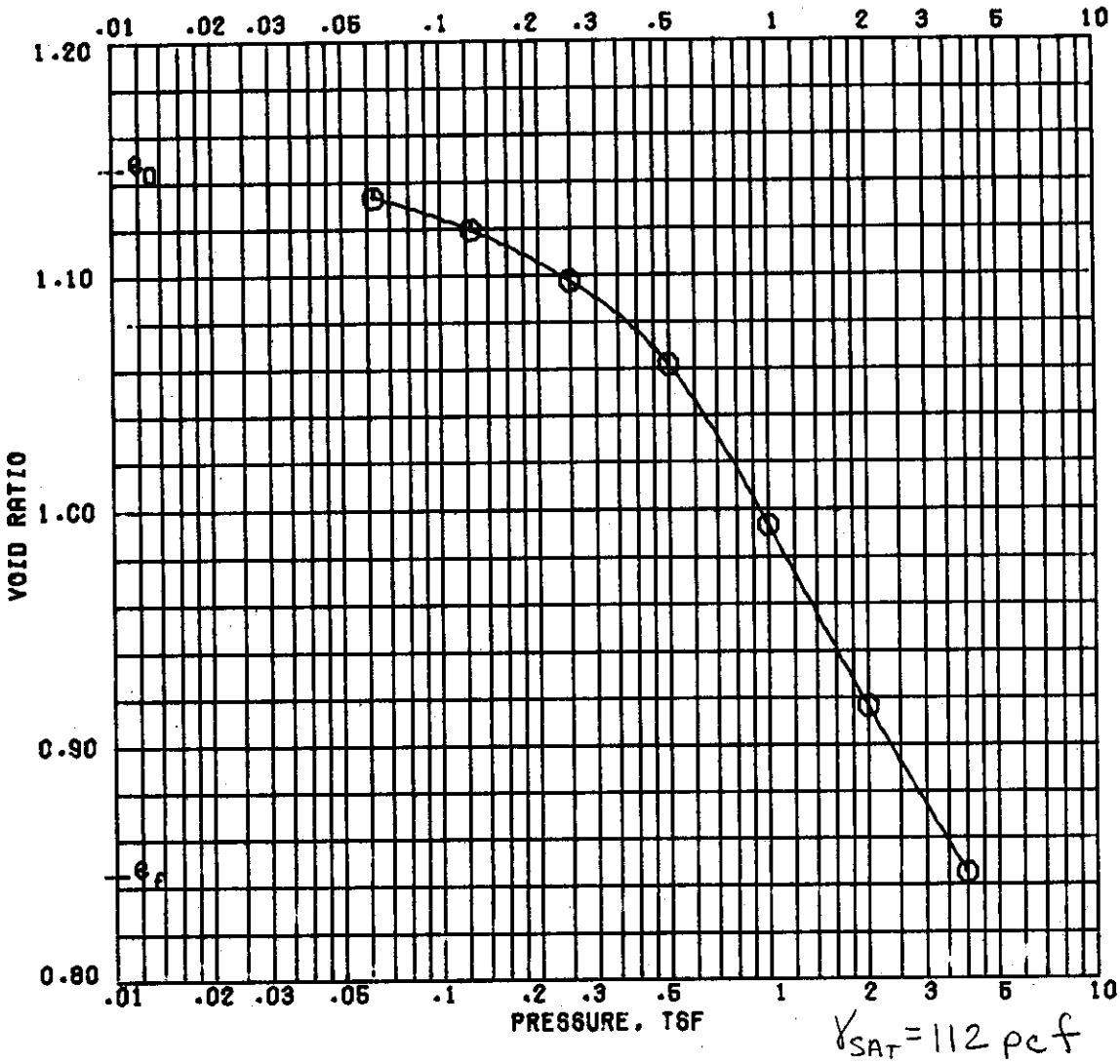
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; SILT LENSES

LL 41	PL 17	PI 24	OS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 4-SCU | SAMPLE NO. 6-C
DEPTH/ELEV 20.9/-20.0 | TECH. BD
LABORATORY USAE WES | DATE 07 MAY 67

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 112$ pcf

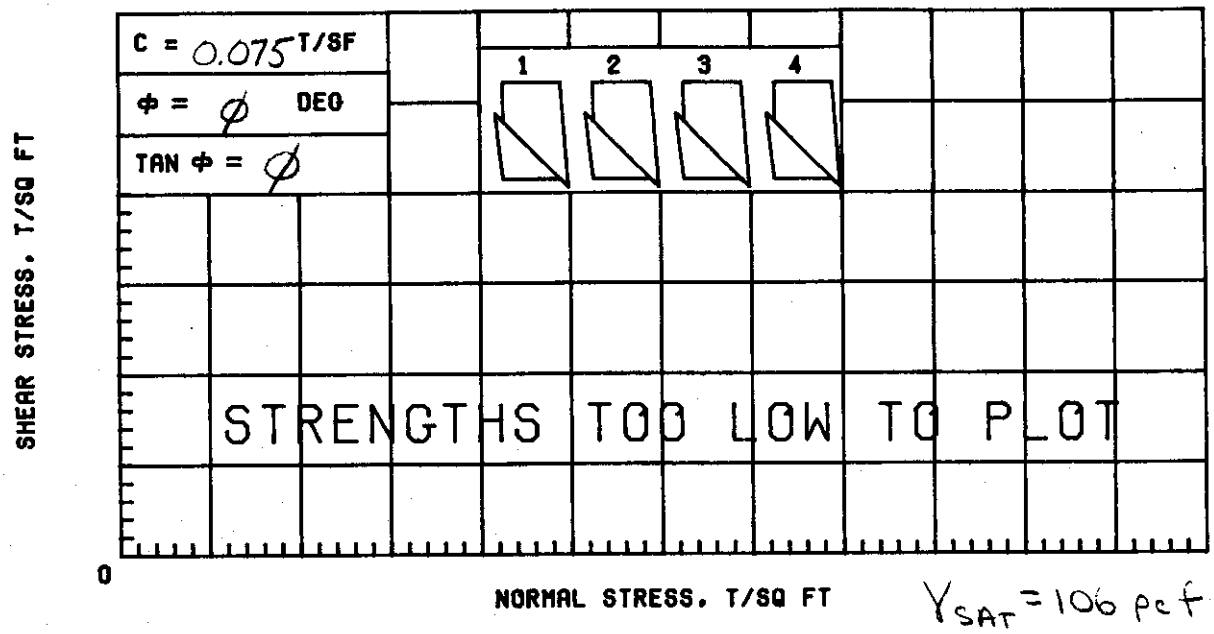
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	41.8	30.6
PRECONSOL. PRESSURE, TSF	0.48	DRY DENSITY, PCF	78.6	91.4
COMPRESSION INDEX	0.26	SATURATION, %	98.7	98.0
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	1.145	0.844
DIA. IN 4.44	HT. IN 1.123	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY

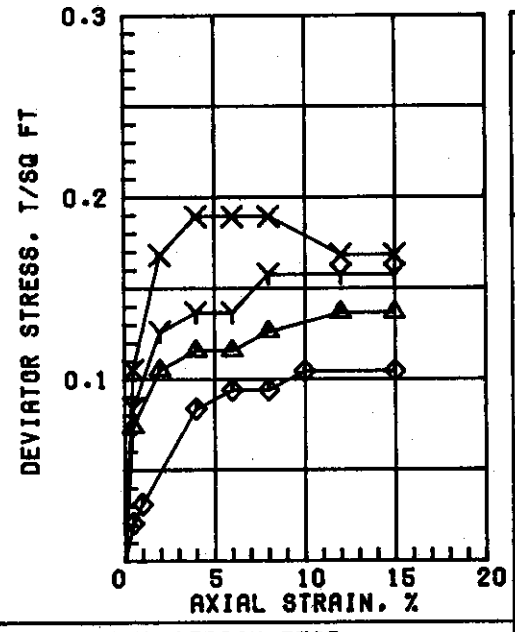
LL 43	PL 17	PI 26	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 4-SCU	SAMPLE NO. 7-C
		DEPTH/ELEV 25.4/-24.5	DATE 20 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 106 pcf



SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	54.4	50.6	50.6	52.7
	DRY DENSITY, PCF	69.0	70.2	71.2	68.5
	SATURATION, %	100+	97.5	100+	97.3
	VOID RATIO	1.443	1.401	1.366	1.461
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.12	0.14	0.19	0.09
TIME TO FAILURE, MIN.		9	22	22	32
RATE OF STRAIN INCR.%			7		8
INITIAL DIAMETER, IN.		1.36	1.36	1.36	1.37
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 52.1

CONTROLLED-STRAIN TEST

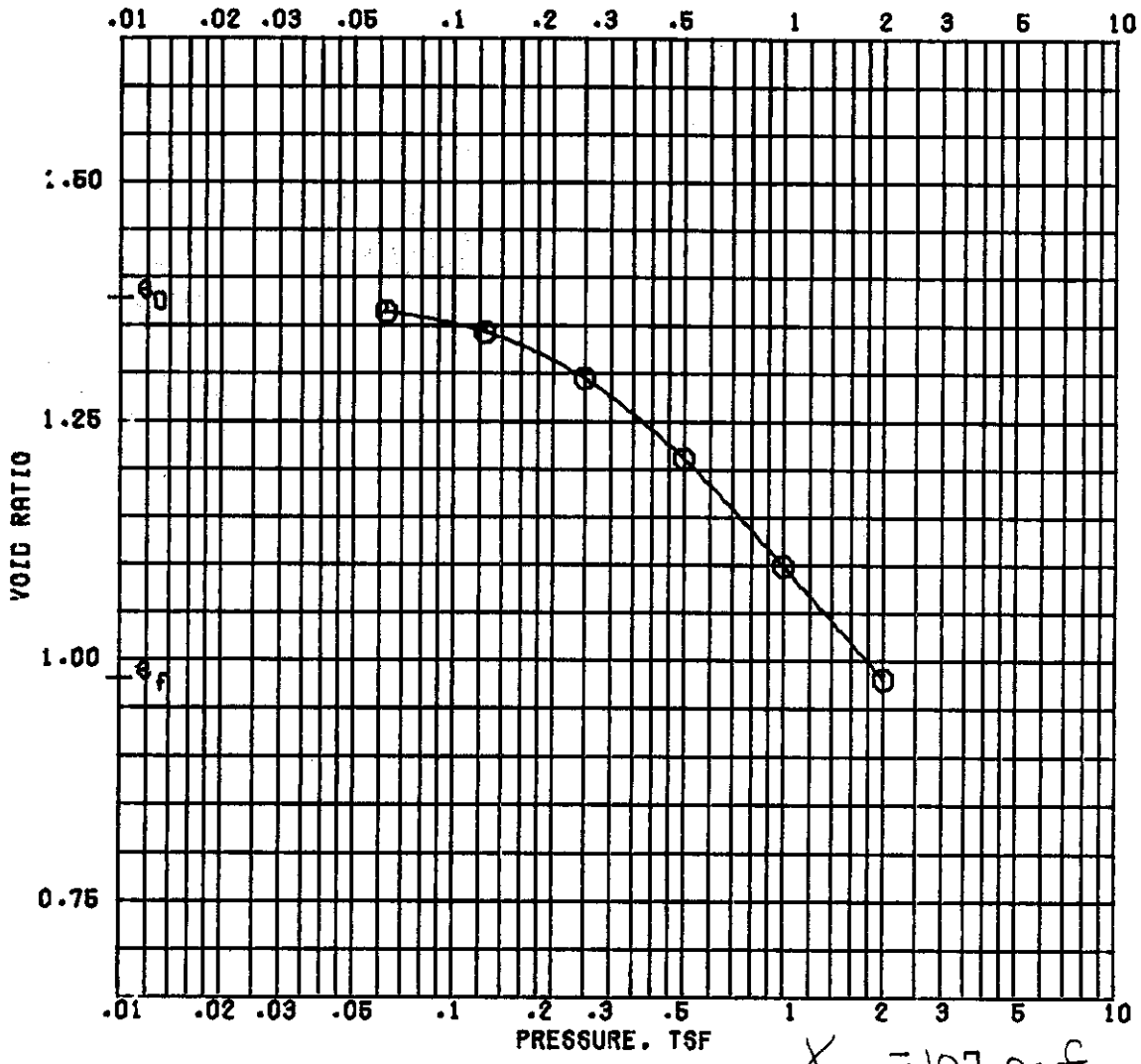
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 56	PL 19	PI 37	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 4-SCU | SAMPLE NO. 9-B
DEPTH/ELEV 32.4/-31.5 | TECH. BD
LABORATORY USAE WES | DATE 07 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 107$ pcf

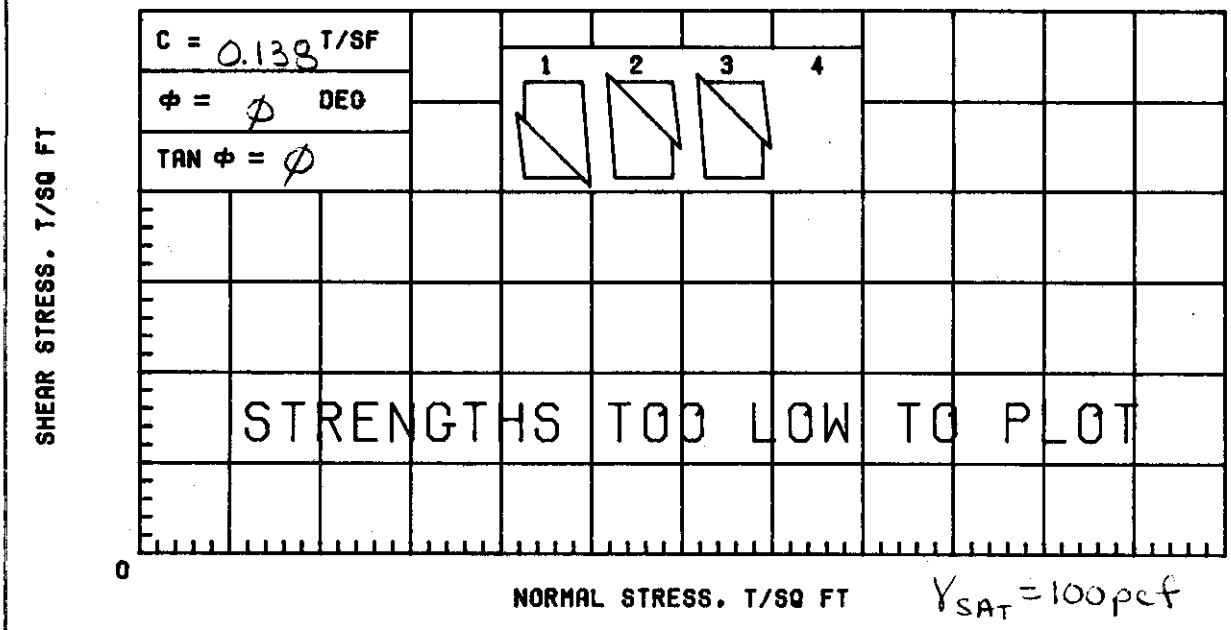
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	49.8	36.1
PRECONSOL. PRESSURE, TSF	0.28	DRY DENSITY, PCF	70.9	85.2
COMPRESSION INDEX	0.40	SATURATION, %	97.6	99.5
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.377	0.979
DIA. IN 4.44	HT. IN 1.118	BACK PRESSURE, TSF		

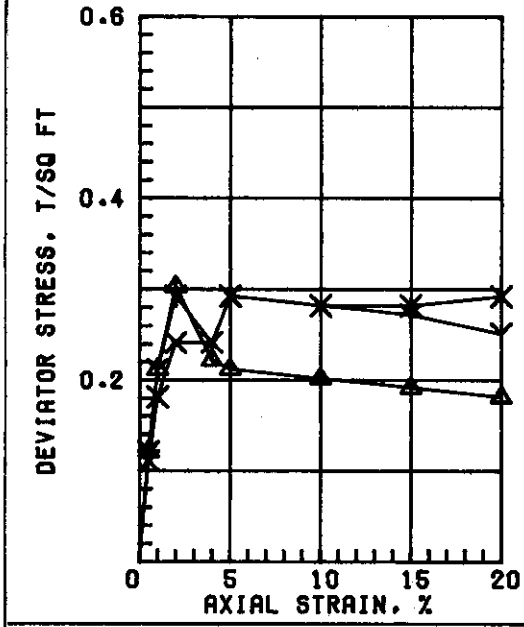
CLASSIFICATION CLAY (CH), GRAY

LL	PL	PI	PROJECT LK PONT & VIC HURR PRCT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 4-SCU	SAMPLE NO. 9-C
		DEPTH/ELEV 32.9/-32.0	DATE 20 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	68.0	65.6	66.5	
	DRY DENSITY, PCF	59.1	60.7	60.0	
	SATURATION, %	99.0	99.8	99.2	
	VOID RATIO	1.854	1.775	1.810	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.30	0.29	0.24	
TIME TO FAILURE, MIN.		4	15	15	
RATE OF STRAIN INCR.%			4	4	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 66.7

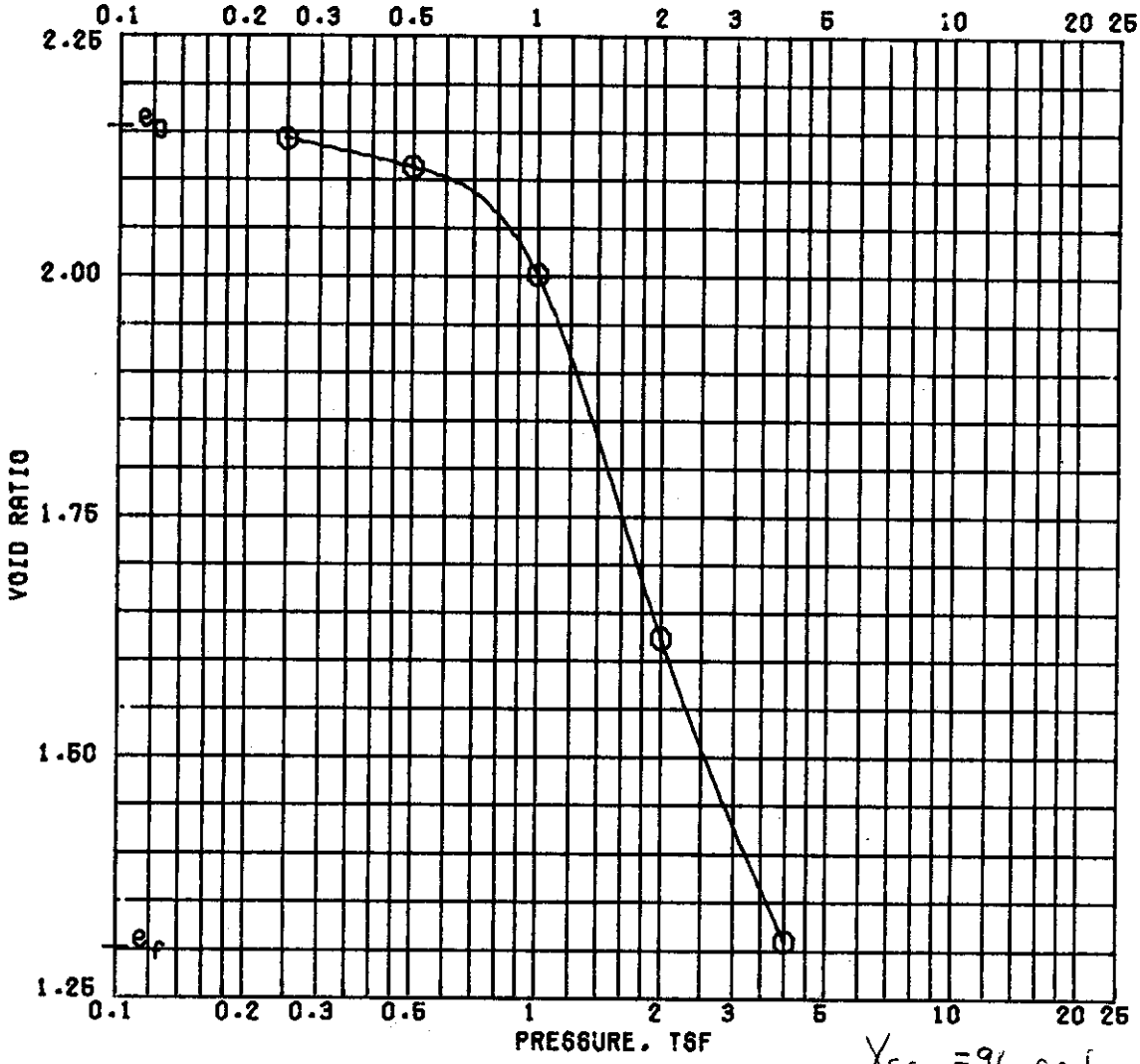
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 82	PL 24	PI 58	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 4-SCU	SAMPLE NO. 11-C
	DEPTH/ELEV 41.4/-40.5	TECH. KOC
	LABORATORY USAE WES	DATE 07 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 96$ pcf

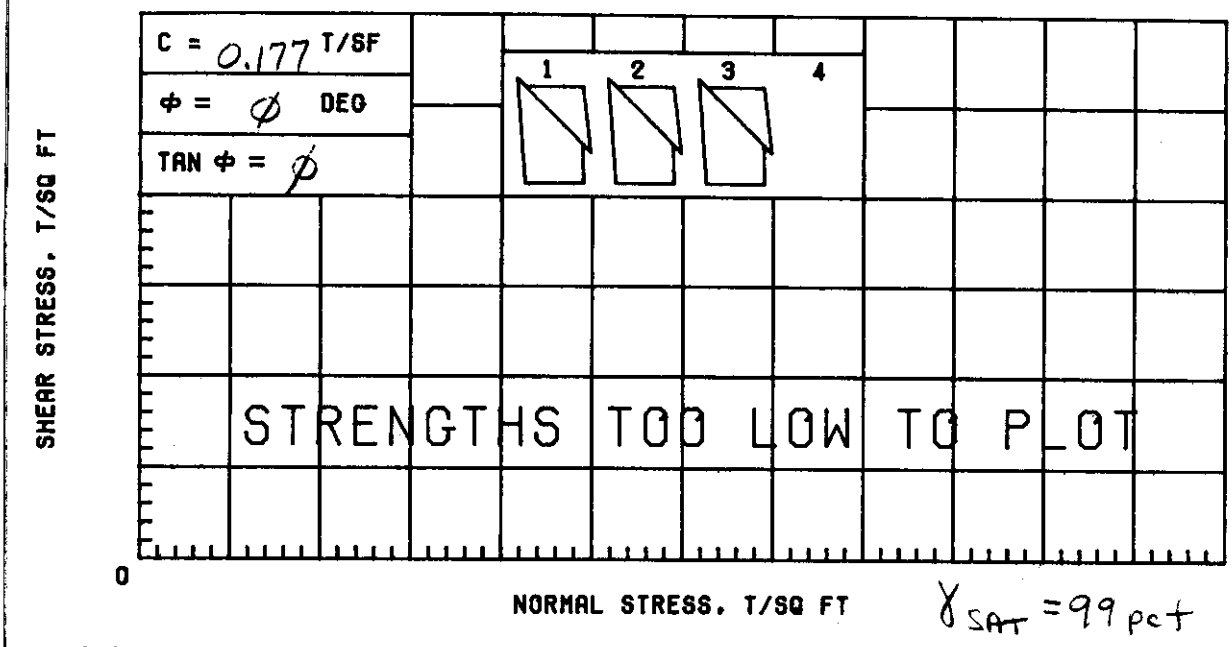
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	79.9	50.4
PRECONSOL. PRESSURE, TSF	0.93	DRY DENSITY, PCF	53.4	73.3
COMPRESSION INDEX	1.27	SATURATION, %	100 +	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	2.154	1.301
DIA. IN 4.44	HT. IN 1.110	BACK PRESSURE, TSF		

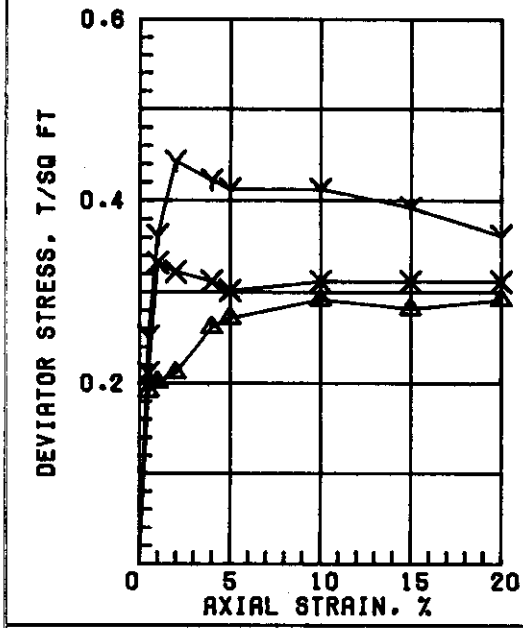
CLASSIFICATION: CLAY (CH), GRAY

LL 94	PL 25	PI 69	PROJECT: LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 4-SCU	SAMPLE NO. 12-B
		DEPTH/ELEV 44.5/-43.6	DATE 21 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	67.3	67.9	66.7	
	DRY DENSITY, PCF	59.2	59.0	58.2	
	SATURATION, %	98.3	98.6	97.9	
	VOID RATIO	1.848	1.859	1.895	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.29	0.44	0.33	
TIME TO FAILURE, MIN.		20	4	7	
RATE OF STRAIN INCR.%				5	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 68.0

CONTROLLED-STRAIN TEST

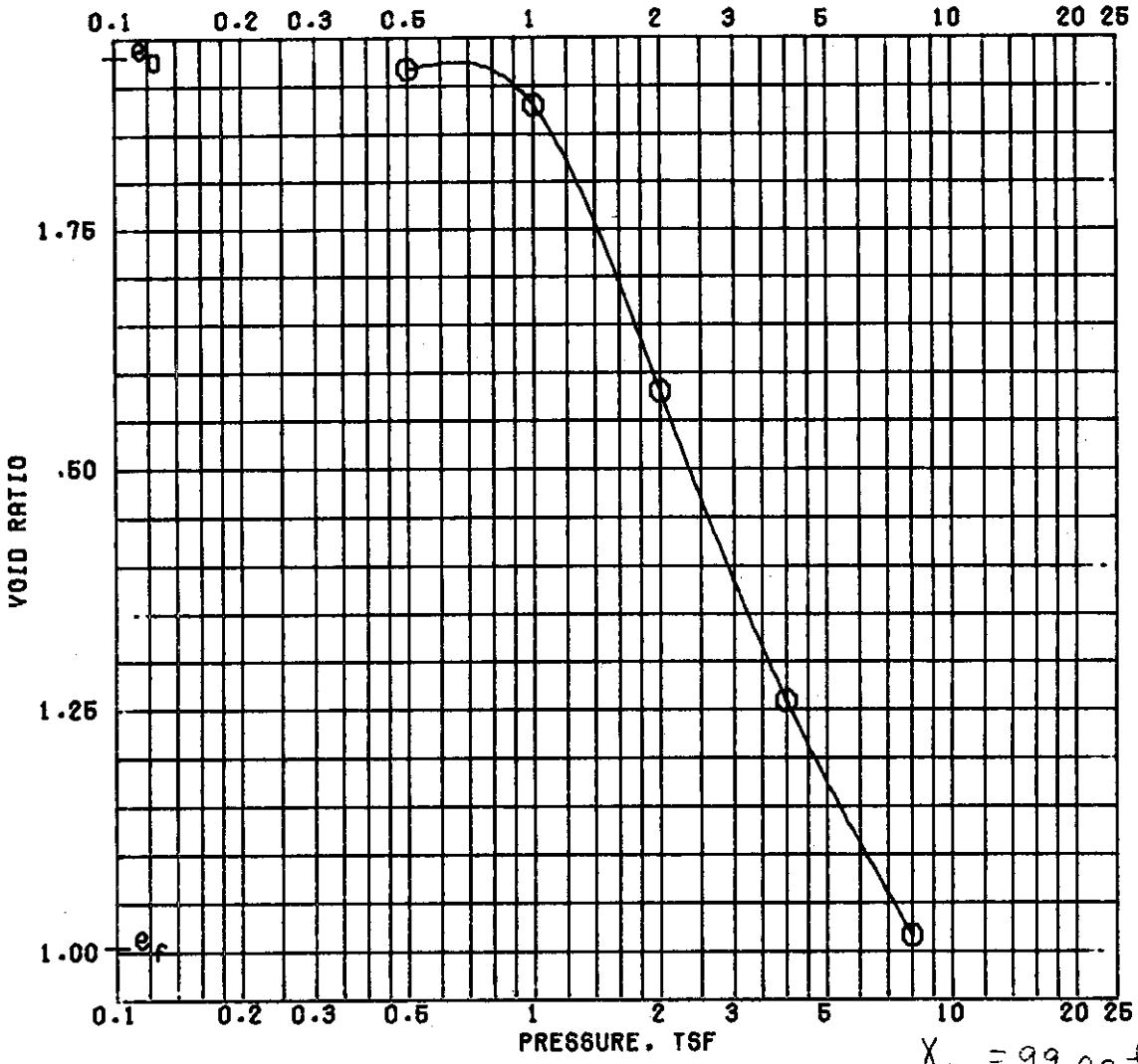
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 83	PL 23	PI 60	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 4-SCU | SAMPLE NO. 13-C
DEPTH/ELEV 49.4/-48.5 | TECH. KOC
LABORATORY USAE WES | DATE 14 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 99$ pcf

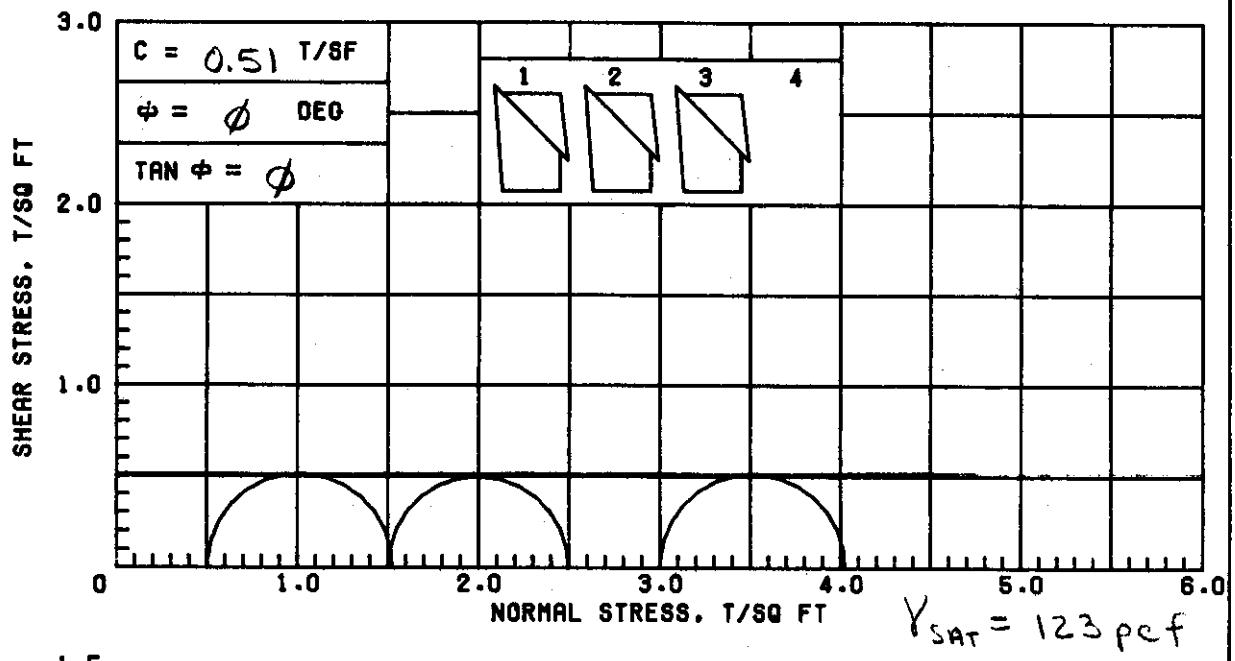
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	70.7	38.7
PRECONSOL. PRESSURE, TSF	1.00	DRY DENSITY, PCF	57.6	84.1
COMPRESSION INDEX	1.11	SATURATION, %	98.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.929	1.004
CIA. IN 4.44	HT. IN 1.123	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; SHELL PARTICLES

LL 86	PL 21	PI 65	PROJECT LK PCNT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 4-SCU	SAMPLE NO. 14-B
		DEPTH/ELEV 52.5/-51.6	DATE 17 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



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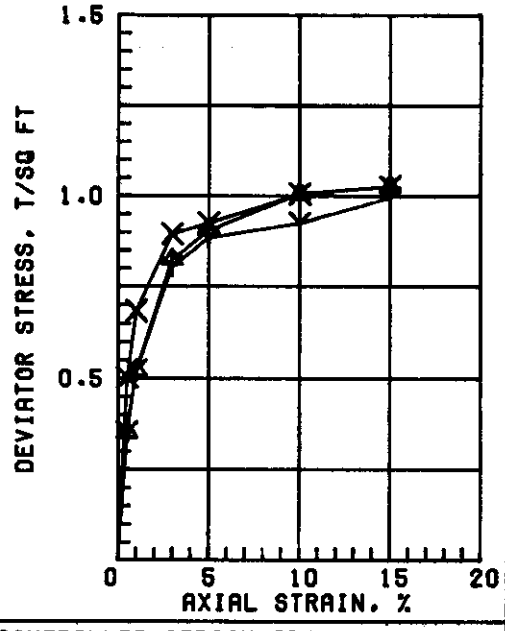


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	26.1	26.3	26.7	
	DRY DENSITY, PCF	97.1	96.9	96.0	
	SATURATION, %	95.7	96.1	95.3	
	VOID RATIO	0.736	0.739	0.756	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.03	1.00	1.03	
TIME TO FAILURE, MIN.		30	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

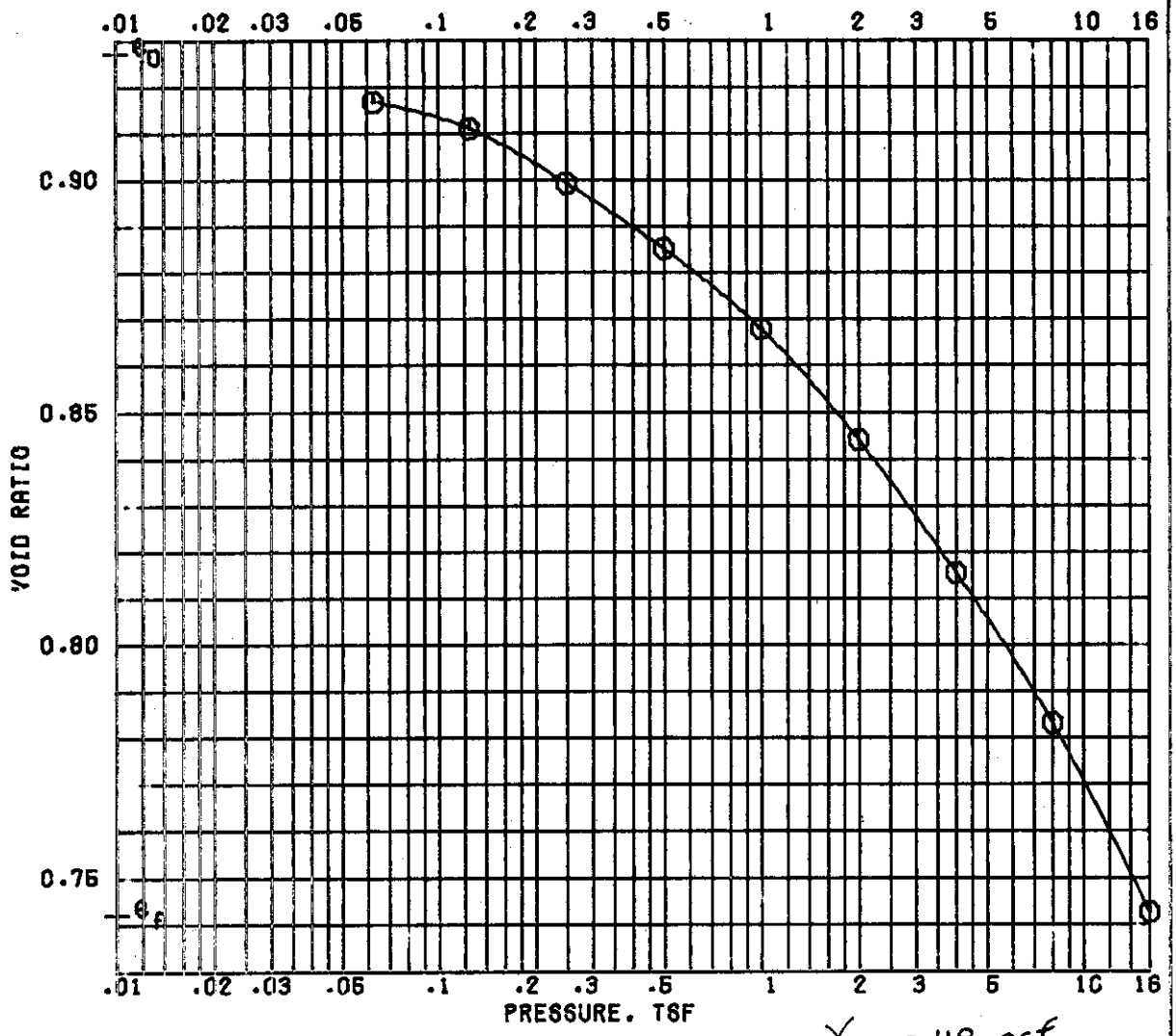
AVE 26.4

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY

LL 48	PL 13	PI 35	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 4-SCU	SAMPLE NO. 15-C
	DEPTH/ELEV 57.2/-56.3	TECH. KOC
	LABORATORY USAE WES	DATE 14 MAY 87
	TRIAXIAL COMPRESSION TEST REPORT	

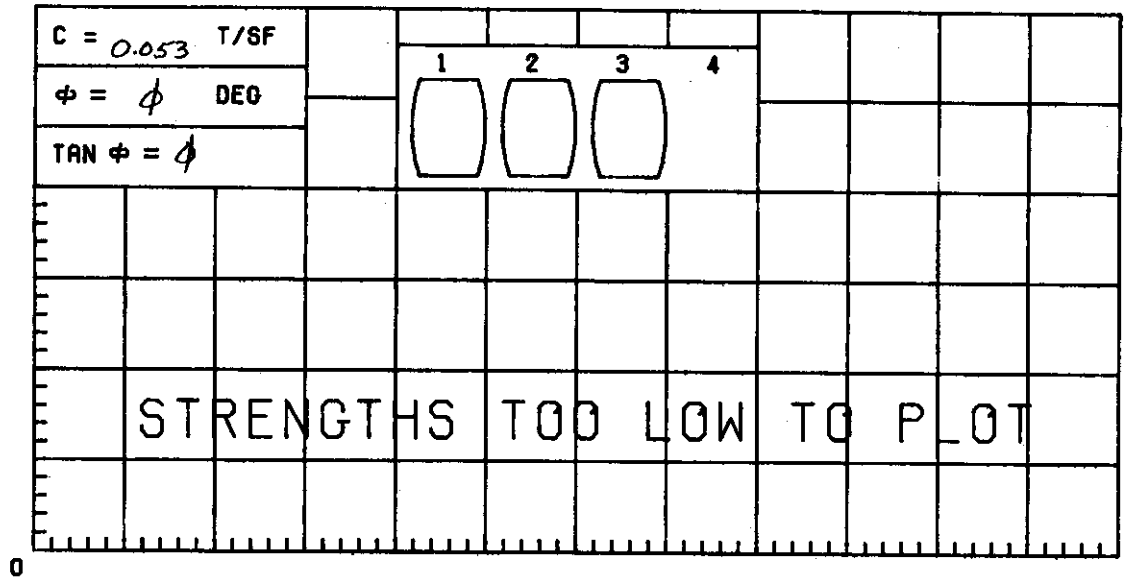


γ_{SAT} = 118 pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		WATER CONTENT. %	34.2	26.8
PRECONSOL. PRESSURE. TSF	0.60	DRY DENSITY. PCF	87.5	96.8
COMPRESSION INDEX	0.10	SATURATION. %	99.6	97.7
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	0.927	0.742
DIA. IN 4.44	HT. IN 1.110	BACK PRESSURE. TSF		
CLASSIFICATION: CLAYEY SILT (ML), GRAY				
LL.	PL. / PI	PROJECT: LK PONT & VIC HURR PROT		
GS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. S-SCU	SAMPLE NO. 4-B	
		DEPTH/ELEV 12.5/-11.3	DATE 21 JUL 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 10



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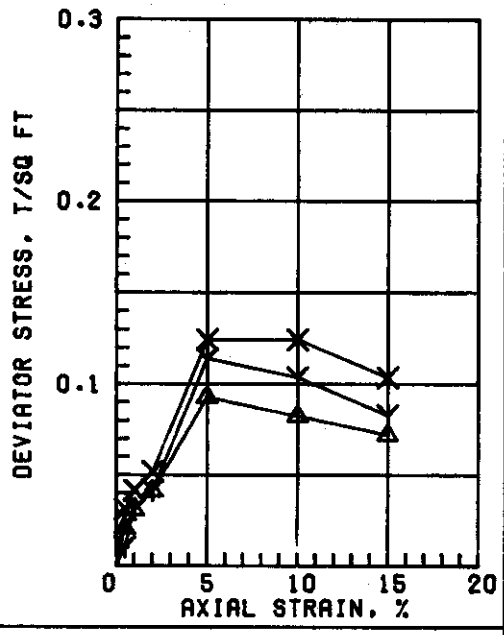


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	71.3	91.3	80.8	
	DRY DENSITY, PCF	56.6	50.2	53.0	
	SATURATION, %	97.2	100+	100.0	
	VOID RATIO	1.979	2.360	2.182	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.09	0.11	0.12	
TIME TO FAILURE, MIN.		10	13	13	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.38	1.37	1.37	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 81.1

CONTROLLED-STRAIN TEST

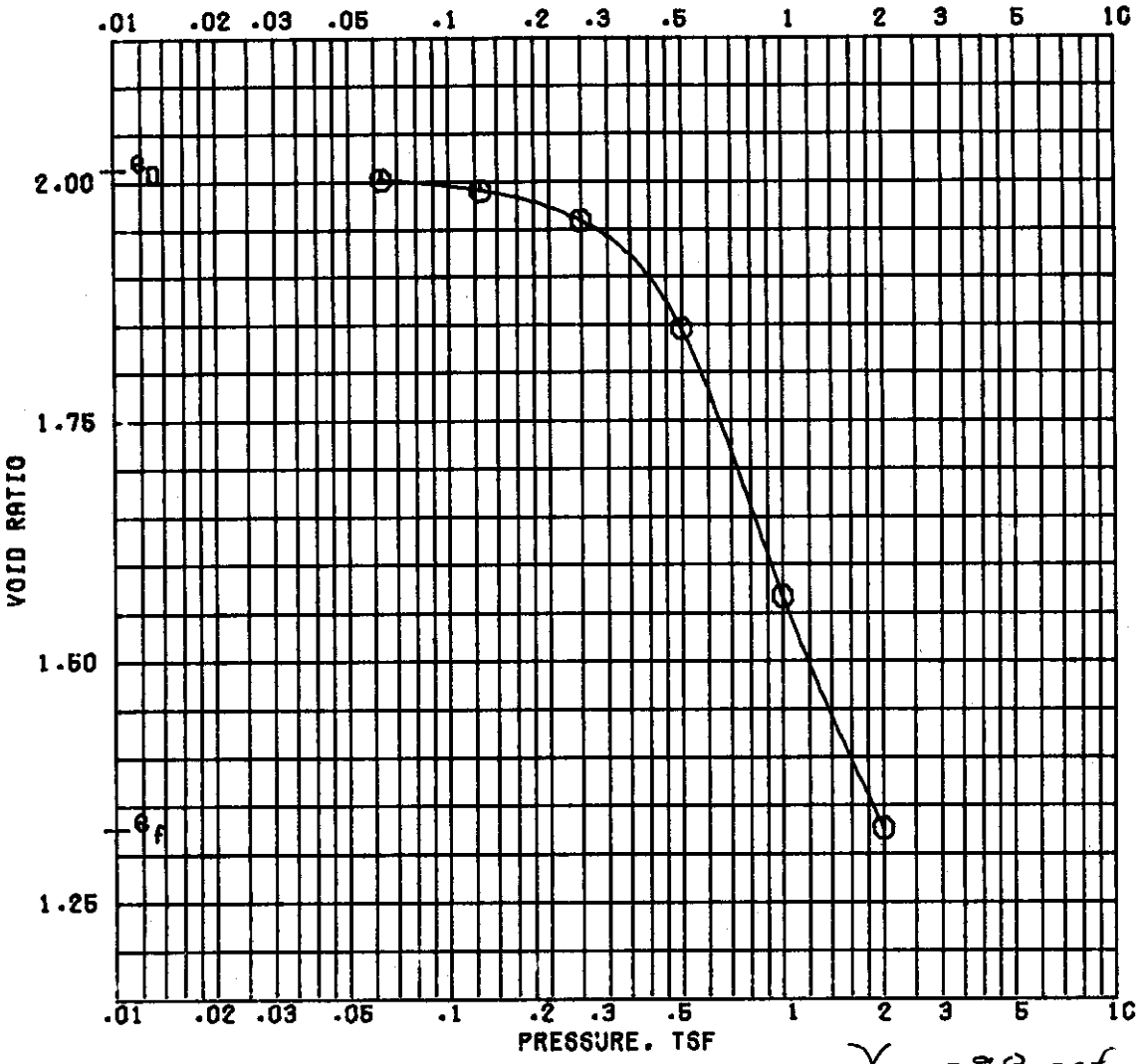
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 51	PL 19	PI 32	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 5-SCU | SAMPLE NO. 5-C
DEPTH/ELEV 17.3/-16.1 | TECH. BD
LABORATORY USAE WES | DATE 13 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 98$ pcf

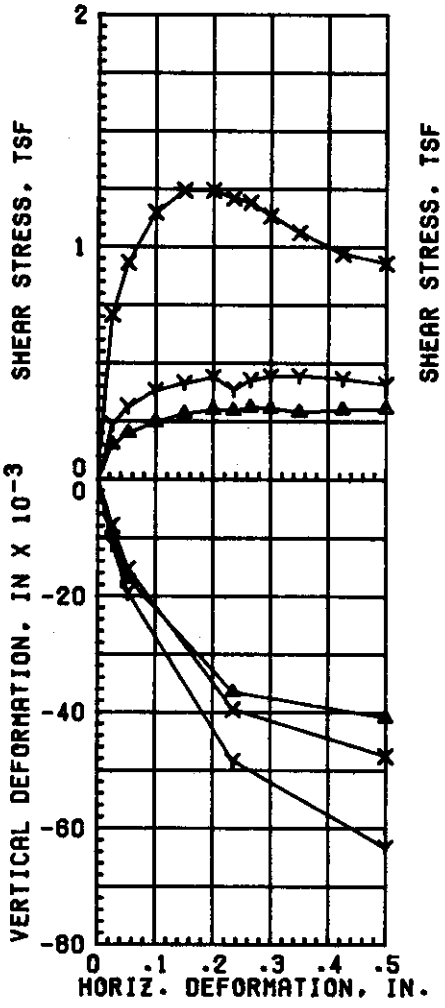
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		WATER CONTENT. %	74.7	50.1
PRECONSOL. PRESSURE. TSF	0.42	DRY DENSITY. PCF	56.0	72.5
COMPRESSION INDEX	0.93	SATURATION. %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.011	1.324
DIA. IN 4.44	HT. IN 1.109	BACK PRESSURE. TSF		

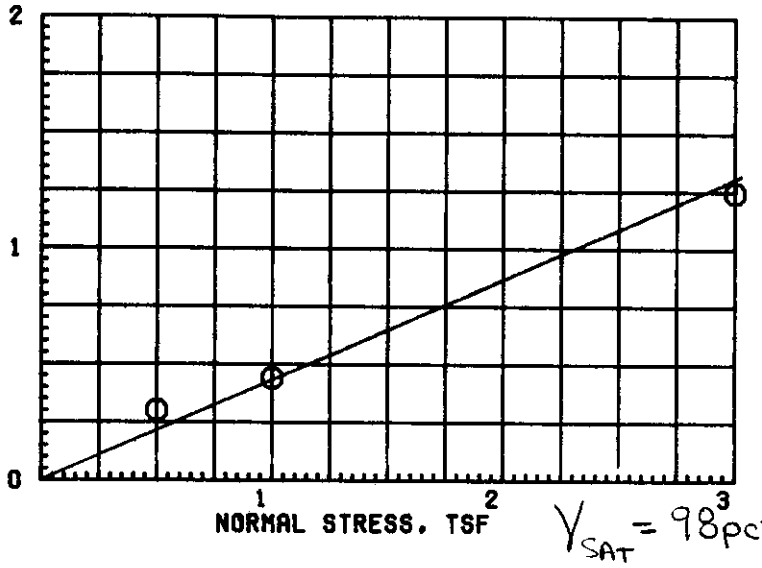
CLASSIFICATION CLAY (CH), GRAY; SILT LENSES

LL 61	PL 18	PI 43	PROJECT LK. PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 5-SCU	SAMPLE NO. 7-8
		DEPTH/ELEV 24.4/-23.2	DATE 22 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7





γ_{SAT} = 98pcf

Φ = 24°

TAN Φ = 0.4452

C = Ø

TEST NO.		1 ▲	2 Y	3 X	
INITAL	WATER CONTENT, %	55.8	77.5	79.0	Ave 70.8
	VOID RATIO	1.618	2.146	2.192	
	SATURATION, %	93.2	97.4	97.3	
	DRY DENSITY, PCF	64.4	53.5	52.8	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	51.5	50.3	41.5	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.30	0.44	1.25	
TIME TO FAILURE, MIN		1091	1091	819	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.744 IN. THICK

CLASSIFICATION CLAY (CH), GRAY; FINE SAND POCKETS

LL 70	PL 19	PI 51		OS 2.70 (EST)

REMARKS:

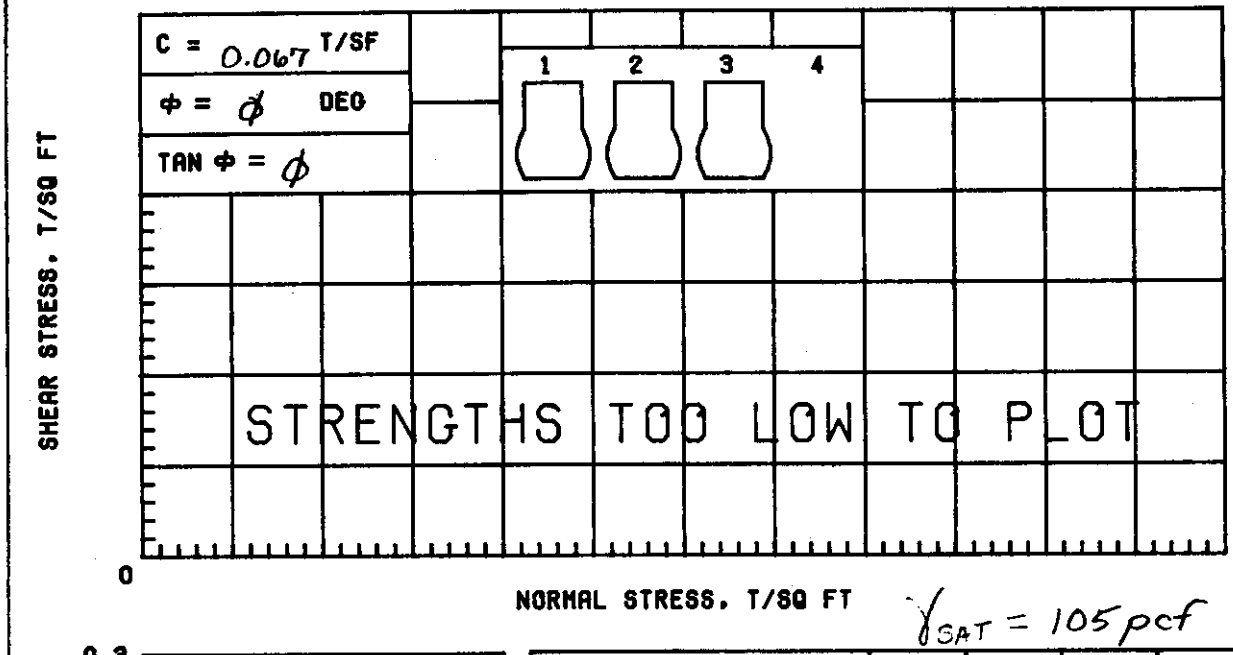
PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

