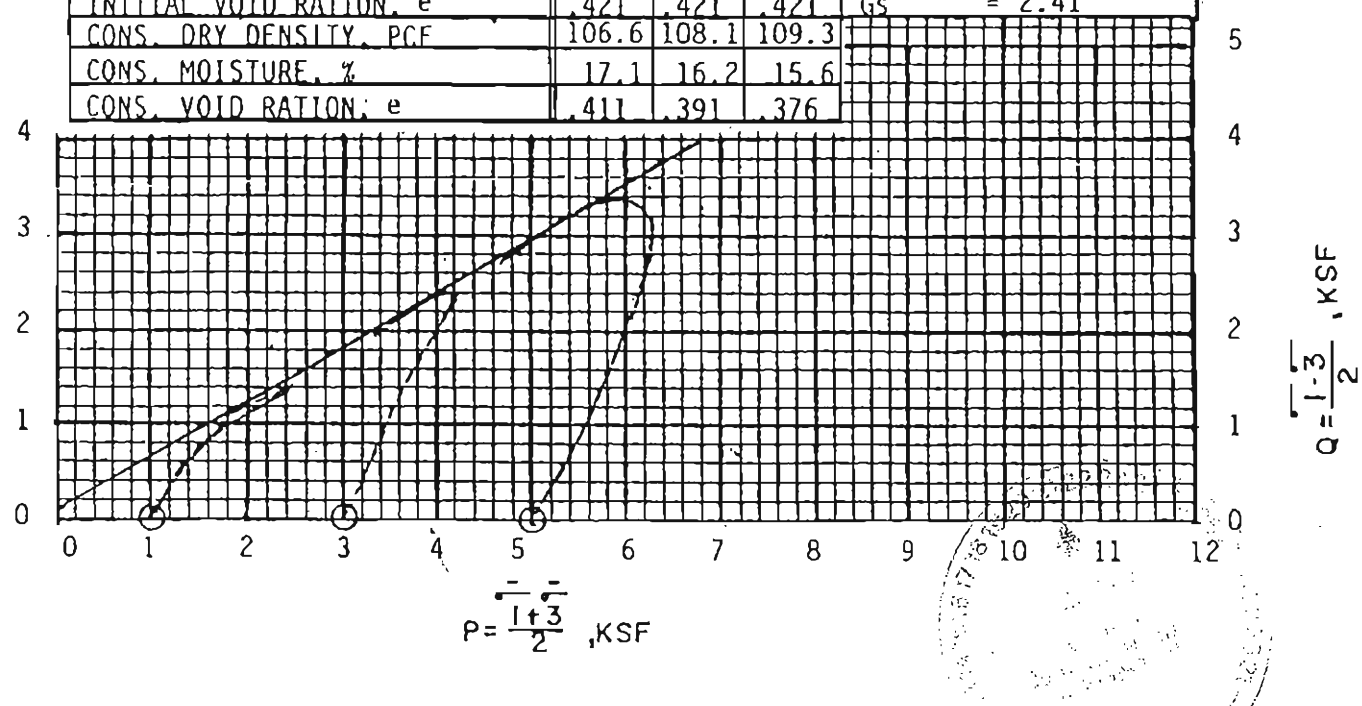
TRIAXAL SHEAR/CONSOLIDATED UNDRAINED/PORE PRESSURE

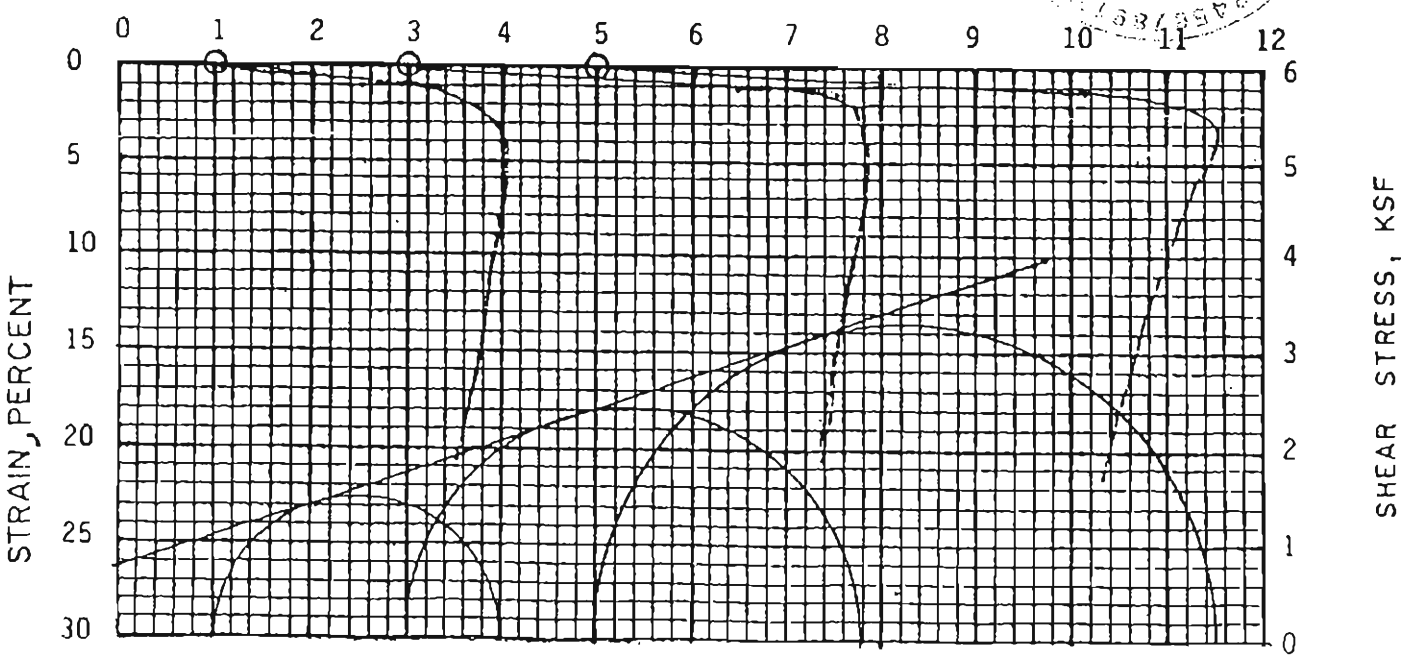
JOB NO. 81778	JOB NAME Perc Engineering	BORING/PIT NO. B-1
REVIEWED	LOCATION PMNR #1	SAMPLE NO./TYPE S-1
DATE 09/91	TEST PROCEDURE Remolded 90%	DEPTH/ELEV. 0

SPECIMEN NO.	1	2	3
CONFINING PRESSURE, KSF	1	3	5
INITIAL DRY DENSITY, PCF	105.9	105.9	105.9
INITIAL MOISTURE, %	9.2	9.2	9.2
INITIAL VOID RATION, e	.421	.421	.421
CONS. DRY DENSITY, PCF	106.6	108.1	109.3
CONS. MOISTURE, %	17.1	16.2	15.6
CONS. VOID RATION, e	.411	.391	.376

TOTAL Ø = 18°
TOTAL C = 0.45 ksf
EFF. Ø = 34.5°
EFF. C = 0.18 ksf
Gs = 2.41



AXIAL STRESS, KSF



STRESS - STRAIN CURVES/MOHR DIAGRAMS