BORING NO. 5-SCU | SAMPLE 8-B

DEPTH/ELEV 28.5/-27.3 | DATE 05 MAY 87

DIRECT SHEAR TEST REPORT



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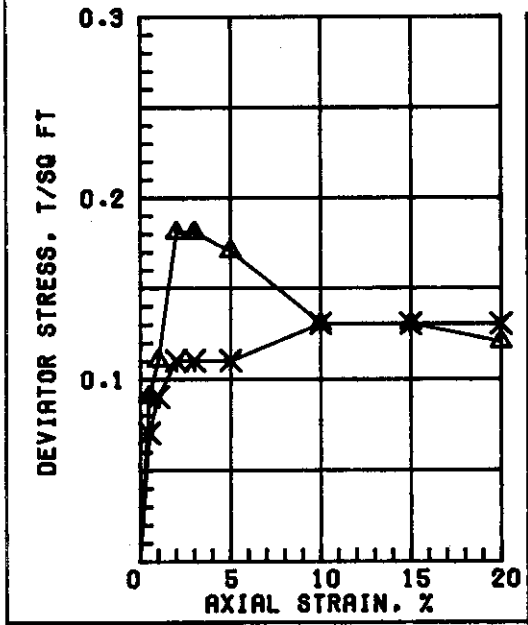


SPECIMEN NO.		△1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	50.4	50.7	55.0		52.0
	DRY DENSITY, PCF	69.4	68.8	66.5		
	SATURATION, %	95.2	94.4	96.8		
	VOID RATIO	1.430	1.450	1.533		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.18	0.11	0.11		
TIME TO FAILURE, MIN.		4	12	12		
RATE OF STRAIN INCR.%			6	6		
INITIAL DIAMETER, IN.		1.40	1.40	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 49	PL 19	PI 30	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: Limits on mixtures of material

PROJECT LK PONT & VIC HURR PROT

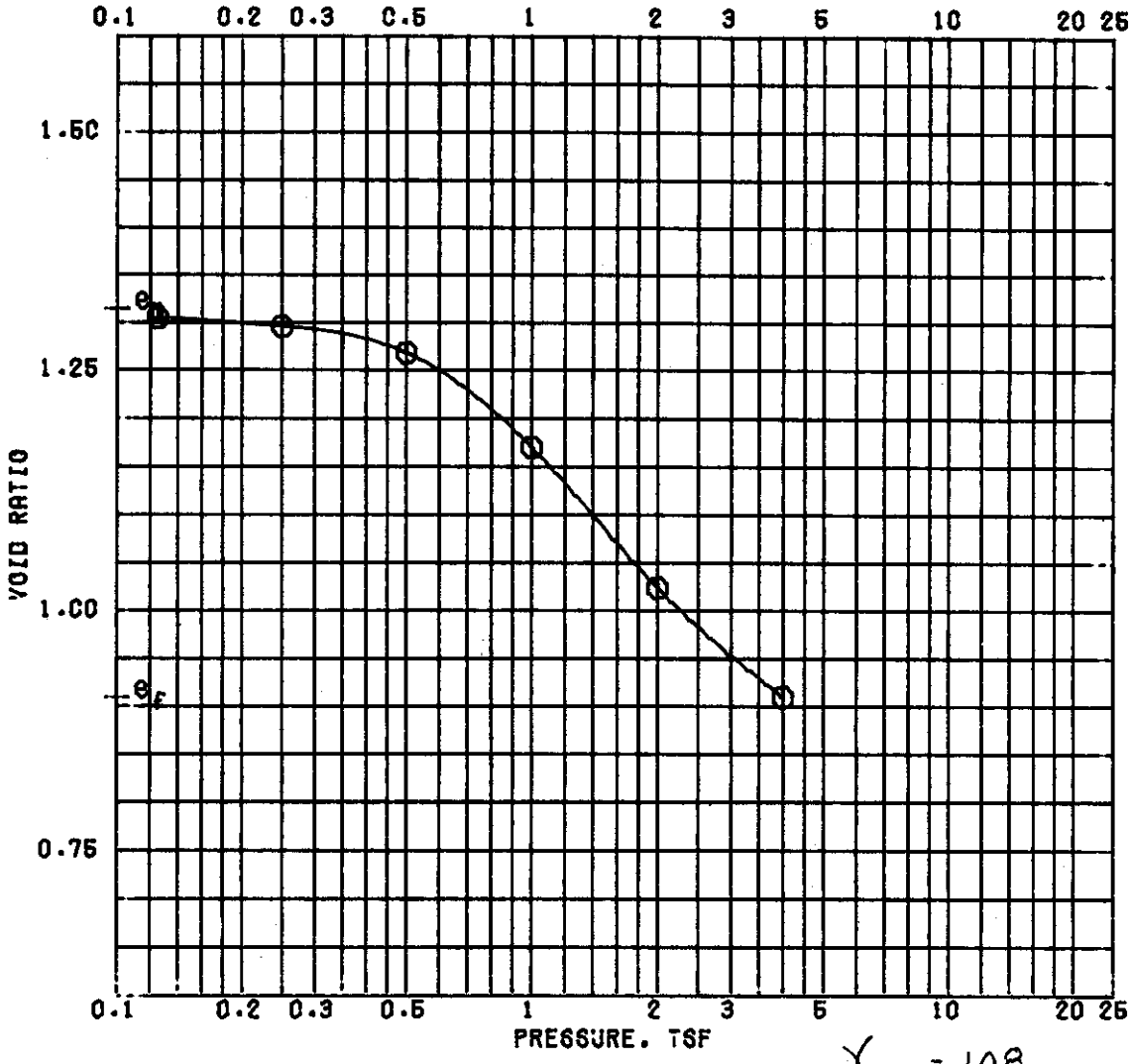
ST CHARLES PARISH

BORING NO. 5-SCU | SAMPLE NO. 8-C

DEPTH/ELEV 29.3/-28.1 | TECH. KOC

LABORATORY USAE WES | DATE 13 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 108$

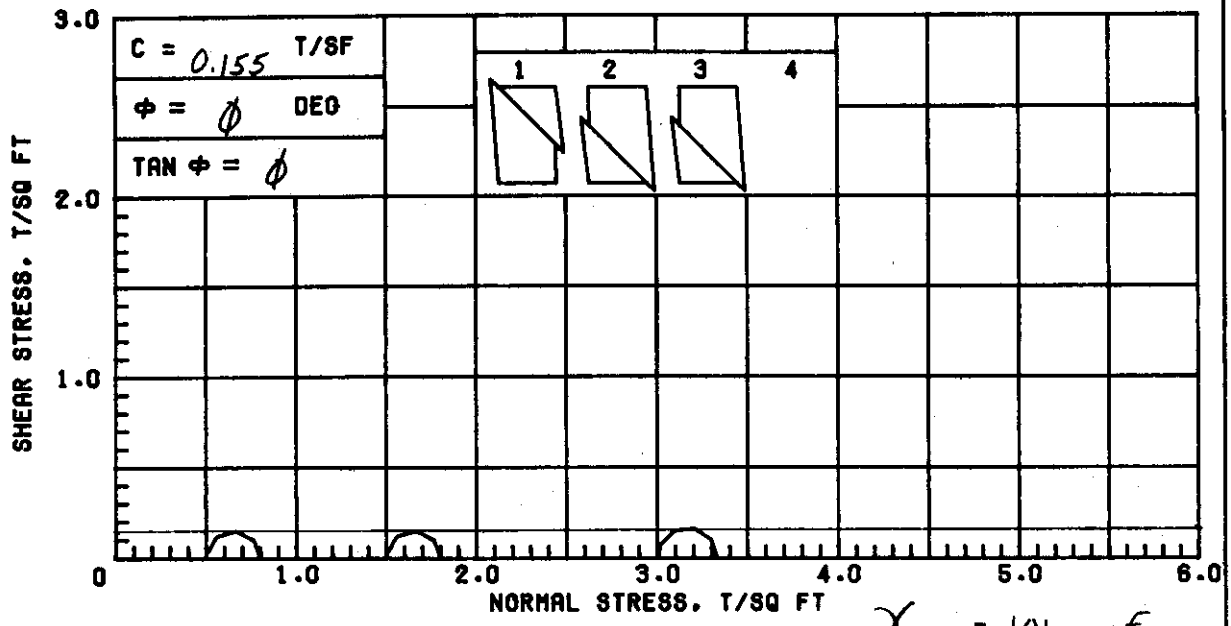
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		WATER CONTENT. %	48.0	33.8
PRECONSOL. PRESSURE. TSF	0.73	DRY DENSITY. PCF	72.9	88.4
COMPRESSION INDEX	0.50	SATURATION. %	98.7	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	1.313	0.907
DIA. IN 4.44 / HT. IN 1.122		BACK PRESSURE. TSF		

CLASSIFICATION: CLAY (CL), GRAY

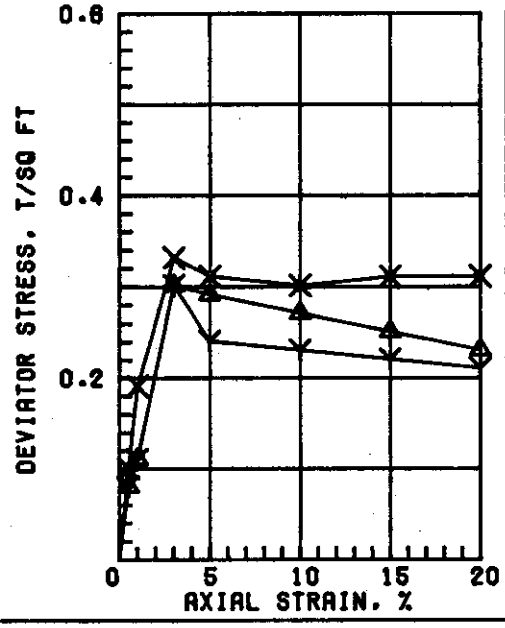
LL 39 / PL 17 / PI 22	PROJECT: LK PONT & VIC HURR PROT	
GS 2.70 (EST) / D_{10}	ST CHARLES PARISH	
REMARKS	BORING NO. S-SCU	SAMPLE NO. 9-B
	DEPTH/ELEV 32.5/-31.3	DATE 22 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 101 pcf



SPECIMEN NO.		▲1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	65.3	65.5	64.0		64.9
	DRY DENSITY, PCF	60.6	60.4	61.0		
	SATURATION, %	99.0	98.8	98.1		
	VOID RATIO	1.782	1.790	1.762		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.30	0.30	0.33		
TIME TO FAILURE, MIN.		6	16	18		
RATE OF STRAIN INCR.%			6	6		
INITIAL DIAMETER, IN.		1.40	1.40	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 72	PL 22	PI 50	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

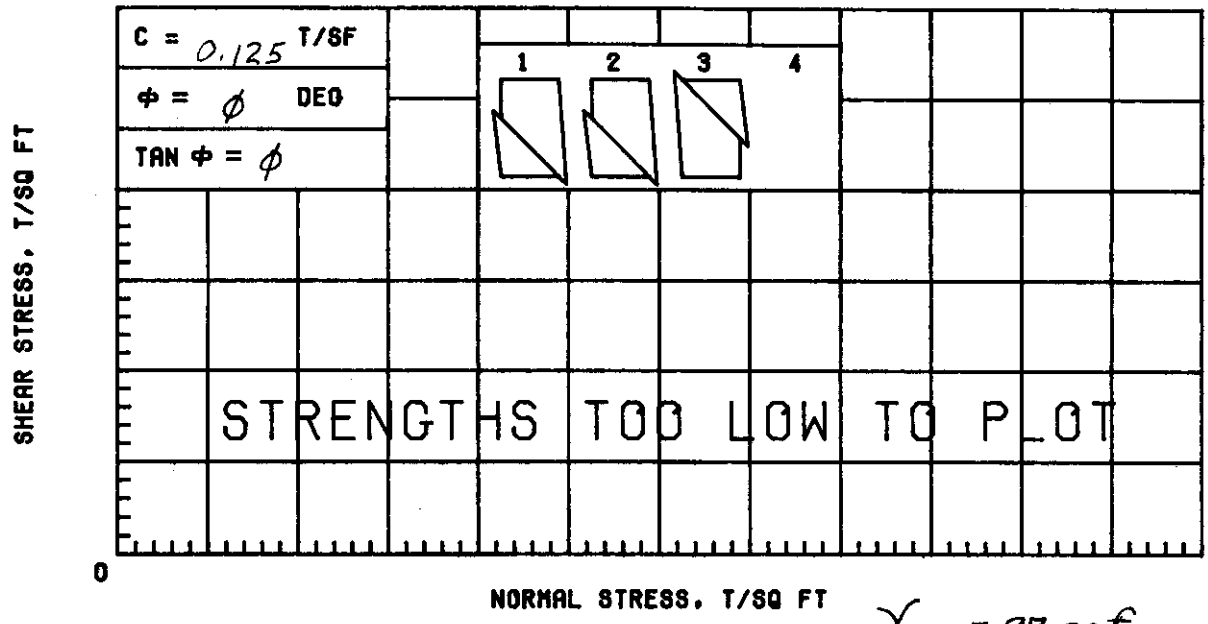
ST CHARLES PARISH

BORING NO. 5-SCU | SAMPLE NO. 10-C

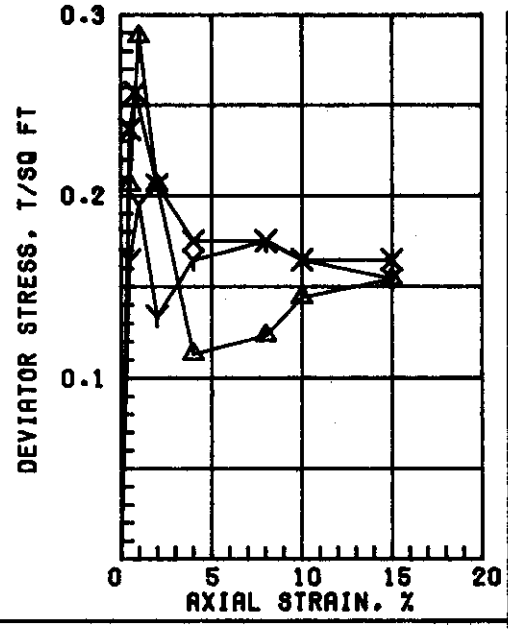
DEPTH/ELEV 37.0/-35.8 | TECH. KOC

LABORATORY USAE WES | DATE 13 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 97 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	76.6	77.1	77.6	
	DRY DENSITY, PCF	53.8	55.5	54.8	
	SATURATION, %	96.8	100+	100+	
	VOID RATIO	2.134	2.037	2.078	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.29	0.20	0.26	
TIME TO FAILURE, MIN.		2	6	5	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.38	1.38	1.38	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

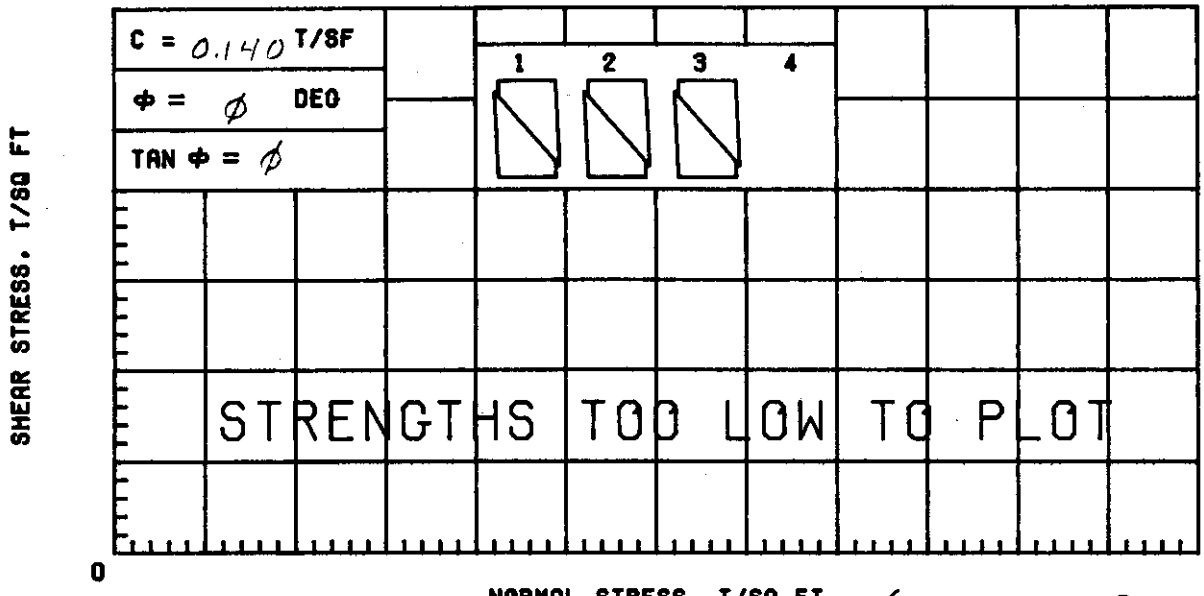
AVE 77.1

CONTROLLED-STRAIN TEST

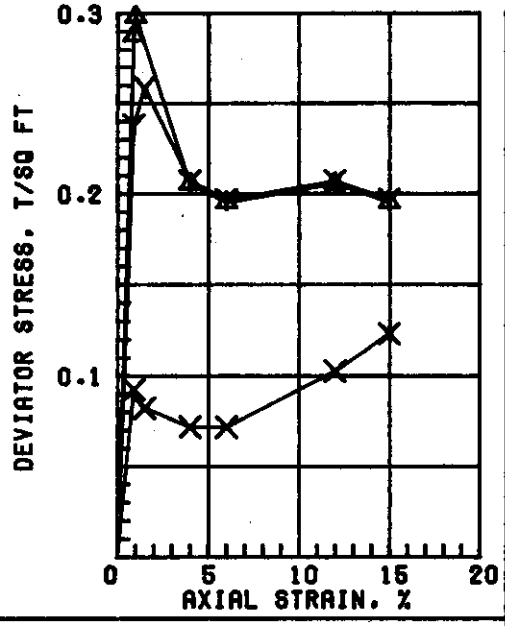
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 92	PL 24	PI 68	OS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 5-SCU	SAMPLE NO. 12-B
	DEPTH/ELEV 44.5/-43.3	TECH. BD
	LABORATORY USAE WES	DATE 15 MAY 87
	TRIAXIAL COMPRESSION TEST REPORT	



γ_{SAT} = 101 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	65.6	56.0	61.6	
	DRY DENSITY, PCF	60.6	59.8	62.3	
	SATURATION, %	99.4	83.0	97.4	
	VOID RATIO	1.783	1.821	1.707	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.30	0.26	0.09	
TIME TO FAILURE, MIN.		2	14	8	
RATE OF STRAIN INCR.%			5	12	
INITIAL DIAMETER, IN.		1.38	1.37	1.38	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 61.1

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL	PL	PI	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

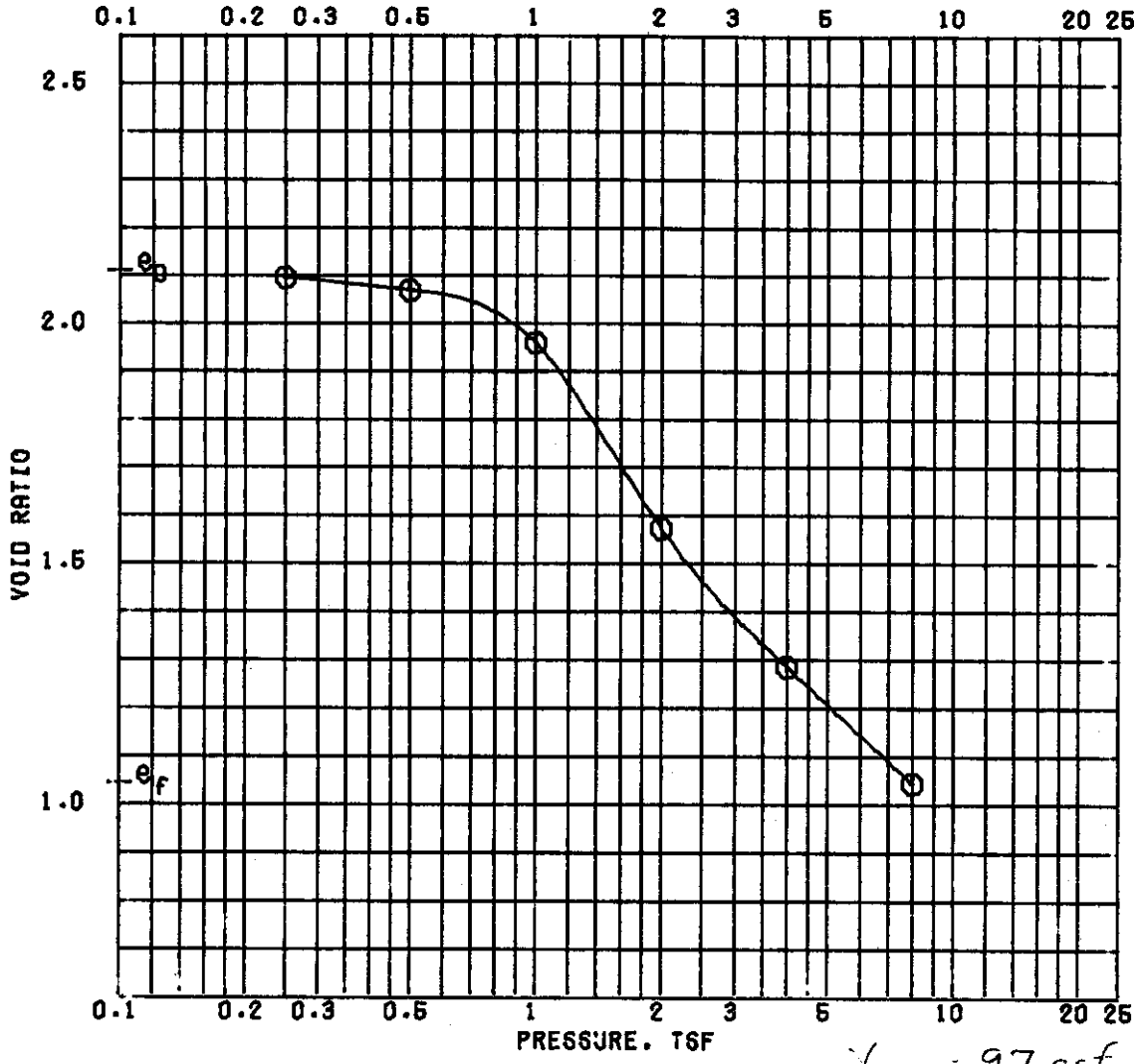
ST CHARLES PARISH

BORING NO. 5-SCU | SAMPLE NO. 12-C

DEPTH/ELEV 44.9/-43.7 | TECH. BD

LABORATORY USAE WES | DATE 13 MAY 87

TRIAXIAL COMPRESSION TEST REPORT

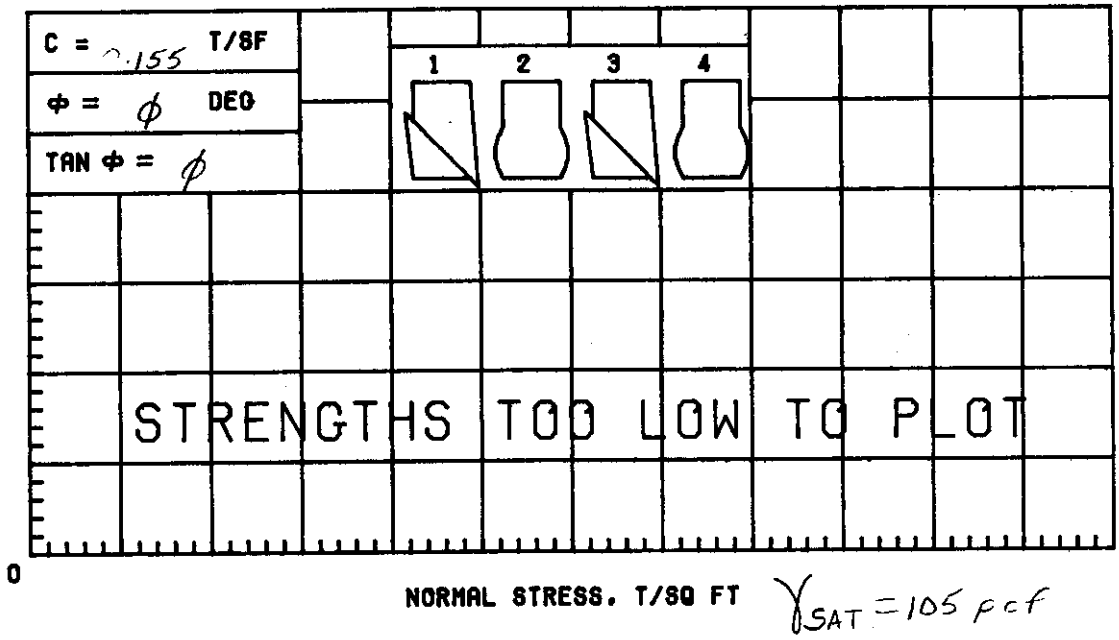


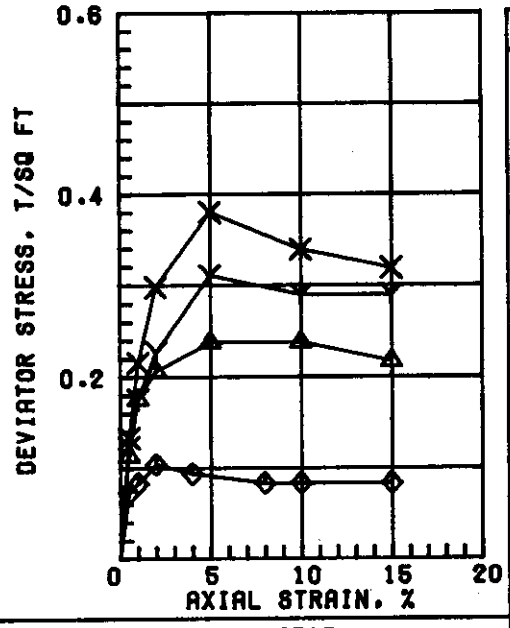
γ_{SAT} = 97 pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	78.8	41.3
PRECONSOL. PRESSURE, TSF	0.95	DRY DENSITY, PCF	54.2	82.6
COMPRESSION INDEX	1.31	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.108	1.040
DIA. IN 4.44	HT. IN 1.121	BACK PRESSURE, TSF		
CLASSIFICATION	CLAY (CH), GRAY			
LL	PL	PI	PROJECT LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. 5-SCU	SAMPLE NO. 12-C	
		DEPTH/ELEV 44.9/-43.7	DATE 20 JUL 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 8





SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	57.3	50.8	52.9	50.2
	DRY DENSITY, PCF	65.8	68.8	67.6	70.4
	SATURATION, %	99.1	94.5	95.7	97.3
	VOID RATIO	1.562	1.452	1.494	1.393
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.24	0.31	0.38	0.10
TIME TO FAILURE, MIN.		10	10	10	4
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.37	1.37	1.38	1.37
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 52.8

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 59	PL 17	PI 42	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

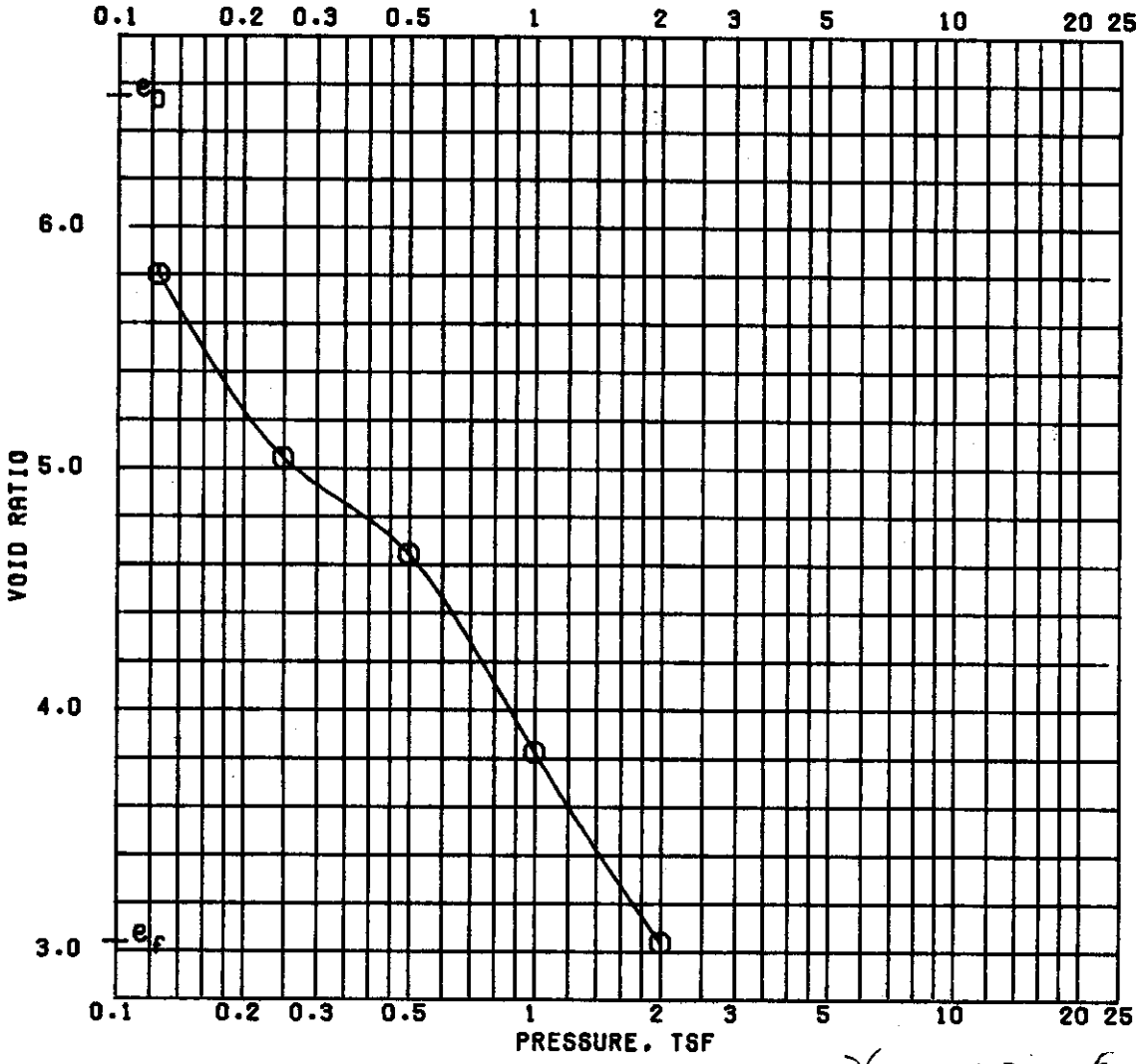
ST CHARLES PARISH

BORING NO. 5-SCU | SAMPLE NO. 14-C

DEPTH/ELEV 53.3/-52.1 | TECH. BD

LABORATORY USAE WES | DATE 14 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 77$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF	—	
COMPRESSION INDEX	2.90	
TYPE SPECIMEN: UNDISTURBED		
DIA. IN 4.44 / HT. IN 1.147		
WATER CONTENT, %	231.8	114.3
DRY DENSITY, PCF	22.4	41.8
SATURATION, %	95.7	100 +
VOID RATIO	6.541	3.029
BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; ORGANIC MATERIAL

LL 233 | PL 47 | PI 186

GS 2.70 (EST) | D_{10}

REMARKS

PROJECT LK PONT & VIC HURR PROT

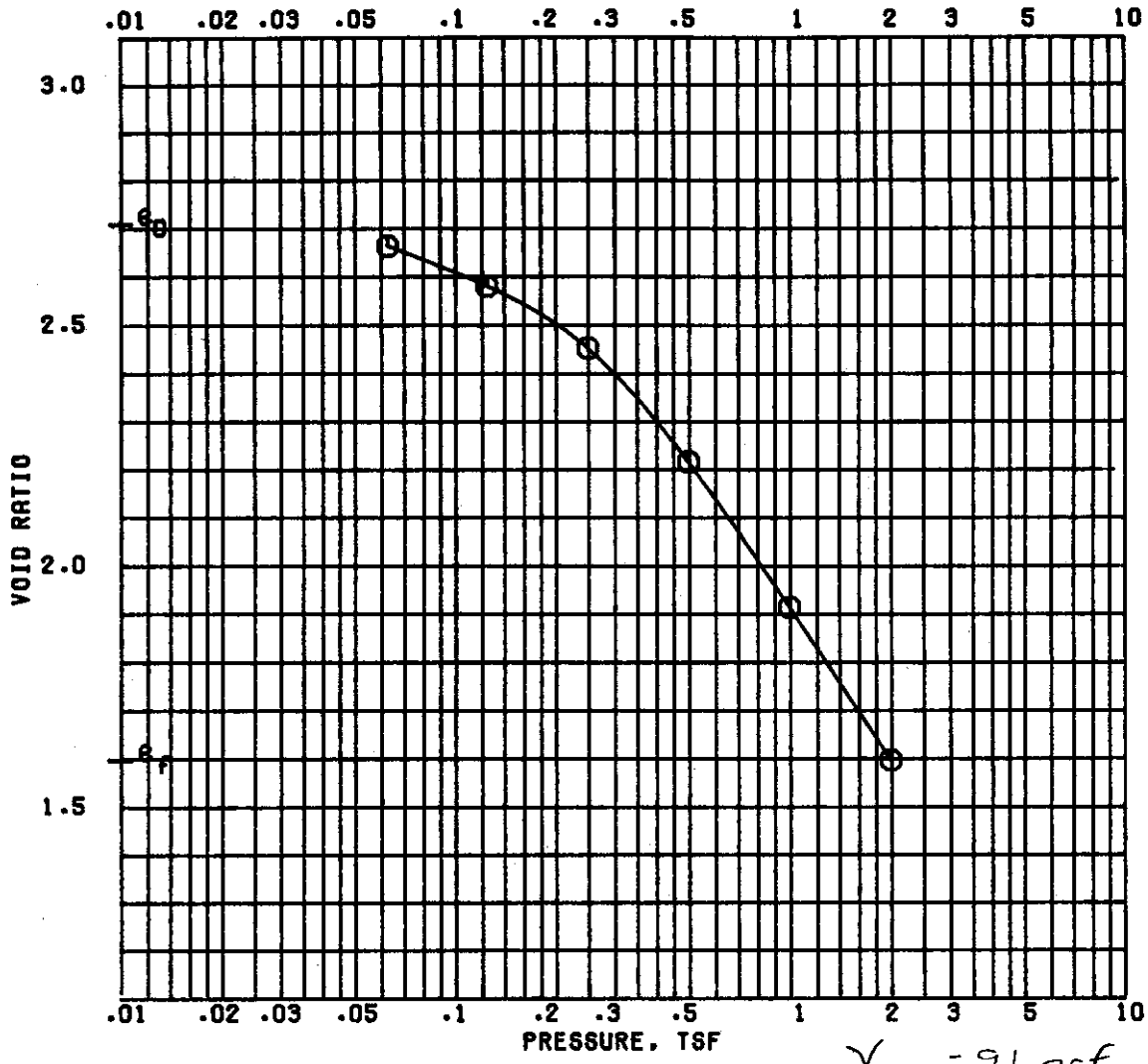
ST CHARLES PARISH

BORING NO. 6-SCU | SAMPLE NO. 2-C

DEPTH/ELEV 5.9/-4.7 | DATE 10 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7

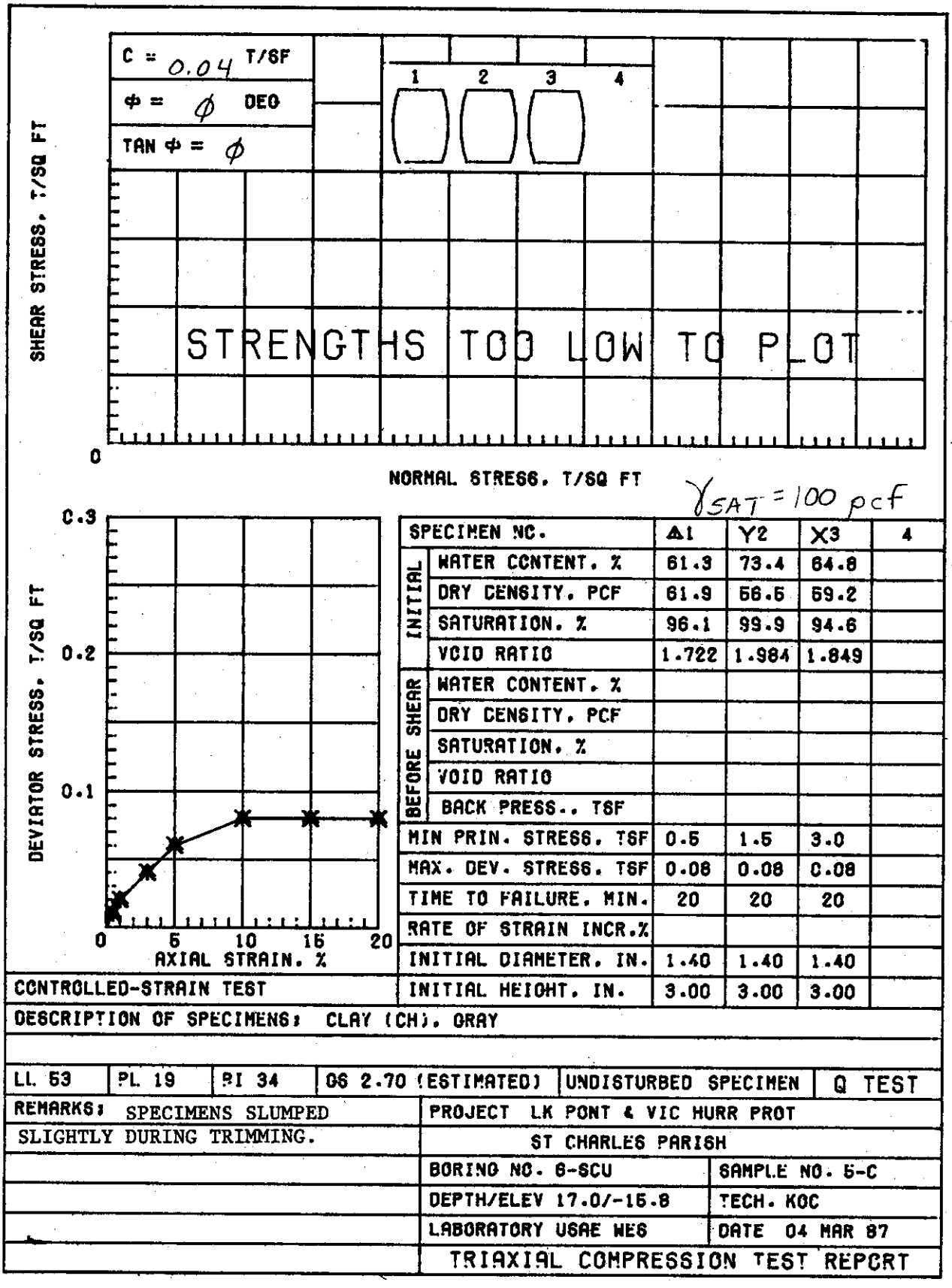


$\gamma_{SAT} = 91$ pcf

OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	BEFORE TEST 99.9	AFTER TEST 59.1
PRECONSOL. PRESSURE, TSF	0.28	DRY DENSITY, PCF	45.5	65.0
COMPRESSION INDEX	1.03	SATURATION, %	99.6	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	2.706	1.593
DIA. IN 4.44	HT. IN 1.118	BACK PRESSURE, TSF		
CLASSIFICATION: CLAY (CH), GRAY; ORGANIC MATERIAL				
LL / PL / PI		PROJECT: LK PONT & VIC HURR PROT		
GS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. 6-SCU	SAMPLE NO. 3-D	
		DEPTH/ELEV 9.8/-8.6	DATE 11 MAR 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



SPECIMEN NO.		▲1	Y2	X3	4
INITIAL	WATER CONTENT, %	61.3	73.4	64.8	
	DRY DENSITY, PCF	61.9	56.6	59.2	
	SATURATION, %	96.1	99.9	94.6	
	VOID RATIO	1.722	1.984	1.849	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.08	0.08	0.08	
TIME TO FAILURE, MIN.		20	20	20	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 66.5

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

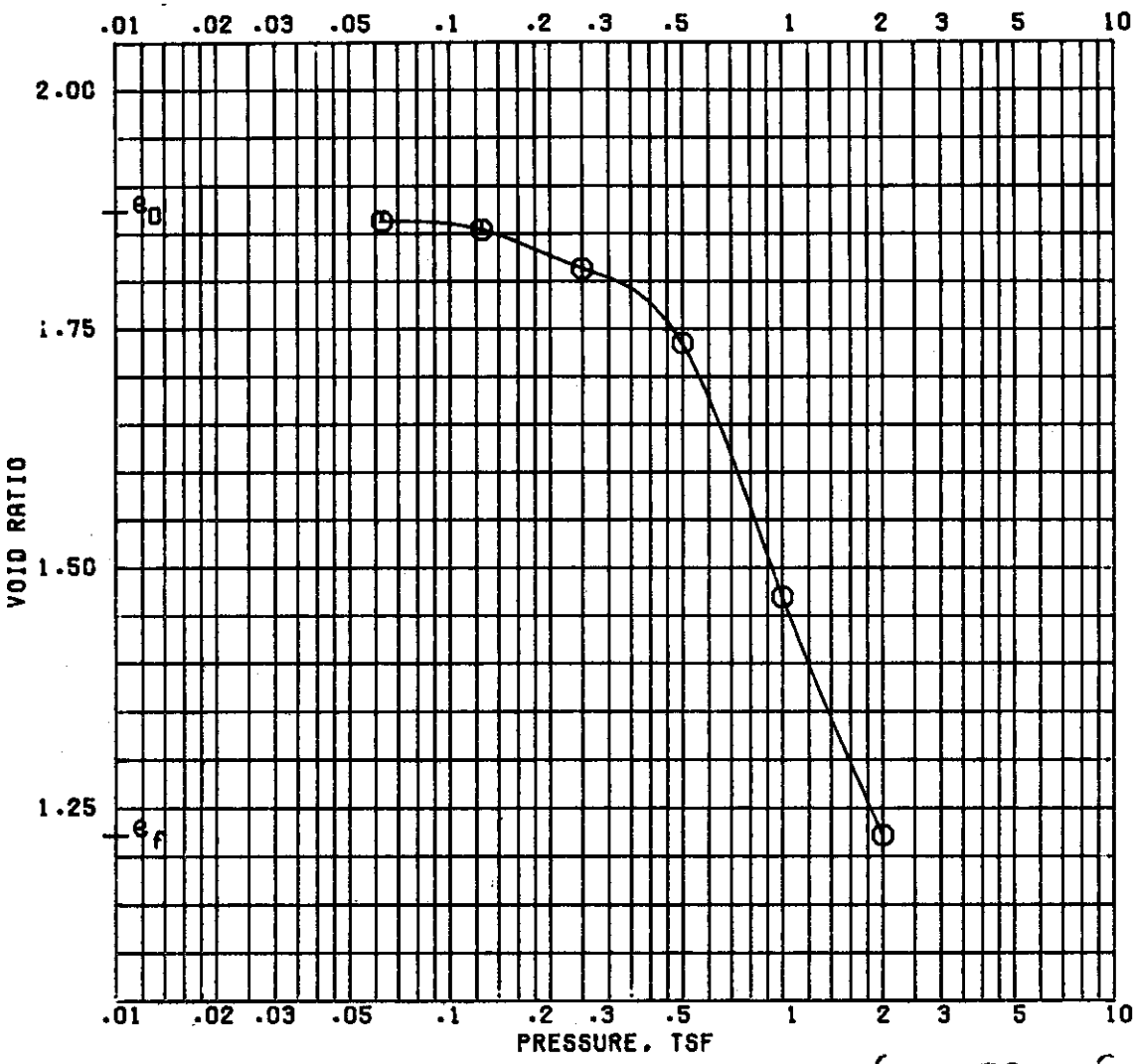
LL 53	PL 19	PI 34	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: SPECIMENS SLUMPED SLIGHTLY DURING TRIMMING.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 6-SCU | SAMPLE NO. 5-C
DEPTH/ELEV 17.0/-15.8 | TECH. KOC
LABORATORY USAE WES | DATE 04 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 99 pcf

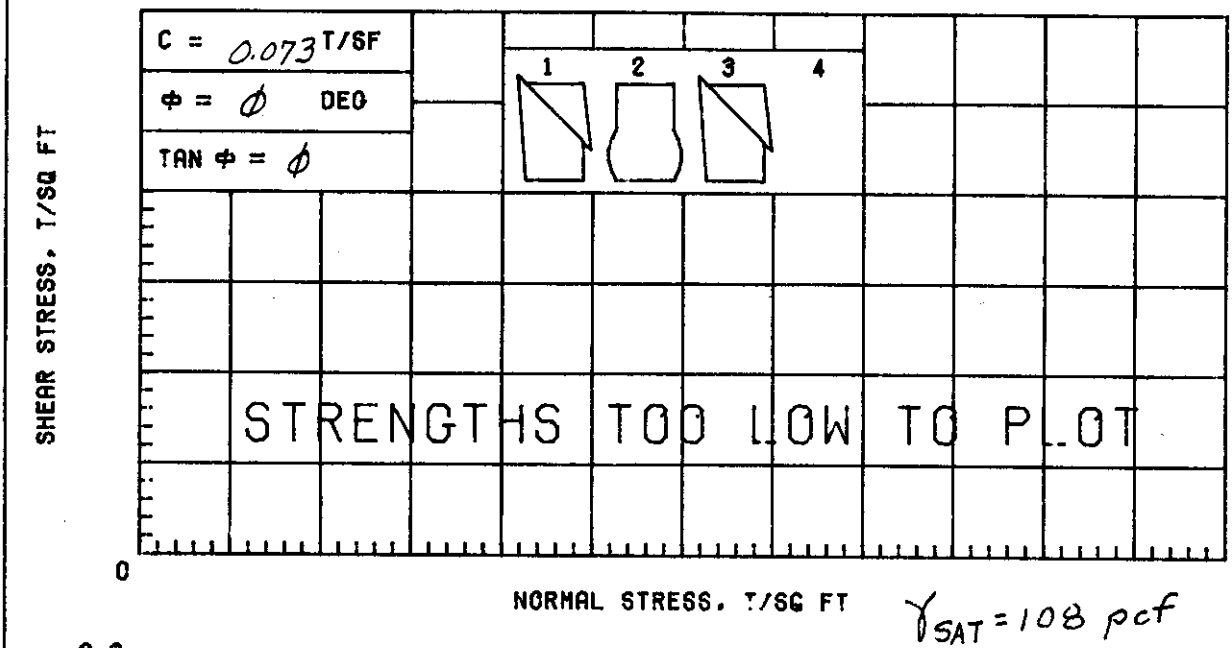
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.49	DRY DENSITY, PCF	58.7	75.9
COMPRESSION INDEX 0.97	SATURATION, %	99.6	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	1.872	1.220
DIA. IN 4.44 HT. IN 1.120	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

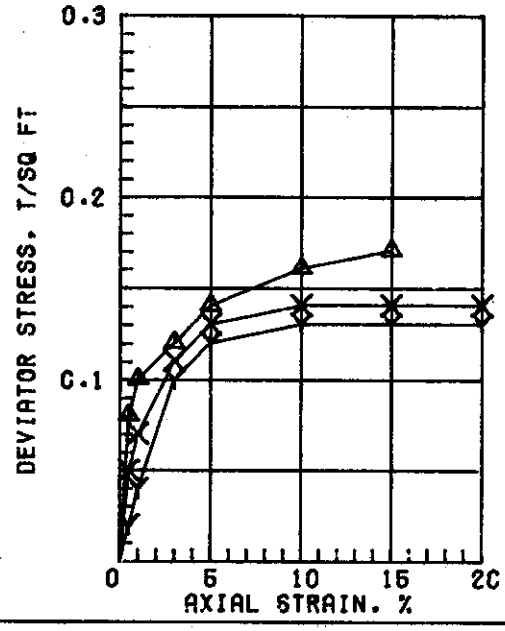
LL 81 PL 22 PI 59	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST) D_{10}	ST CHARLES PARISH
REMARKS	BORING NO. 6-SCU SAMPLE NO. 6-C
	DEPTH/ELEV 21.4/-20.2 DATE 12 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



$\gamma_{SAT} = 108$ pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	43.3	48.4	46.2	
	DRY DENSITY, PCF	75.4	71.2	72.7	
	SATURATION, %	94.7	95.6	94.7	
	VOID RATIO	1.235	1.367	1.317	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.17	0.13	0.14	
TIME TO FAILURE, MIN.		30	20	20	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 46.0

CONTROLLED-STRAIN TEST

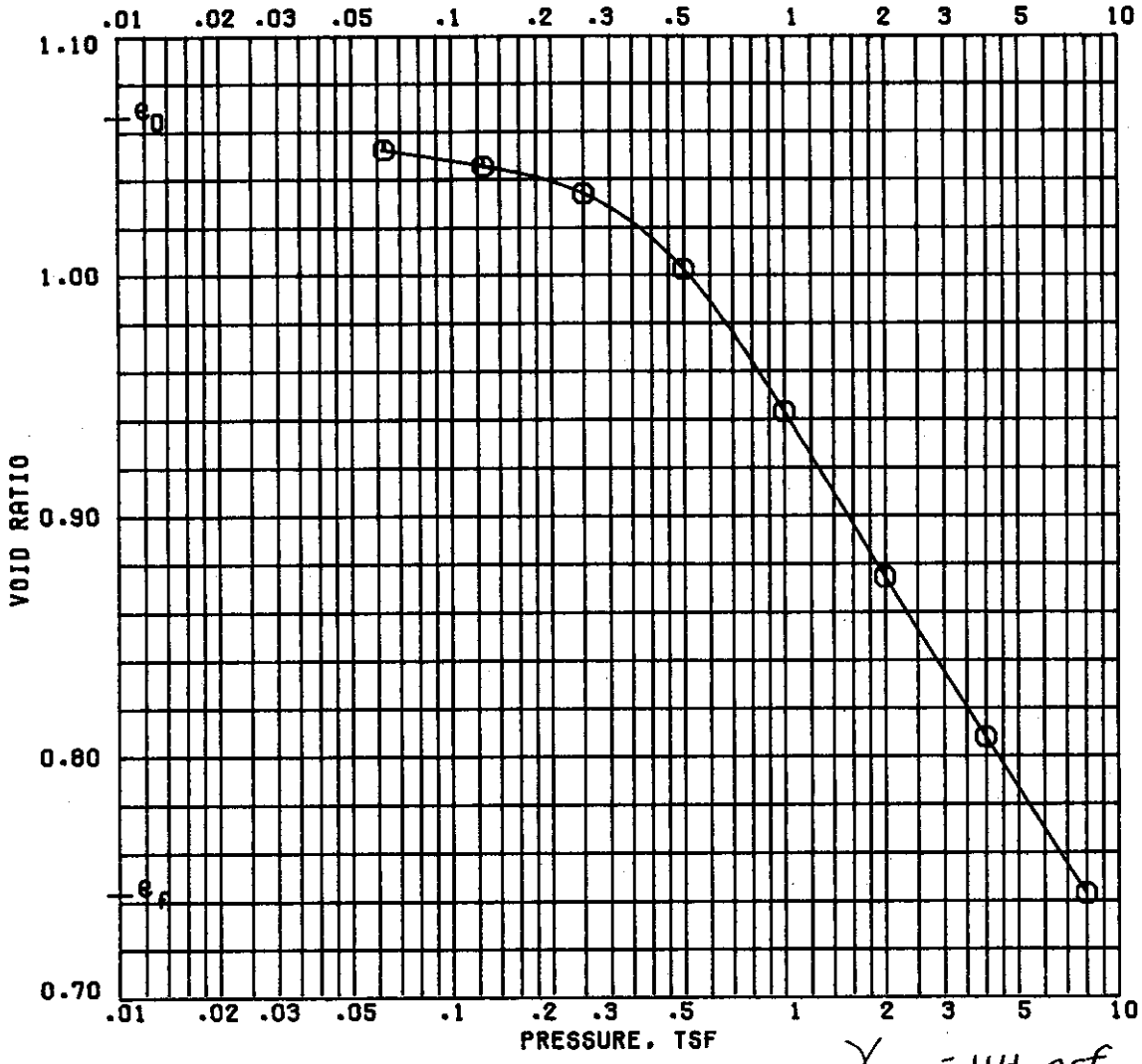
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; 1/2" SILT LAYERS

LL 39	PL 18	PI 21	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 6-SCU
SAMPLE NO. 7-C
DEPTH/ELEV 25.4/-24.2
TECH. KOC
LABORATORY USAE WES
DATE 06 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 114$ pcf

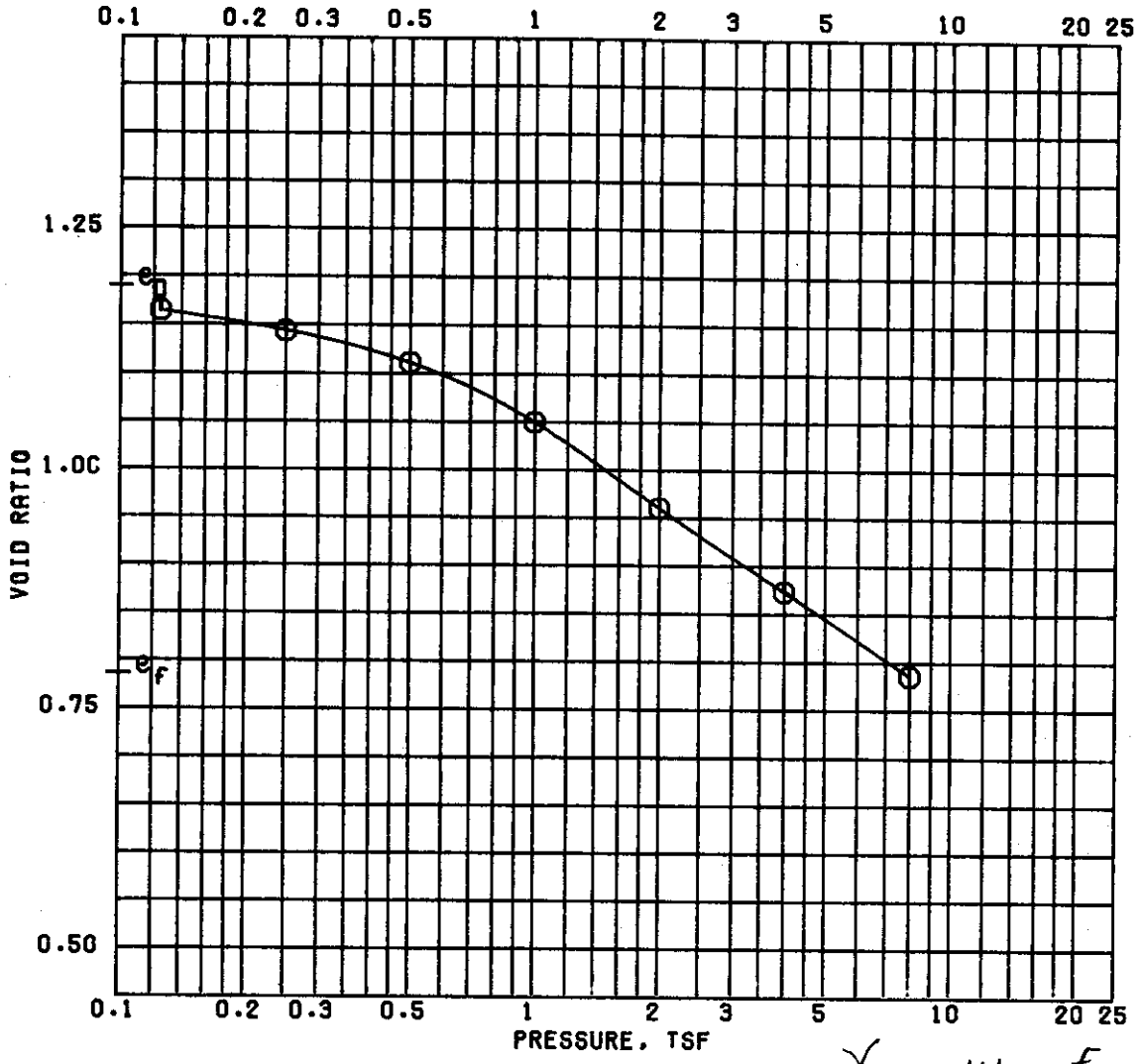
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	38.1	27.1
PRECONSOL. PRESSURE, TSF	0.475	DRY DENSITY, PCF	81.6	96.7
COMPRESSION INDEX	0.23	SATURATION, %	96.5	98.5
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.066	0.742
DIA. IN 4.44	HT. IN 1.131	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY

LL 45	PL 15	PI 30	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 6-SCU	SAMPLE NO. 8-C
		DEPTH/ELEV 29.0/-27.8	DATE 14 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



γ_{SAT} = 111 pcf

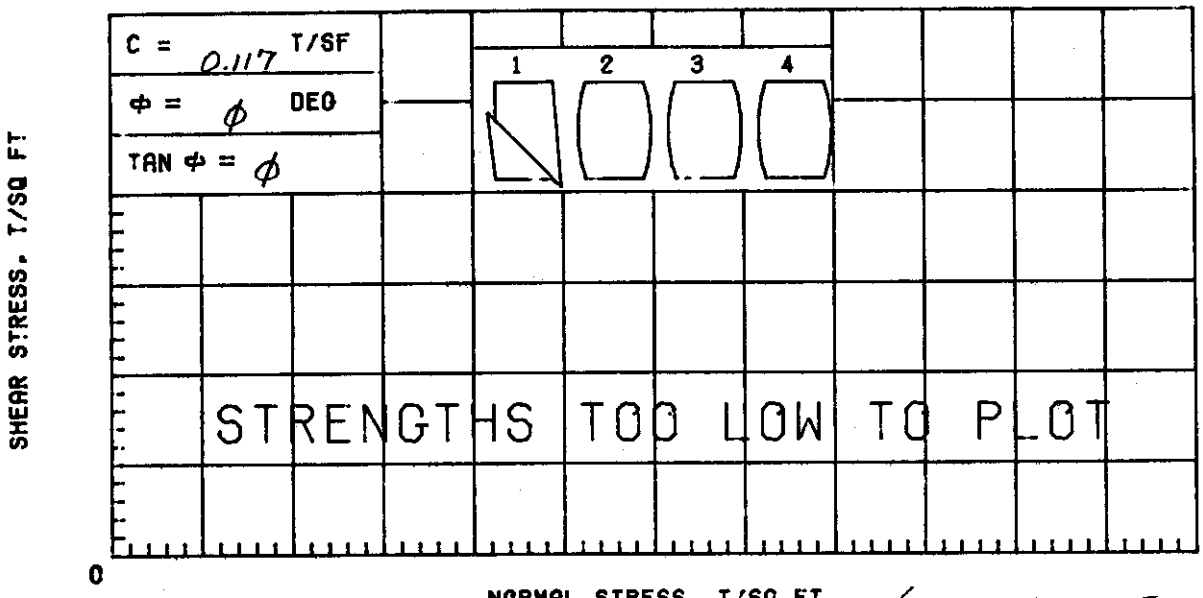
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.70	DRY DENSITY, PCF	77.0	94.5
COMPRESSION INDEX 0.31	SATURATION, %	97.4	99.3
TYPE SPECIMEN UNDISTURBED	VOID RATIO	1.188	0.784
DIA. IN 4.44 HT. IN 1.139	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; SILT POCKETS; SHELL PARTICLES

LL PL PI	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST) D_{10}	ST CHARLES PARISH
REMARKS	BORING NO. 6-SCU SAMPLE NO. 10-B
	DEPTH/ELEV 36.5/-35.3 DATE 11 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



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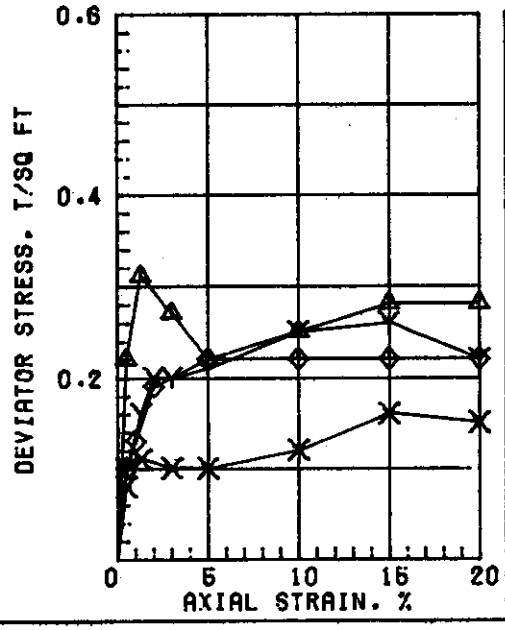


SPECIMEN NO.		Δ1	Y2	X3	◊4	AVE
INITIAL	WATER CONTENT, %	48.8	42.5	48.7	49.0	47.3
	DRY CENSITY, PCF	71.6	76.6	71.4	71.2	
	SATURATION, %	97.2	95.5	96.5	96.6	
	VOID RATIO	1.355	1.201	1.362	1.369	
BEFORE SHEAR	WATER CONTENT, %					
	DRY CENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	3.0	
MAX. CE7. STRESS, TSF		0.31	0.20	0.11	0.19	
TIME TO FAILURE, MIN.		3	12	8	20	
RATE OF STRAIN INCR.%			6	5	4	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT POCKETS; SHELL PARTICLES

LL 46	PL 17	PI 29	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

LIMITS ON MIXTURE OF MATERIAL.

PROJECT LK PONT & VIC HURR PROT

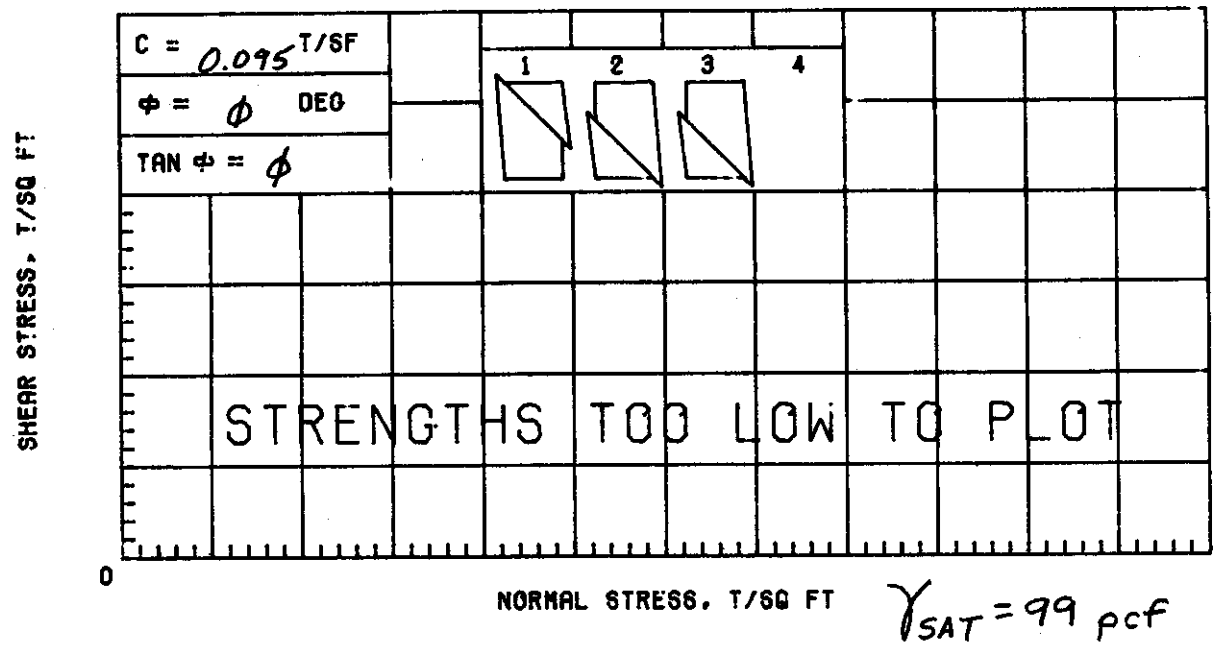
ST CHARLES PARISH

BORING NO. 6-SCU | SAMPLE NO. 10-C

DEPTH/ELEV 36.9/-35.7 | TECH. KGC

LABORATORY USAE WES | DATE 09 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



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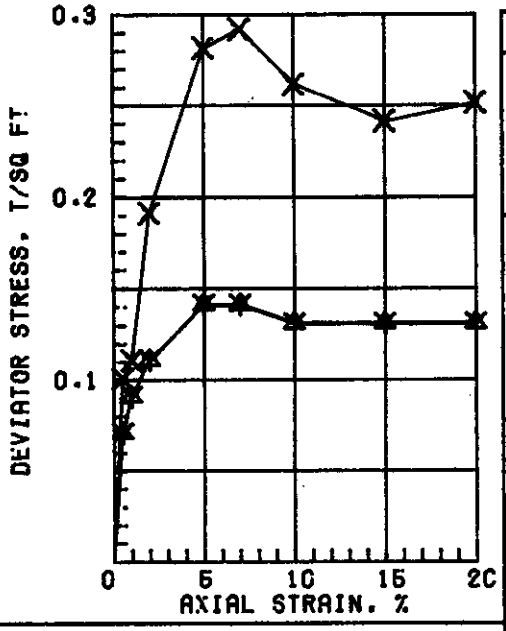


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	70.9	70.6	62.1	
	DRY CENSITY, PCF	56.9	57.3	61.2	
	SATURATICN, %	97.6	98.3	95.5	
	VCID RATIO	1.961	1.940	1.755	
BEFORE SHEAR	WATER CONTENT, %				
	DRY CENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.14	0.14	0.29	
TIME TO FAILURE, MIN.		10	10	14	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 67.9

CONTROLLED-STRAIN TEST

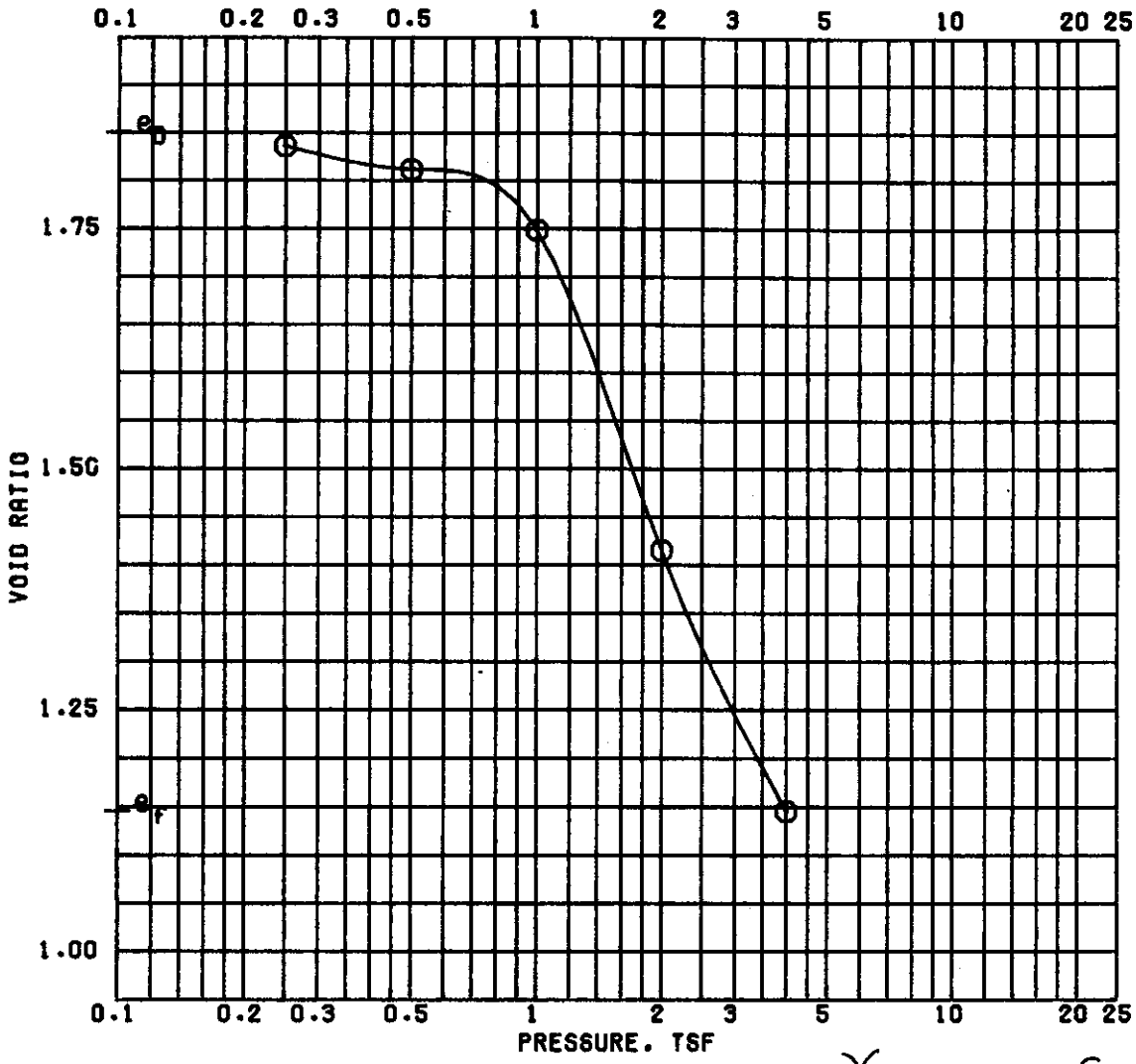
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT POCKETS

LL 67	PL 19	PI 48	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 6-SCU
SAMPLE NO. 12-B
DEPTH/ELEV 44.2/-43.0
TECH. KOC
LABORATORY USAE WES
DATE 09 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 100$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		
PRECONSOL. PRESSURE. TSF	0.99	
COMPRESSION INDEX	1.18	
TYPE SPECIMEN: UNDISTURBED		
DIA. IN 4.44 / HT. IN 1.107		
WATER CONTENT. %	68.6	44.6
DRY DENSITY. PCF	59.2	78.6
SATURATION. %	100 +	100 +
VOID RATIO	1.849	1.144
BACK PRESSURE. TSF		

CLASSIFICATION: CLAY (CH), GRAY; SILT SEAMS; SHELL PARTICLES

LL 80 / PL 19 / PI 61

OS 2.70 (EST) / D_{10}

PROJECT: LK PONT & VIC HURR PROT

ST CHARLES PARISH

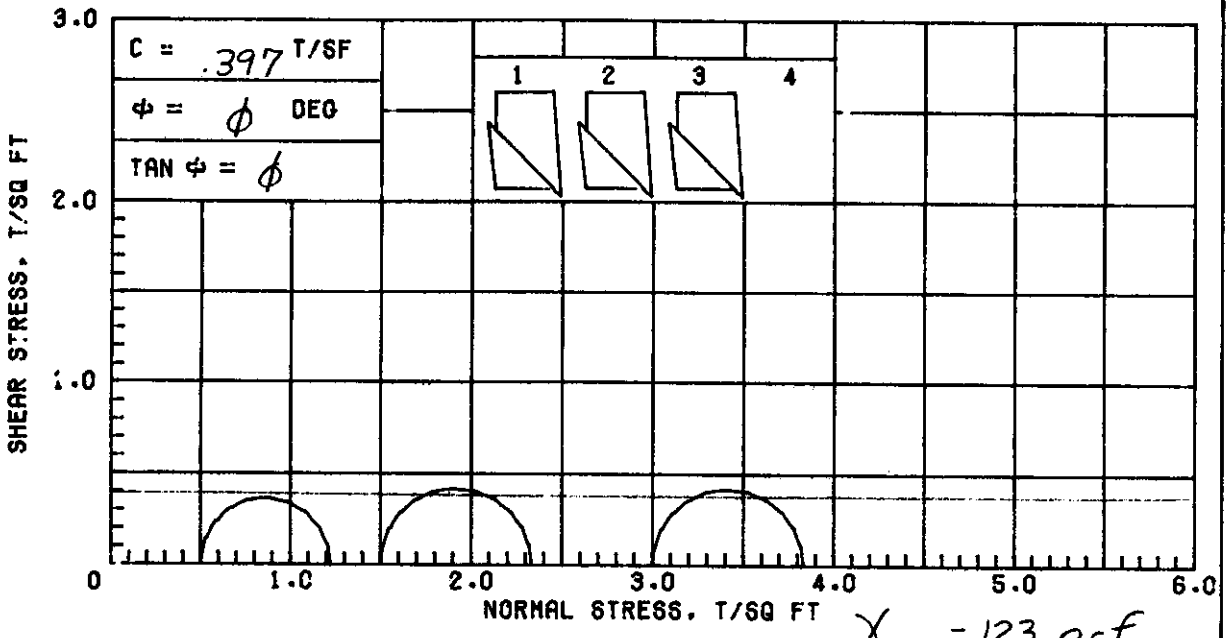
REMARKS

BORING NO. 6-SCU / SAMPLE NO. 13-C

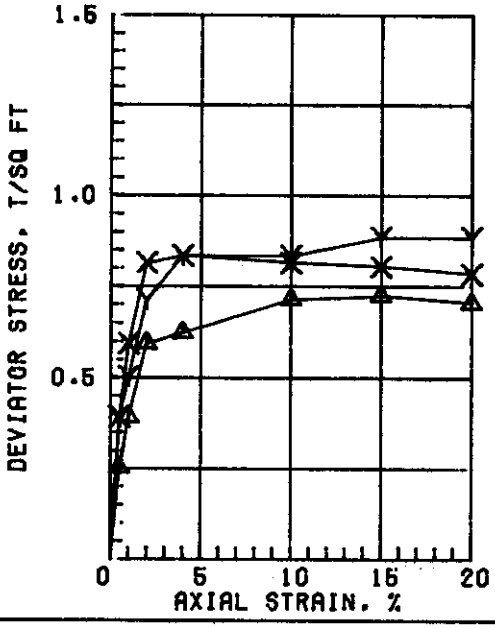
DEPTH/ELEV 48.9/-47.7 / DATE 12 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



γ_{SAT} = 123 pcf



SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	28.2	26.7	27.6		27.5
	DRY DENSITY, PCF	94.4	98.6	96.4		
	SATURATION, %	97.0	96.7	97.2		
	VOID RATIO	0.785	0.746	0.767		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.72	0.83	0.83		
TIME TO FAILURE, MIN.		30	8	8		
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.40	1.40	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; SILT POCKETS

LL 38	PL 12	PI 26	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

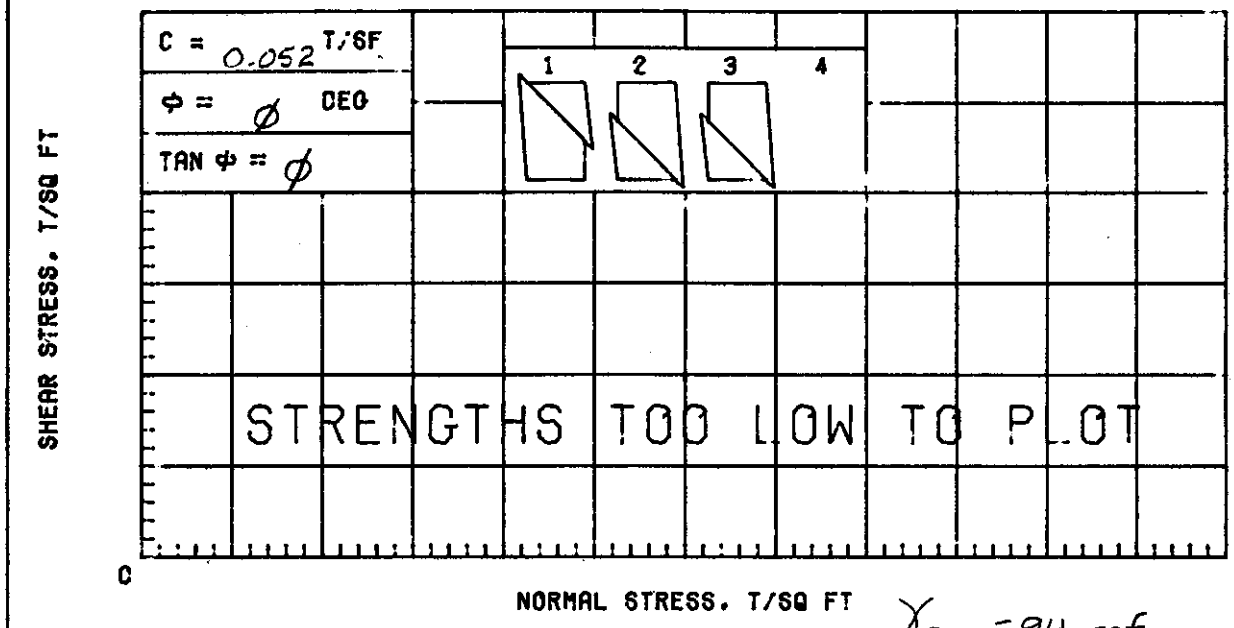
ST CHARLES PARISH

BORING NO. 6-SCU | SAMPLE NO. 16-B

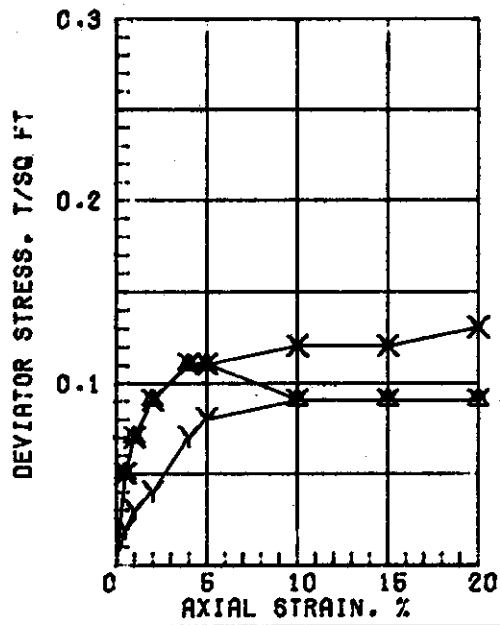
DEPTH/ELEV 60.4/-59.2 | TECH. KOC

LABORATORY USAE WES | DATE 10 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 94 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	88.3	86.5	87.3	
	DRY DENSITY, PCF	49.9	50.0	49.3	
	SATURATION, %	100+	98.4	97.5	
	VOID RATIO	2.379	2.373	2.417	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.11	0.09	0.11	
TIME TO FAILURE, MIN.		8	20	8	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 87.4

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 99	PL 28	PI 71	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

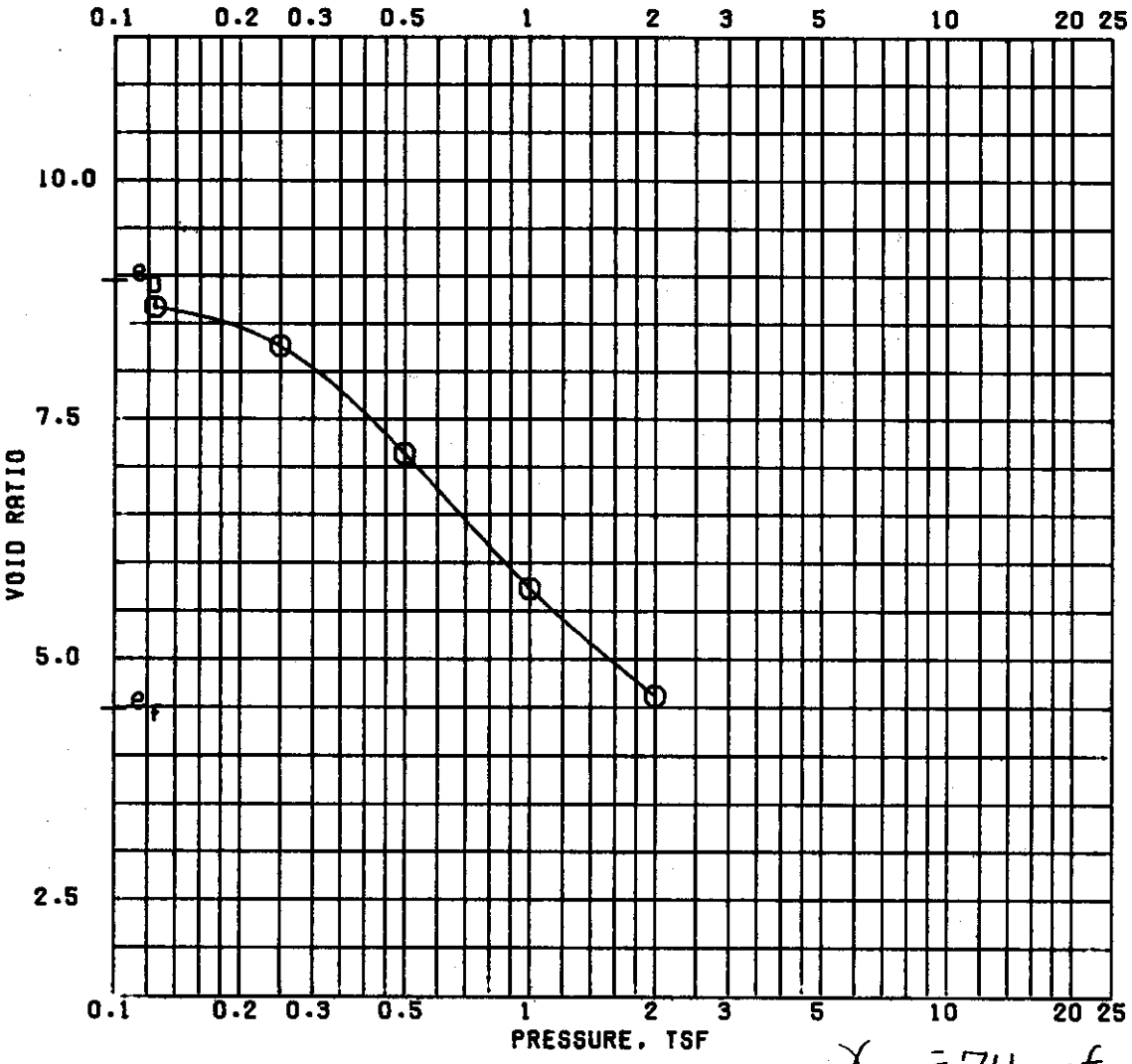
ST CHARLES PARISH

BORING NO. 7-SCU | SAMPLE NO. 2-B

DEPTH/ELEV 12.1/-7.7 | TECH. KOC

LABORATORY USAE WES | DATE 10 MAR 87

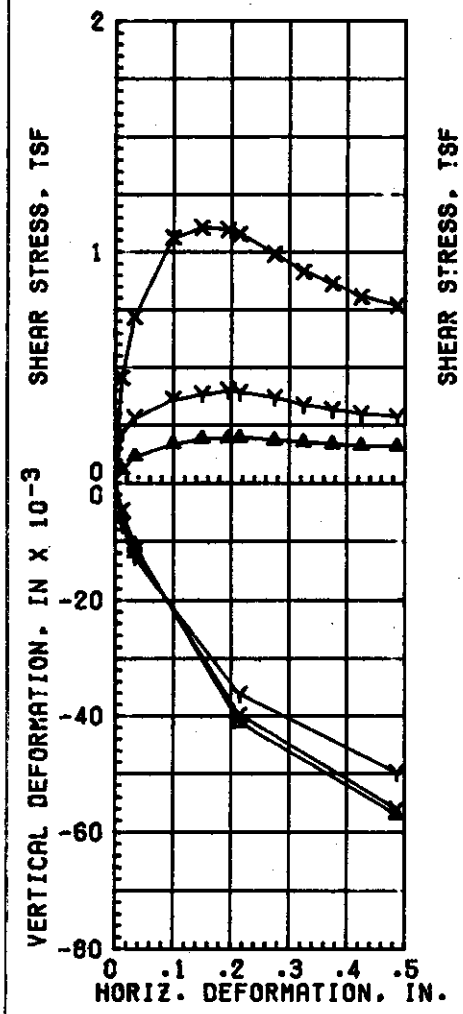
TRIAXIAL COMPRESSION TEST REPORT

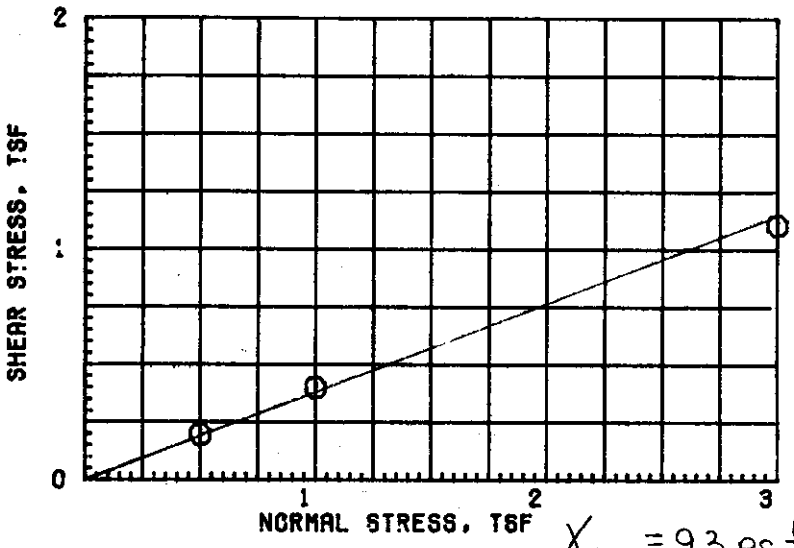


$\gamma_{SAT} = 74$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	309.3	161.9
PRECONSOL. PRESSURE, TSF	0.30	DRY DENSITY, PCF	17.0	30.9
COMPRESSION INDEX	4.70	SATURATION, %	93.5	98.0
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	8.930	4.460
DIA. IN 4.44	HT. IN 1.119	BACK PRESSURE, TSF		
CLASSIFICATION: CLAY (CH), GRAY; ORGANIC MATERIAL				
LL 252	PL 63 PI 189	PROJECT: LK PONT & VIC HURR PROT		
OS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. 7-6CU	SAMPLE NO. 2-C	
		DEPTH/ELEV 13.0/-8.6	DATE 13 MAR 87	

CONSOLIDATION TEST REPORT





$\gamma_{SAT} = 93$ pcf

$\Phi = 21°$

TAN $\Phi = 0.384$

C = Φ

	TEST NO.	1 ▲	2 Y	3 X	
INITAL	WATER CONTENT, %	88.3	92.8	84.2	
	VOID RATIO	2.457	2.575	2.364	
	SATURATION, %	97.0	97.4	96.1	
	DRY DENSITY, PCF	48.7	47.1	50.1	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	66.2	57.8	41.7	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.19	0.40	1.11	
TIME TO FAILURE, MIN		1218	1105	850	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

Ave 88.4

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.744 IN. THICK

CLASSIFICATION CLAY (CH), GRAY; ORGANIC MATERIAL

LL 83 | PL 22 | PI 61 | | GS 2.70 (EST)

REMARKS:

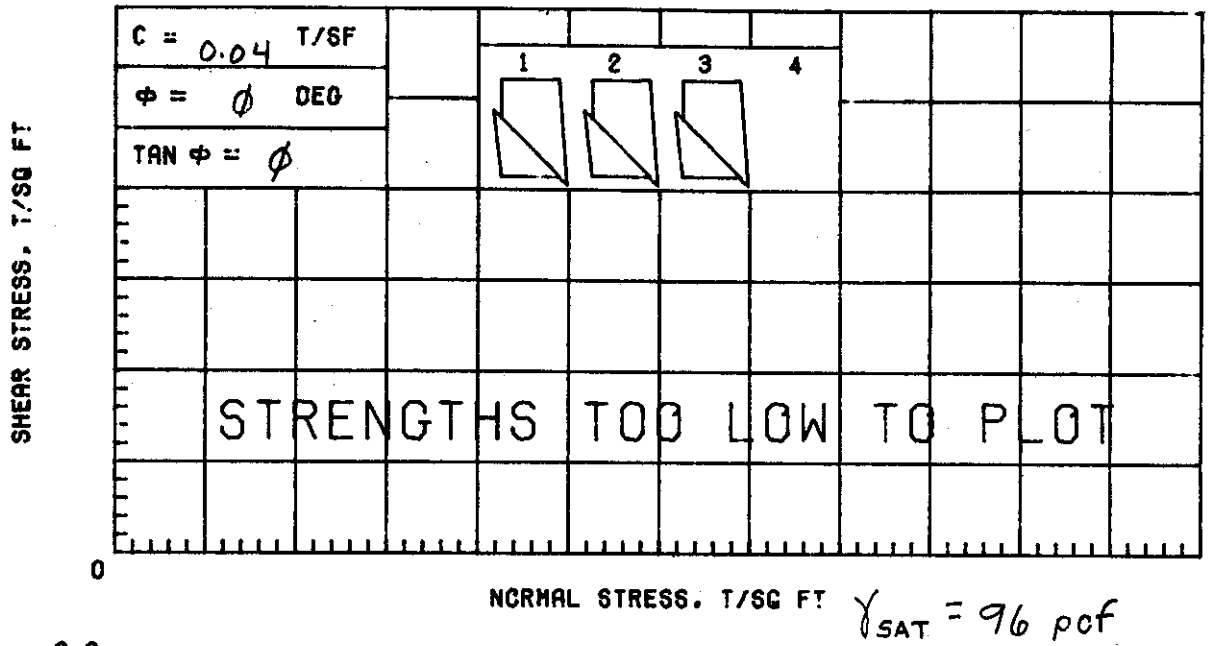
PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

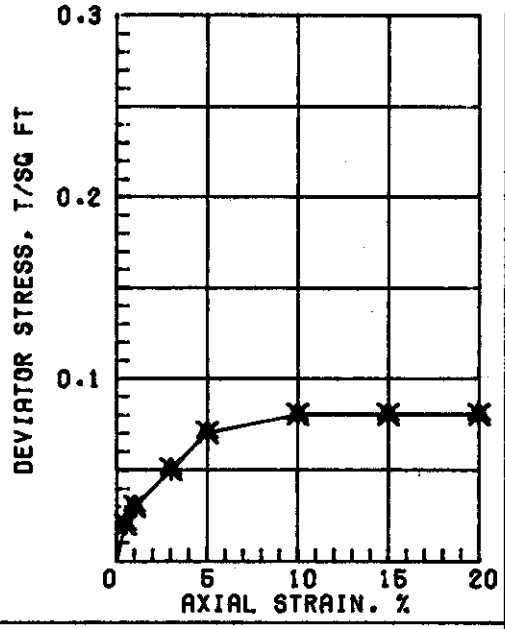
BORING NO. 7-SCU | SAMPLE 3-B

DEPTH/ELEV 16.5/-12.1 | DATE 20 APR 87

DIRECT SHEAR TEST REPORT



γ_{SAT} = 96 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	78.5	79.8	76.3	
	DRY DENSITY, PCF	52.8	52.2	53.9	
	SATURATION, %	96.6	96.6	97.0	
	VOID RATIO	2.195	2.230	2.125	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.08	0.08	0.08	
TIME TO FAILURE, MIN.		20	20	20	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 78.2

CONTROLLED-STRAIN TEST

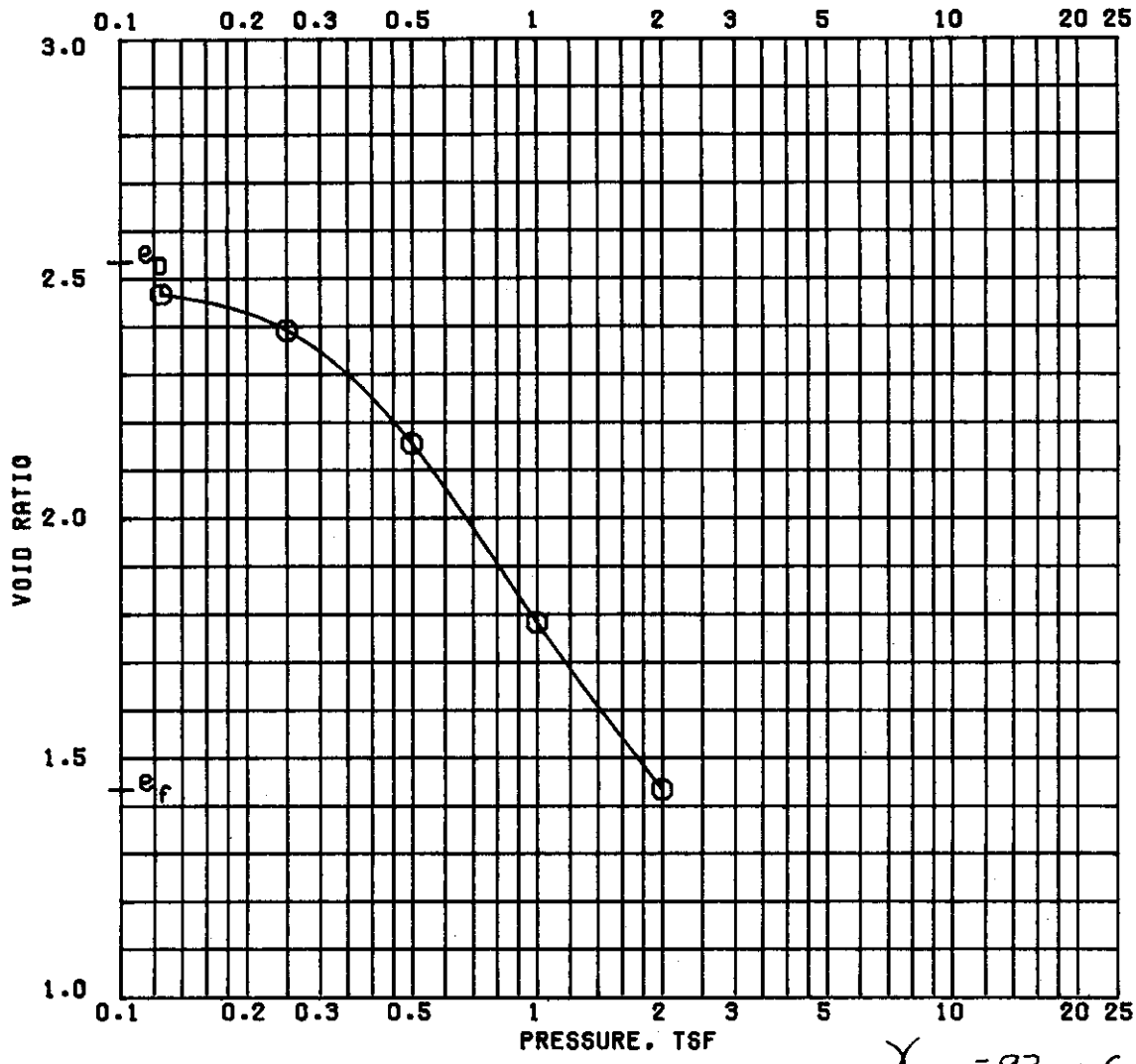
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; 3/8" ROOTS

LL 69	PL 20	PI 49	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: SPECIMENS SLUMPED SLIGHTLY DURING TRIMMING.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 7-SCU
SAMPLE NO. 3-C
DEPTH/ELEV 17.4/-13.0
TECH. KOC
LABORATORY USAE WES
DATE 11 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 93$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF	0.35	
COMPRESSION INDEX	1.25	
TYPE SPECIMEN	UNDISTURBED	
DIA. IN 4.44	HT. IN 1.108	
WATER CONTENT, %	93.9	55.9
DRY DENSITY, PCF	47.7	69.3
SATURATION, %	99.8	100 +
VOID RATIO	2.532	1.431
BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; DECAYED ROOTS

LL 85 PL 22 PI 63

GS 2.70 (EST) D_{10}

REMARKS

PROJECT LK PONT & VIC HURR PROT

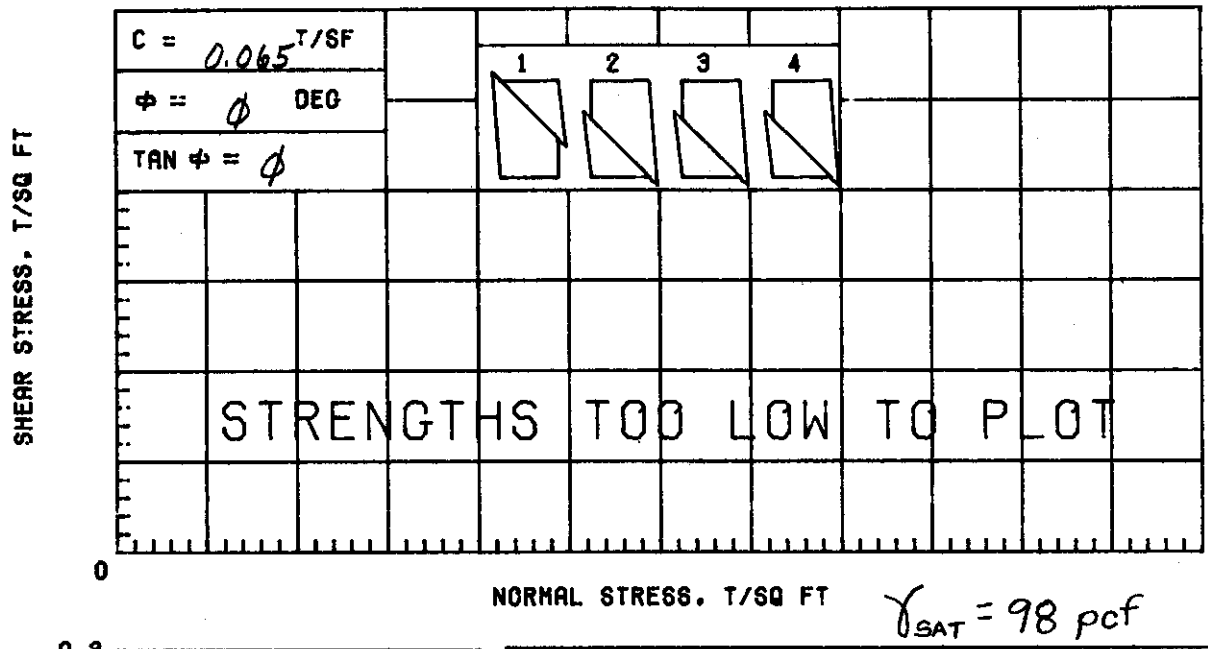
ST CHARLES PARISH

BORING NO. 7-SCU SAMPLE NO. 4-B

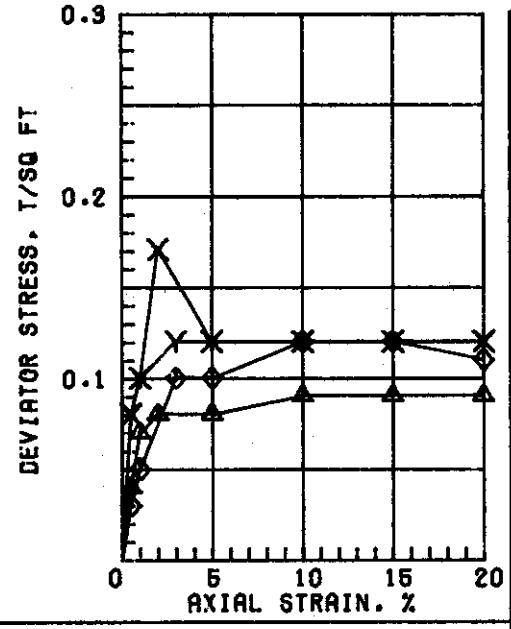
DEPTH/ELEV 20.0/-15.6 DATE 14 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



γ_{SAT} = 98 pcf



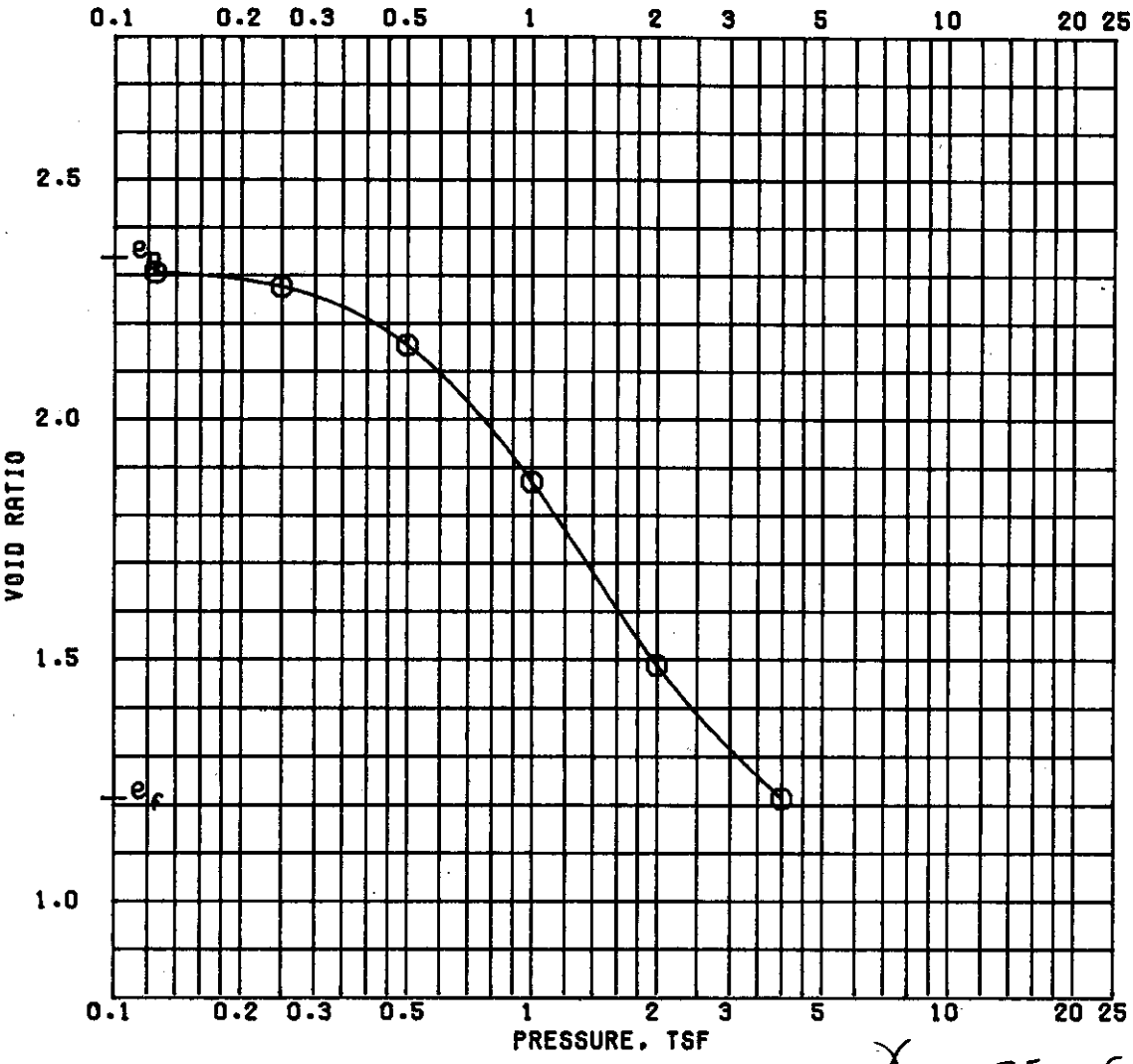
SPECIMEN NO.		△1	Y2	X3	◇4	AVE
INITIAL	WATER CONTENT, %	71.1	73.5	72.5	71.1	72.4
	DRY DENSITY, PCF	57.0	55.9	56.0	56.8	
	SATURATION, %	98.0	98.4	97.5	97.6	
	VOID RATIO	1.959	2.018	2.007	1.966	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5	
MAX. DEV. STRESS, TSF		0.08	0.12	0.17	0.10	
TIME TO FAILURE, MIN.		4	6	4	18	
RATE OF STRAIN INCR.%					5	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 75	PL 21	PI 54	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 7-SCU	SAMPLE NO. 5-C
	DEPTH/ELEV 25.4/-21.0	TECH. KOC
	LABORATORY USAE WES	DATE 11 MAR 87
	TRIAXIAL COMPRESSION TEST REPORT	

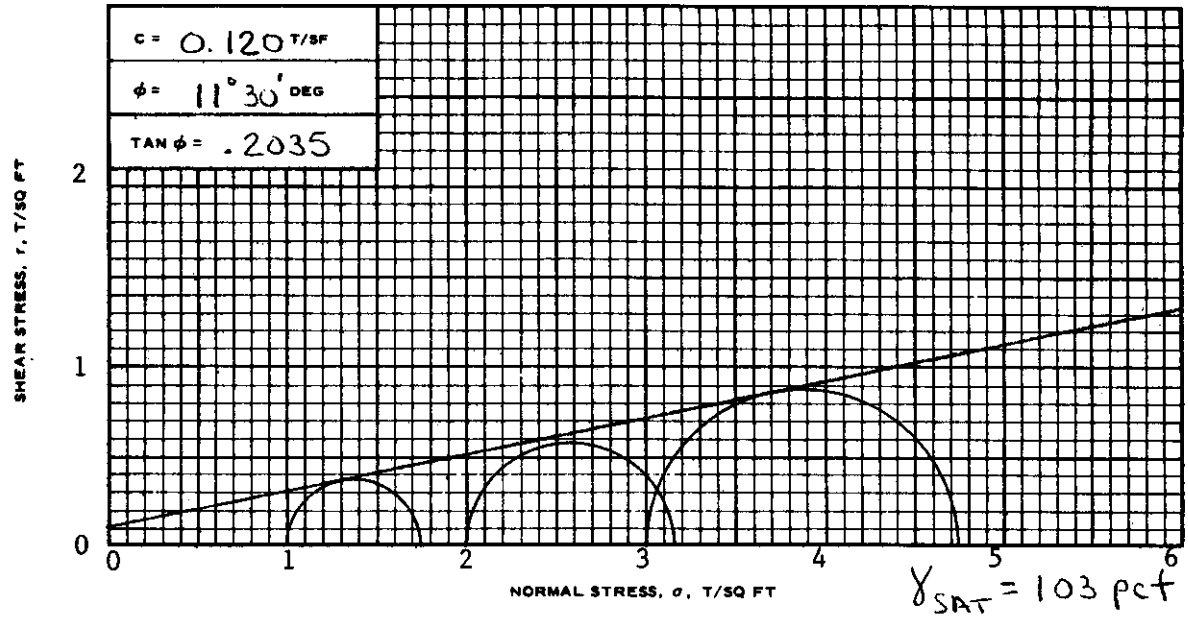


$\gamma_{SAT} = 95$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	88.1	48.2
PRECONSOL. PRESSURE, TSF	0.61	DRY DENSITY, PCF	50.6	76.3
COMPRESSION INDEX	1.30	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.334	1.210
DIA. IN 4.44	HT. IN 1.117	BACK PRESSURE, TSF		
CLASSIFICATION	CLAY (CH), GRAY			
LL 70	PL 27	PI. 43	PROJECT	LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS		BORING NO. 7-SCU		SAMPLE NO. 6-B
		DEPTH/ELEV 28.1/-23.7		DATE 16 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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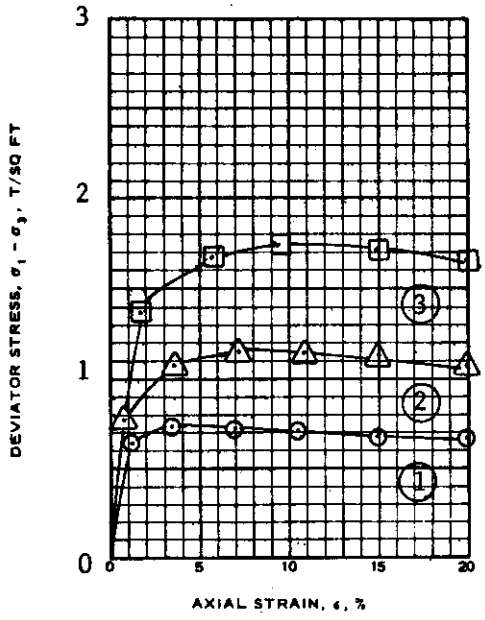


SPECIMEN NO.			1	2	3	Ave
INITIAL	WATER CONTENT, %	w_o	61.8	59.9	59.0	60.2
	DRY DENSITY LB/CU FT	γ_{d_o}	62.8	65.0	65.1	
	SATURATION, %	S_o	98.6	100+	99.7	
	VOID RATIO	e_o	1.706	1.613	1.610	
BEFORE SHEAR	WATER CONTENT, %	w_c	52.3	46.1	43.4	
	DRY DENSITY LB/CU FT	γ_{d_c}	70.3	77.6	83.5	
	SATURATION, %	S_c	100+	100+	100+	
	VOID RATIO	e_c	1.417	1.187	1.034	
	FINAL BACK PRESSURE, T/SQ FT	u_e	4.32	4.32	4.32	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	0.73	1.15	1.74	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	233	480	626	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o	1.38	1.38	1.38	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS CLAY (CH), GRAY

LL 56	PL 20	PI 36	Gs 2.72	TYPE OF SPECIMEN UNDISTURBED	TYPE OF TEST $\overline{R}$

REMARKS: (EST)

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 7-SCU SAMPLE NO. 6-C

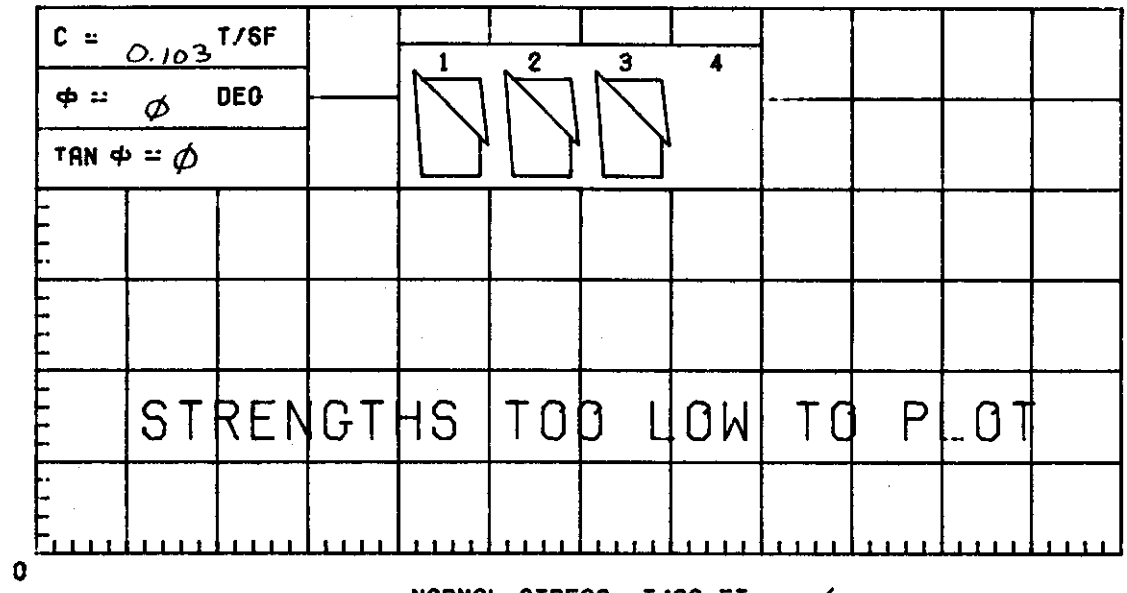
DEPTH/ELEV 29.0/-24.6

LABORATORY USAEWES DATE 13 APR 87

SHEET 1 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)



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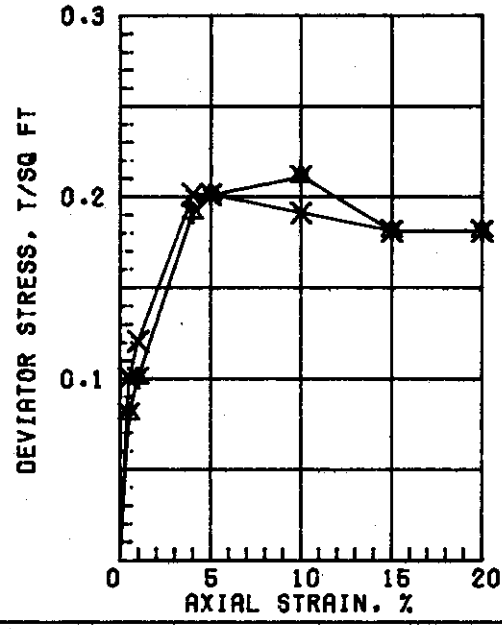


SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	72.9	73.1	72.8		72.9
	DRY DENSITY, PCF	56.5	56.0	56.2		
	SATURATION, %	99.1	98.1	98.4		
	VOID RATIO	1.986	2.012	1.998		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.21	0.21	0.20		
TIME TO FAILURE, MIN.		20	20	8		
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.40	1.40	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

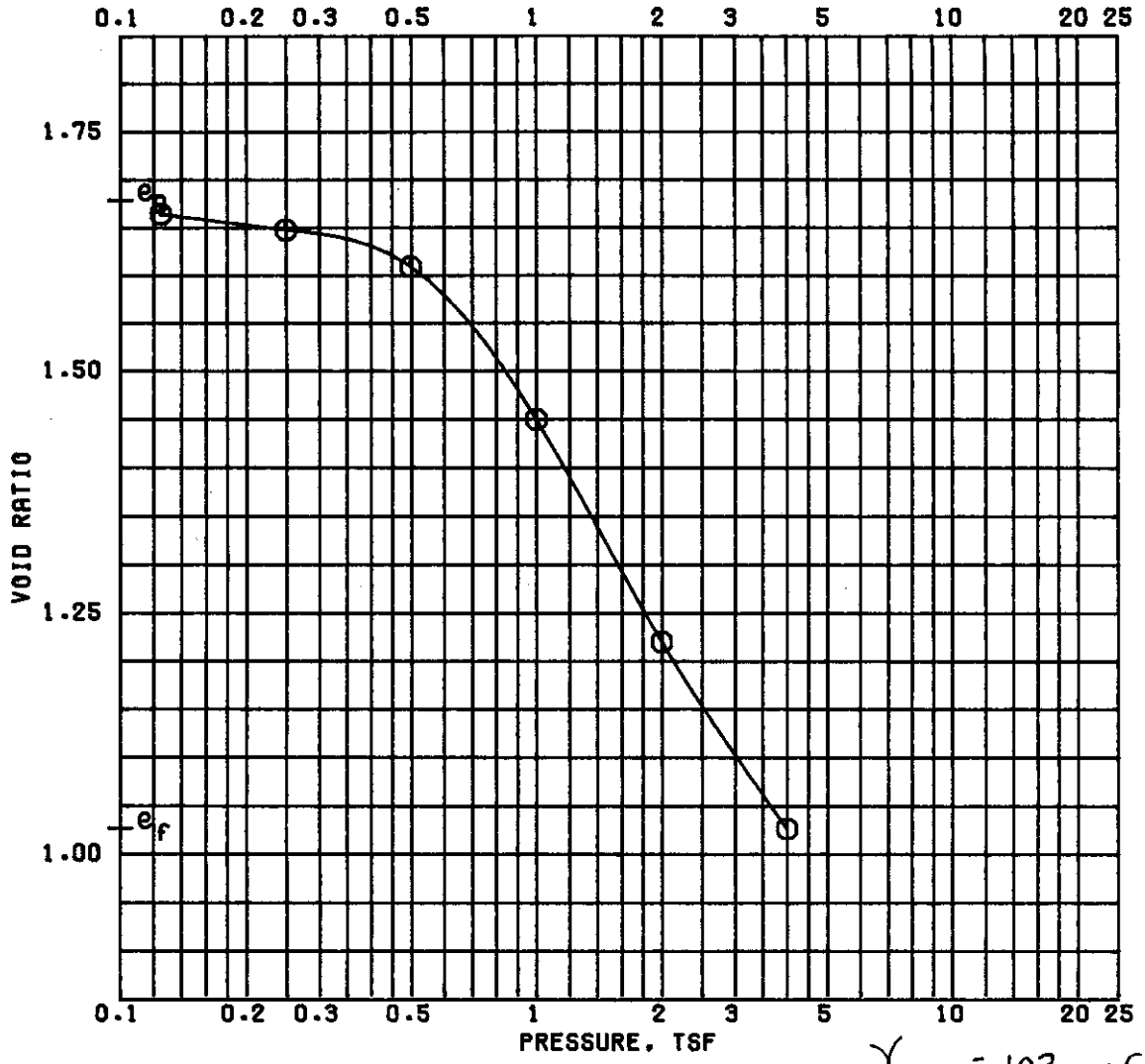
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 78	PL 22	PI 56	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 7-SCU | SAMPLE NO. 8-B
DEPTH/ELEV 36.5/-32.1 | TECH. KOC
LABORATORY USAE WES | DATE 12 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 102 pcf

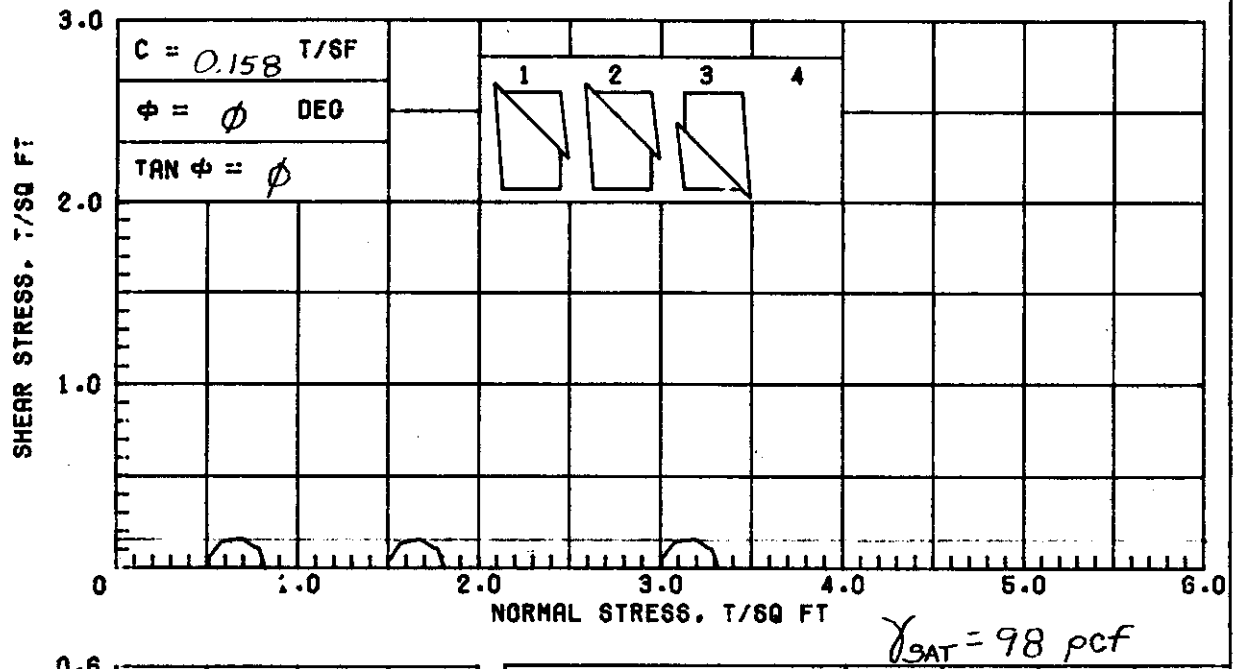
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	62.2	39.2
PRECONSOL. PRESSURE, TSF	0.64	DRY DENSITY, PCF	63.0	83.2
COMPRESSION INDEX	0.76	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.677	1.025
DIA. IN 4.44	HT. IN 1.111	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL 54	PL 16	PI 38	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 7-SCU	SAMPLE NO. 9-B
		DEPTH/ELEV 40.4/-36.0	DATE 17 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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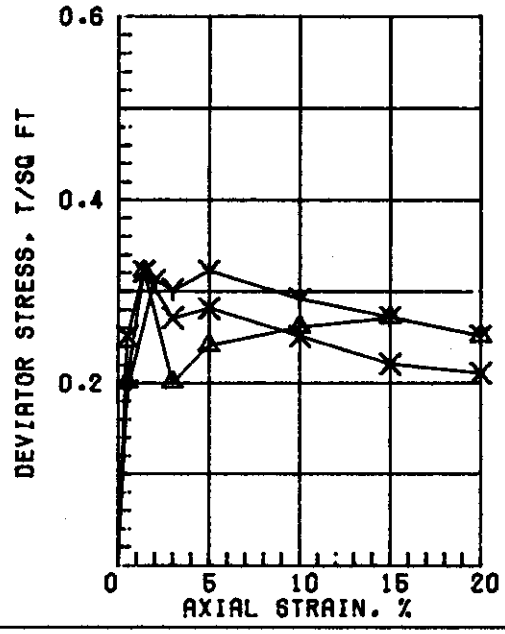


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	73.4	74.1	72.3	
	DRY DENSITY, PCF	56.2	55.4	57.0	
	SATURATION, %	99.1	98.0	99.8	
	VOID RATIO	2.000	2.042	1.957	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.32	0.31	0.32	
TIME TO FAILURE, MIN.		3	18	13	
RATE OF STRAIN INCR.%			3	3	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 73.3

CONTROLLED-STRAIN TEST

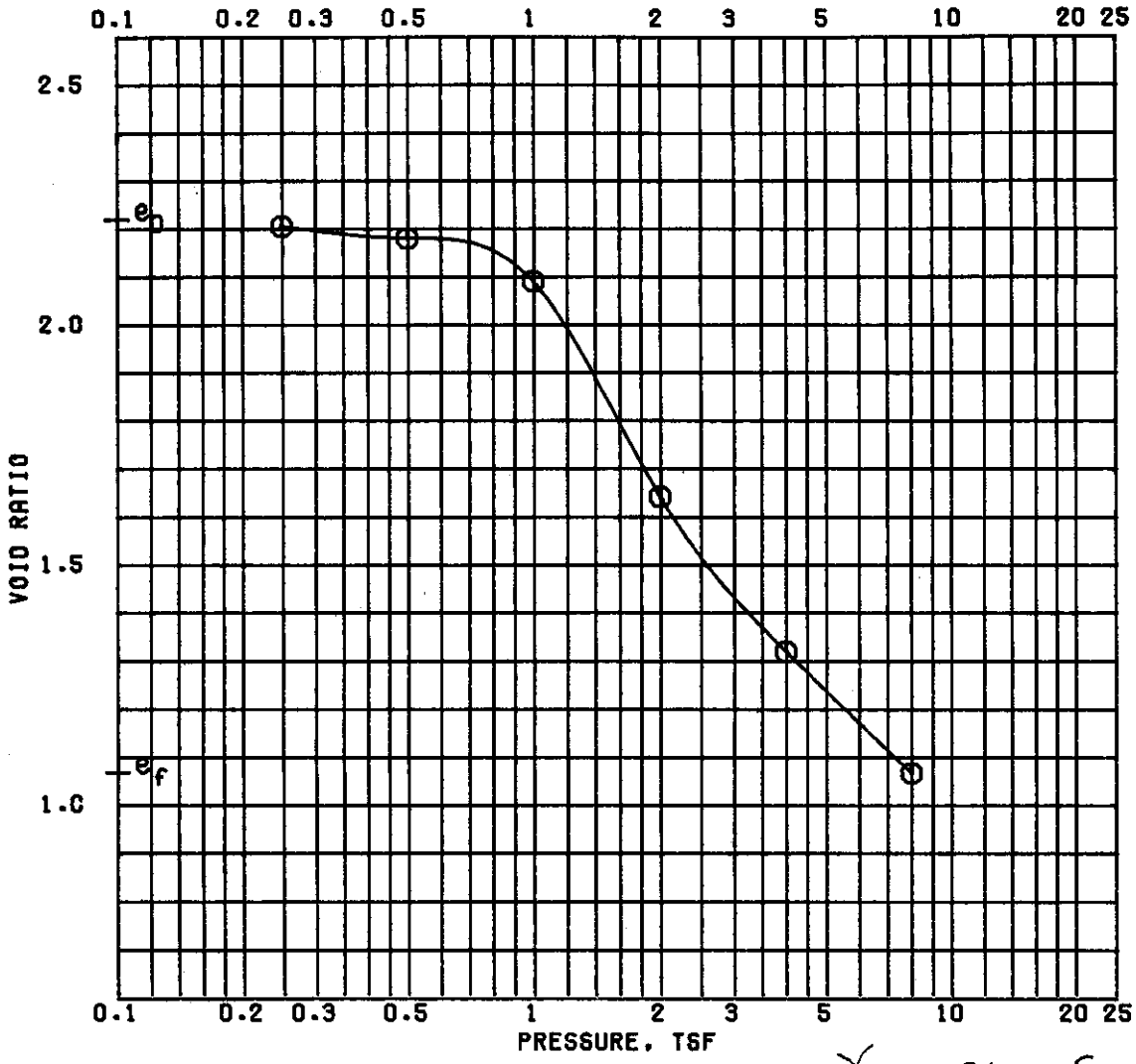
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 83	PL 23	PI 60	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 7-SCU | SAMPLE NO. 10-B
DEPTH/ELEV 44.5/-40.1 | TECH. KOC
LABORATORY USAE WES | DATE 12 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 96$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 1.0	WATER CONTENT, %	82.6	42.2
COMPRESSION INDEX 1.56	DRY DENSITY, PCF	52.4	81.7
TYPE SPECIMEN UNDISTURBED	SATURATION, %	100 +	100 +
DIA. IN 4.44 HT. IN 1.126	VOID RATIO	2.216	1.064
	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL 86 PL 25 PI 61

GS 2.70 (EST) D_{10}

PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

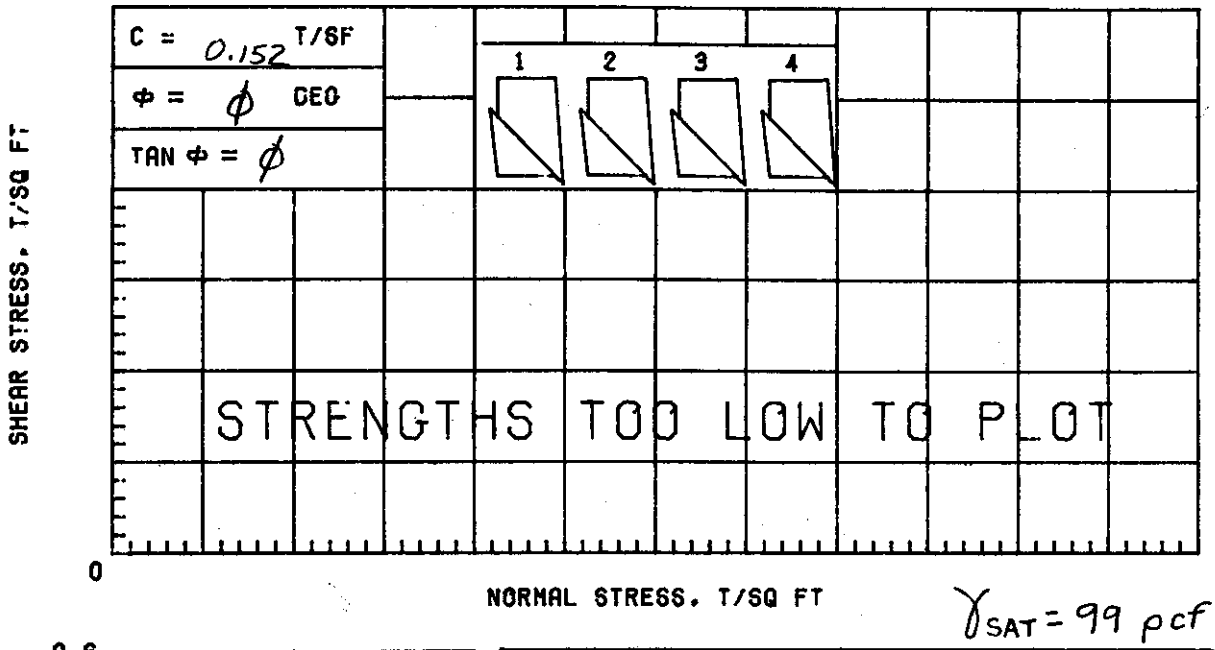
REMARKS

BORING NO. 7-SCU SAMPLE NO. 11-B

DEPTH/ELEV 48.5/-44.1 DATE 19 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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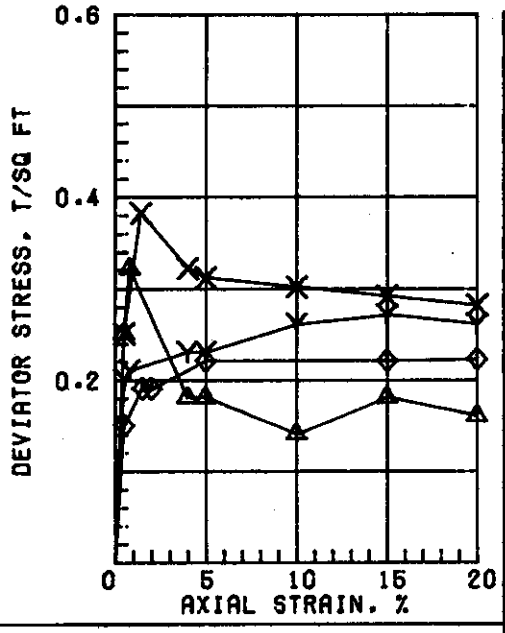


SPECIMEN NO.		Δ1	Y2	X3	◇4	AVG
INITIAL	WATER CONTENT, %	73.8	71.3	70.9	67.5	70.9
	DRY DENSITY, PCF	57.0	57.4	57.8	59.4	
	SATURATION, %	100+	99.4	99.8	99.2	
	VOID RATIO	1.956	1.937	1.919	1.838	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	1.5	
MAX. DEV. STRESS, TSF		0.32	0.21	0.38	0.19	
TIME TO FAILURE, MIN.		2	21	21	18	
RATE OF STRAIN INCR.%			2	2	2	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

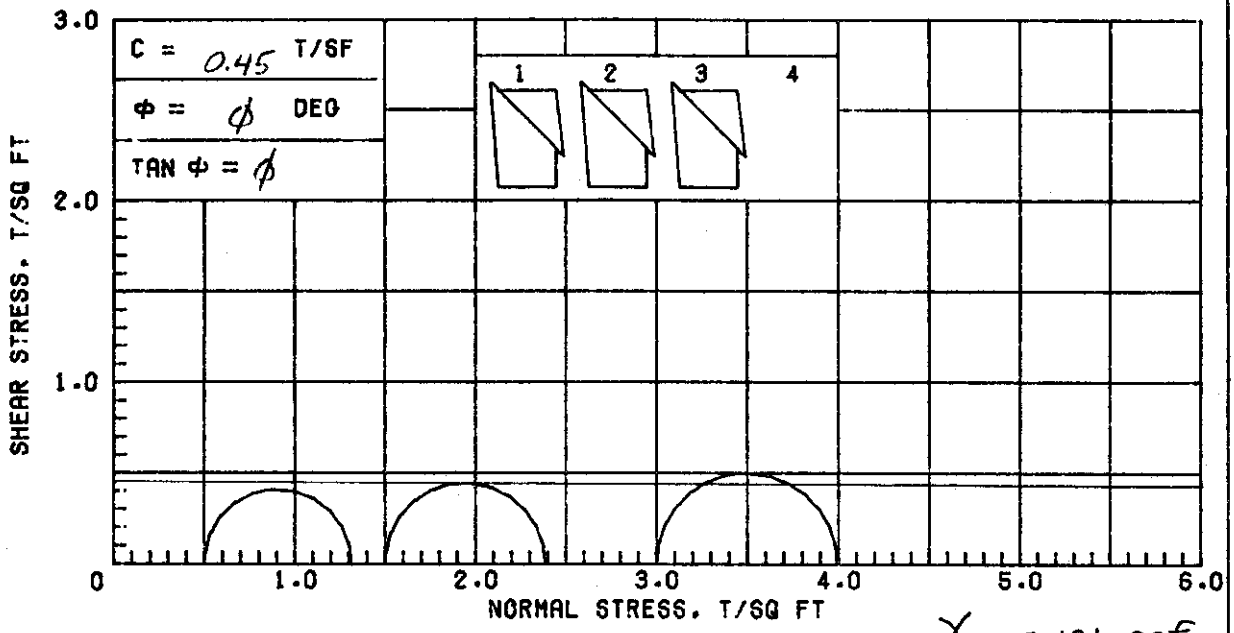
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT POCKETS

LL 80	PL 20	PI 60	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 7-SCU — SAMPLE NO. 12-C
DEPTH/ELEV 53.4/-49.0 — TECH. KOC
LABORATORY USAE WES — DATE 16 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



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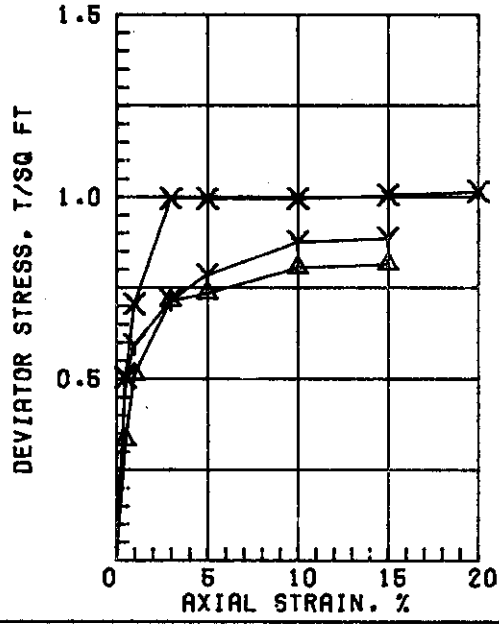


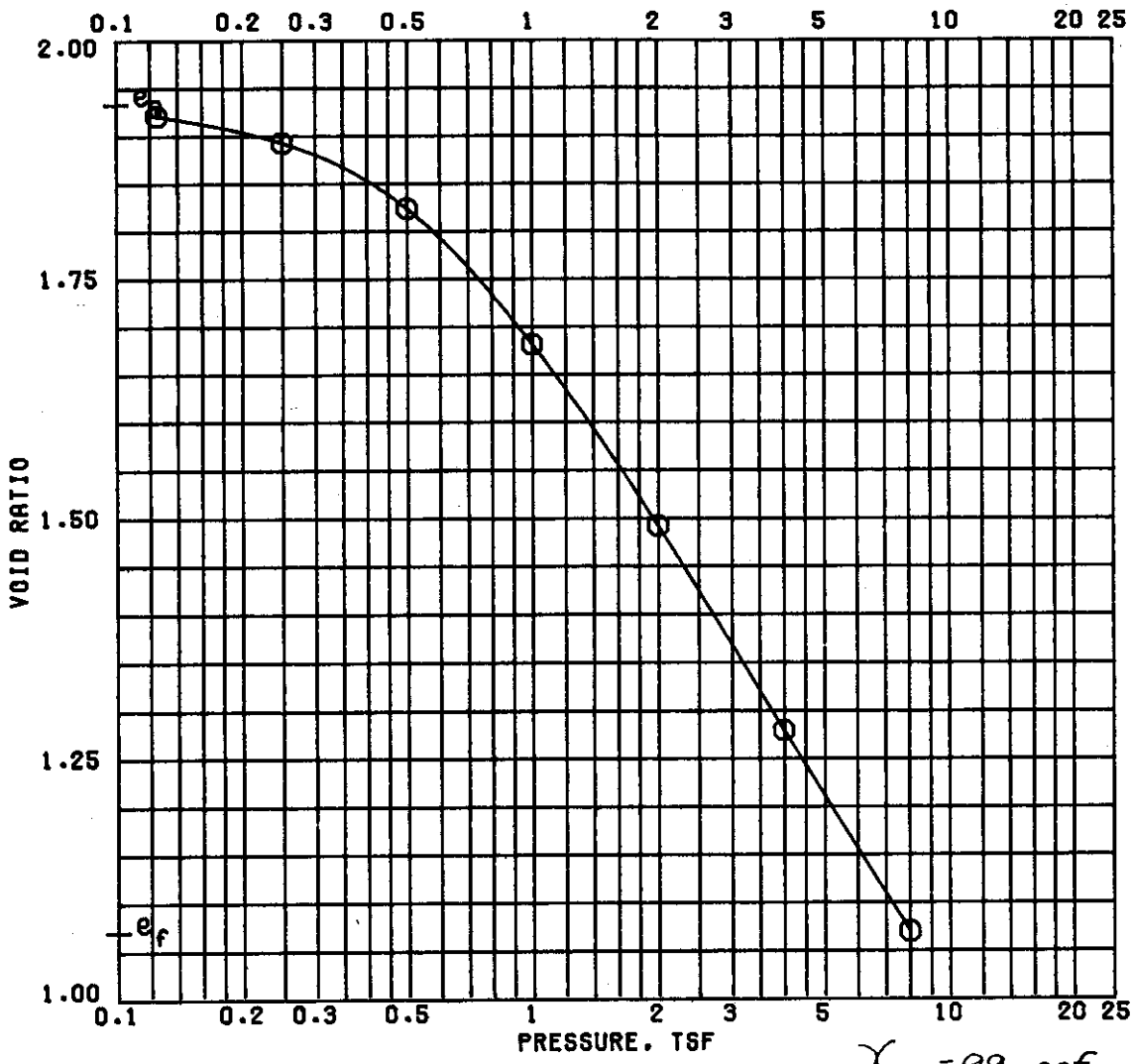
SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	28.5	29.6	28.9		29.0
	DRY DENSITY, PCF	93.9	91.4	93.9		
	SATURATION, %	96.9	94.7	98.2		
	VOID RATIO	0.794	0.844	0.795		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.81	0.89	1.00		
TIME TO FAILURE, MIN.		30	30	6		
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.40	1.39	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), BROWN

LL 38	PL 16	PI 22	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 7-SCU	SAMPLE NO. 16-B
	DEPTH/ELEV 68.1/-63.7	TECH. KOC
	LABORATORY USAE WES	DATE 16 MAR 87
	TRIAXIAL COMPRESSION TEST REPORT	

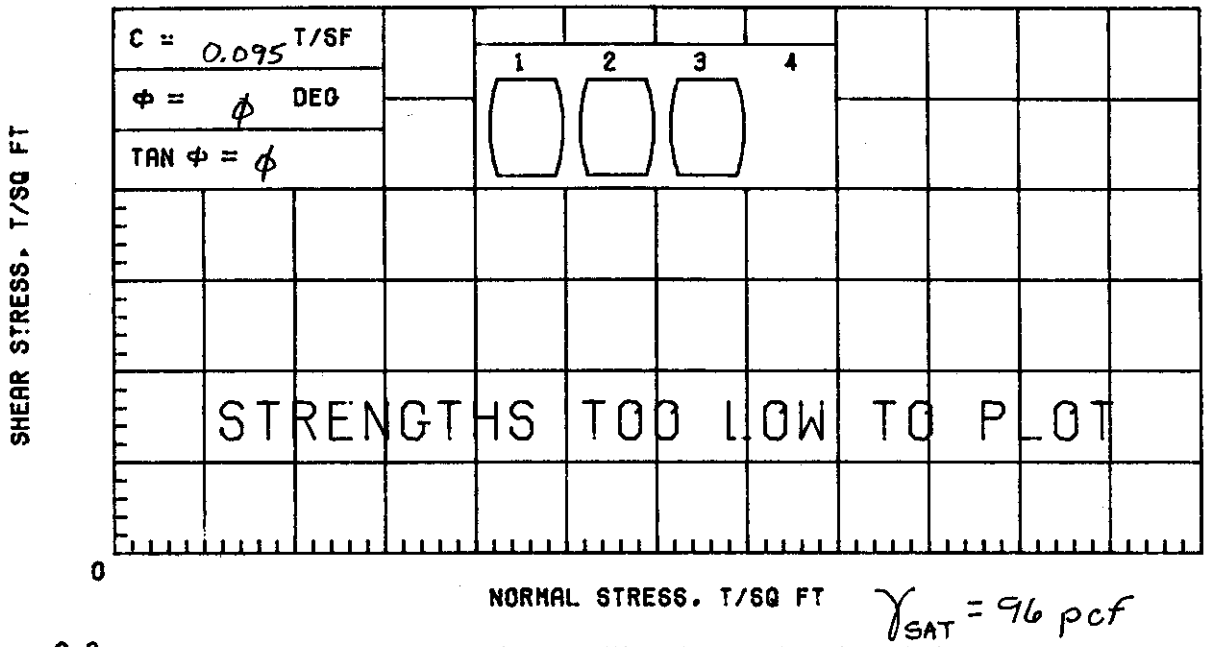


$\gamma_{SAT} = 99$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	71.0	42.1
PRECONSOL. PRESSURE, TSF	0.66	DRY DENSITY, PCF	57.5	81.5
COMPRESSION INDEX	0.72	SATURATION, %	99.2	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	1.931	1.069
DIA. IN 4.44	HT. IN 1.123	BACK PRESSURE, TSF		
CLASSIFICATION: CLAY (CH), GRAY; SHELL PARTICLES				
LL / PL / PI		PROJECT: LK PONT & VIC HURR PROT		
GS 2.70 (EST)	D_{10}	ST CHARLES PARISH		
REMARKS		BORING NO. 6-SCU	SAMPLE NO. 3-B	
		DEPTH/ELEV 8.3/-4.1	DATE 17 MAR 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



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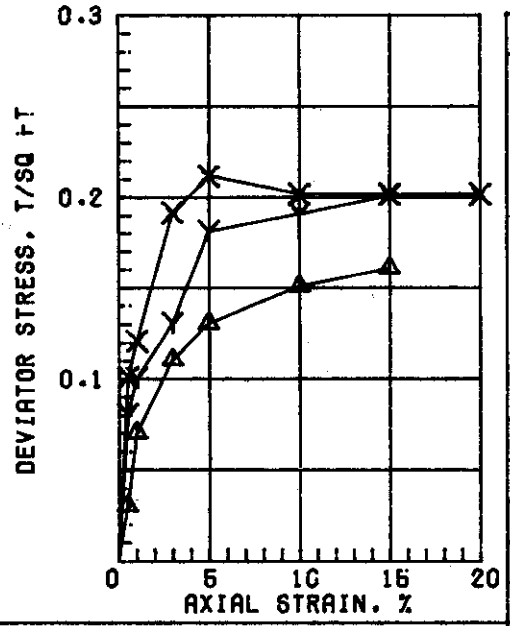


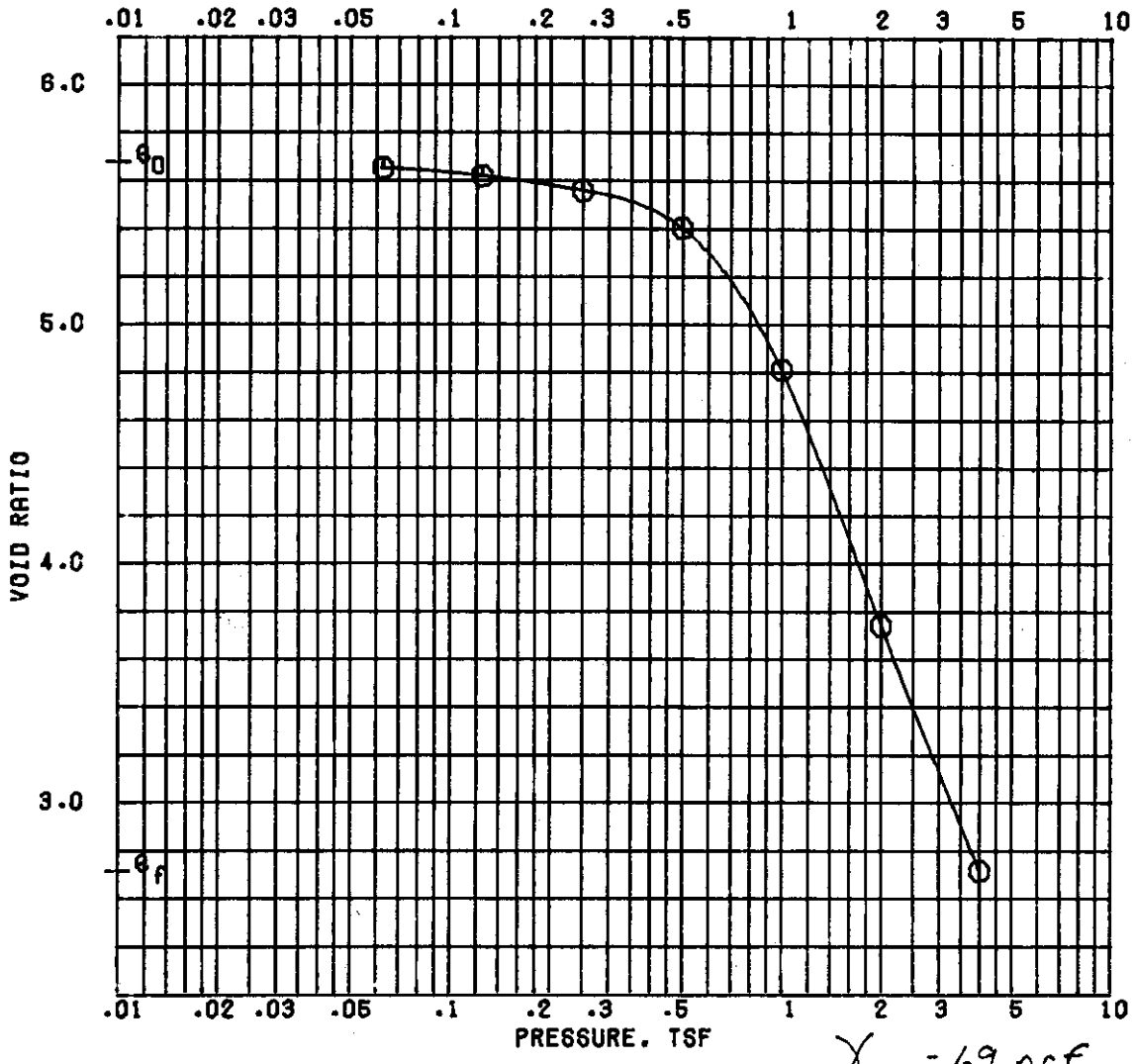
SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	78.8	78.4	80.4		79.2
	DRY DENSITY, PCF	53.4	53.3	51.0		
	SATURATION, %	98.7	97.9	94.2		
	VOID RATIO	2.156	2.161	2.305		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.16	0.20	0.21		
TIME TO FAILURE, MIN.		30	30	10		
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.40	1.40	1.39		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ROOTS TO 3/4"

LL 111	PL 24	PI 87	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 8-SCU	SAMPLE NO. 3-C
	DEPTH/ELEV 8.7/-4.5	TECH. KOC
	LABORATORY USAE WES	DATE 17 MAR 87
	TRIAXIAL COMPRESSION TEST REPORT	



$\gamma_{SAT} = 69$ pcf

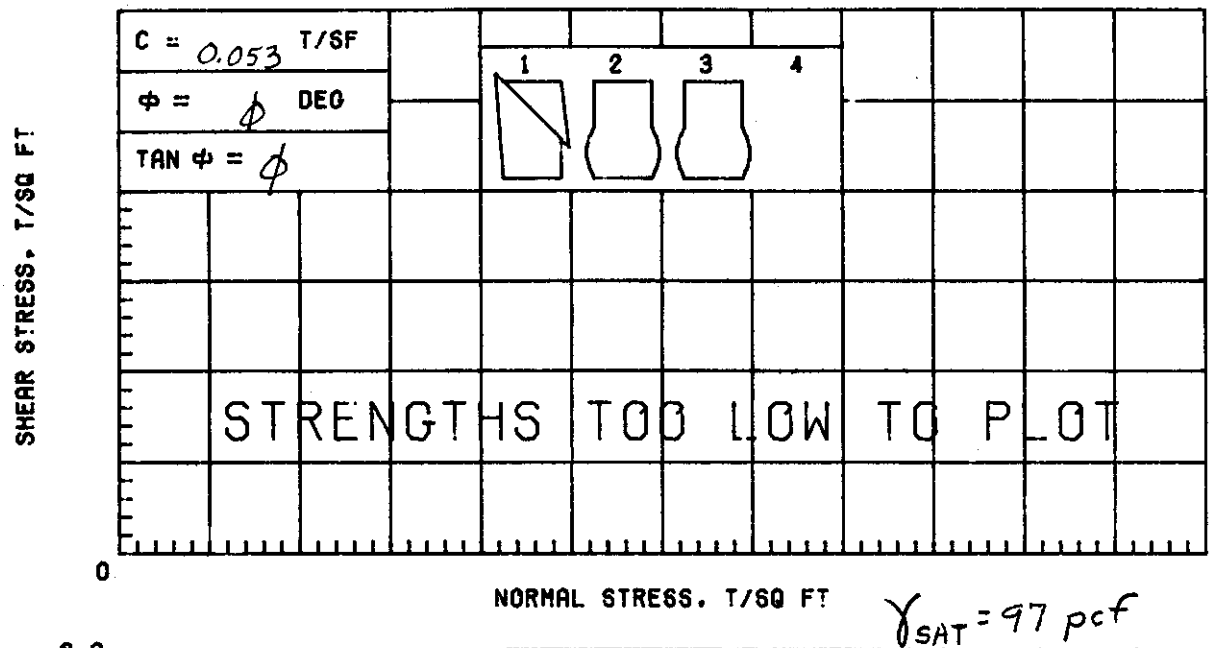
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	333.2	172.7
PRECONSOL. PRESSURE, TSF	0.70	DRY DENSITY, PCF	15.9	28.6
COMPRESSION INDEX	3.46	SATURATION, %	99.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	5.672	2.709
DIA. IN 4.44	HT. IN 1.126	BACK PRESSURE, TSF		

CLASSIFICATION PEAT (PT), BROWN

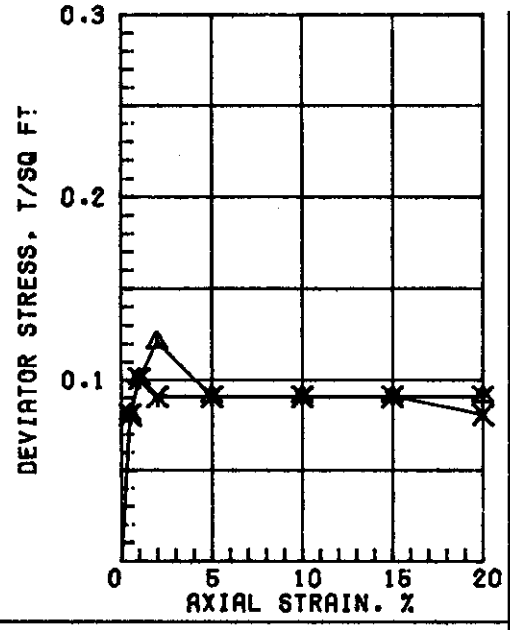
LL 341	PL 143	PI 198	PROJECT LK PONT & VIC HURR PROT
GS 1.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 8-SCU	SAMPLE NO. 5-C
		DEPTH/ELEV 17.1/-12.9	DATE 18 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 97 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	73.9	76.1	74.2	
	DRY DENSITY, PCF	55.8	55.0	55.4	
	SATURATION, %	98.8	99.5	98.2	
	VOID RATIO	2.021	2.065	2.041	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.12	0.10	0.10	
TIME TO FAILURE, MIN.		4	7	9	
RATE OF STRAIN INCR.%			3	3	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 74.7

CONTROLLED-STRAIN TEST

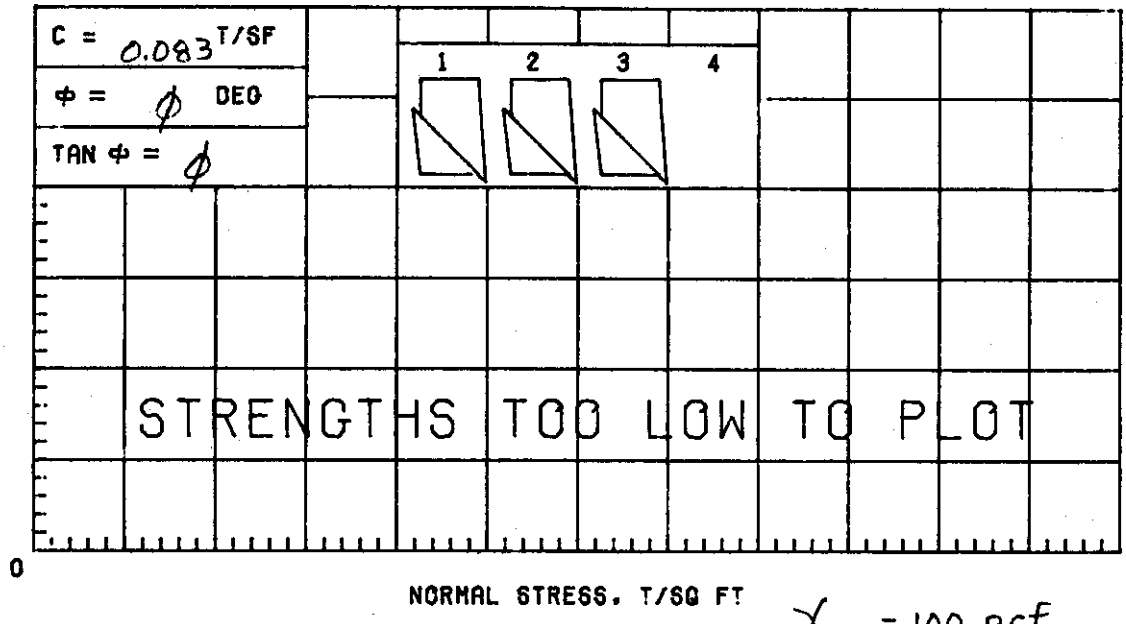
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SHELL PARTICLES

LL 68	PL 20	PI 48	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 8-SCU — SAMPLE NO. 6-B
DEPTH/ELEV 19.8/-15.6 — TECH. KOC
LABORATORY USAE WES — DATE 17 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



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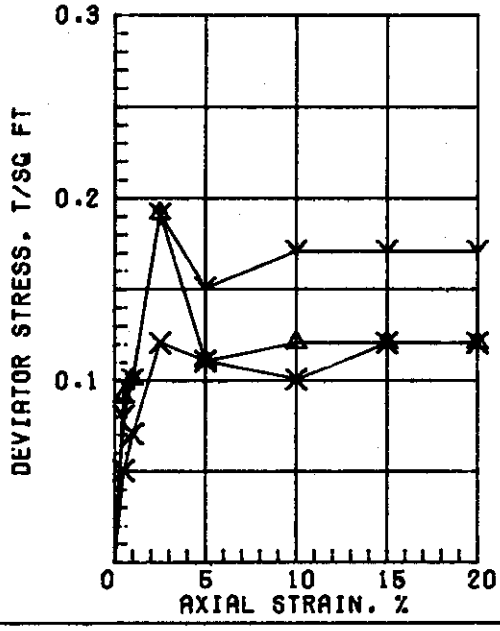


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	71.3	61.5	65.0	
	DRY DENSITY, PCF	56.4	62.3	59.8	
	SATURATION, %	96.9	97.3	96.5	
	VOID RATIO	1.987	1.707	1.818	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.19	0.19	0.12	
TIME TO FAILURE, MIN.		5	15	15	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.39	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 65.9

CONTROLLED-STRAIN TEST

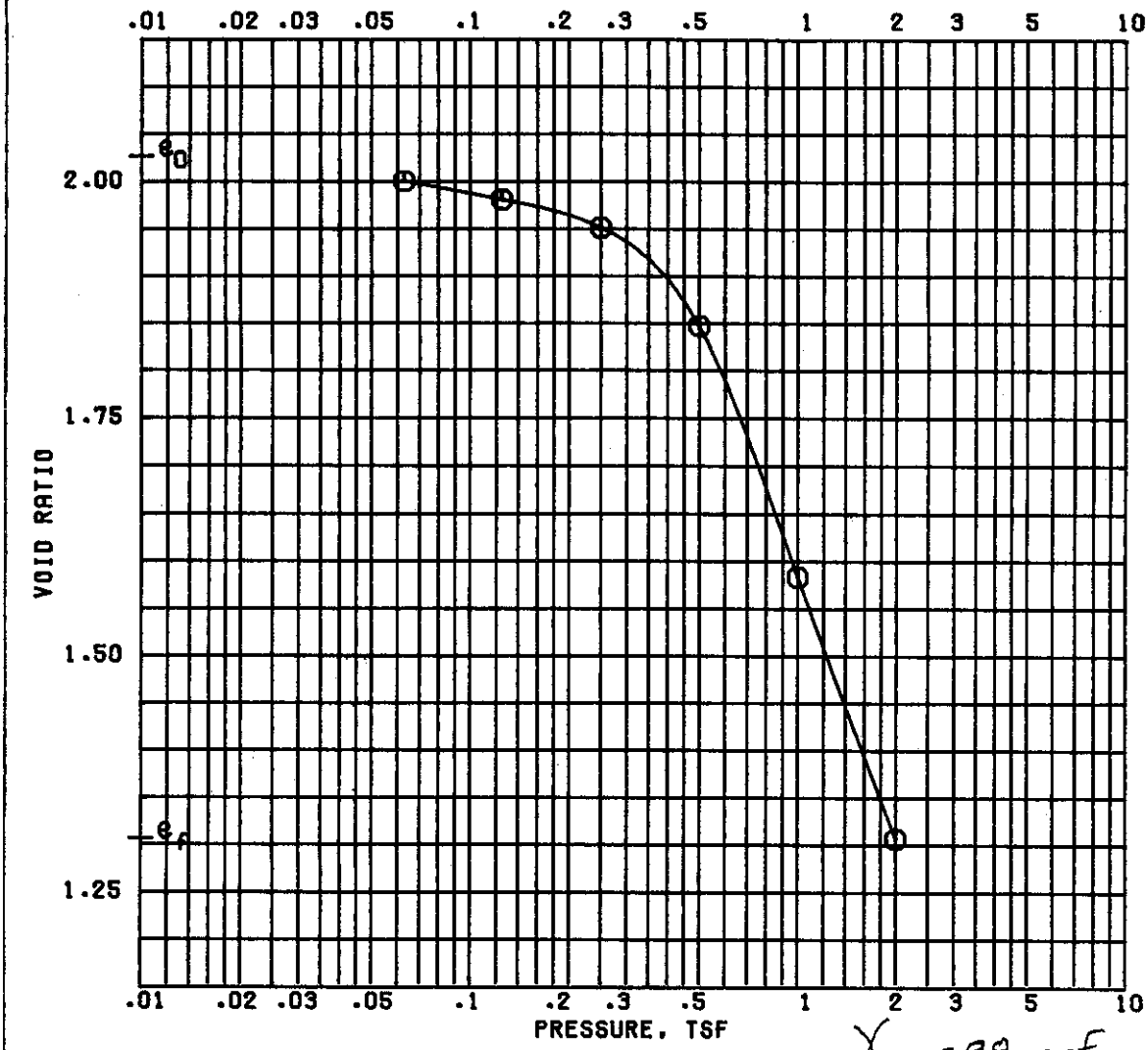
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; 1/4" SILT LAYERS

LL 61	PL 19	PI 42	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 8-SCU | SAMPLE NO. 7-B
DEPTH/ELEV 24.4/-20.2 | TECH. KOC
LABORATORY USAE WES | DATE 18 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 98$ pcf

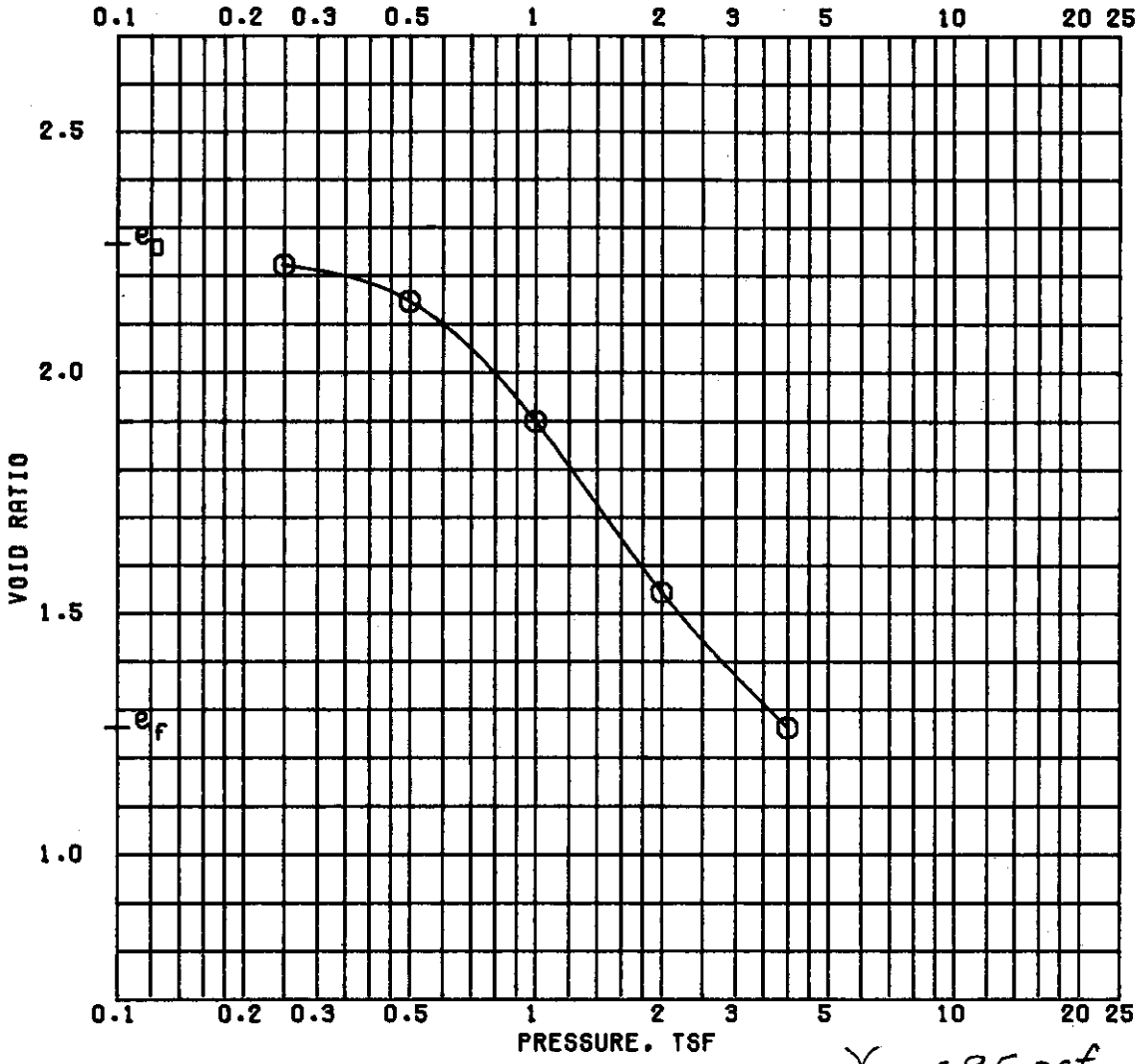
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	75.0	49.3
PRECONSOL. PRESSURE, TSF	0.43	DRY DENSITY, PCF	55.7	73.1
COMPRESSION INDEX	0.92	SATURATION, %	99.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.025	1.305
DIA. IN 4.44	HT. IN 1.126	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; SILT LENSES

LL	PL	PI	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 8-SCU	SAMPLE NO. 7-C
		DEPTH/ELEV 24.9/-20.7	DATE 20 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



$\gamma_{SAT} = 95$ pcf

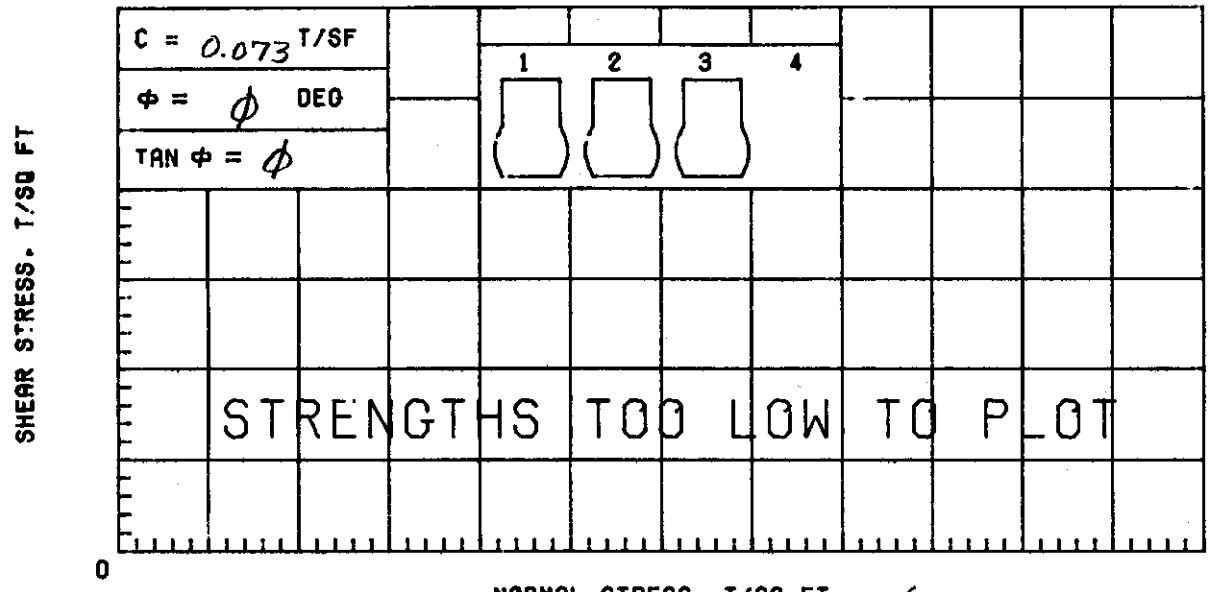
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	84.3	48.6
PRECONSOL. PRESSURE, TSF	0.72	DRY DENSITY, PCF	51.7	74.6
COMPRESSION INDEX	.28	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.263	1.259
DIA. IN 4.44	HT. IN 1.120	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

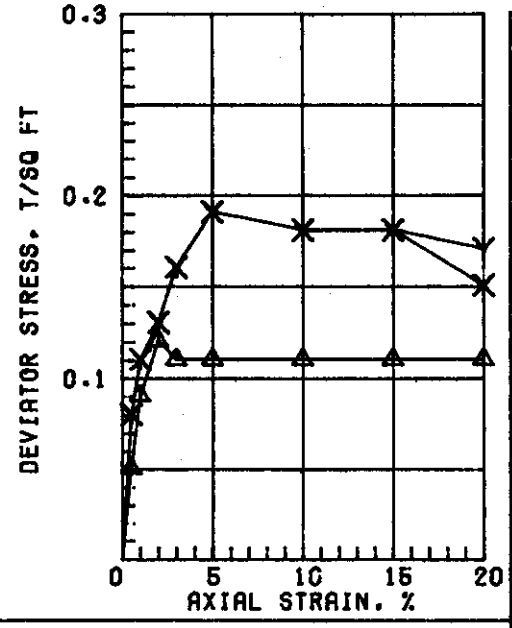
LL 69	PL 21	PI 48	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 8-SCU	SAMPLE NO. 9-B
		DEPTH/ELEV 31.6/-27.4	DATE 21 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



γ_{SAT} = 104 pcf



SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	57.8	53.6	55.0		55.5
	DRY DENSITY, PCF	64.9	67.3	66.6		
	SATURATION, %	97.8	96.2	97.0		
	VOID RATIO	1.595	1.505	1.531		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.12	0.16	0.16		
TIME TO FAILURE, MIN.		4	23	18		
RATE OF STRAIN INCR.%			4	4		
INITIAL DIAMETER, IN.		1.40	1.40	1.40		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

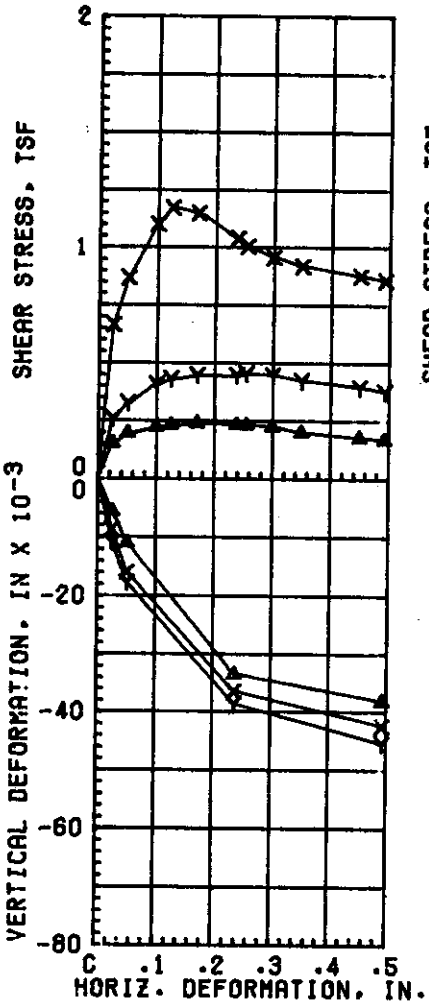
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

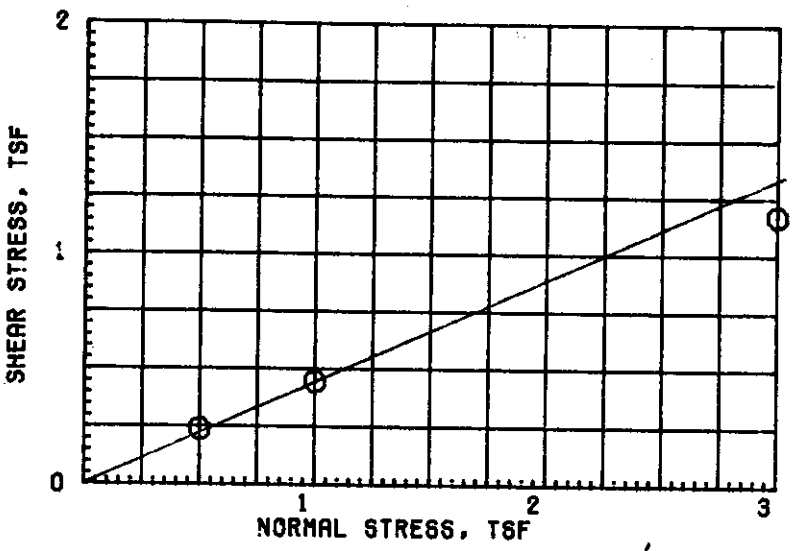
LL 57	PL 19	PI 38	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 8-SCU | SAMPLE NO. 9-C
DEPTH/ELEV 33.0/-28.8 | TECH. KOC
LABORATORY USAE WES | DATE 19 MAR 87

TRIAXIAL COMPRESSION TEST REPORT





$\gamma_{SAT} = 102$

TEST NO.		1 ▲	2 Y	3 X	AVE
INITAL	WATER CONTENT, %	52.4	66.6	61.9	60.3
	VOID RATIO	1.580	1.837	1.755	
	SATURATION, %	89.4	97.9	95.2	
	DRY CENSITY, PCF	65.3	59.4	61.1	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	53.1	49.6	39.3	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.24	0.45	1.17	
TIME TO FAILURE, MIN		951	951	700	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

$\Phi = 24°$

TAN $\Phi = 0.4452$

$C = \Phi$

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.628 IN. THICK

CLASSIFICATION CLAY (CH), GRAY; FINE SAND POCKETS

LL 61 | PL 18 | PI 43 | | GS 2.70 (EST)

REMARKS:

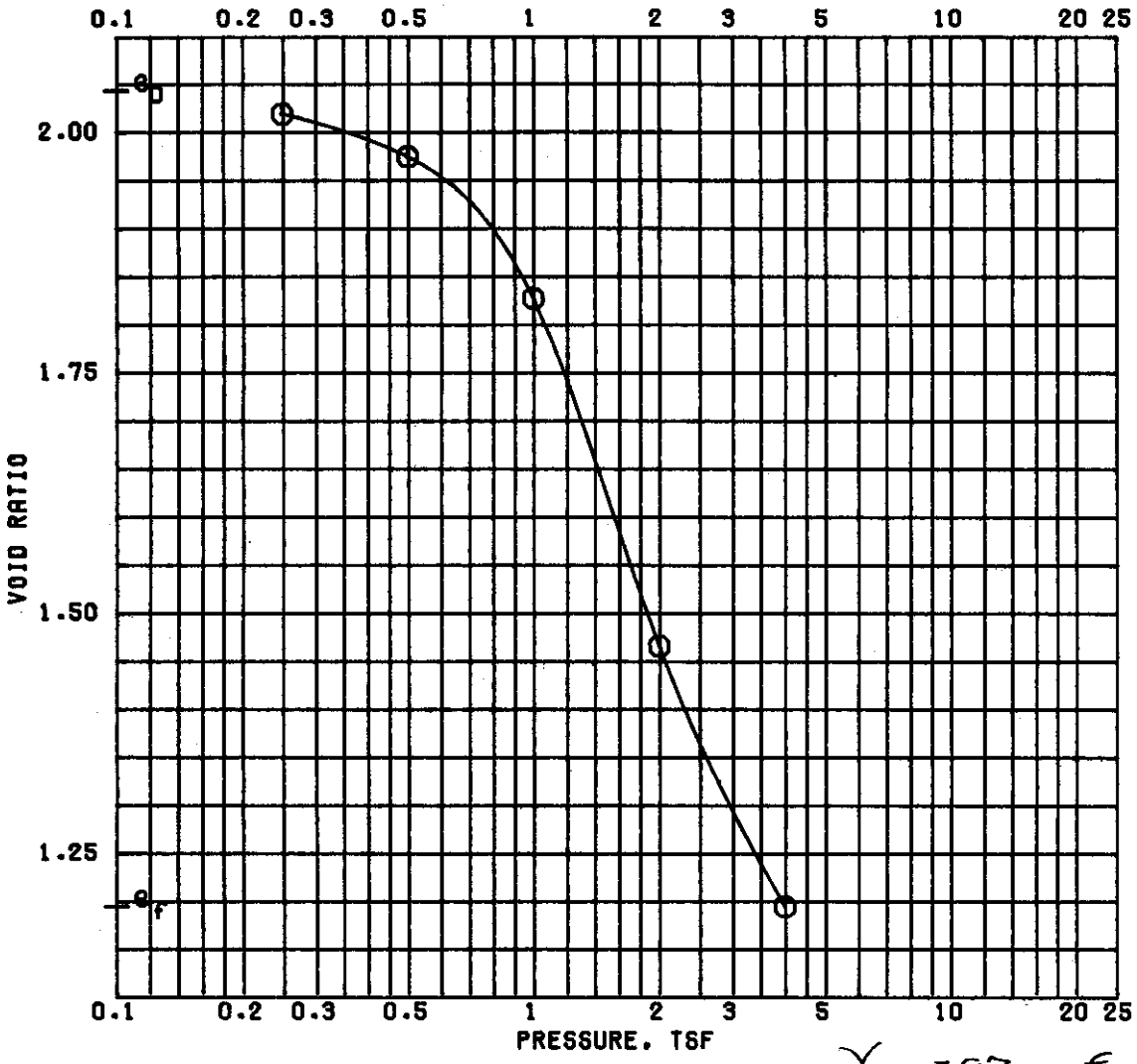
PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

BORING NO. B-SCU | SAMPLE 10-B

DEPTH/ELEV 36.5/-32.3 | DATE 22 APR 87

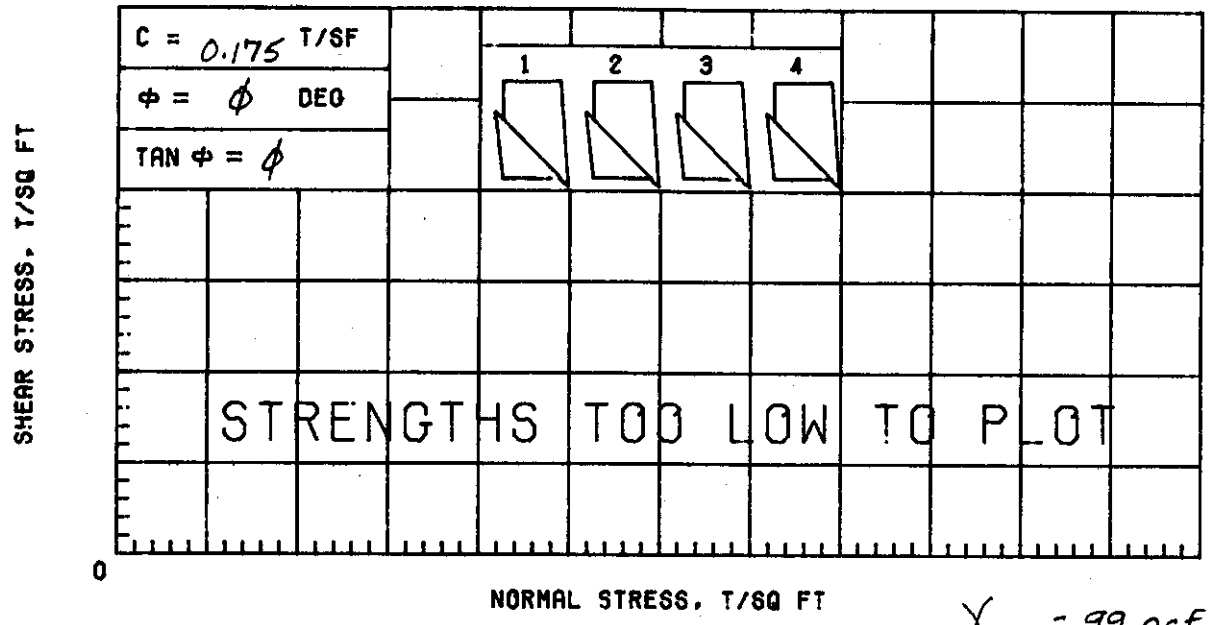
DIRECT SHEAR TEST REPORT



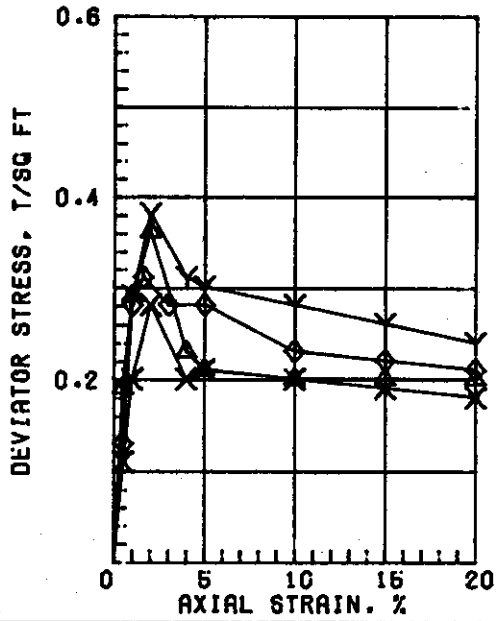
γ_{SAT} = 97 pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.83	DRY DENSITY, PCF	55.4	76.9
COMPRESSION INDEX 1.12	SATURATION, %	99.3	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	2.042	1.193
DIA. IN 4.44 HT. IN 1.123	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CH), GRAY			
LL 88 PL 24 PI 64	PROJECT LK PONT & VIC HURR PROT		
GS 2.70 (EST) D_{10}	ST CHARLES PARISH		
REMARKS	BORING NO. 8-SCU	SAMPLE NO. 11-B	
	DEPTH/ELEV 40.5/-36.3	DATE 18 MAR 87	

CONSOLIDATION TEST REPORT



γ_{SAT} = 99 pcf



SPECIMEN NO.		△1	Y2	X3	◇4	AVE
INITIAL	WATER CONTENT, %	68.0	70.9	68.2	70.7	69.5
	DRY DENSITY, PCF	59.2	57.6	58.4	57.3	
	SATURATION, %	99.5	99.4	97.7	98.4	
	VOID RATIO	1.846	1.926	1.885	1.940	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	3.0	
MAX. DEV. STRESS, TSF		0.36	0.38	0.28	0.31	
TIME TO FAILURE, MIN.		4	13	13	16	
RATE OF STRAIN INCR.%			3	4	3	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

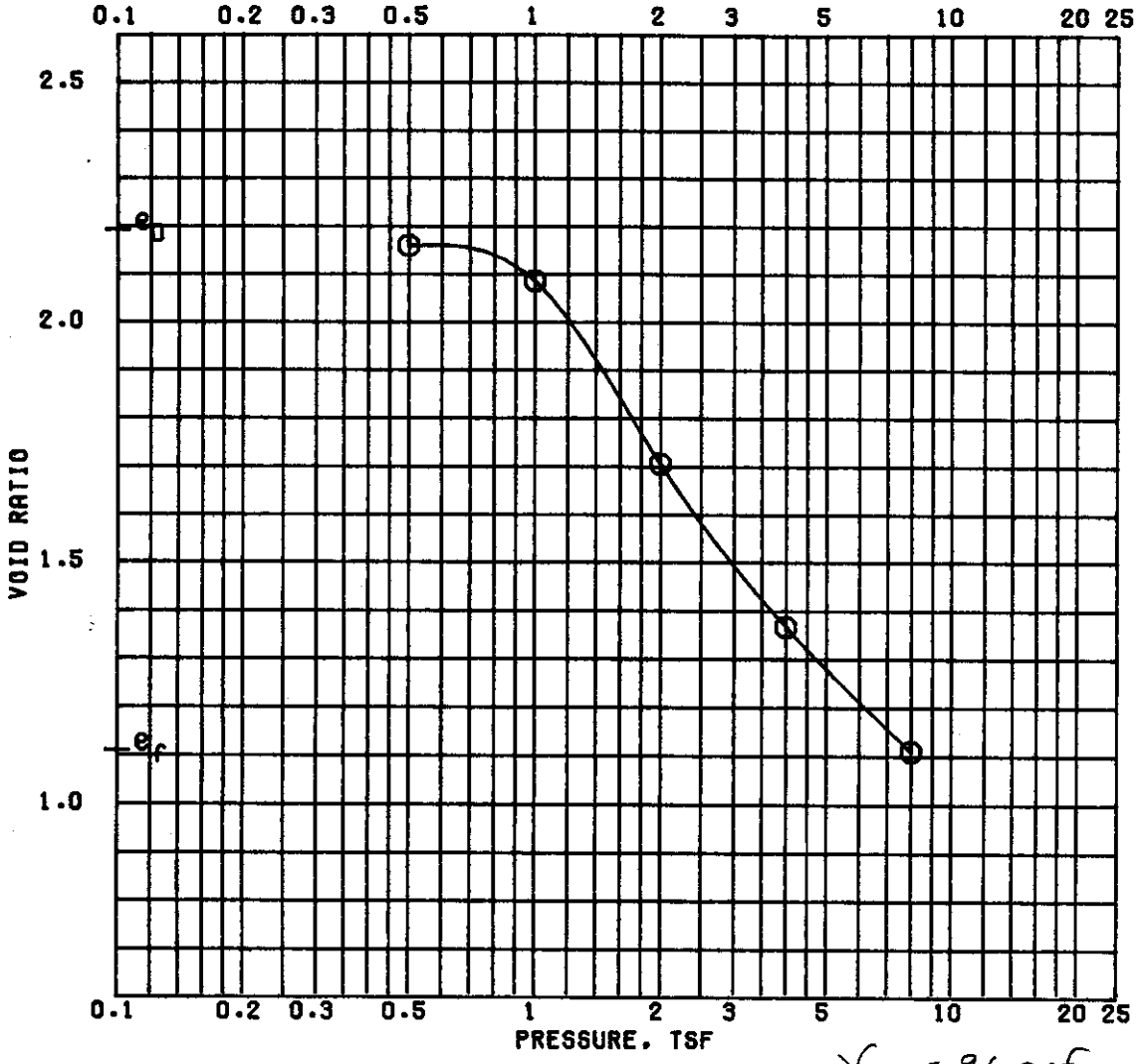
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 77	PL 23	PI 54	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 8-SCU | SAMPLE NO. 11-C
DEPTH/ELEV 41.4/-37.2 | TECH. KOC
LABORATORY USAE WES | DATE 19 MAR 87

TRIAXIAL COMPRESSION TEST REPORT

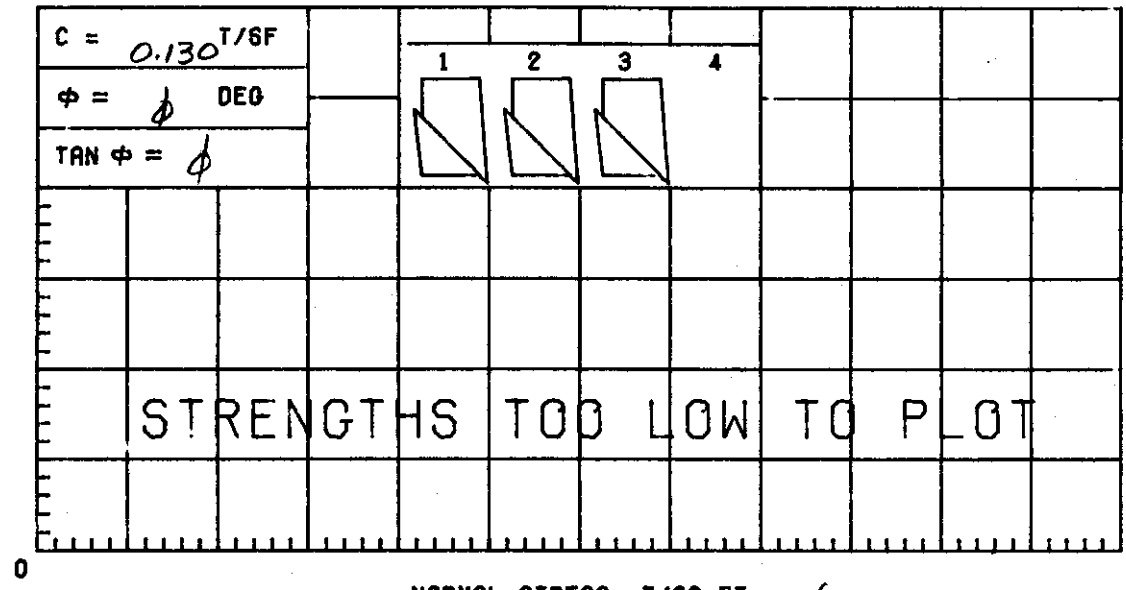


$\gamma_{SAT} = 96$ pcf

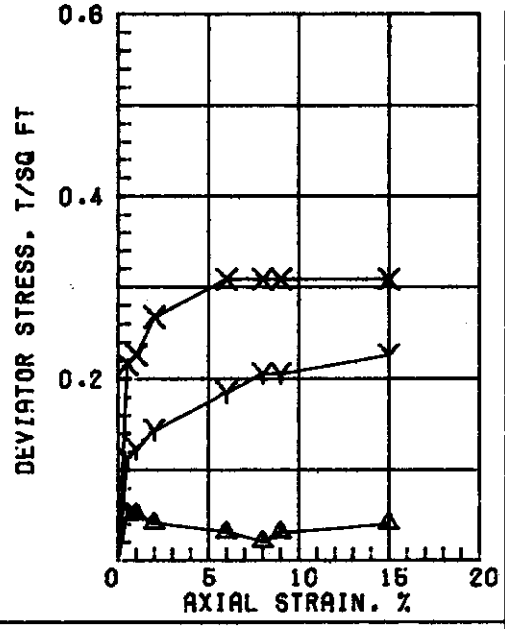
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 1.10	DRY DENSITY, PCF	52.9	80.0
COMPRESSION INDEX 0.98	SATURATION, %	99.8	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	2.189	1.107
DIA. IN 4.44 HT. IN 1.121	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CH), GRAY			
LL 100 PL 18 PI 82	PROJECT LK PONT & VIC HURR PROT		
GS 2.70 (EST) D_{10}	ST CHARLES PARISH		
REMARKS	BORING NO. 8-SCU	SAMPLE NO. 14-B	
	DEPTH/ELEV 52.5/-48.3	DATE 19 MAR 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



γ_{SAT} = 99 pcf



SPECIMEN NO.		Δ1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	82.8	66.9	69.6		72.8
	DRY CENSITY, PCF	53.6	59.5	58.4		
	SATURATION, %	100+	97.0	99.7		
	VOID RATIO	2.144	1.834	1.885		
BEFORE SHEAR	WATER CONTENT, %					
	DRY CENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.05	0.21	0.31		
TIME TO FAILURE, MIN.		1	45	24		
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.39	1.38	1.38		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

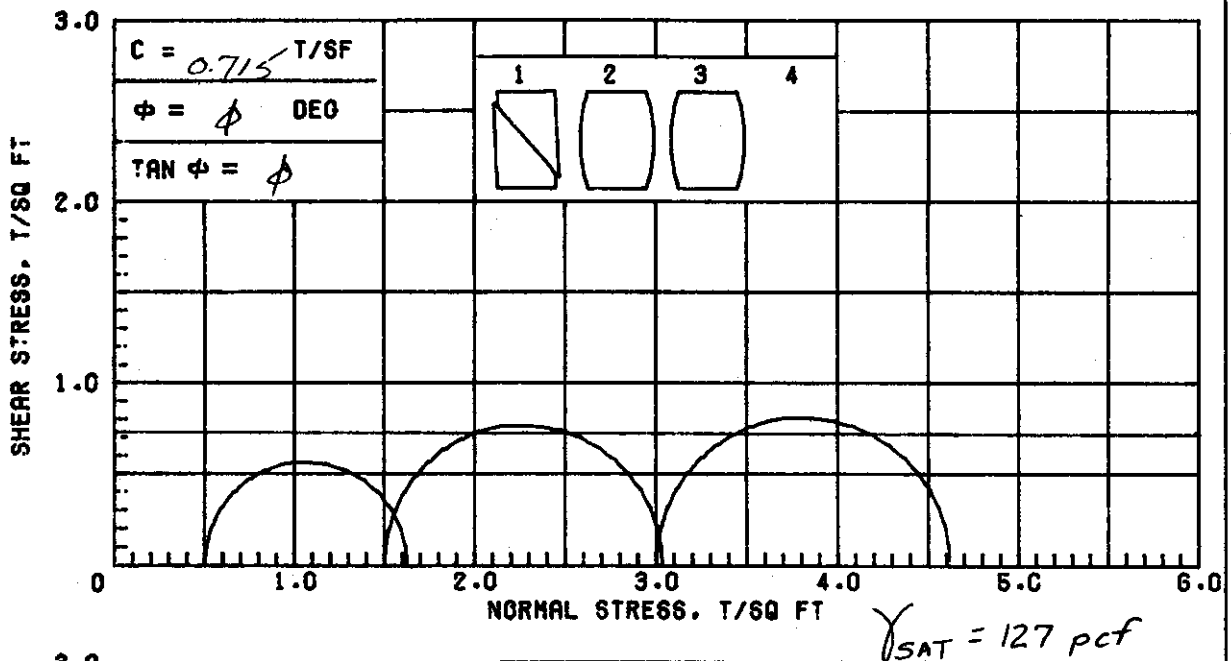
LL 79	PL 21	PI 58	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: SPECIMEN # 1 FROM DIFFERENT LIFT.

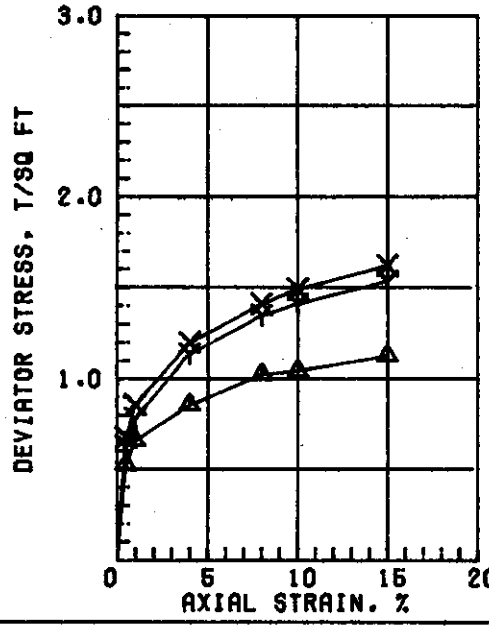
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 8-SCU | SAMPLE NO. 14-C
DEPTH/ELEV 53.3/-49.1 | TECH. BD
LABORATORY USAE WES | DATE 27 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 127 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	19.5	21.4	20.6	
	DRY DENSITY, PCF	102.2	100.6	105.6	
	SATURATION, %	81.2	86.5	93.2	
	VOID RATIO	0.649	0.675	0.596	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.13	1.54	1.62	
TIME TO FAILURE, MIN.		28	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.37	1.37	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 20.5

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; FINE SAND POCKETS

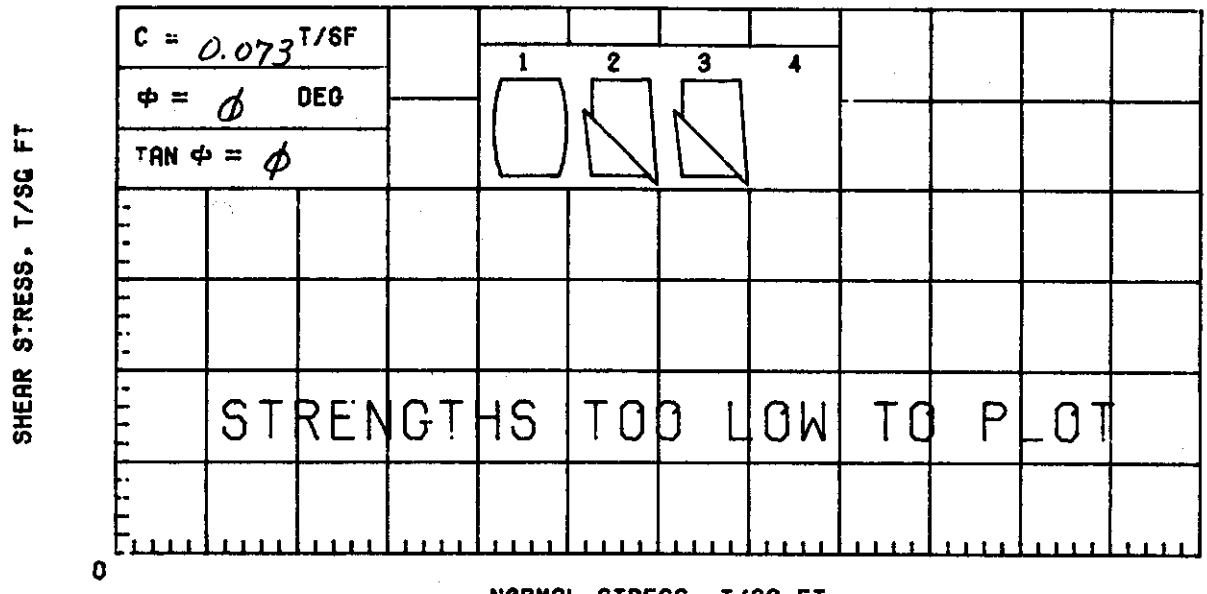
LL 38	PL 21	PI 17	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

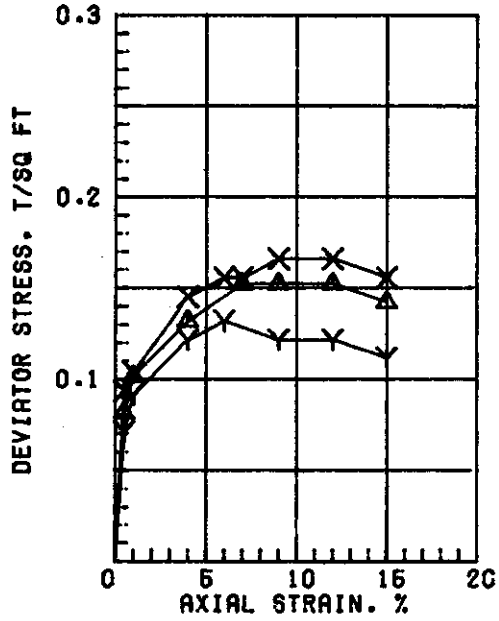
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. B-SCU | SAMPLE NO. 16-C
DEPTH/ELEV 61.1/-56.9 | TECH. BD
LABORATORY USAE WES | DATE 27 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 89 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	100.5	107.7	112.0	
	DRY DENSITY, PCF	43.5	41.8	39.5	
	SATURATION, %	94.5	96.0	92.6	
	VOID RATIO	2.872	3.029	3.265	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.15	0.13	0.16	
TIME TO FAILURE, MIN.		14	12	12	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.37	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 106.7

CONTROLLED-STRAIN TEST

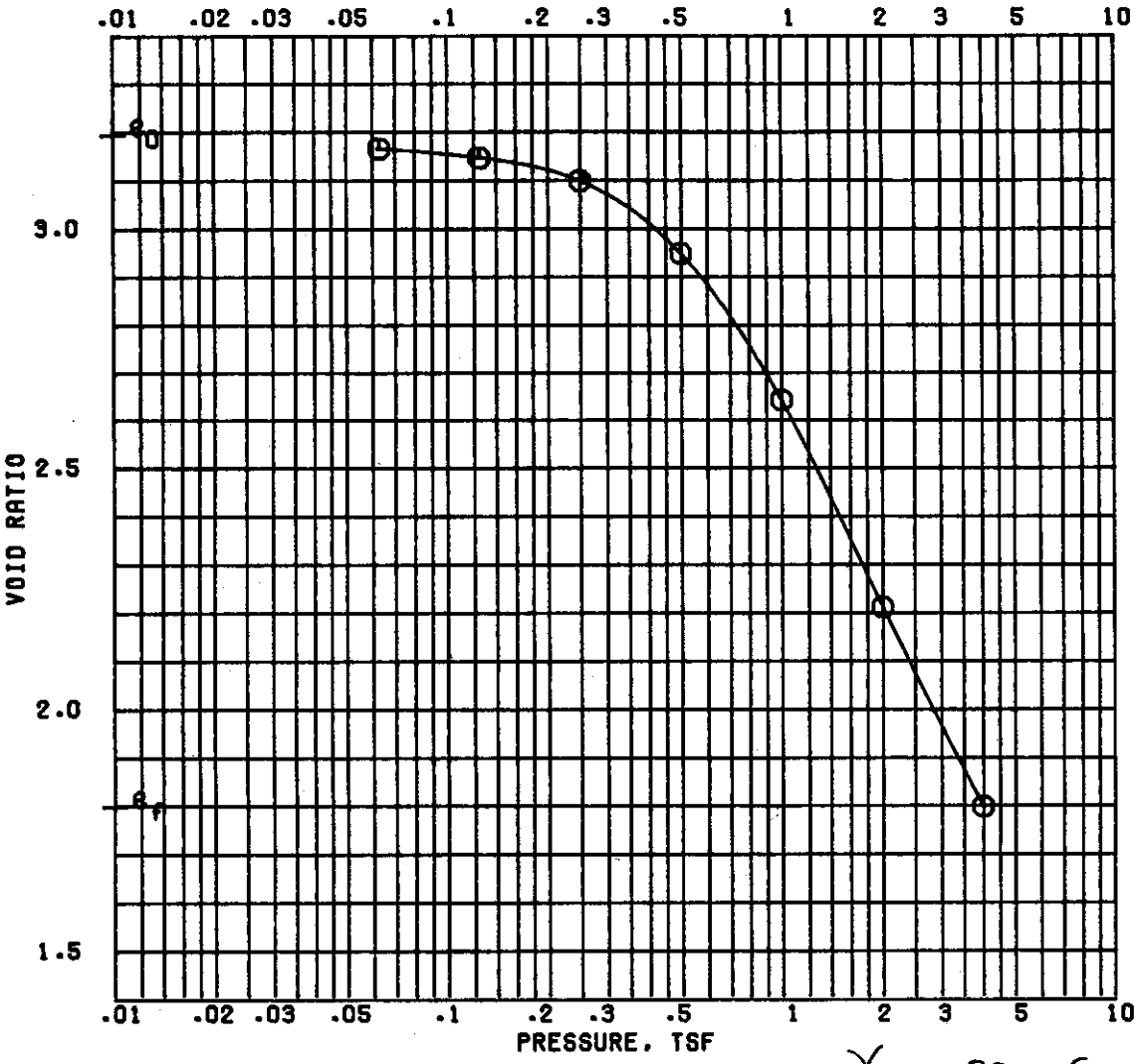
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 140	PL 30	PI 110	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 9-SCU | SAMPLE NO. 3-B
DEPTH/ELEV 8.4/~~-2.1~~ -6.0 | TECH. BD
LABORATORY USAE WES | DATE 30 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 88$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	115.0	67.4
PRECONSOL. PRESSURE, TSF	0.55	DRY DENSITY, PCF	40.2	60.3
COMPRESSION INDEX	2.30	SATURATION, %	97.3	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	3.191	1.795
DIA. IN 4.44	HT. IN 1.121	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY; ORGANIC MATERIAL

LL	PL	PI
GS 2.70 (EST)	D_{10}	
REMARKS		

PROJECT LK PONT & VIC HURR PROT

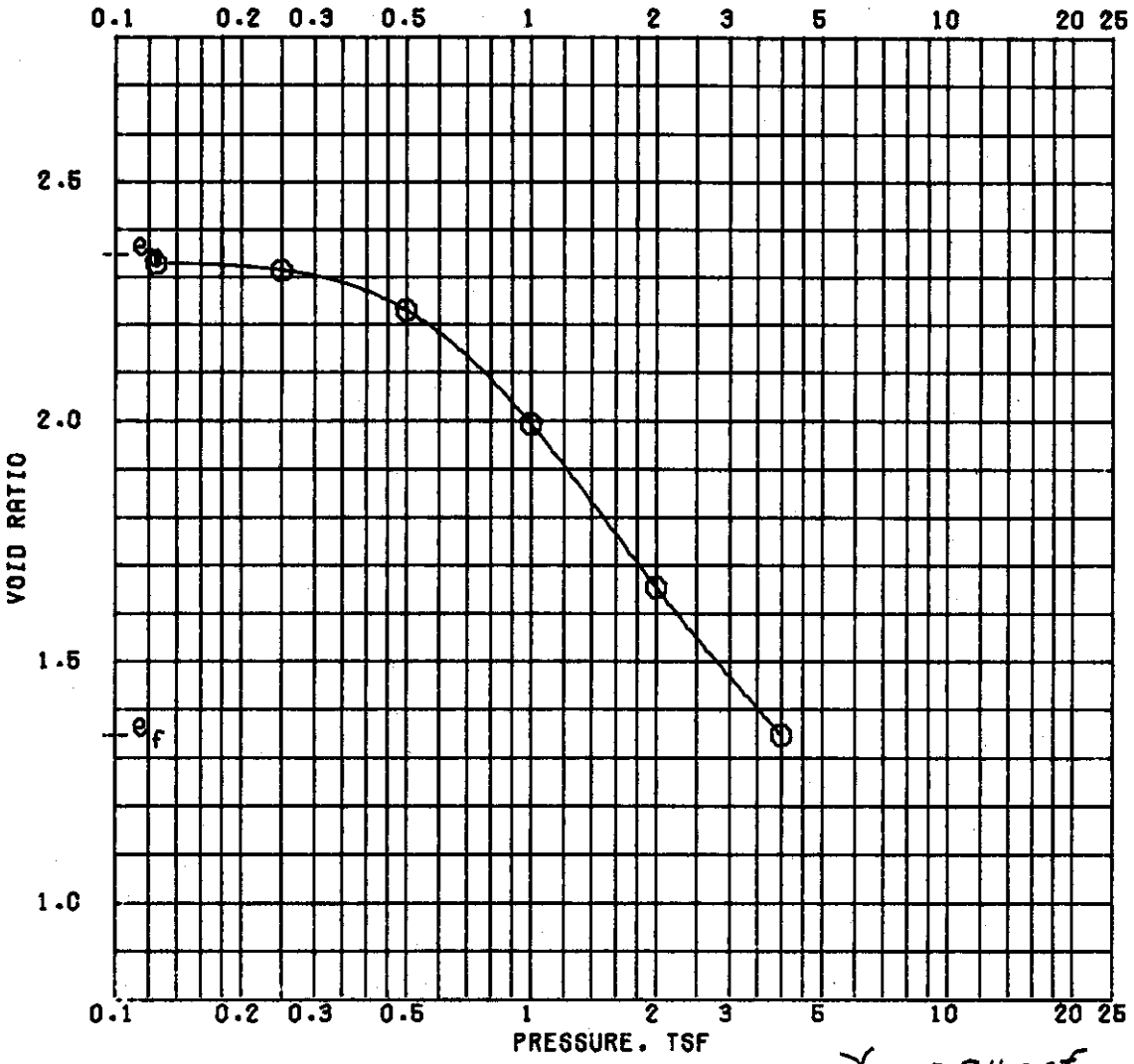
ST CHARLES PARISH

BORING NO. 9-SCU SAMPLE NO. 3-C

DEPTH/ELEV 8.8/~~+1.7~~ -6.4 DATE 24 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



$\gamma_{SAT} = 94$ pcf

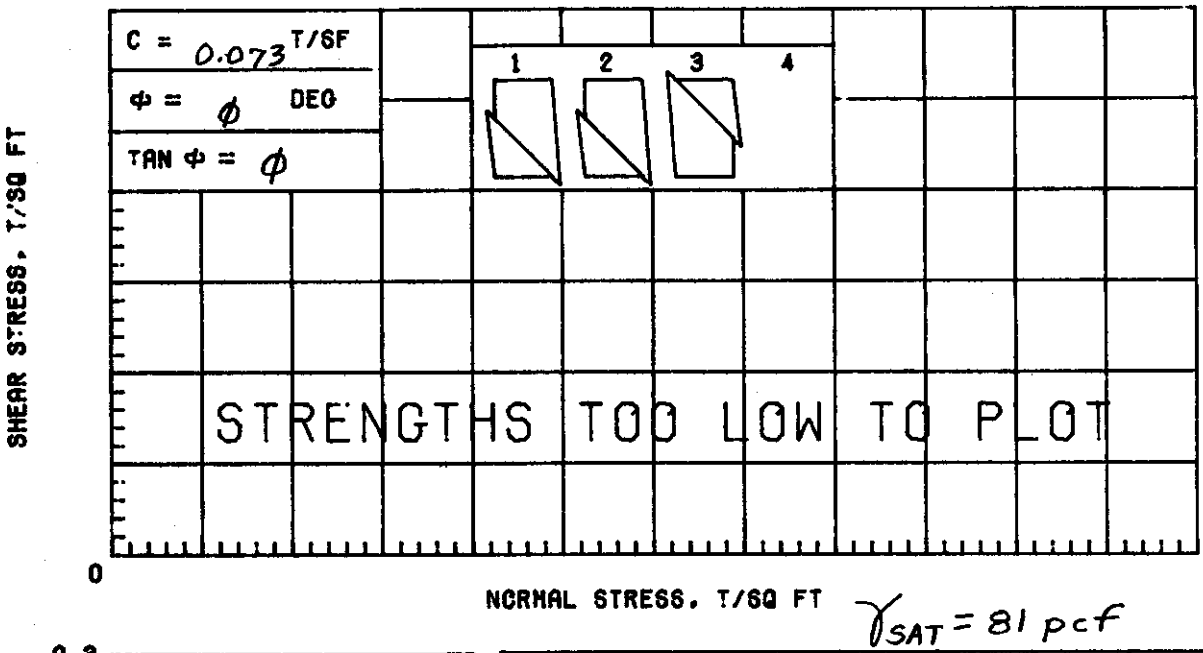
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	86.6	51.4
PRECONSOL. PRESSURE, TSF	0.6	DRY DENSITY, PCF	50.4	71.9
COMPRESSION INDEX	1.15	SATURATION, %	99.7	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.345	1.343
DIA. IN 4.44	HT. IN 1.122	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

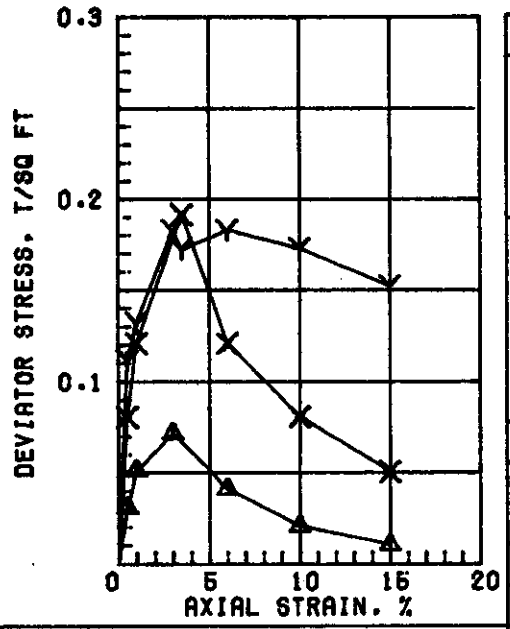
LL 99	PL 25	PI 74	PROJECT LK PONT & VIC HURR PROT
OS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 9-SCU	SAMPLE NO. 5-B
		DEPTH/ELEV 16.5/~~-6.0~~ -14.1	DATE 24 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



$\gamma_{SAT} = 81$ pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	172.0	173.3	155.2	
	DRY DENSITY, PCF	29.4	28.7	30.9	
	SATURATION, %	98.1	96.0	94.0	
	VOID RATIO	4.736	4.874	4.461	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.07	0.18	0.19	
TIME TO FAILURE, MIN.		6	12	14	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 166.8

CONTROLLED-STRAIN TEST

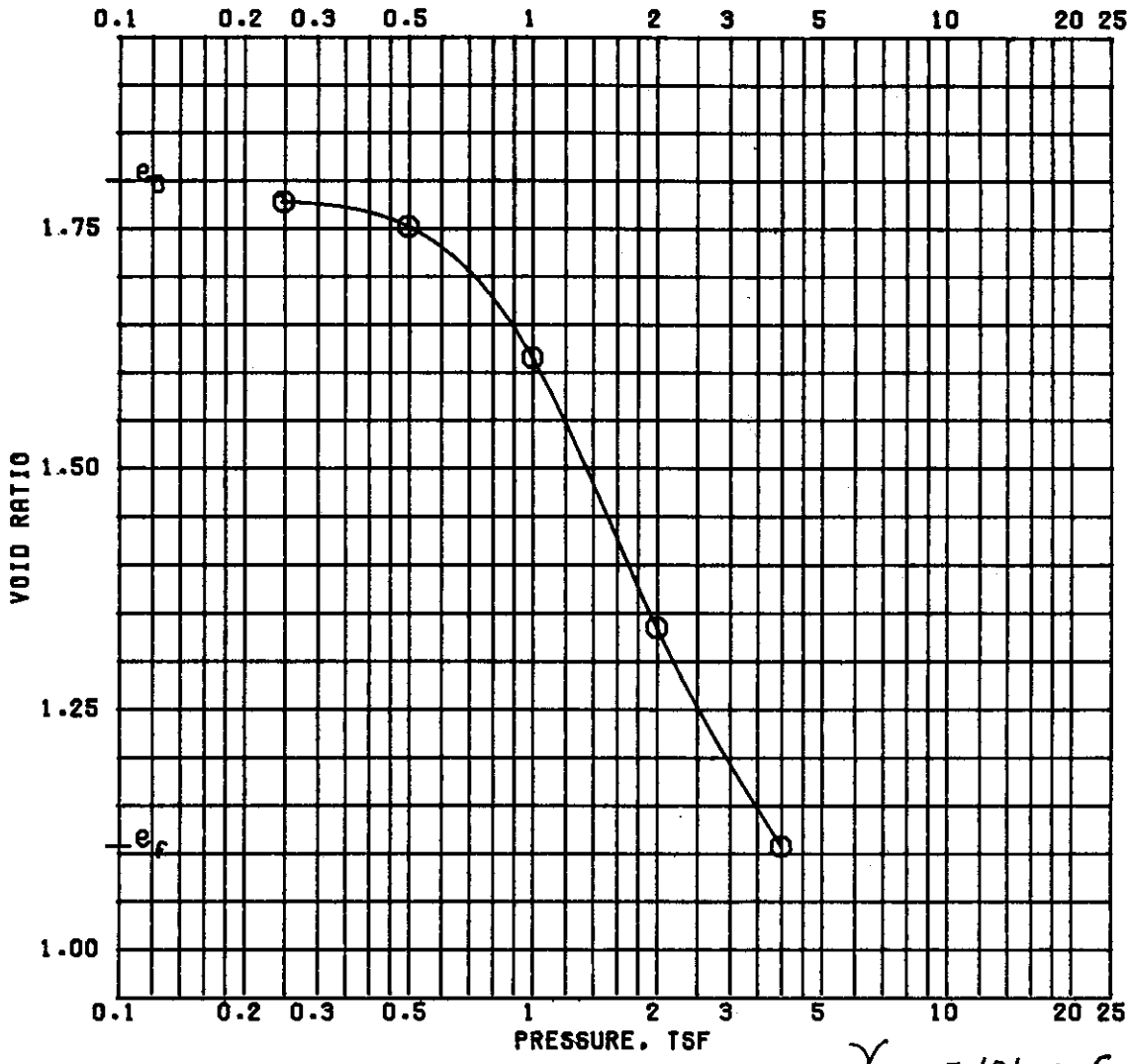
DESCRIPTION OF SPECIMENS: CLAY (CH), DARK GRAY; ORGANIC MATERIAL

L.L. 213	Pl. 35	PI 178	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 9-SCU | SAMPLE NO. 5-C
DEPTH/ELEV 17.4/~~-8.9~~ -15.0 | TECH. BD
LABORATORY USAE WES | DATE 30 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 101$ pcf

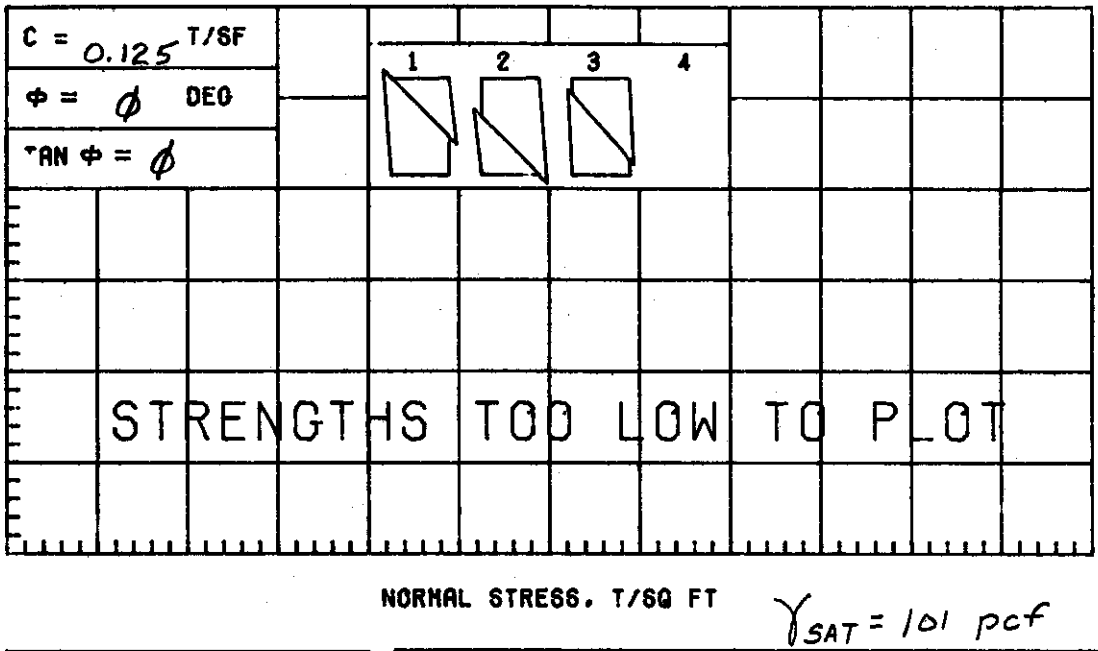
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	67.0	42.5
PRECONSOL. PRESSURE, TSF	0.80	DRY DENSITY, PCF	60.2	80.0
COMPRESSION INDEX	0.95	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.798	1.106
DIA. IN 4.44	HT. IN 1.113	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL	PL	PI	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 9-SCU	SAMPLE NO. 7-B
		DEPTH/ELEV 24.4/~~-13.9~~ -22.0	DATE 25 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



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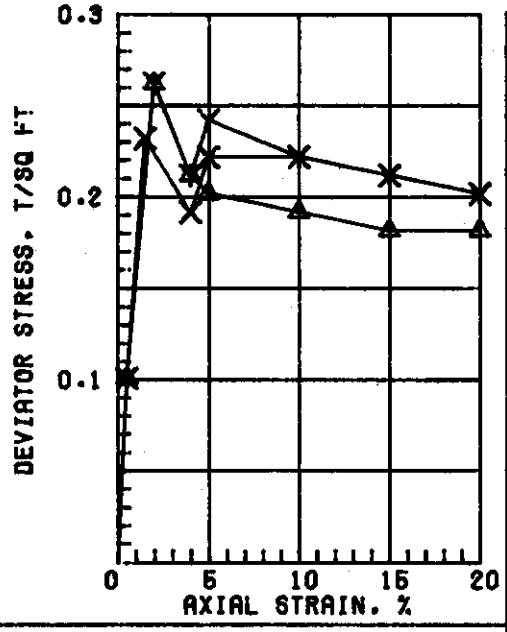


SPECIMEN NO.		△1	Y2	X3	4	AVE
INITIAL	WATER CONTENT, %	64.4	64.8	63.0		64.1
	DRY DENSITY, PCF	61.5	60.9	62.5		
	SATURATION, %	100.0	99.1	100+		
	VOID RATIO	1.739	1.766	1.696		
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0		
MAX. DEV. STRESS, TSF		0.26	0.26	0.23		
TIME TO FAILURE, MIN.		4	14	11		
RATE OF STRAIN INCR.%			4	4		
INITIAL DIAMETER, IN.		1.39	1.39	1.39		
INITIAL HEIGHT, IN.		3.00	3.00	3.00		

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 63	PL 22	PI 41	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

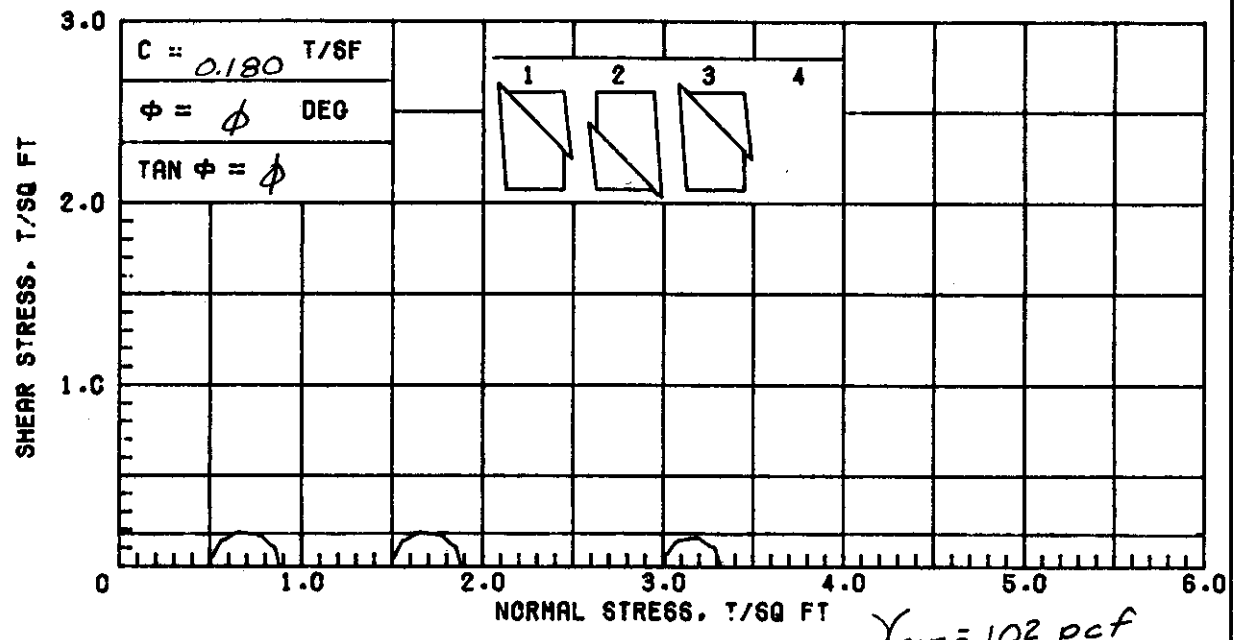
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 9-SCU — SAMPLE NO. 7-C

DEPTH/ELEV 25.3/~~-14.8~~ -22.9 — TECH. KOC

LABORATORY USAE WES — DATE 30 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



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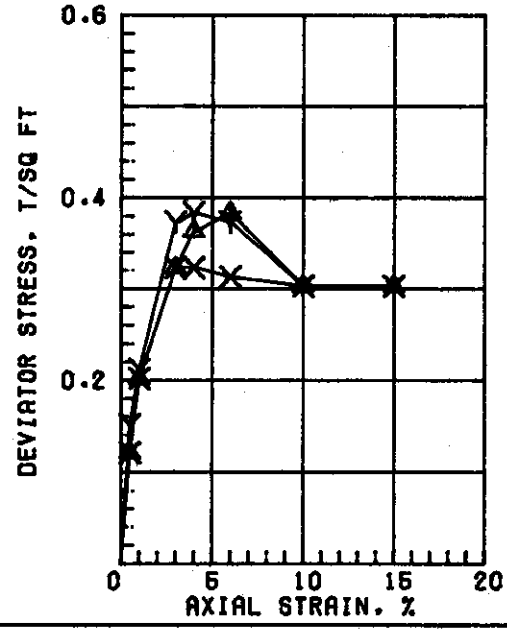


SPECIMEN NO.		▲1	Y2	X3	4
INITIAL	WATER CONTENT, %	59.1	61.6	60.1	
	DRY DENSITY, PCF	63.9	62.5	63.9	
	SATURATION, %	97.5	98.0	99.0	
	VOID RATIO	1.637	1.697	1.639	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.38	0.38	0.32	
TIME TO FAILURE, MIN.		12	8	17	
RATE OF STRAIN INCR.%				5	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 60.3

CONTROLLED-STRAIN TEST

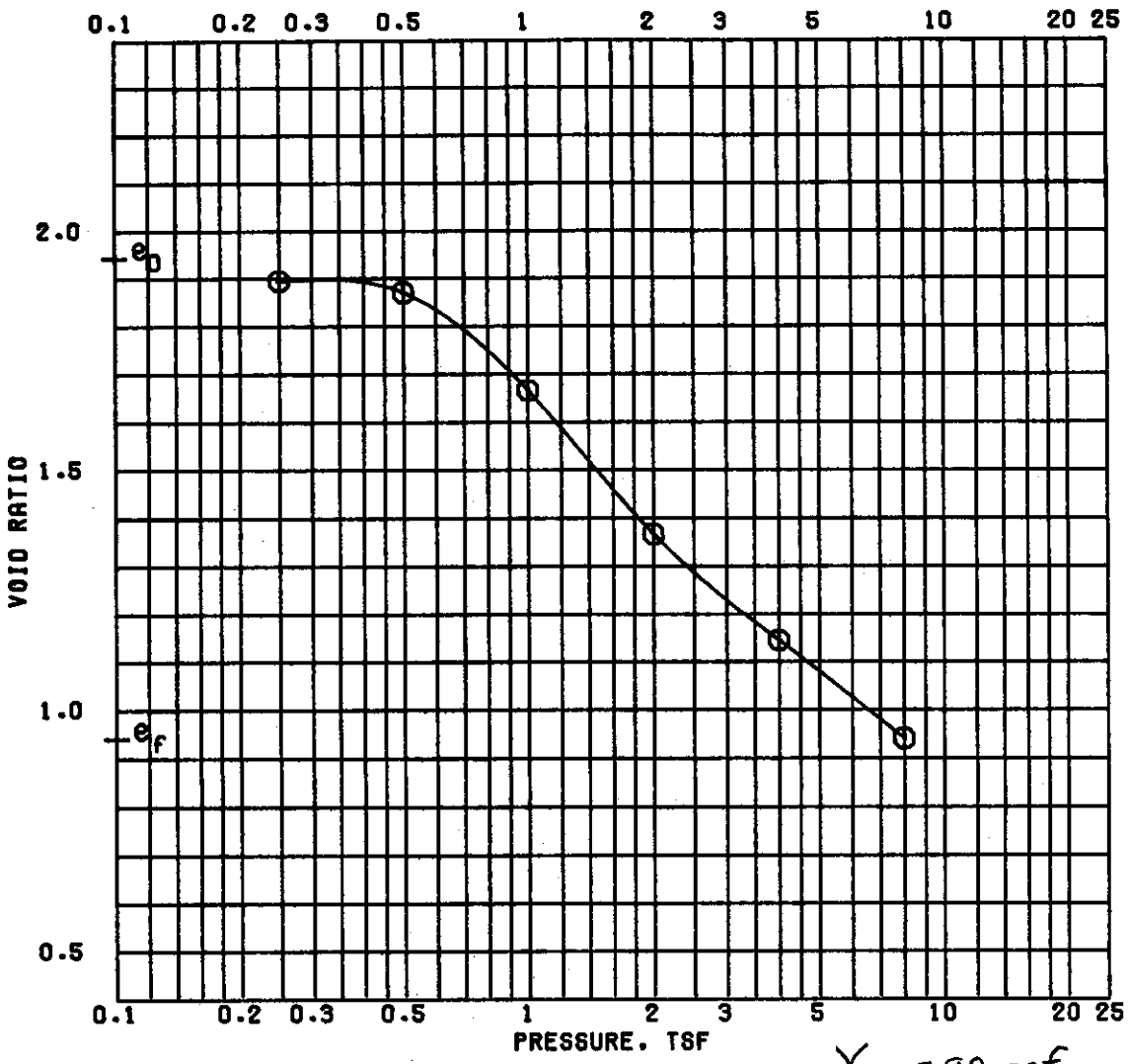
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 66	PL 22	PI 44	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 9-SCU — SAMPLE NO. 10-B
DEPTH/ELEV 36.1/~~-25.6~~ 33.7 — TECH. KCC
LABORATORY USAE WES — DATE 30 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 98$ pcf

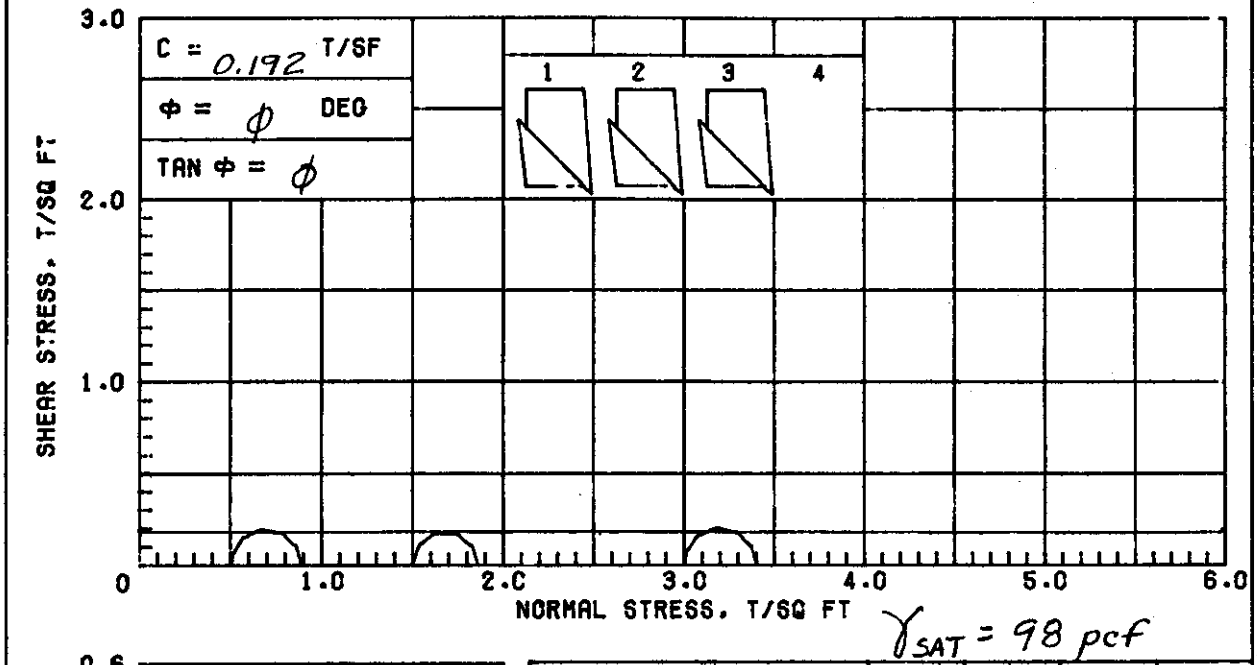
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	70.2	37.6
PRECONSOL. PRESSURE, TSF	0.67	DRY DENSITY, PCF	57.3	87.0
COMPRESSION INDEX	0.97	SATURATION, %	97.7	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.940	0.938
DIA. IN 4.44	HT. IN 1.116	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

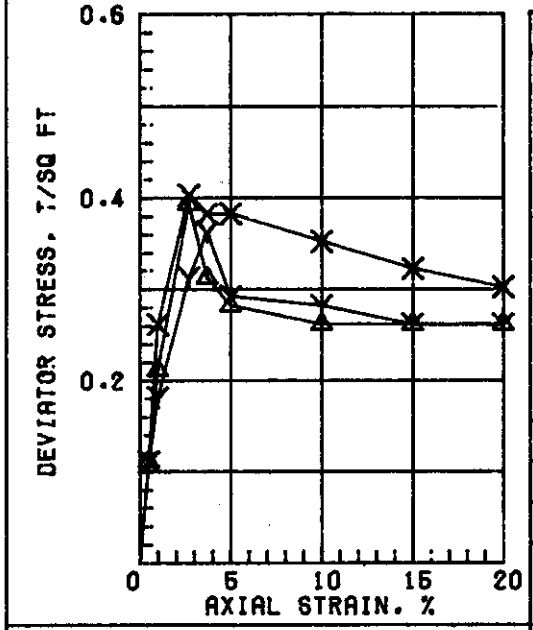
LL 80	PL 23	PI 57	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 9-SCU	SAMPLE NO. 10-C
		DEPTH/ELEV 37.3/~~-26.8~~ -34.9	DATE 24 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



γ_{SAT} = 98 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	71.0	74.1	73.1	
	DRY DENSITY, PCF	57.3	55.6	56.6	
	SATURATION, %	98.8	98.5	99.7	
	VOID RATIO	1.941	2.031	1.980	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.39	0.36	0.40	
TIME TO FAILURE, MIN.		5	22	16	
RATE OF STRAIN INCR.%			5	5	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 72.7

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL 83	PL 23	PI 60	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

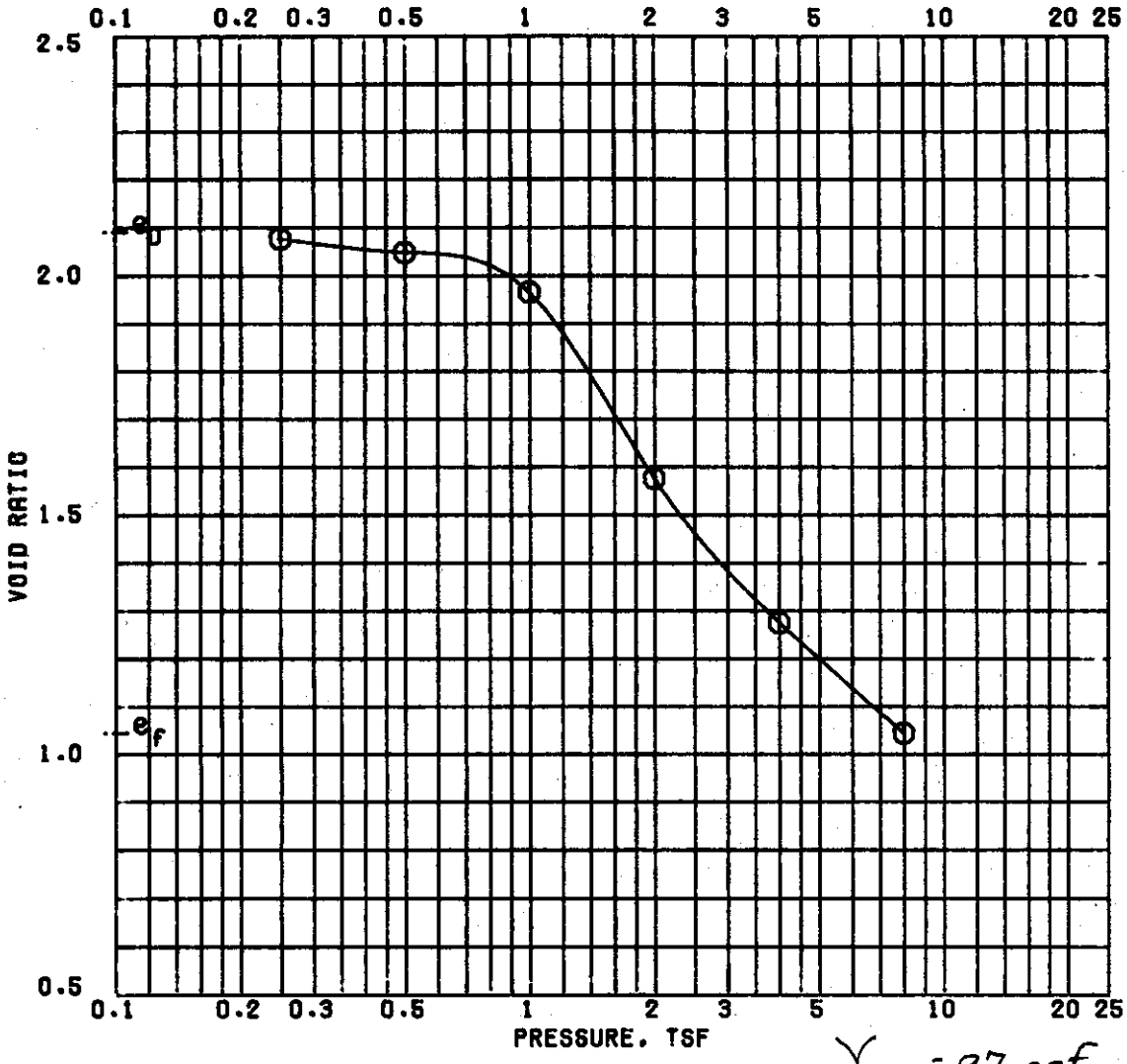
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 9-SCU | SAMPLE NO. 12-B

DEPTH/ELEV 44.4/~~-33.9~~ 42.0 | TECH. KOC

LABORATORY USAE WES | DATE 31 MAR 87

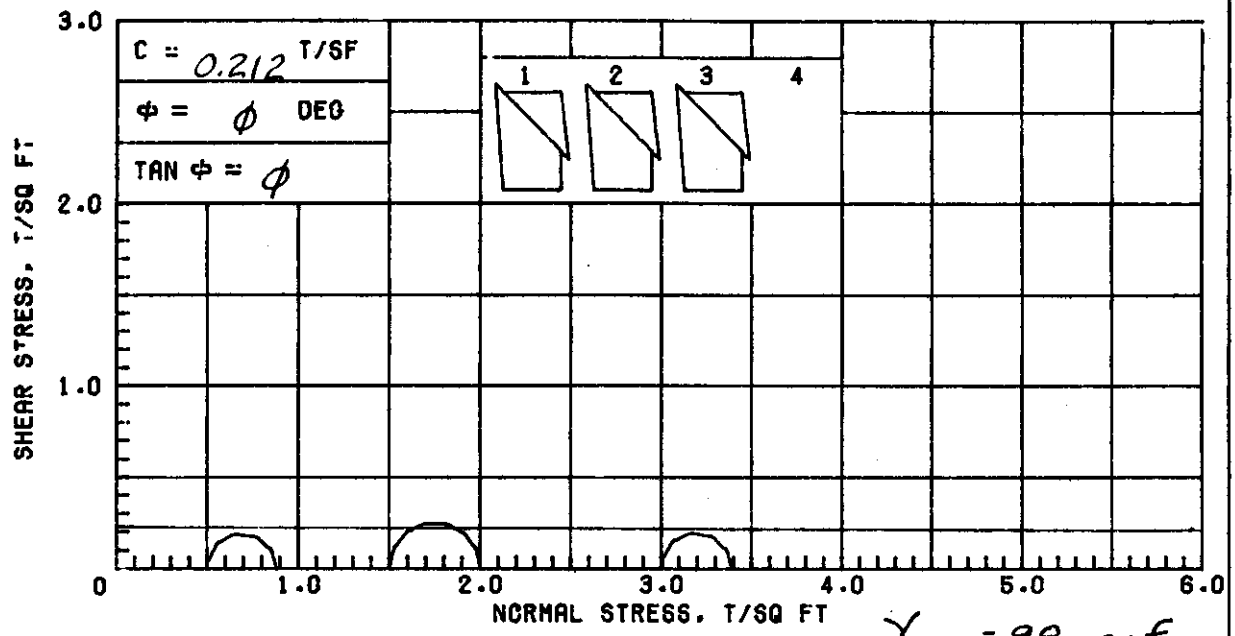
TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 97$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	76.3	41.1
PRECONSOL. PRESSURE, TSF	1.0	DRY DENSITY, PCF	54.6	82.6
COMPRESSION INDEX	1.4	SATURATION, %	98.7	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	2.087	1.041
DIA. IN 4.44	HT. IN 1.118	BACK PRESSURE, TSF		
CLASSIFICATION	CLAY (CH), GRAY			
LL / PL / PI		PROJECT	LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH	
REMARKS		BORING NO. 9-SCU		SAMPLE NO. 12-C
		DEPTH/ELEV 44.8/~~-34.9~~ 42.4		DATE 27 MAR 87

CONSOLIDATION TEST REPORT



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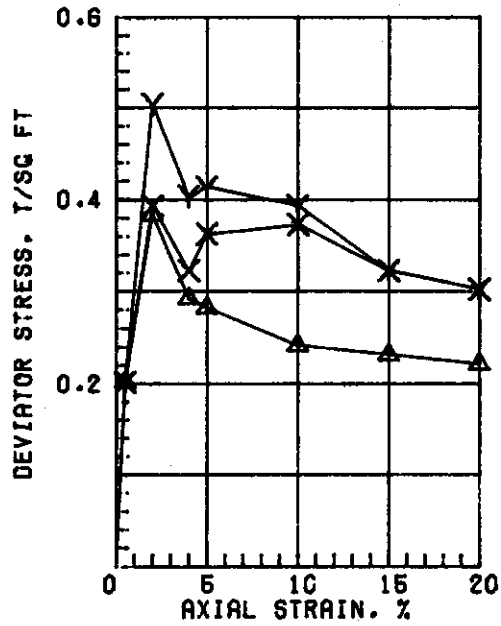


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	74.0	72.0	73.6	
	DRY CENSITY, PCF	55.5	57.0	56.2	
	SATURATION, %	98.2	99.4	99.3	
	VOID RATIO	2.035	1.955	1.998	
BEFORE SHEAR	WATER CONTENT, %				
	DRY CENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.38	0.60	0.39	
TIME TO FAILURE, MIN.		4	14	15	
RATE OF STRAIN INCR.%			4	4	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 73.2

CONTROLLED-STRAIN TEST

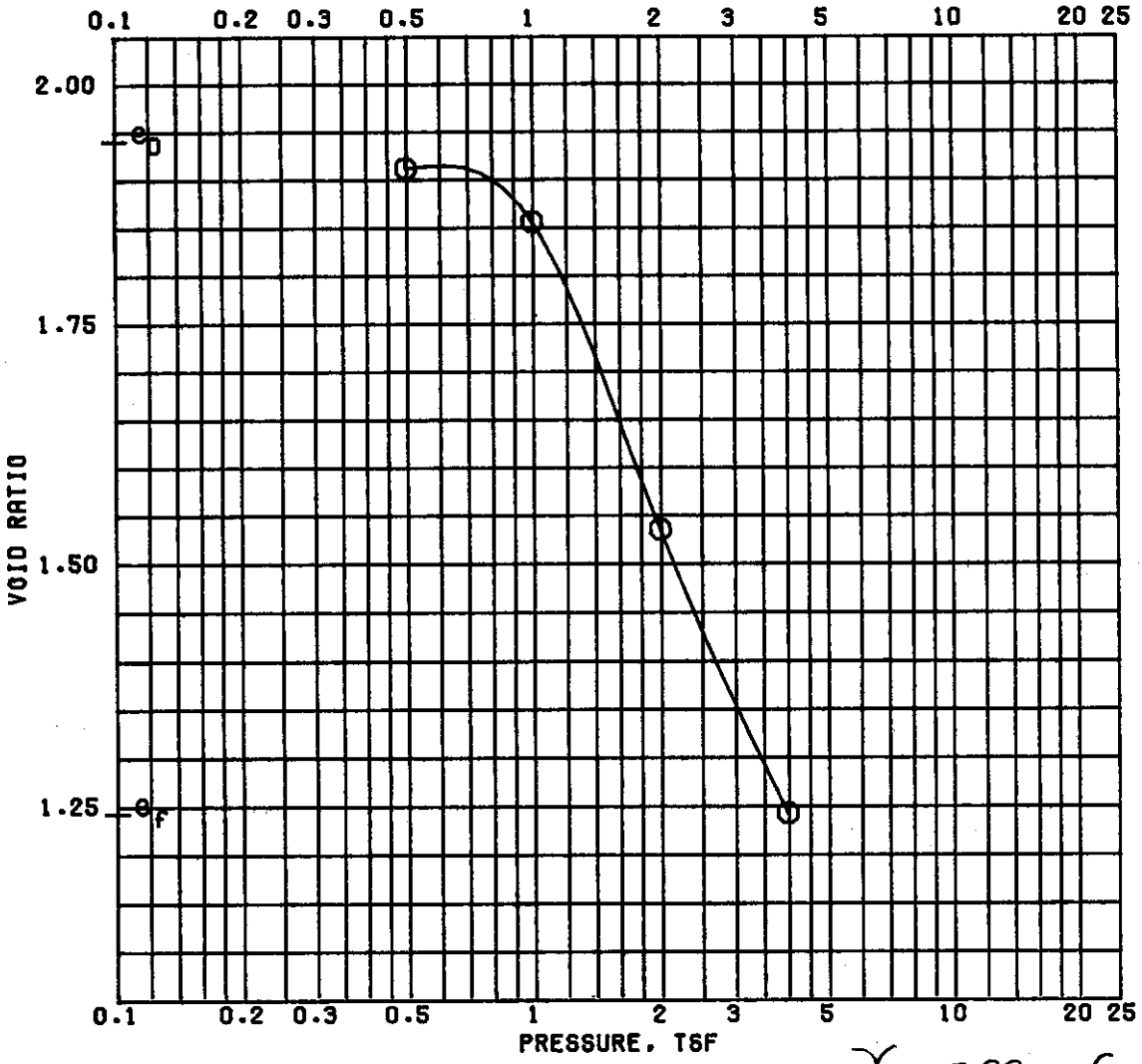
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES; SHELL PARTICLES

LL 89	PL 24	PI 65	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 9-SCU | SAMPLE NO. 14-B
DEPTH/ELEV 52.4/~~-41.9~~ -50.0 | TECH. KOC
LABORATORY USAE WES | DATE 31 MAR 87

TRIAXIAL COMPRESSION TEST REPORT

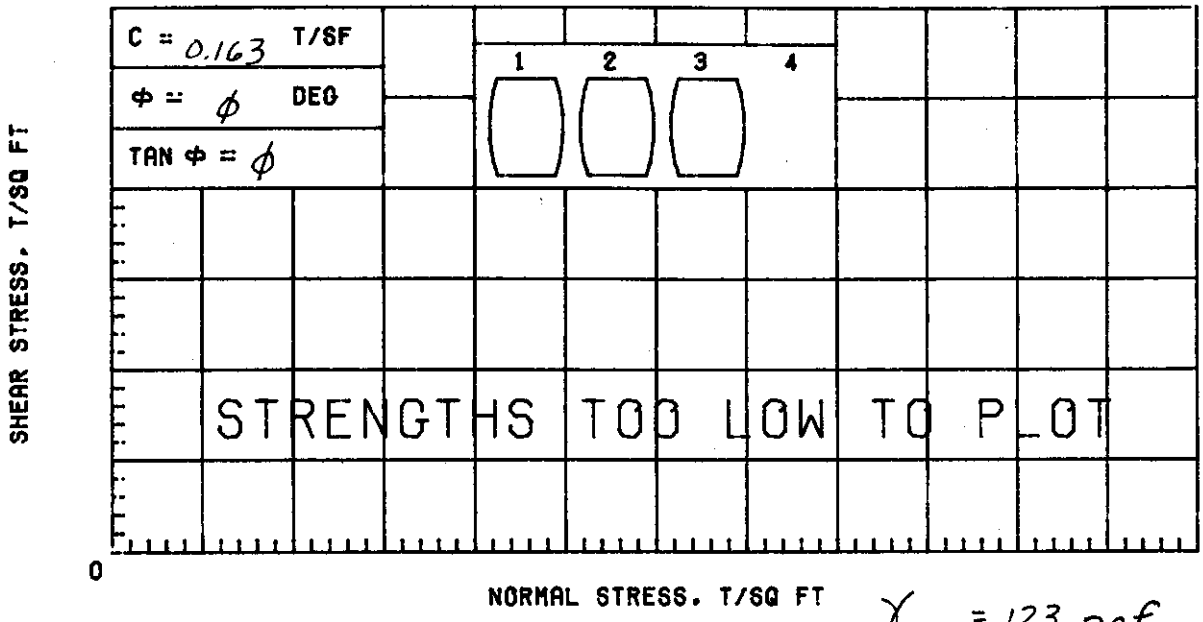


$\gamma_{SAT} = 99$ pcf

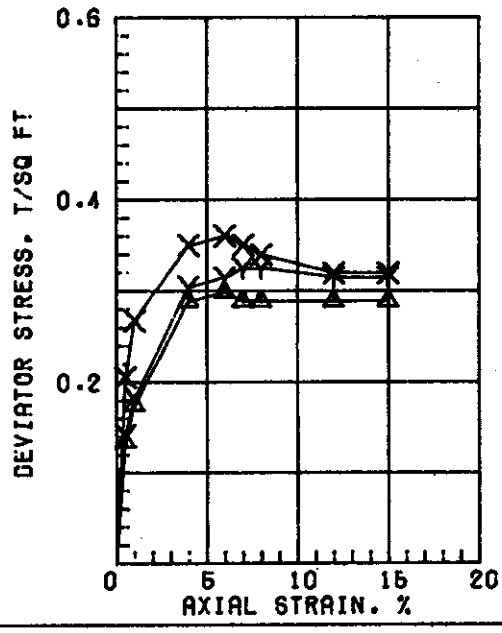
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.98	DRY DENSITY, PCF	57.4	75.2
COMPRESSION INDEX 1.23	SATURATION, %	98.7	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	1.939	1.241
DIA. IN 4.44 HT. IN 1.109	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CH), GRAY; SHELL PARTICLES			
LL 83 PL 24 PI 59	PROJECT LK PONT & VIC HURR PROT		
GS 2.70 (EST) D_{10}	ST CHARLES PARISH		
REMARKS	BORING NO. 9-SCU	SAMPLE NO. 14-C
	DEPTH/ELEV 53.3/~~-42.8~~ 50.9	DATE 28 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 6



γ_{SAT} = 123 pcf



SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	25.8	25.1	25.9	
	DRY DENSITY, PCF	95.8	98.2	95.4	
	SATURATION, %	91.8	94.7	91.2	
	VOID RATIO	0.760	0.717	0.767	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.30	0.32	0.36	
TIME TO FAILURE, MIN.		13	14	12	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.38	1.39	1.38	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 25.6

CONTROLLED-STRAIN TEST

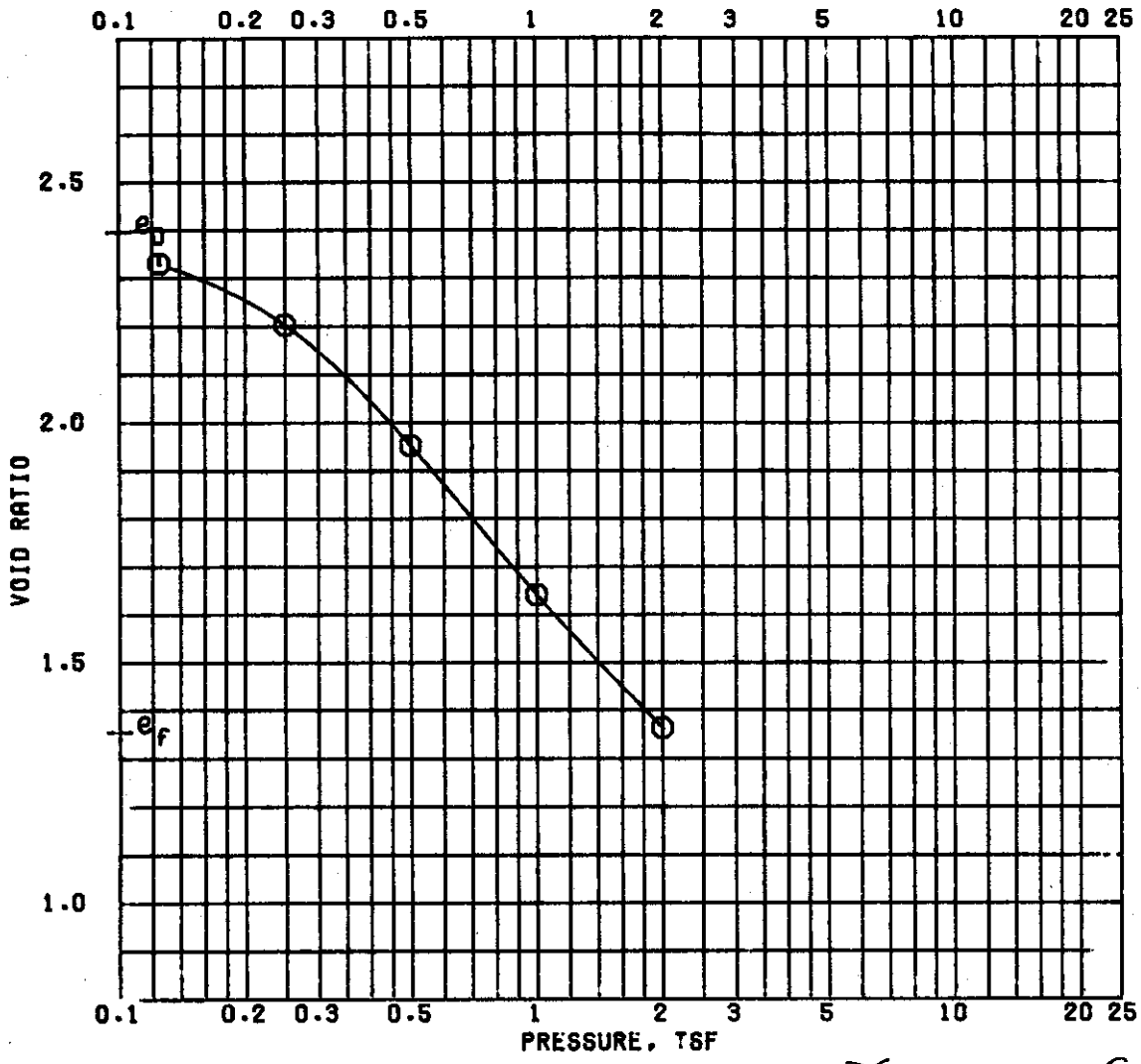
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY

LL 26	PL 16	PI 10	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 9-SCU | SAMPLE NO. 17-C
DEPTH/ELEV 64.9/-~~64.4~~ 62.5 | TECH. BD
LABORATORY USAE WES | DATE 31 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



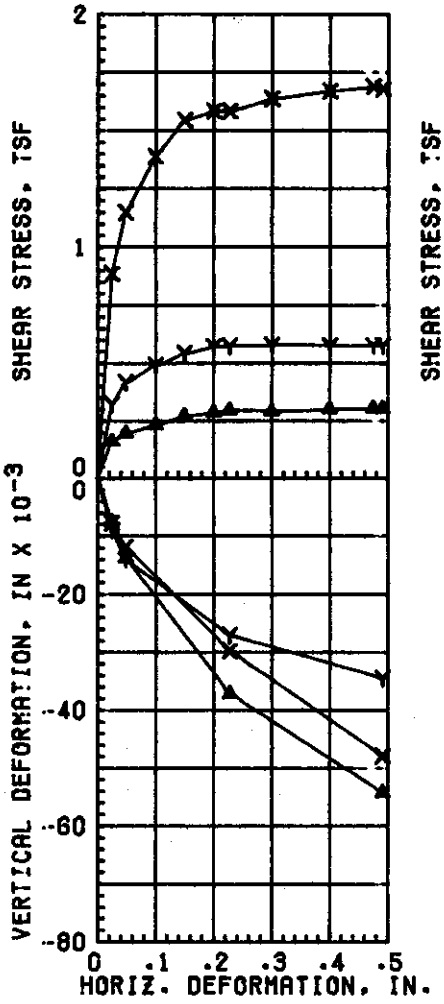
γ_{SAT} = 94 pcf

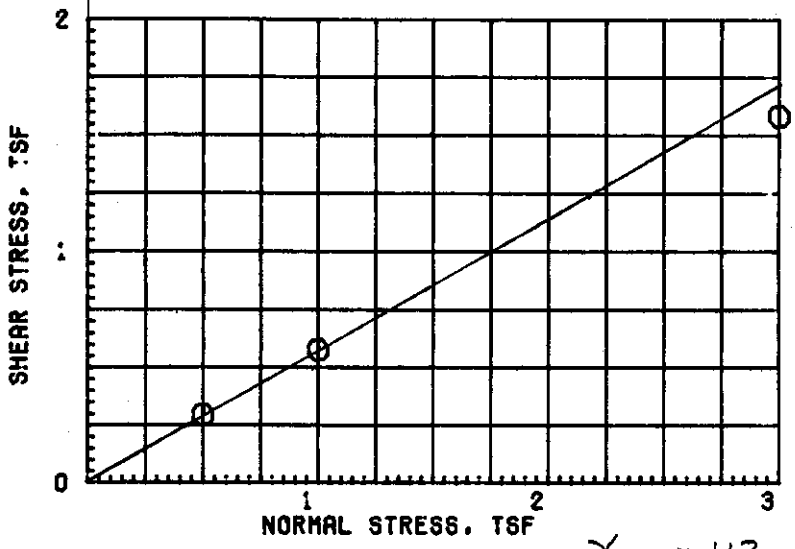
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF	0.28	
COMPRESSION INDEX	1.01	
TYPE SPECIMEN: UNDISTURBED		
DIA. IN 4.44 / HT. IN 1.128		
CLASSIFICATION: CLAY (CH), GRAY		
LL 95 / PL 23 / PI 72		
GS 2.70 (EST) / D_{10}		
REMARKS		
WATER CONTENT, %	86.6	49.8
DRY DENSITY, PCF	49.7	71.7
SATURATION, %	97.8	99.5
VOID RATIO	2.393	1.352
BACK PRESSURE, TSF		

PROJECT: LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 10-6CU / SAMPLE NO. 6-C
DEPTH/ELEV 17.5/-15.1 / DATE 01 APR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 6





$\gamma_{SAT} = 113$ pcf

$\Phi = 29.5^\circ$

TAN $\Phi = 0.566$

C = ϕ

TEST NO.		1 ▲	2 Y	3 X	Ave
INITAL	WATER CONTENT, %	38.5	37.3	35.7	37.2
	VOID RATIO	1.153	1.128	1.068	
	SATURATION, %	90.2	89.2	90.1	
	DRY DENSITY, PCF	78.3	79.2	81.5	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	35.4	31.4	31.8	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.30	0.58	1.58	
TIME TO FAILURE, MIN		1278	1686	1124	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.628 IN. THICK

CLASSIFICATION CLAY (CL), GRAY; SILT SEAMS

LL 35	PL 21	PI 14		OS 2.70 (EST)

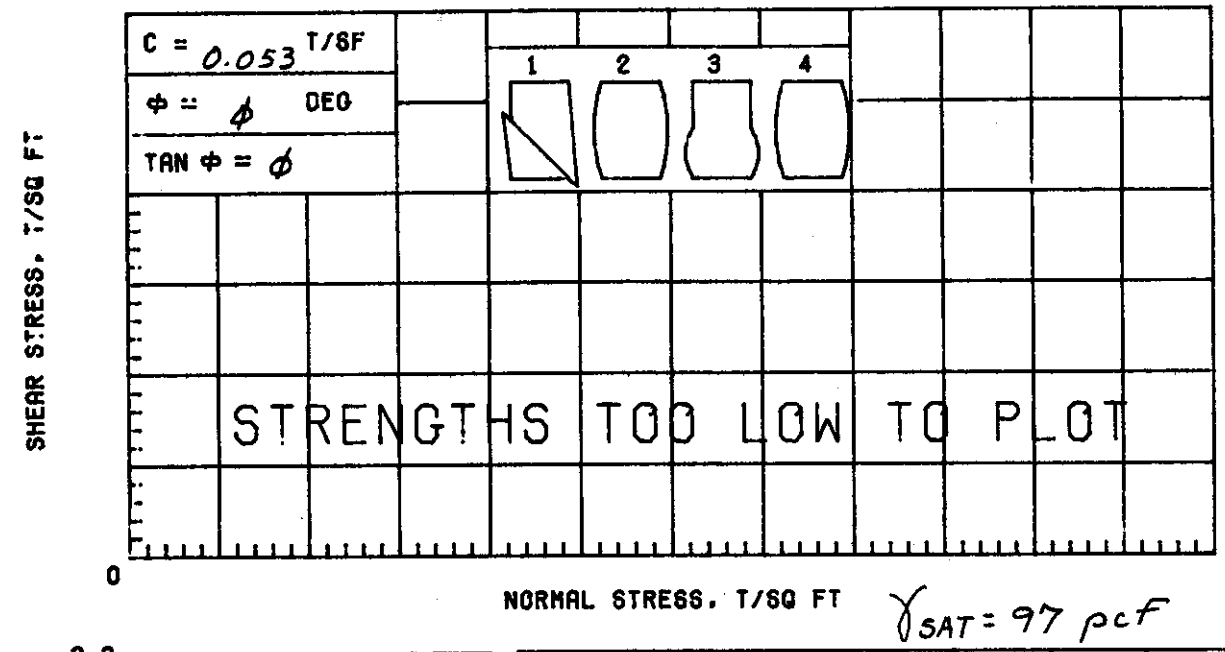
REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

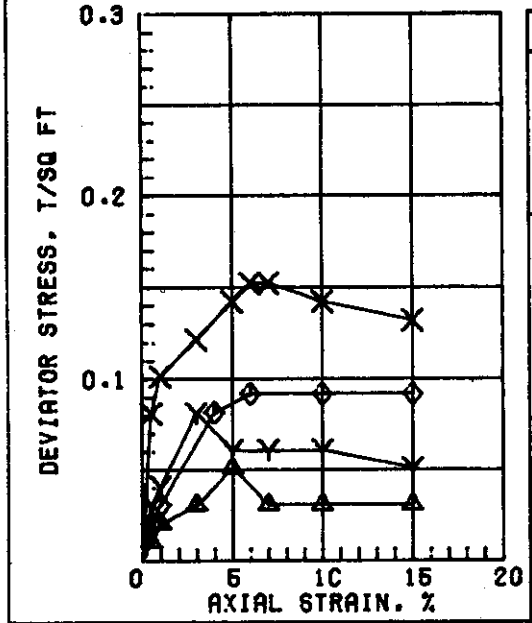
BORING NO. 10-SCU | SAMPLE 7-B

DEPTH/ELEV 21.3/-18.9 | DATE 27 APR 87

DIRECT SHEAR TEST REPORT



$\gamma_{SAT} = 97$ pcf



SPECIMEN NO.		△1	Y2	X3	◇4	AVE
INITIAL	WATER CONTENT, %	77.6	70.9	68.9	88.8	76.6
	DRY DENSITY, PCF	54.0	57.5	57.1	50.0	
	SATURATION, %	98.7	99.0	95.3	100+	
	VOID RATIO	2.123	1.933	1.951	2.372	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5	
MAX. DEV. STRESS, TSF		0.05	0.08	0.15	0.09	
TIME TO FAILURE, MIN.		11	6	12	14	
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT POCKETS

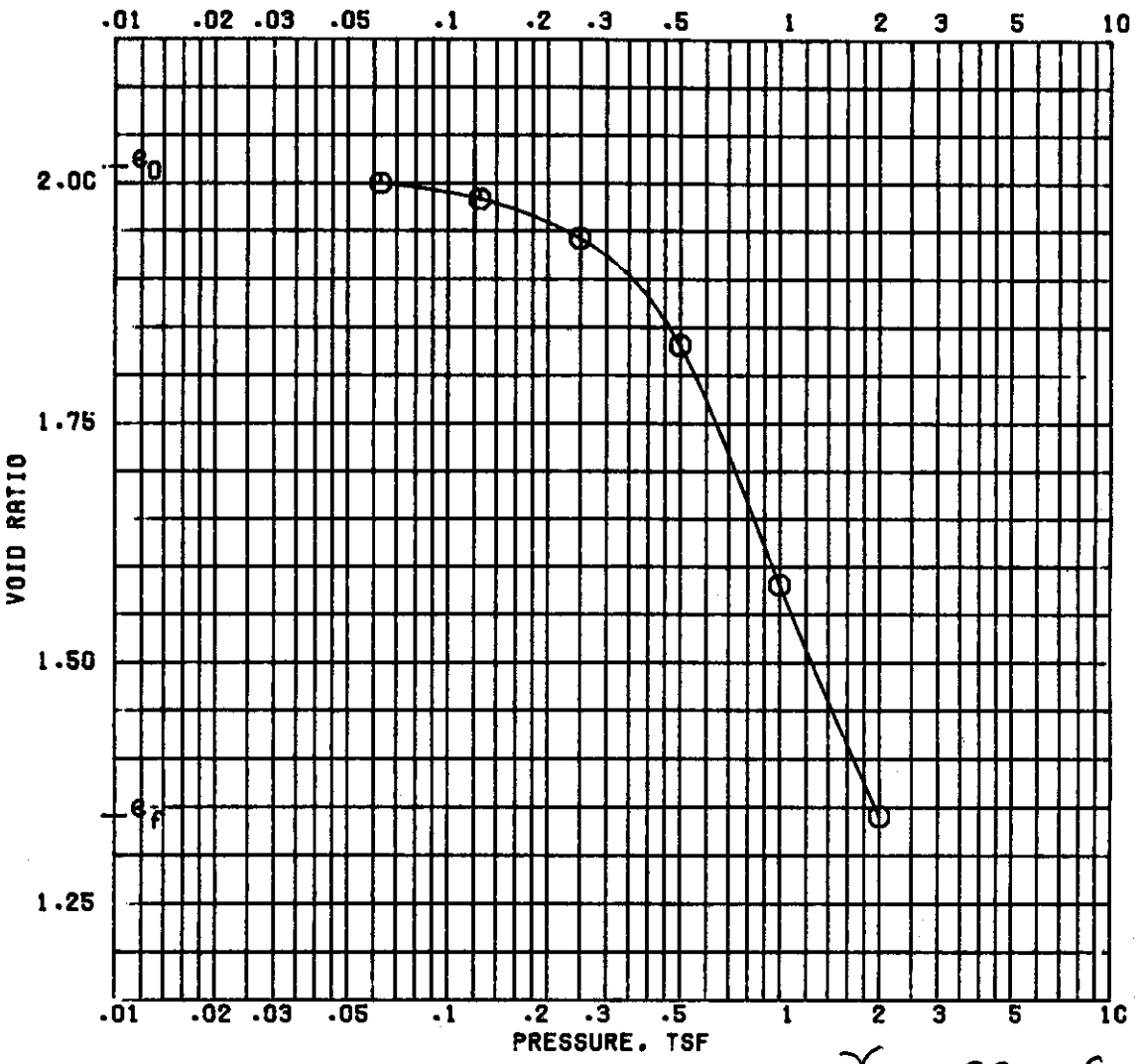
LL 55	PL 17	PI 38	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 10-SCU | SAMPLE NO. 7-C
DEPTH/ELEV 22.2/-19.8 | TECH. BD
LABORATORY USAE WES | DATE 31 MAR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 98$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	74.9	50.7
PRECONSOL. PRESSURE, TSF	0.42	DRY DENSITY, PCF	55.9	72.1
COMPRESSION INDEX	0.86	SATURATION, %	100 +	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	2.015	1.339
DIA. IN 4.44	T. IN 1.120	BACK PRESSURE, TSF		

CLASSIFICATION: CLAY (CH), GRAY; SILT LENSES

LL 72	PL 20	PI 52
GS 2.70 (EST)	D_{10}	

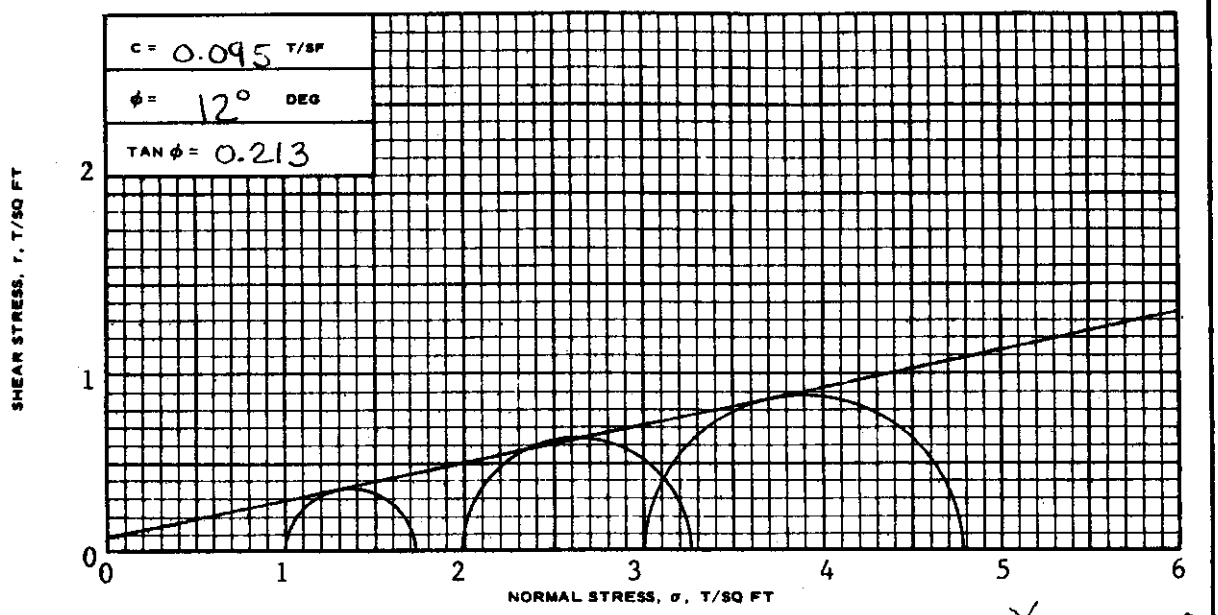
PROJECT: LK PONT & VIC HURR PROT
ST CHARLES PARISH

REMARKS

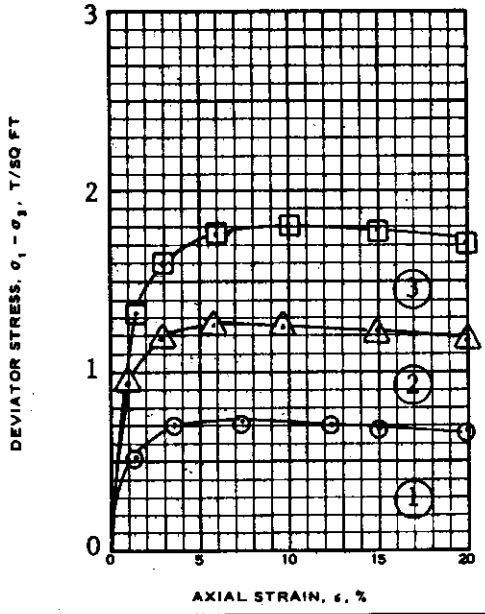
BORING NO. 10-SCU | SAMPLE NO. 8-B
DEPTH/ELEV 25.1/-22.7 | DATE 31 MAR 87

CONSOLIDATION TEST EPORT

SHEET 1 OF 7



γ_{SAT} = 98 pcf



SPECIMEN NO.			1	2	3	AVE
INITIAL	WATER CONTENT, %	w_o	74.3	78.3	73.4	75.3
	DRY DENSITY LB/ CU FT	γ_{d_o}	56.2	54.6	56.7	
	SATURATION, %	S_o	99.8	100+	100+	
	VOID RATIO	e_o	2.025	2.111	1.993	
BEFORE SHEAR	WATER CONTENT, %	w_c	58.7	53.8	47.6	
	DRY DENSITY LB/CU FT	γ_{d_c}	67.4	70.1	75.5	
	SATURATION, %	S_c	100+	100+	100+	
	VOID RATIO	e_c	1.521	1.422	1.249	
	FINAL BACK PRESSURE, T/SQ FT	u_o	4.32	4.32	4.32	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	0.72	1.26	1.80	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	493	393	666	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o	1.38	1.37	1.38	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS CLAY (CH), GRAY; 1/4" SILT LAYERS

LL 59 | PL 18 | PI 41 | G_s 2.72

REMARKS: (EST)

TYPE OF SPECIMEN UNDISTURBED | TYPE OF TEST $\bar{R}$

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 10-SCU | SAMPLE NO. 8-C

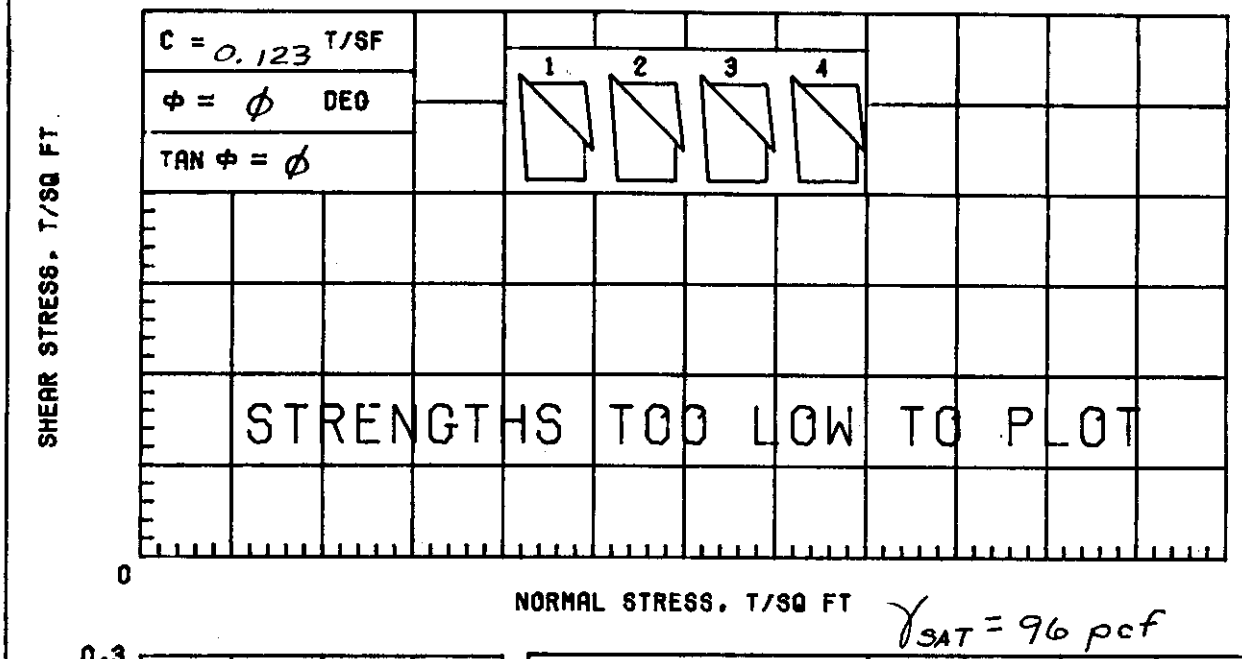
DEPTH/ELEV 26.0/-23.6

LABORATORY USAEWES | DATE 14 APR 87

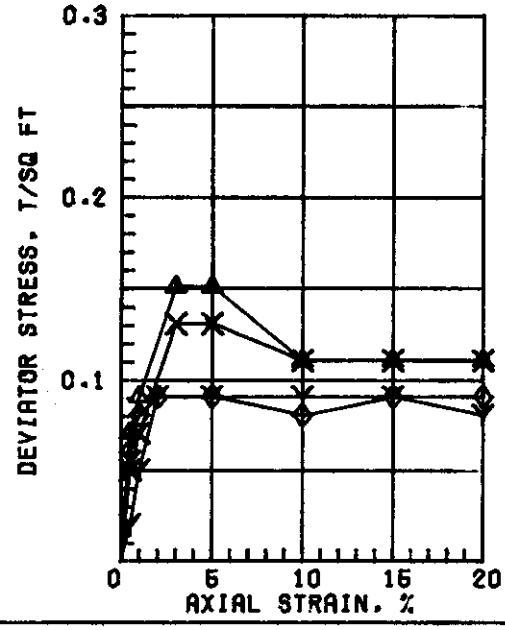
SHEET 1 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)



γ_{SAT} = 96 pcf



SPECIMEN NO.		Δ1	Y2	X3	◇4	AVE
INITIAL	WATER CONTENT, %	80.1	81.0	82.2	82.9	81.6
	DRY DENSITY, PCF	53.2	52.0	51.8	54.1	
	SATURATION, %	99.7	97.6	98.4	100+	
	VOID RATIO	2.169	2.242	2.256	2.116	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	1.5	
MAX. DEV. STRESS, TSF		0.15	0.09	0.13	0.09	
TIME TO FAILURE, MIN.		6	12	18	12	
RATE OF STRAIN INCR.%			6	6	6	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

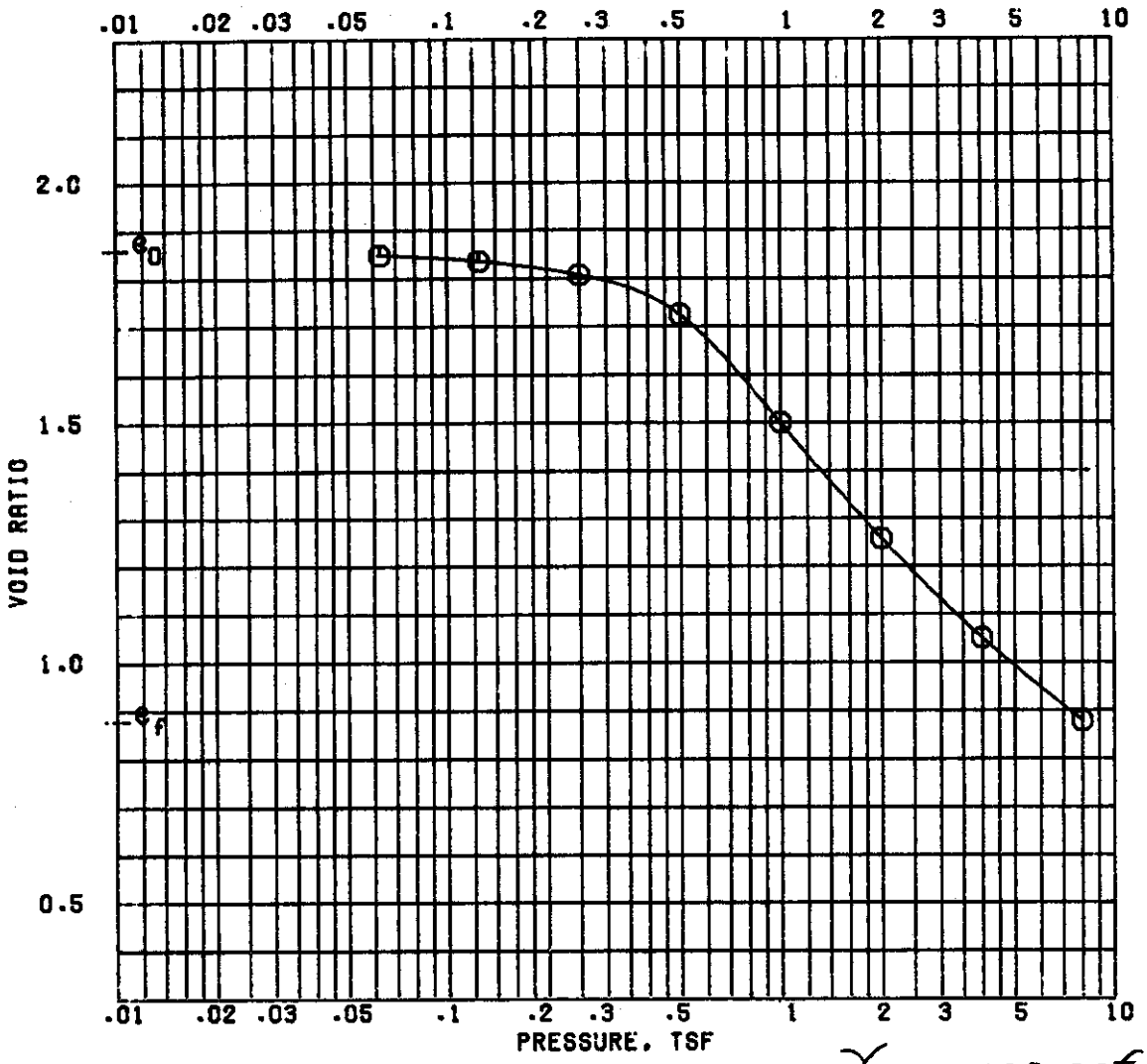
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 78	PL 24	PI 54	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 10-SCU — SAMPLE NO. 9-C
DEPTH/ELEV 30.0/-27.6 — TECH. KOC
LABORATORY USAE WES — DATE 01 APR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 100$ pcf

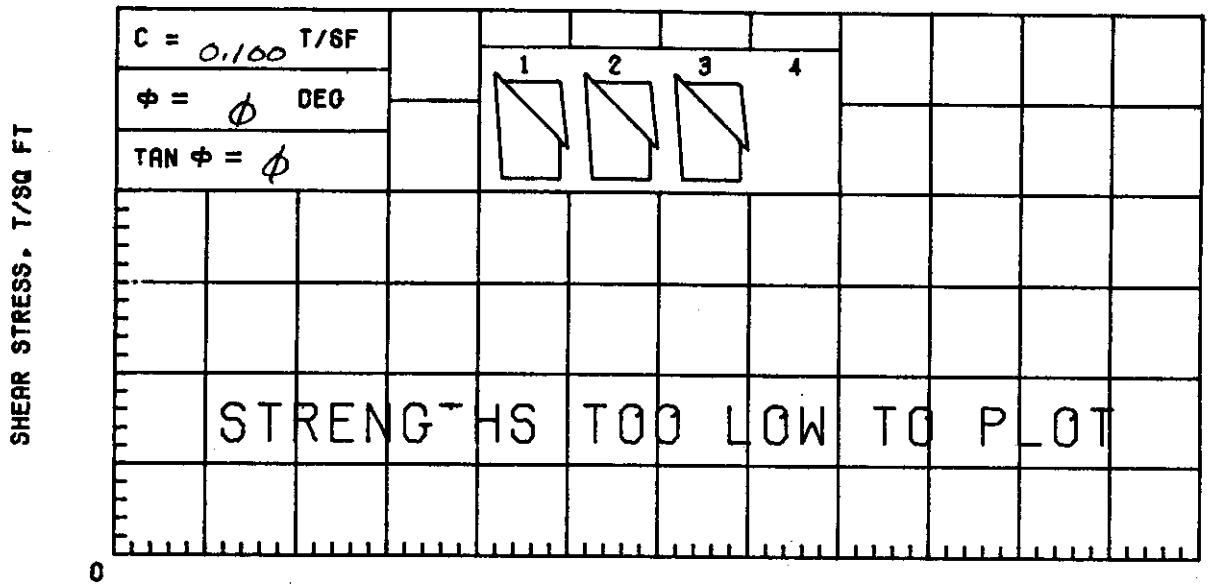
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	67.5	34.4
PRECONSOL. PRESSURE, TSF	0.55	DRY DENSITY, PCF	59.0	89.9
COMPRESSION INDEX	0.91	SATURATION, %	98.2	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.857	0.875
DIA. IN 4.44	HT. IN 1.137	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL 72	PL 21	PI 51	PROJECT LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}		ST CHALRES PARISH	
REMARKS			BORING NO. 10-SCU	SAMPLE NO. 10-C
			DEPTH/ELEV 34.0/-31.6	DATE 28 MAR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



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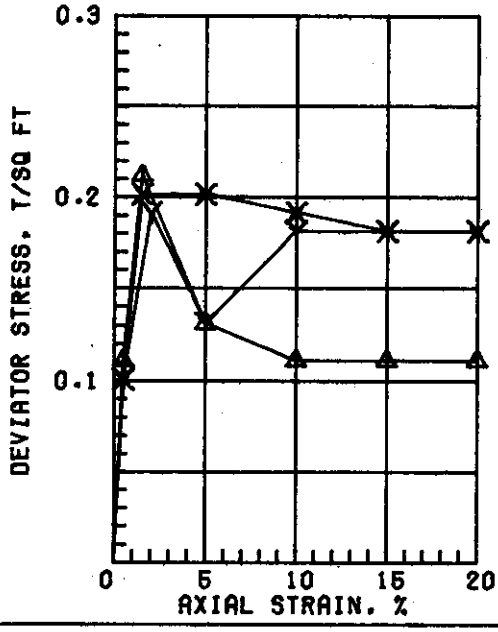


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	77.9	73.4	74.7	
	DRY DENSITY, PCF	54.0	56.2	55.5	
	SATURATION, %	99.2	99.1	99.1	
	VOID RATIO	2.120	2.000	2.035	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.21	0.19	0.20	
TIME TO FAILURE, MIN.		3	12	15	
RATE OF STRAIN INCR.%			6	3	
INITIAL DIAMETER, IN.		1.39	1.39	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 75.3

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 77	PL 23	PI 54	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT

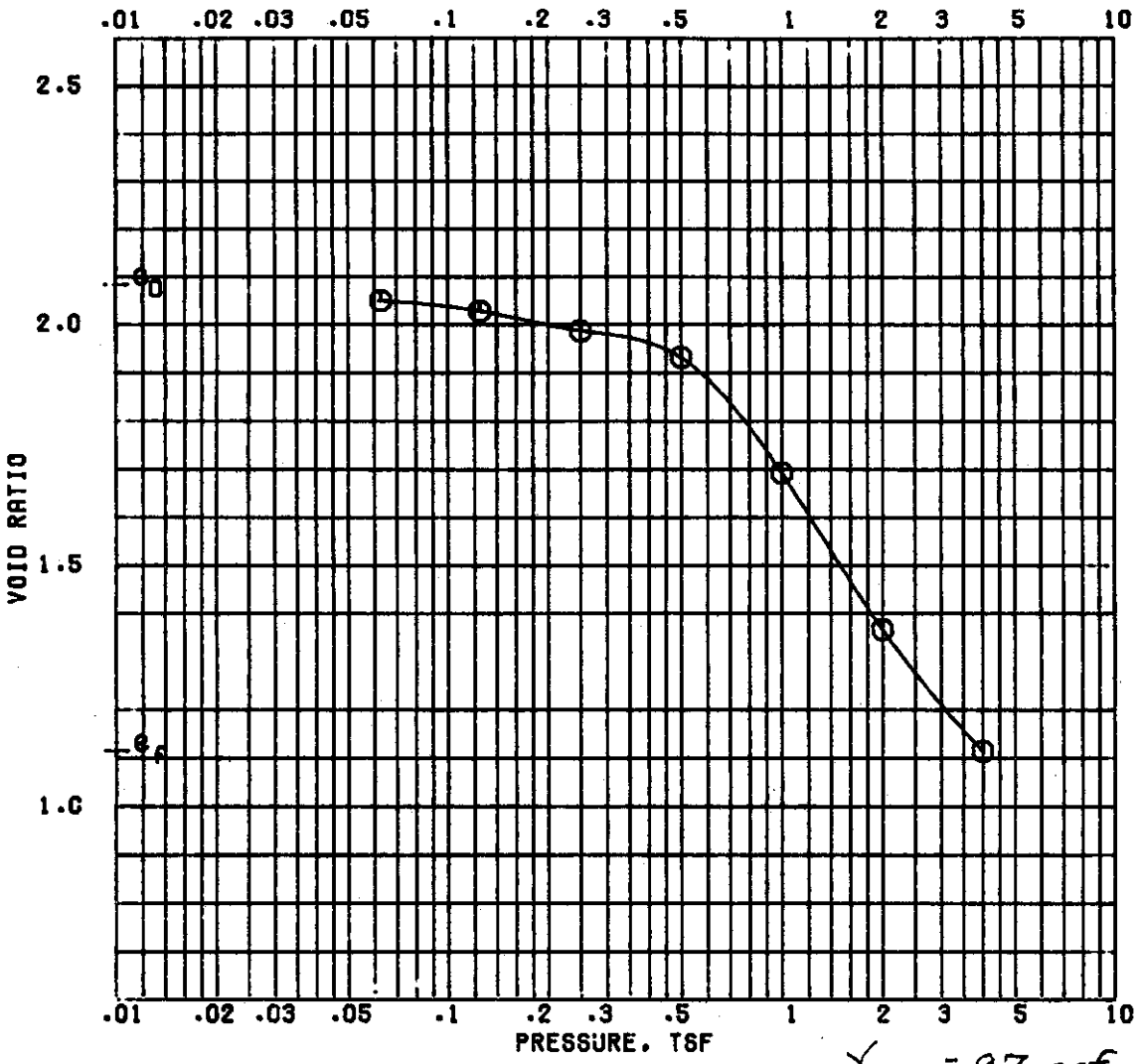
ST CHARLES PARISH

BORING NO. 10-SCU | SAMPLE NO. 11-C

DEPTH/ELEV 38.1/-35.7 | TECH. KOC

LABORATORY USAE WES | DATE 01 APR 87

TRIAXIAL COMPRESSION TEST REPORT

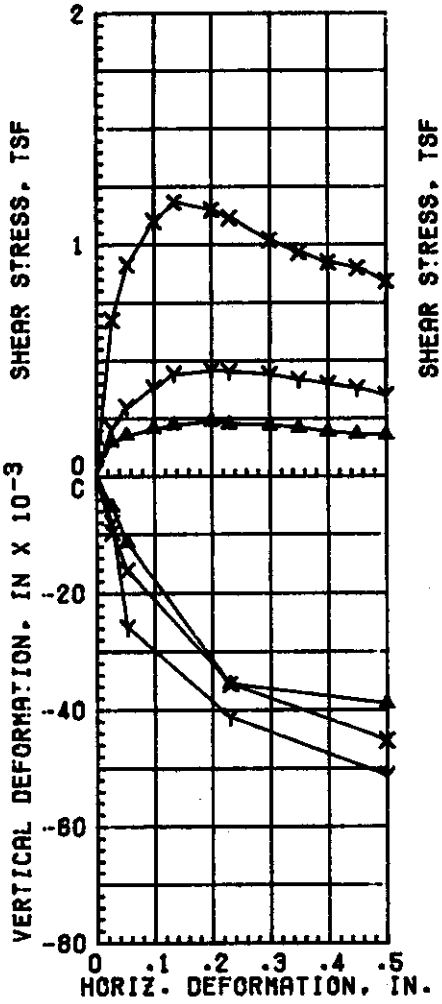


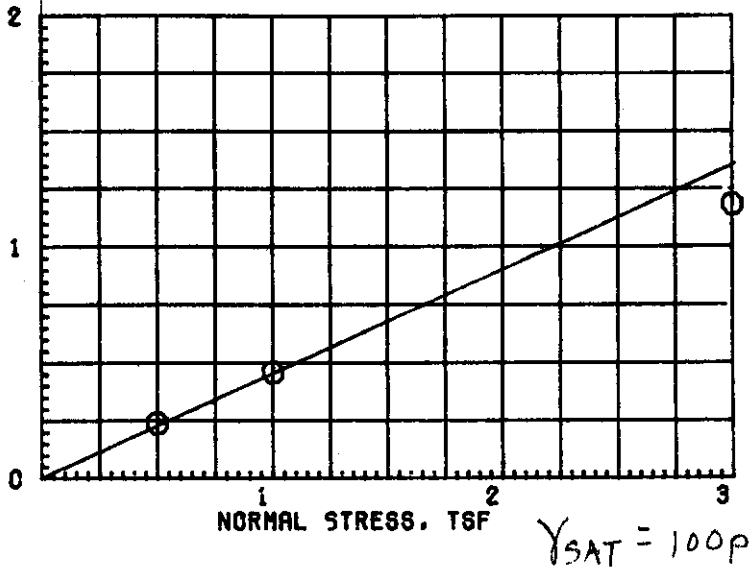
$\gamma_{SAT} = 97$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.61	DRY DENSITY, PCF	54.7	79.9
COMPRESSION INDEX 1.09	SATURATION, %	99.9	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	2.081	1.111
DIA. IN 4.44 HT. IN 1.127	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CH), GRAY			
LL 69 PL 20 PI 49	PROJECT LK PONT & VIC HURR PROT		
GS 2.70 (EST) D_{10}	ST CHALRES PARISH		
REMARKS	BORING NO. 10-SCU	SAMPLE NO. 12-B	
	DEPTH/ELEV 41.5/-39.1	DATE 30 MAR 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 8





γ_{SAT} = 100pcf

ϕ = 24°

TAN ϕ = 0.4452

C = ϕ

	TEST NO.	1 ▲	2 Y	3 X	
INITAL	WATER CONTENT, %	66.8	69.0	62.6	
	VOID RATIO	1.801	1.856	1.803	
	SATURATION, %	100 +	100 +	93.7	
	DRY DENSITY, PCF	60.1	59.0	60.1	
VOID RATIO AFTER CONSOL					
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1	
FINAL	WATER CONTENT, %	52.6	46.1	37.4	
	VOID RATIO				
	SATURATION, %				
NORMAL STRESS, TSF		0.5	1.0	3.0	
MAXIMUM SHEAR STRESS, TSF		0.24	0.46	1.18	
TIME TO FAILURE, MIN		1097	1097	740	
RATE OF STRAIN, IN/MIN		.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF					

AVE 60.1

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.628 IN. THICK

CLASSIFICATION CLAY (CH), GRAY

LL 60 | PL 20 | PI 40 | | GS 2.70 (EST)

REMARKS:

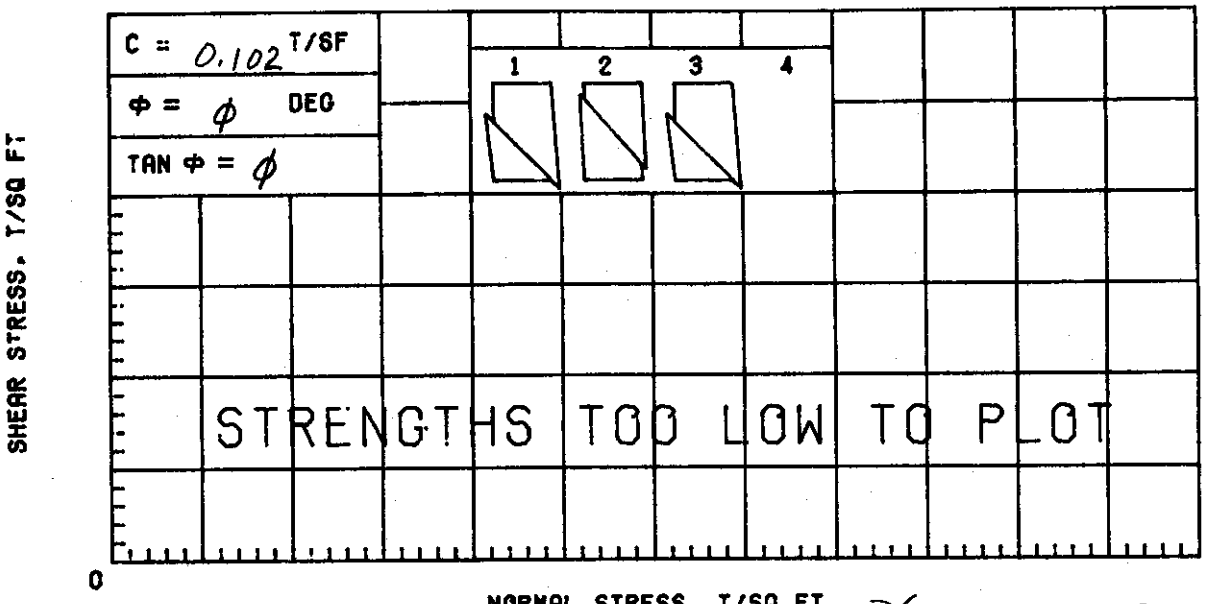
PROJECT LK PONT & VIC HURR PROT

ST CHARLES PARISH

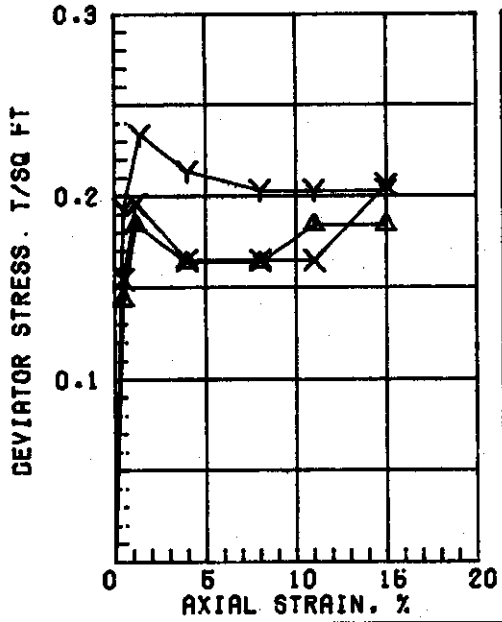
BORING NO. 10-SCU | SAMPLE 12-C

DEPTH/ELEV 41.9/-39.5 | DATE 28 APR 87

DIRECT SHEAR TEST REPORT



γ_{SAT} = 97 pcf



	SPECIMEN NO.	Δ1	Y2	X3	4
INITIAL	WATER CONTENT. %	74.0	74.4	75.0	
	DRY CENSITY. PCF	55.4	55.8	54.3	
	SATURATION. %	97.8	99.3	96.3	
	VOID RATIO	2.044	2.022	2.102	
BEFORE SHEAR	WATER CONTENT. %				
	DRY CENSITY. PCF				
	SATURATION. %				
	VOID RATIO				
	BACK PRESS.. TSF				
MIN PRIN. STRESS. TSF		0.5	1.5	3.0	
MAX. DEV. STRESS. TSF		0.18	0.23	0.20	
TIME TO FAILURE. MIN.		2	10	5	
RATE OF STRAIN INCR.%			8	11	
INITIAL DIAMETER. IN.		1.39	1.39	1.38	
INITIAL HEIGHT. IN.		3.00	3.00	3.00	

AVE 74.5

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH). GRAY

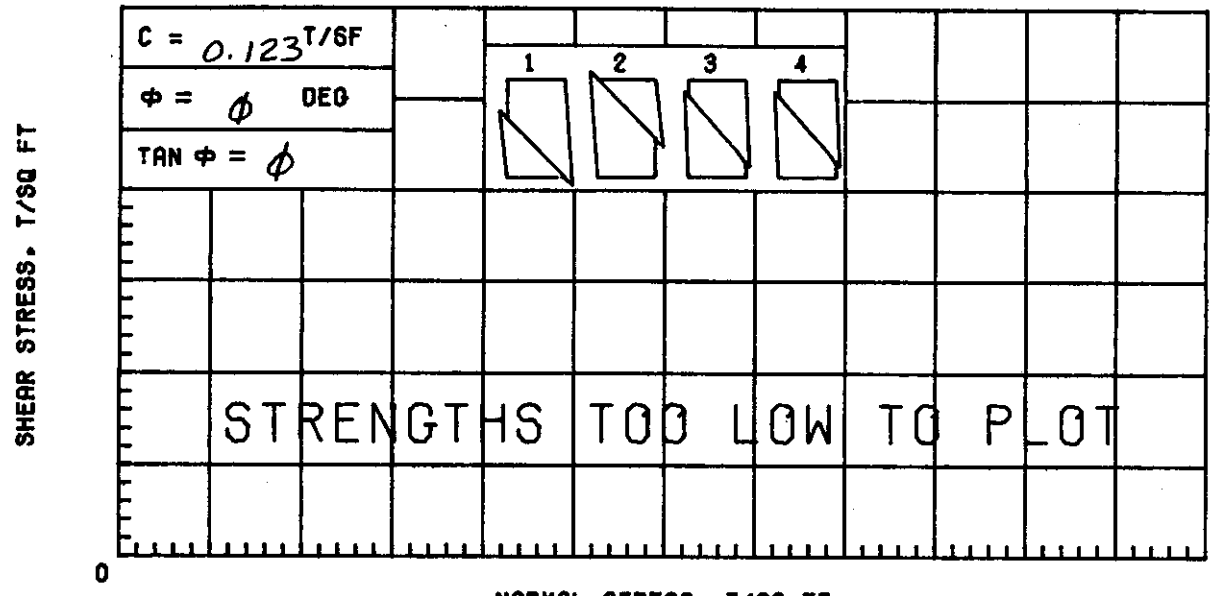
LL 75	PL 32	PI 43	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

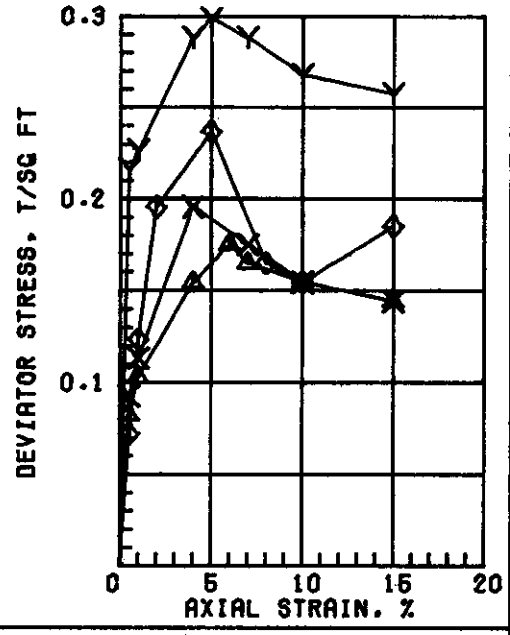
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 10-SCU — SAMPLE NO. 13-C
DEPTH/ELEV 46.4/-44.0 — TECH. BD
LABORATORY USAE WES — DATE 01 APR 87

TRIAXIAL COMPRESSION TEST REPORT



γ_{SAT} = 98 pcf



SPECIMEN NO.		△1	Y2	X3	◇4	AVE
INITIAL	WATER CONTENT, %	74.6	73.6	73.8	74.5	74.1
	DRY DENSITY, PCF	55.8	56.1	56.3	56.3	
	SATURATION, %	99.7	99.1	100.0	100+	
	VOID RATIO	2.021	2.004	1.992	1.996	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5	
MAX. DEV. STRESS, TSF		0.17	0.30	0.20	0.24	
TIME TO FAILURE, MIN.		12	10	8	12	
RATE OF STRAIN INCR.%						
INITIAL DIAMETER, IN.		1.38	1.38	1.38	1.38	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 90	PL 25	PI 65	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

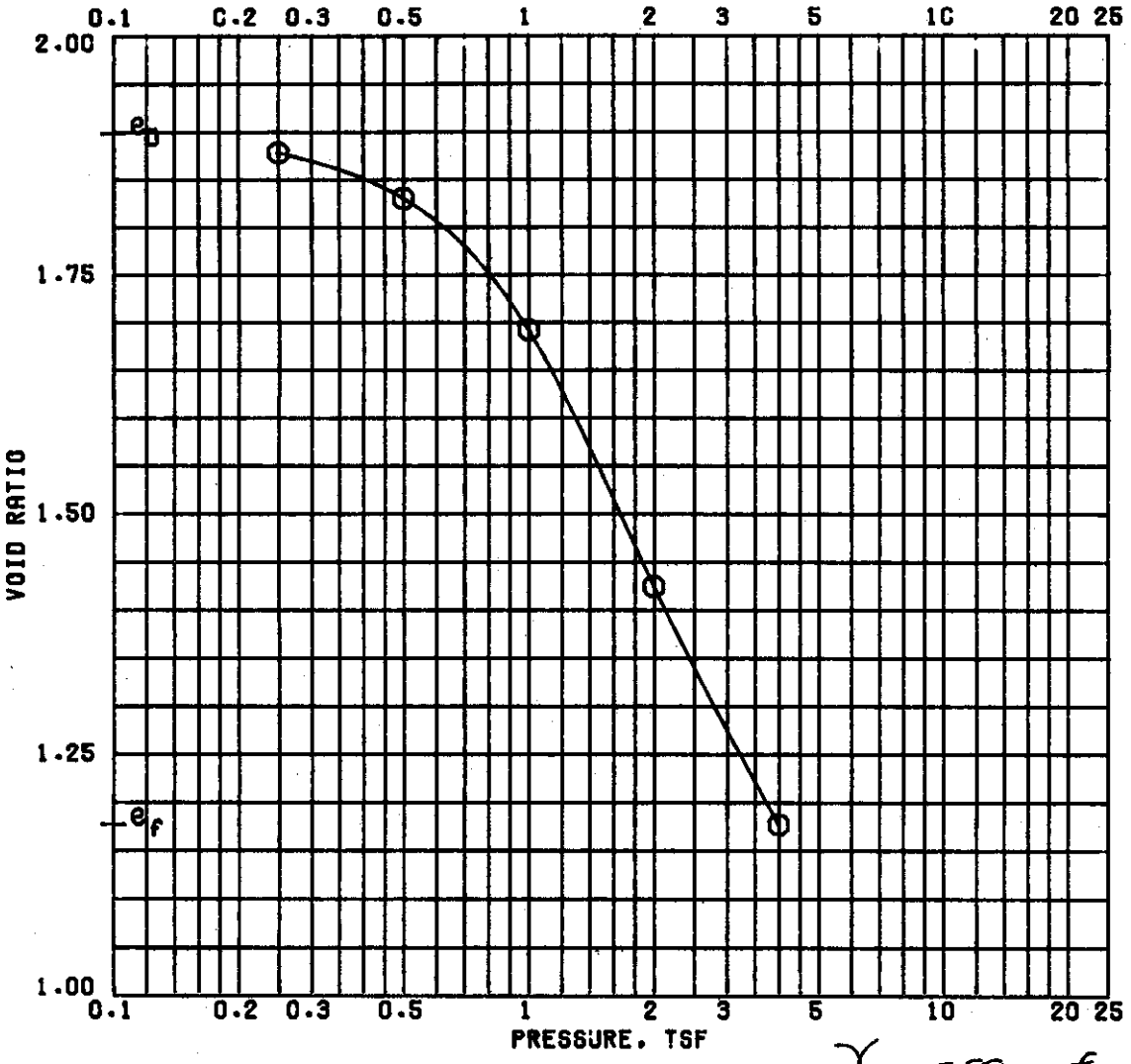
PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 10-SCU | SAMPLE NO. 15-B

DEPTH/ELEV 53.5/-51.1 | TECH. BD

LABORATORY USAE WES | DATE 01 APR 87

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{SAT} = 99$ pcf

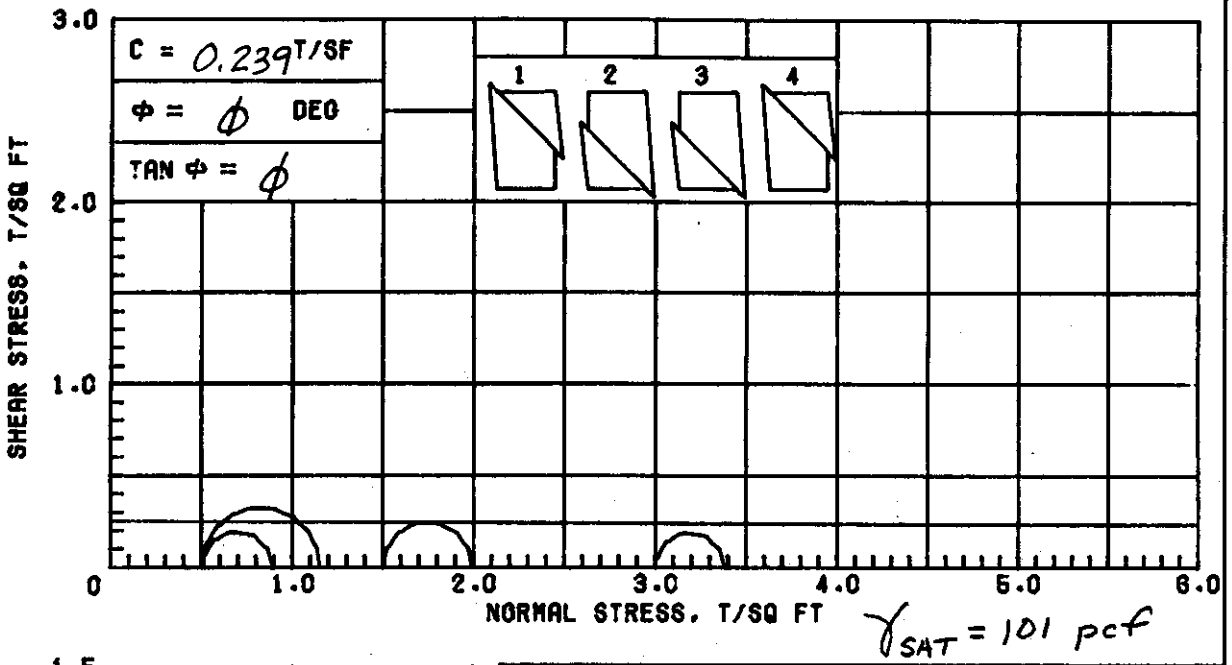
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	69.3	45.0
PRECONSOL. PRESSURE, TSF	0.78	DRY DENSITY, PCF	58.2	77.5
COMPRESSION INDEX	0.85	SATURATION, %	98.6	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.898	1.176
DIA. IN 4.44	HT. IN 1.128	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CH), GRAY

LL 85	PL 23	PI 62	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 10-SCU	SAMPLE NO. 15-C
		DEPTH/ELEV 54.4/-52.0	DATE 02 APR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



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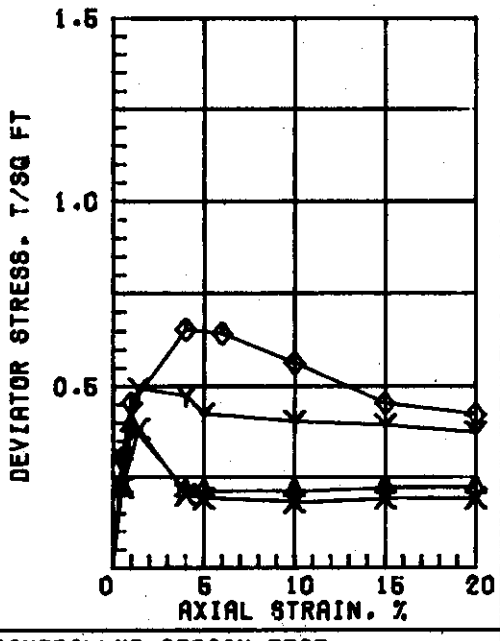


SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	65.9	66.5	63.2	59.0
	DRY DENSITY, PCF	60.1	59.8	61.4	64.0
	SATURATION, %	98.5	98.8	97.7	97.6
	VOID RATIO	1.806	1.817	1.747	1.632
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.39	0.49	0.38	0.65
TIME TO FAILURE, MIN.		2	24	14	24
RATE OF STRAIN INCR.%			2	3	6
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.40
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 63.7

CONTROLLED-STRAIN TEST

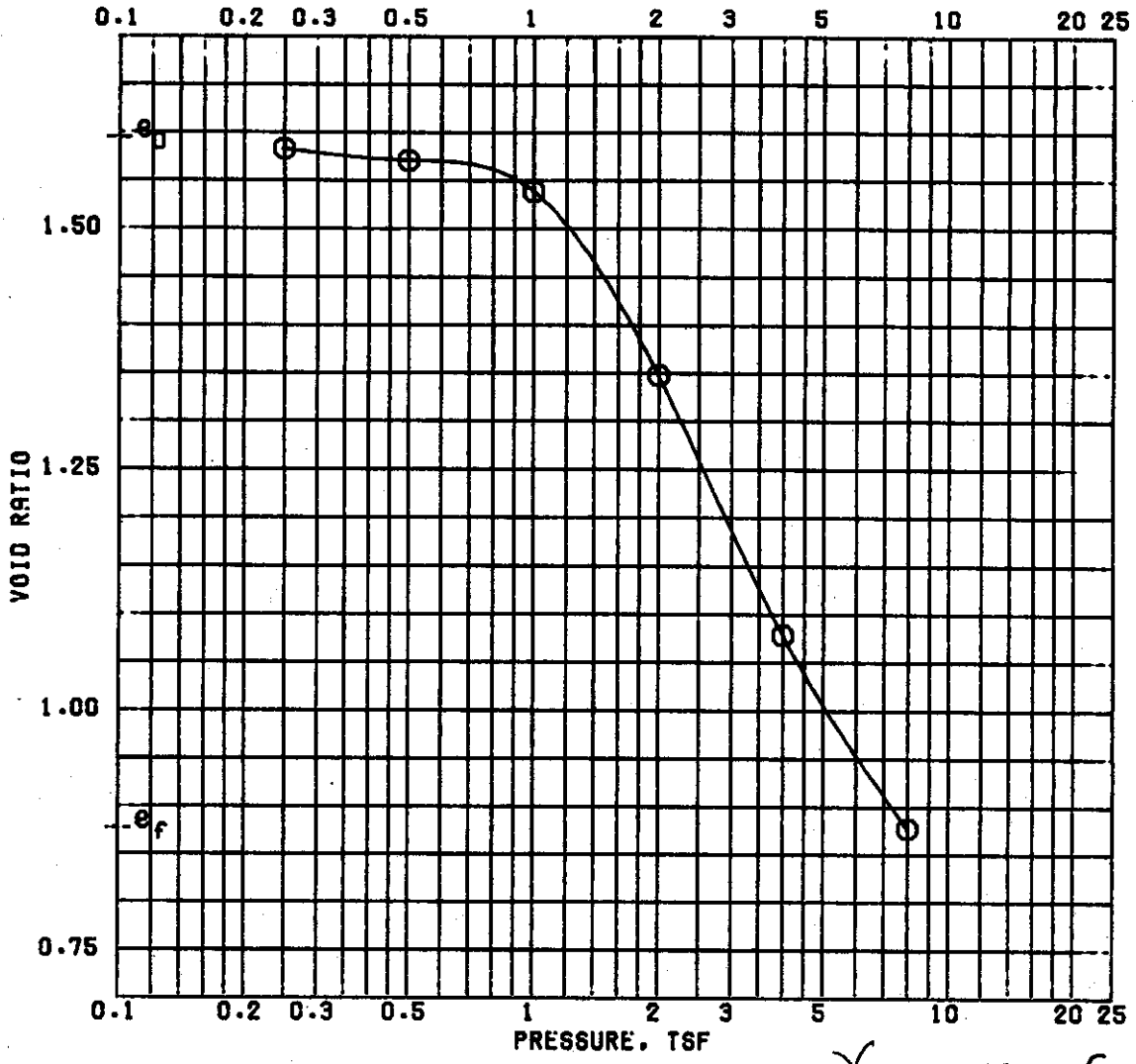
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 88	PL 23	PI 65	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 10-SCU | SAMPLE NO. 17-B
DEPTH/ELEV 61.5/-69.1 | TECH. KOC
LABORATORY USAE WES | DATE 02 APR 87

TRIAXIAL COMPRESSION TEST REPORT

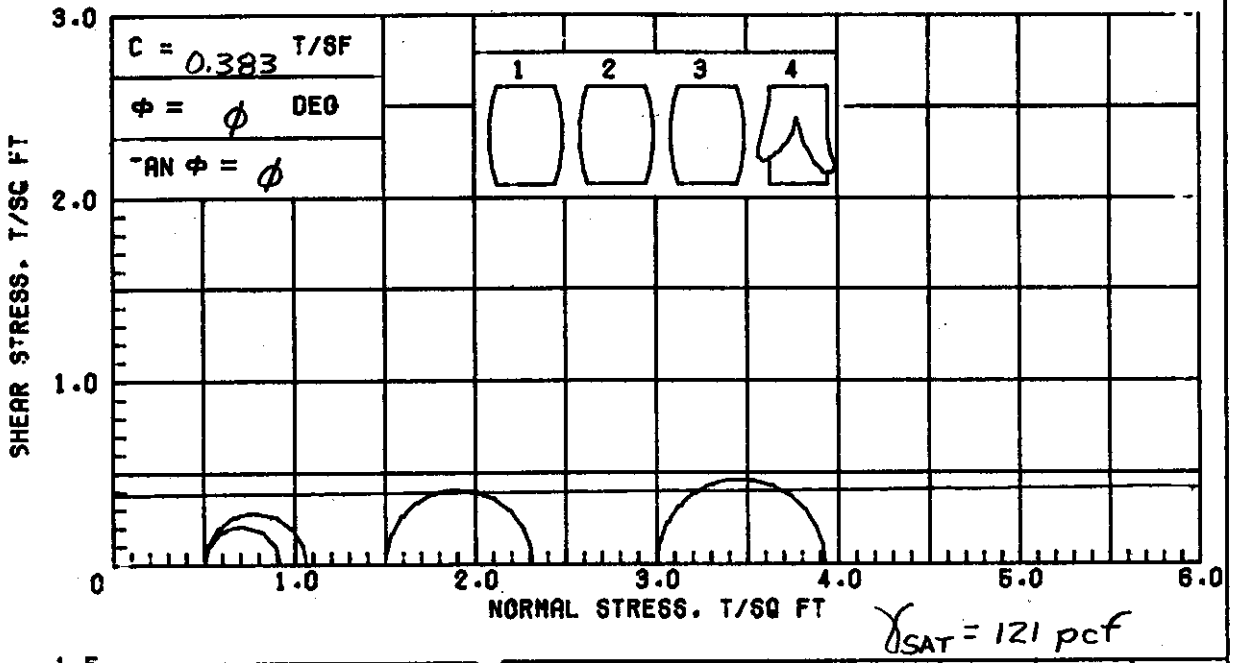


γ_{SAT} = 103 pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	58.8	33.9
PRECONSOL. PRESSURE, TSF	1.21	DRY DENSITY, PCF	65.0	89.9
COMPRESSION INDEX	0.83	SATURATION, %	99.7	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.593	0.876
DIA. IN 4.44	HT. IN 1.113	BACK PRESSURE, TSF		
CLASSIFICATION	CLAY (CH), GRAY			
LL 69 / PL 18 / PI 51		PROJECT	LK PONT & VIC HURR PROT	
GS 2.70 (EST)	D_{10}		ST CHALRES PARISH	
REMARKS		BORING NO.	10-SCU	SAMPLE NO. 18-B
		DEPTH/ELEV	64.7/-62.3	DATE 03 APR 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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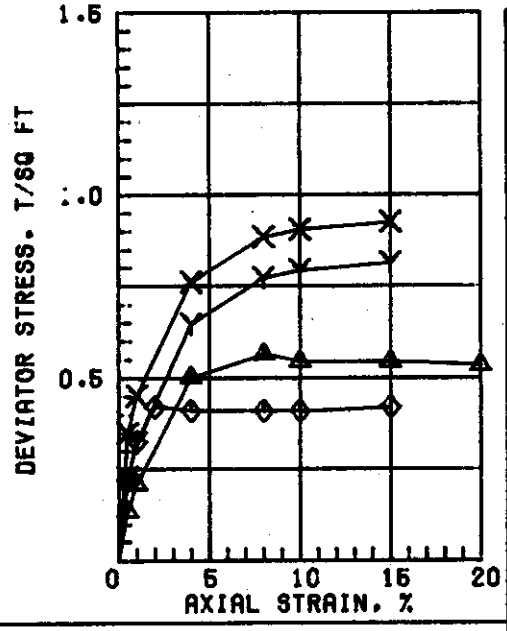


SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	26.7	26.4	29.1	27.7
	DRY DENSITY, PCF	93.5	94.4	94.1	90.8
	SATURATION, %	90.3	91.3	99.8	87.7
	VOID RATIO	0.796	0.778	0.784	0.849
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.56	0.81	0.93	0.42
TIME TO FAILURE, MIN.		17	31	31	4
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.37	1.37	1.38	1.36
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 27.5

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: SILTY CLAY (CL), DARK GRAY; ORGANIC MATERIAL

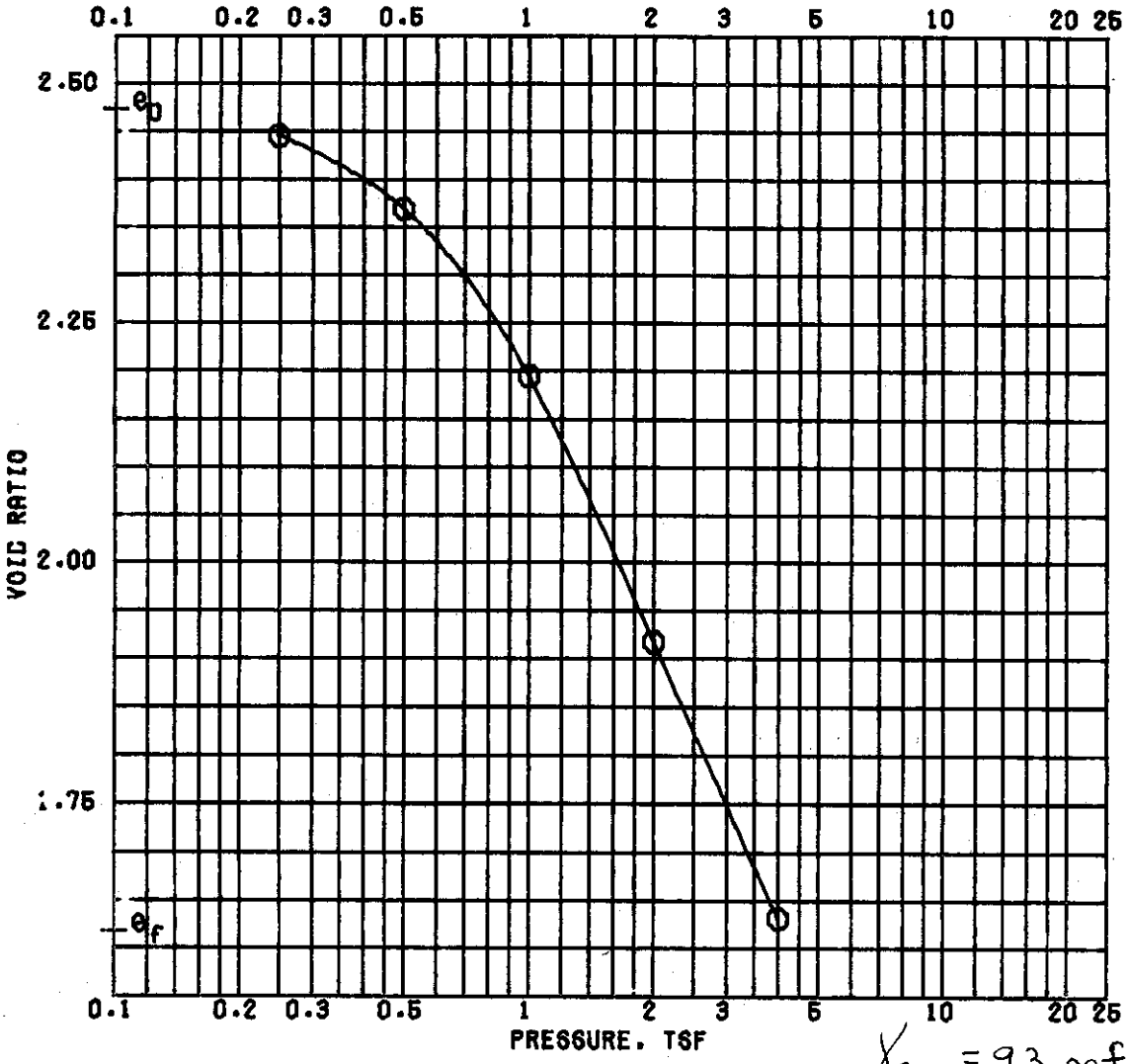
LL 28	PL 19	PI 9	GS 2.69 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS: LIMITS ON MIXTURE OF MATERIALS.

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH

BORING NO. 10-SCU | SAMPLE NO. 19-C
DEPTH/ELEV 69.7/-67.3 | TECH. BD
LABORATORY USAE WES | DATE 02 APR 87

TRIAXIAL COMPRESSION TEST REPORT

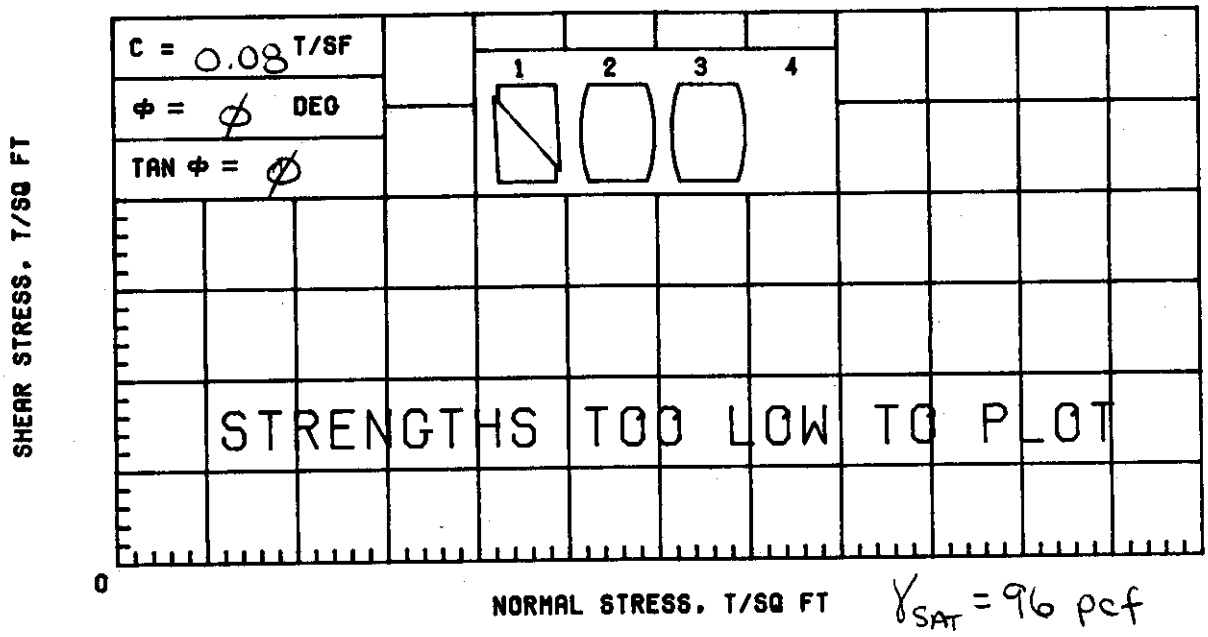


$\gamma_{SAT} = 93$ pcf

	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.69	DRY DENSITY, PCF 48.5	64.4
COMPRESSION INDEX 0.93	SATURATION, % 98.0	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO 2.472	1.616
DIA. IN 4.44 HT. IN 1.121	BACK PRESSURE, TSF	
CLASSIFICATION CLAY (CH), GRAY; ORGANIC MATERIAL		
LL 122 PL 29 PI 93	PROJECT LK PONT & VIC HURR PROT	
GS 2.70 (EST) D_{10}	ST CHARLES PARISH	
REMARKS	BORING NO. 11-SCU	SAMPLE NO. 3-B
	DEPTH/ELEV 7.7/-6.5	DATE 14 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 7



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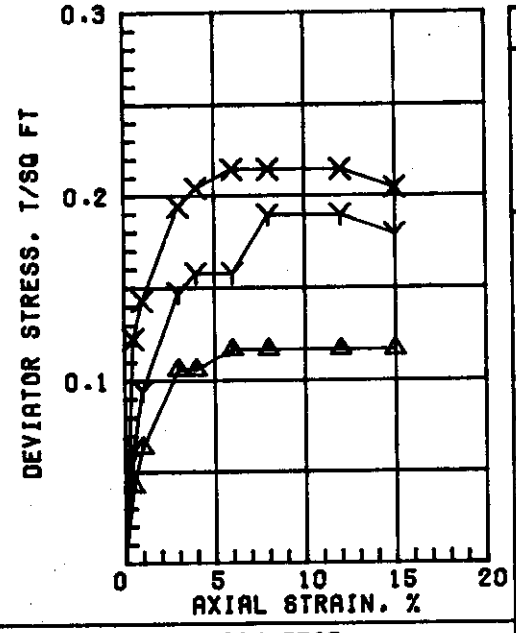


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	74.8	72.0	74.7	
	DRY DENSITY, PCF	54.8	49.9	55.3	
	SATURATION, %	97.3	81.8	98.6	
	VOID RATIO	2.077	2.375	2.046	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.11	0.16	0.21	
TIME TO FAILURE, MIN.		6	23	26	
RATE OF STRAIN INCR.%			7		
INITIAL DIAMETER, IN.		1.36	1.36	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 73.8

CONTROLLED-STRAIN TEST

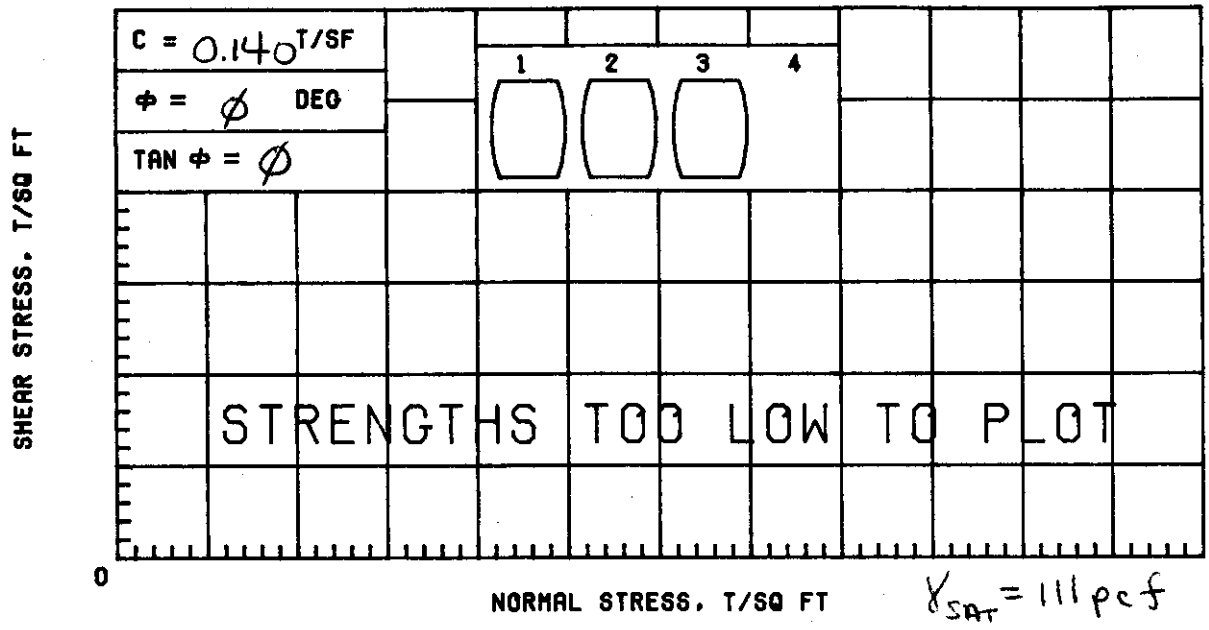
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; ORGANIC MATERIAL

LL 116	PL 30	PI 86	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 11-SCU | SAMPLE NO. 3-C
DEPTH/ELEV 8.6/-7.4 | TECH. BD
LABORATORY USAE WES | DATE 06 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



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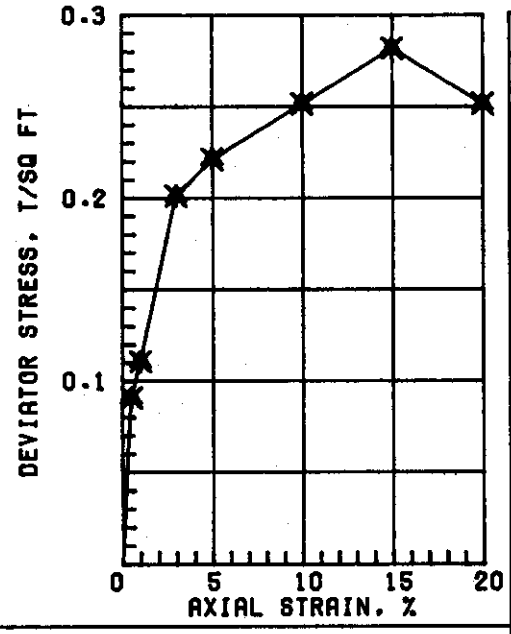


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	40.8	40.3	42.4	
	DRY DENSITY, PCF	78.0	78.0	75.8	
	SATURATION, %	94.9	93.8	93.7	
	VOID RATIO	1.161	1.160	1.222	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.28	0.28	0.28	
TIME TO FAILURE, MIN.		30	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

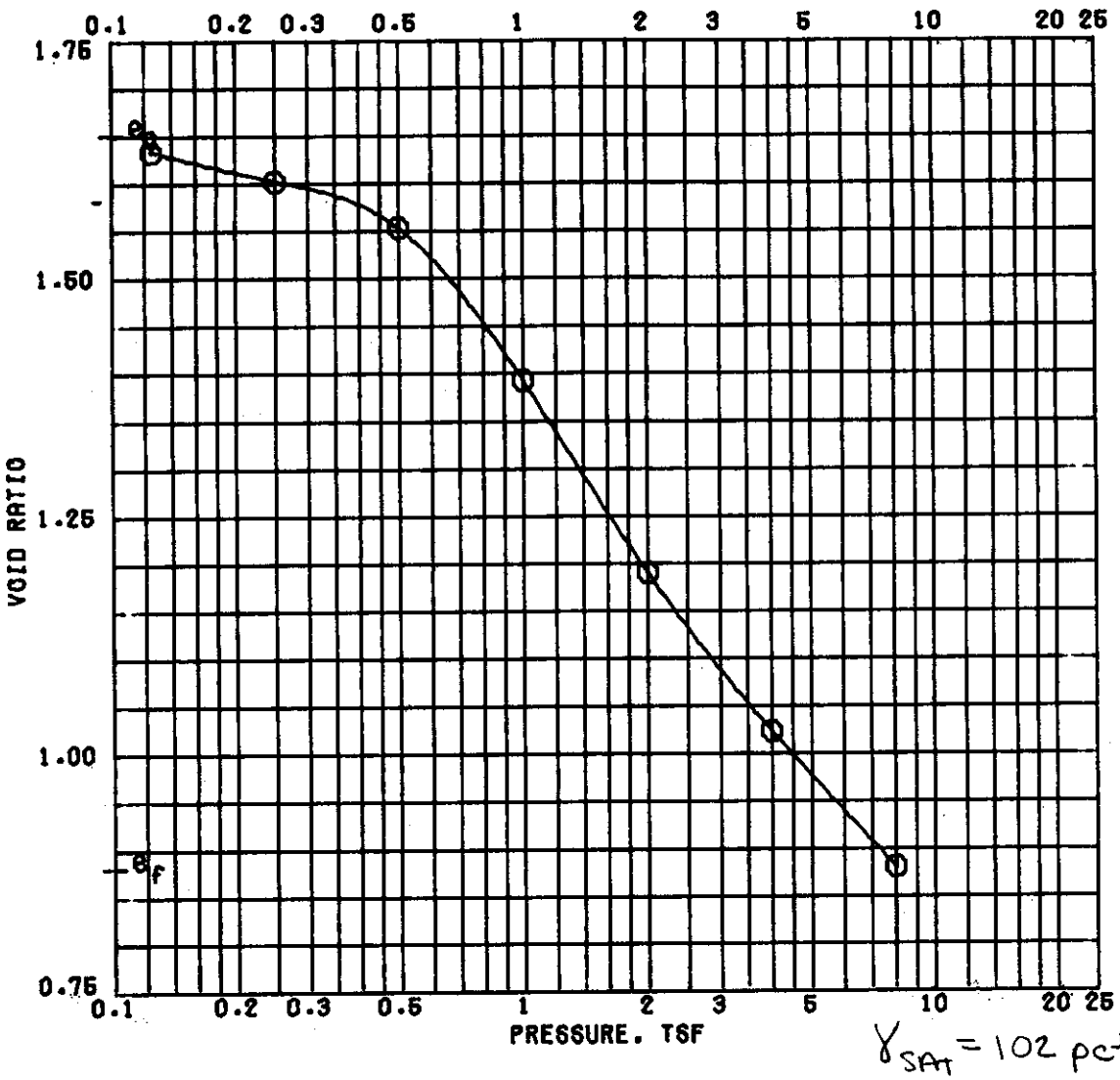
AVE 41.2

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY & BROWN

LL 42	PL 15	PI 27	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

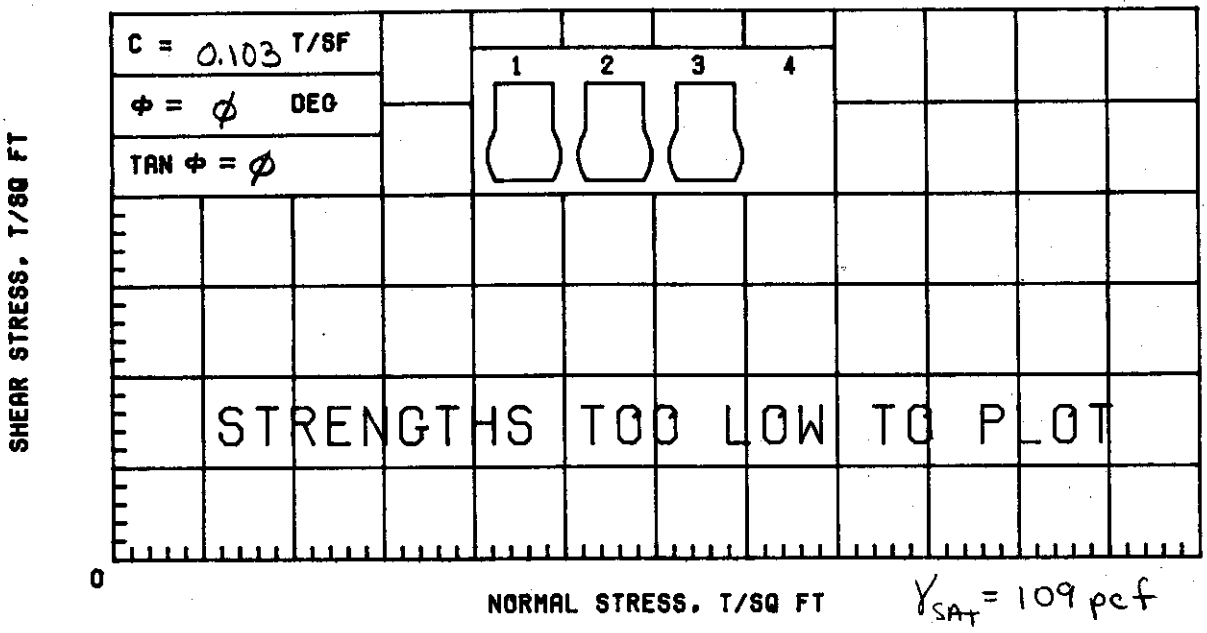
REMARKS:	PROJECT LK PONT & VIC HURR PROT	
	ST CHARLES PARISH	
	BORING NO. 11-SCU	SAMPLE NO. 6-B
	DEPTH/ELEV 20.1/-18.9	TECH. KOC
	LABORATORY USAE WES	DATE 05 MAY 87
	TRIAXIAL COMPRESSION TEST REPORT	

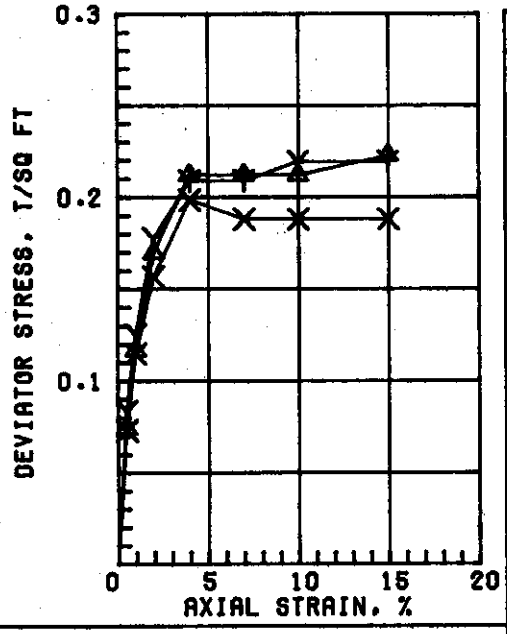


	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.63	ORY DENSITY, PCF 63.6	89.7
COMPRESSION INDEX 0.67	SATURATION, % 97.9	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO 1.649	0.879
DIA. IN 4.44 HT. IN 1.148	BACK PRESSURE, TSF	
CLASSIFICATION CLAY (CL), GRAY; SILT SEAMS		
LL PL PI	PROJECT LK PONT & VIC HURR PROT	
OS 2.70 (EST) D_{10}	ST CHARLES PARISH	
REMARKS	BORING NO. 11-SCU	SAMPLE NO. 6-C
	DEPTH/ELEV 20.9/-19.7	DATE 07 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9





	SPECIMEN NO.	△1	Y2	X3	4
INITIAL	WATER CONTENT, %	43.8	46.1	48.8	
	DRY DENSITY, PCF	75.9	73.8	71.7	
	SATURATION, %	96.9	97.1	97.5	
	VOID RATIO	1.220	1.283	1.350	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.21	0.21	0.20	
TIME TO FAILURE, MIN.		8	15	15	
RATE OF STRAIN INCR,%			7		
INITIAL DIAMETER, IN.		1.36	1.37	1.37	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 46.23

CONTROLLED-STRAIN TEST

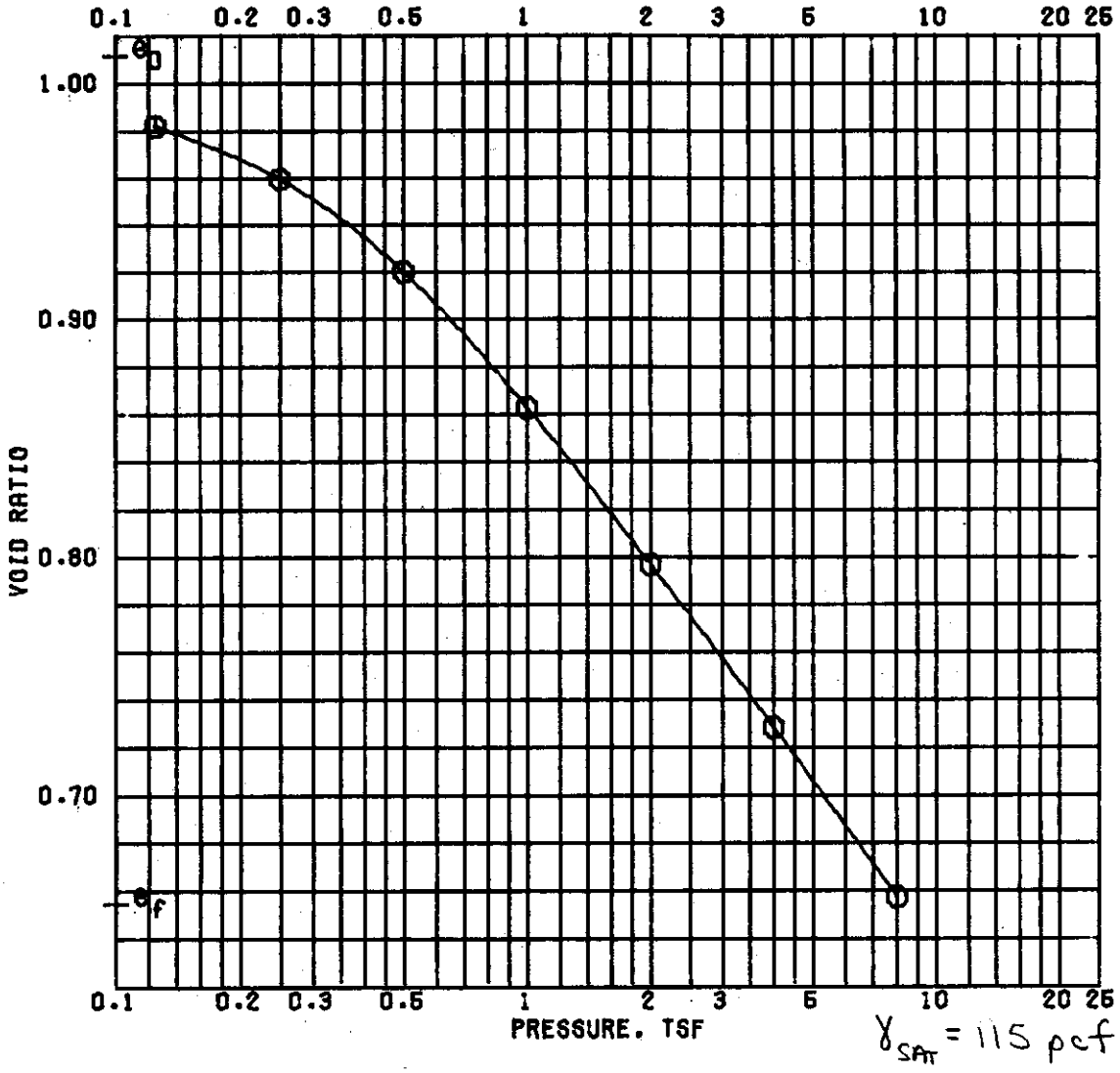
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY

LL 45	PL 16	PI 29	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 11-SCU | SAMPLE NO. 7-C
DEPTH/ELEV 25.4/-24.2 | TECH. BD
LABORATORY USAE WES | DATE 05 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



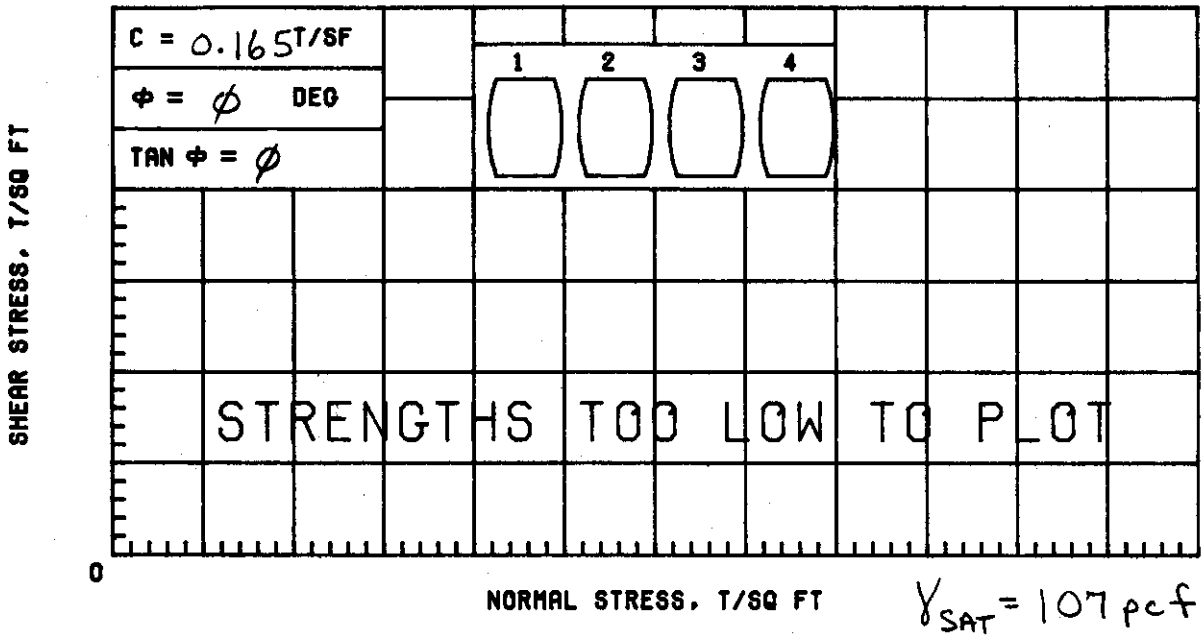
	BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		
PRECONSOL. PRESSURE, TSF 0.44	DRY DENSITY, PCF	83.8	101.9
COMPRESSION INDEX 0.223	SATURATION, %	97.6	100 +
TYPE SPECIMEN UNDISTURBED	VOID RATIO	1.011	0.654
DIA. IN 4.44 HT. IN 1.134	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY; SILT & COARSE SAND POCKETS

LL 32	PL 18	PI 14	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS			BORING NO. 11-SCU / SAMPLE NO. S-8
			DEPTH/ELEV 28.5/-27.3 / DATE 08 JUL 87

CONSOLIDATION TEST REPORT

SHEET 1 OF 9



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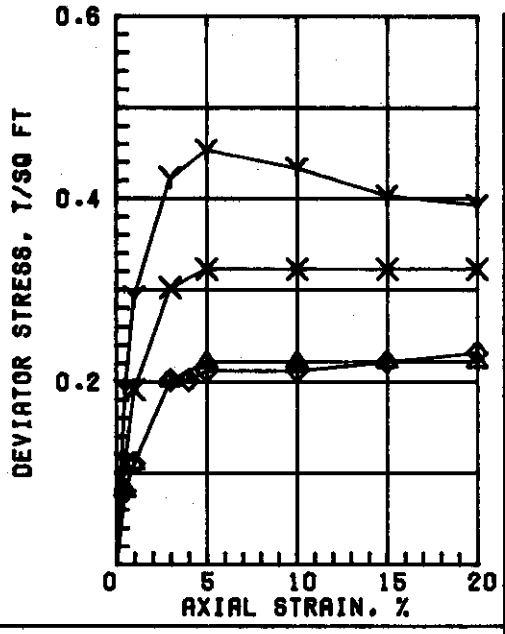


SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	52.7	48.3	47.2	49.1
	DRY DENSITY, PCF	67.9	71.8	72.6	70.7
	SATURATION, %	96.1	96.7	96.5	95.8
	VOID RATIO	1.481	1.349	1.321	1.383
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.22	0.45	0.32	0.20
TIME TO FAILURE, MIN.		10	10	10	6
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.39	1.39	1.39	1.39
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 49.3

CONTROLLED-STRAIN TEST

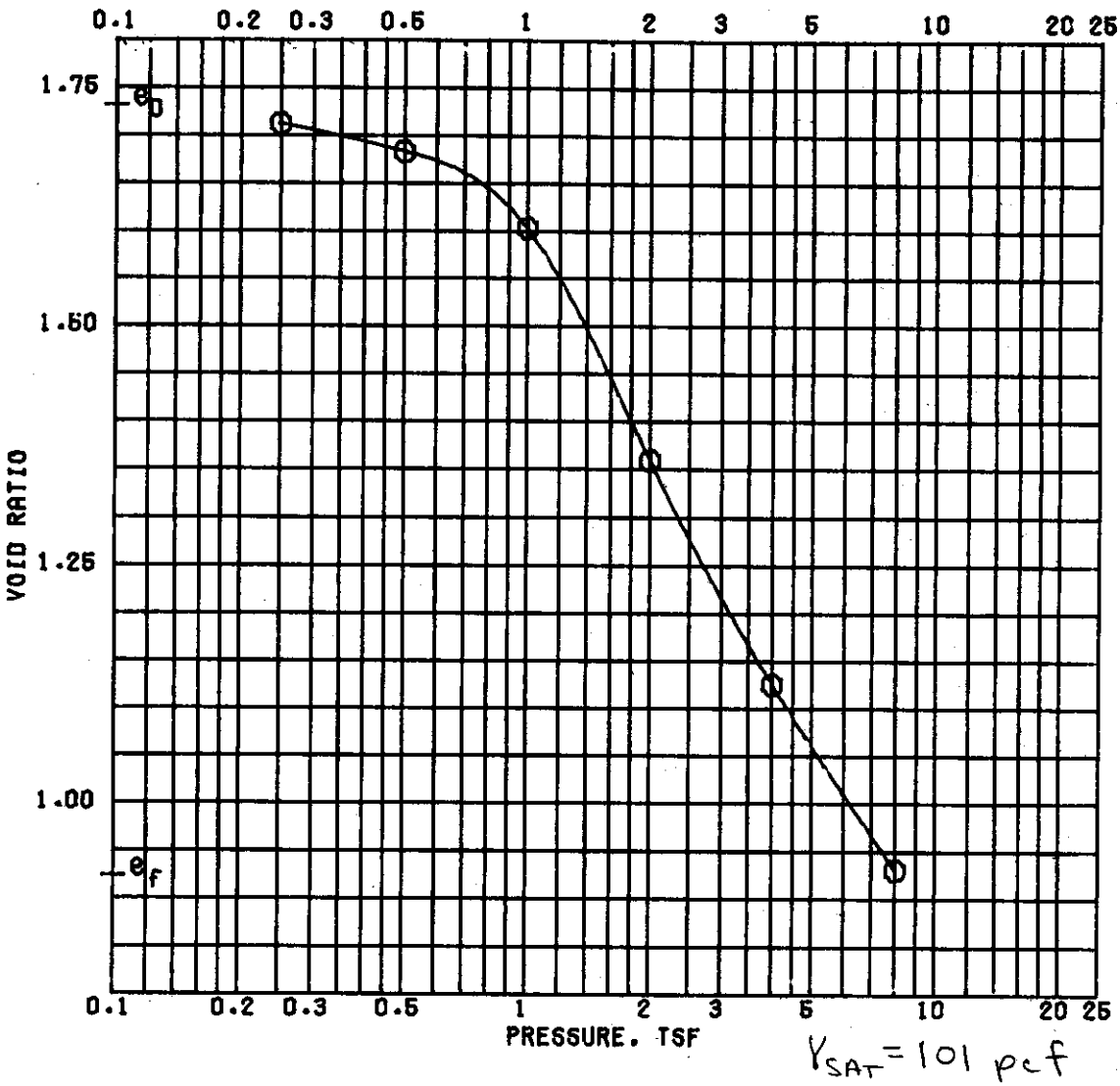
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; 1/2" SILT LAYERS

LL 50	PL 19	PI 31	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 11-SCU — SAMPLE NO. 9-C
DEPTH/ELEV 33.0/-31.8 — TECH. KOC
LABORATORY USAE WES — DATE 06 MAY 87

TRIAXIAL COMPRESSION TEST REPORT

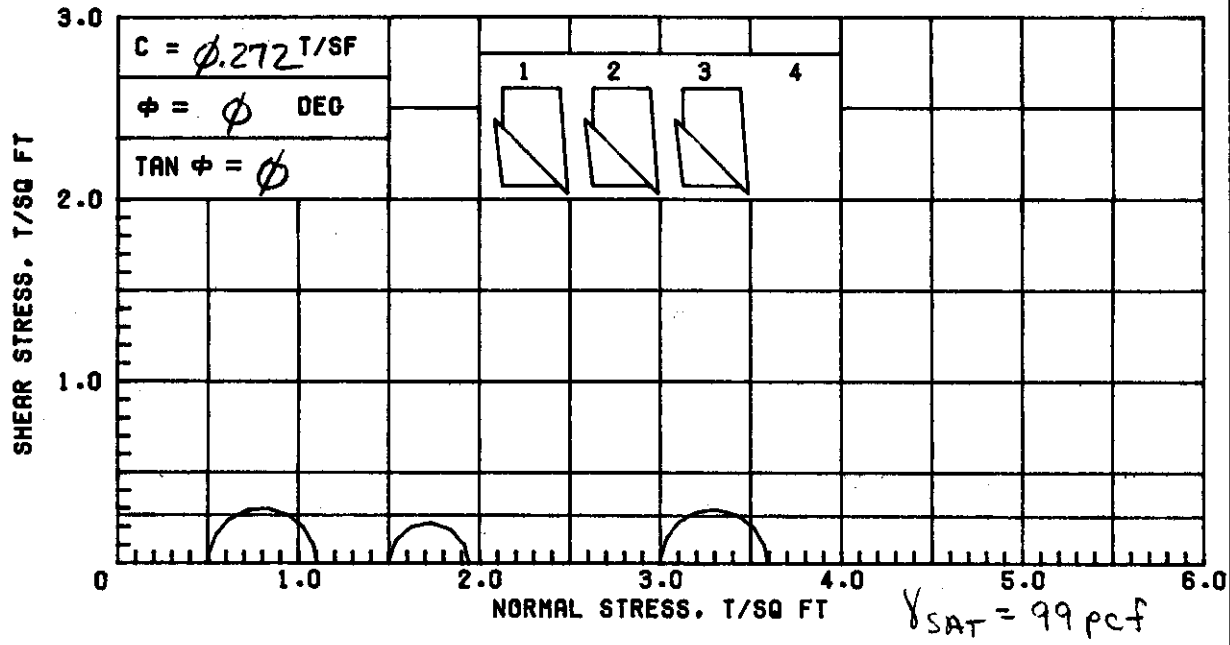


$\gamma_{SAT} = 101$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE. TSF		WATER CONTENT. %	64.0	37.2
PRECONSOL. PRESSURE. TSF	0.98	DRY DENSITY. PCF	61.7	87.7
COMPRESSION INDEX	0.86	SATURATION. %	99.8	100 +
TYPE SPECIMEN: UNDISTURBED		VOID RATIO	1.730	0.922
DIA. IN 4.44 / HT. IN 1.128		BACK PRESSURE. TSF		
CLASSIFICATION: CLAY (CH), GRAY; 1/4" SILT LAYERS				
LL 60 / PL 18 / PI 42		PROJECT: LK PONT & VIC HURR PROT		
GS 2.70 (EST) / D_{10}		ST CHARLES PARISH		
REMARKS		BORING NO. 11-SCJ	SAMPLE NO. 10-B	
		DEPTH/ELEV 36.5/-35.3	DATE 09 JUL 87	

CONSOLIDATION TEST REPORT

SHEET 1 OF 8



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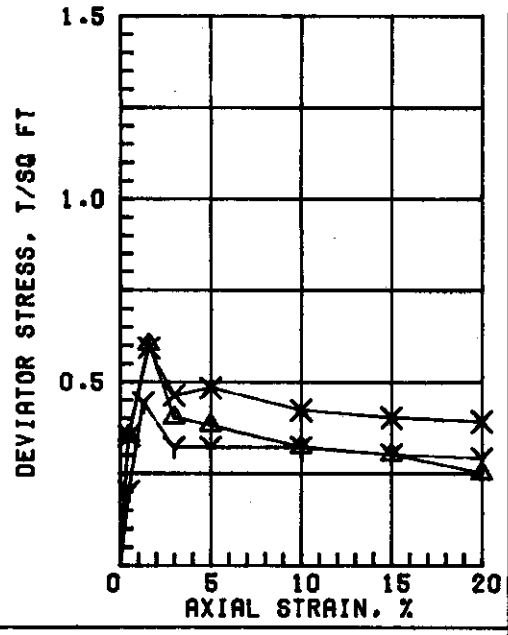


SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	72.9	71.8	70.3	
	DRY DENSITY, PCF	56.5	57.3	57.8	
	SATURATION, %	99.1	100.0	99.0	
	VOID RATIO	1.986	1.939	1.917	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.60	0.44	0.59	
TIME TO FAILURE, MIN.		3	10	17	
RATE OF STRAIN INCR.%			4	3	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

AVE 71.7

CONTROLLED-STRAIN TEST

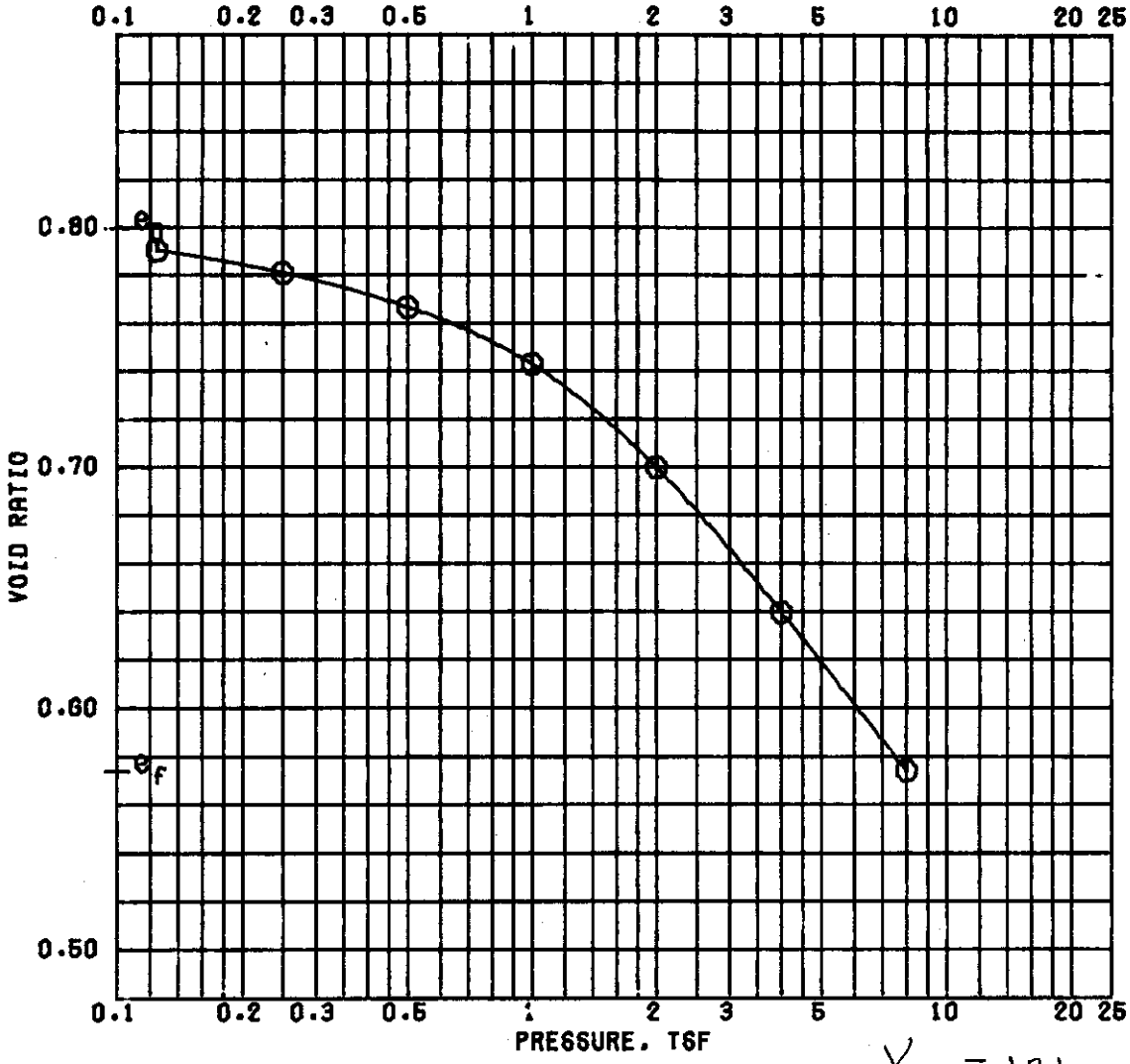
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY

LL 90	PL 26	PI 64	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 11-SCU | SAMPLE NO. 12-C
DEPTH/ELEV 45.2/-44.0 | TECH. KOC
LABORATORY USAE WES | DATE 06 MAY 87

TRIAXIAL COMPRESSION TEST REPORT



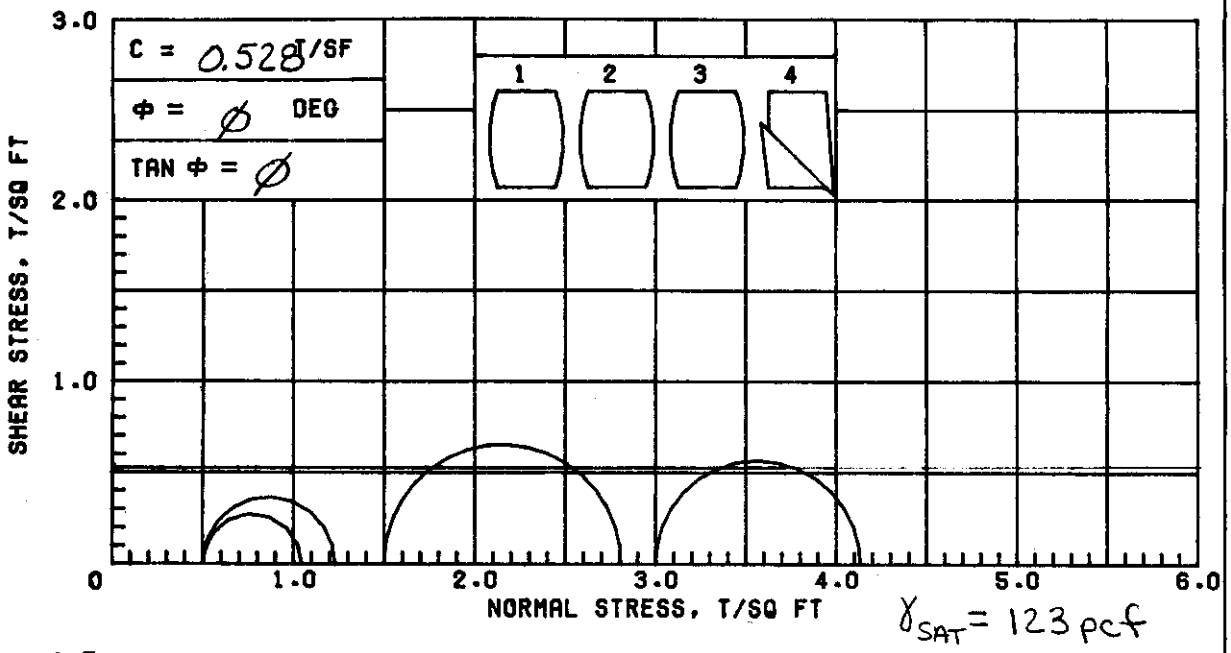
$\gamma_{SAT} = 121$ pcf

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	29.4	22.3
PRECONSOL. PRESSURE, TSF	1.12	DRY DENSITY, PCF	93.7	107.1
COMPRESSION INDEX	0.20	SATURATION, %	99.3	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.799	0.573
DIA. IN 4.44	HT. IN 1.166	BACK PRESSURE, TSF		

CLASSIFICATION · CLAY (CL), GRAY

LL 36	PL 15	PI 21	PROJECT LK PONT & VIC HURR PROT
GS 2.70 (EST)	D_{10}		ST CHARLES PARISH
REMARKS		BORING NO. 11-SCU	SAMPLE NO. 14-B
		DEPTH/ELEV 52.0/-50.8	DATE 10 JUL 87

CONSOLIDATION TEST REPORT



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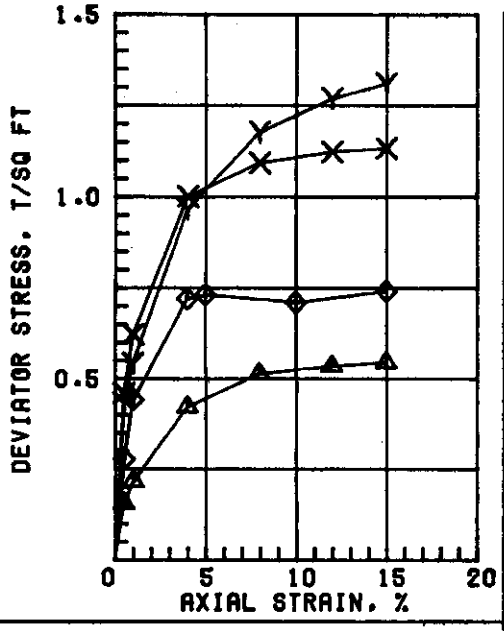

SPECIMEN NO.		△1	Y2	X3	◇4
INITIAL	WATER CONTENT, %	26.2	23.4	27.3	24.1
	DRY DENSITY, PCF	92.1	97.7	95.4	96.4
	SATURATION, %	85.2	87.1	95.9	87.0
	VOID RATIO	0.831	0.726	0.768	0.748
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5
MAX. DEV. STRESS, TSF		0.55	1.31	1.13	0.73
TIME TO FAILURE, MIN.		32	33	33	10
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.38	1.39	1.39	1.38
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00

AVE 25.3

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; SHELL PARTICLES

LL 36	PL 14	PI 22	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT LK PONT & VIC HURR PROT
ST CHARLES PARISH
BORING NO. 11-SCU | SAMPLE NO. 14-C
DEPTH/ELEV 53.3/-52.1 | TECH. BD
LABORATORY USAE WES | DATE 06 MAY 87

TRIAXIAL COMPRESSION TEST REPORT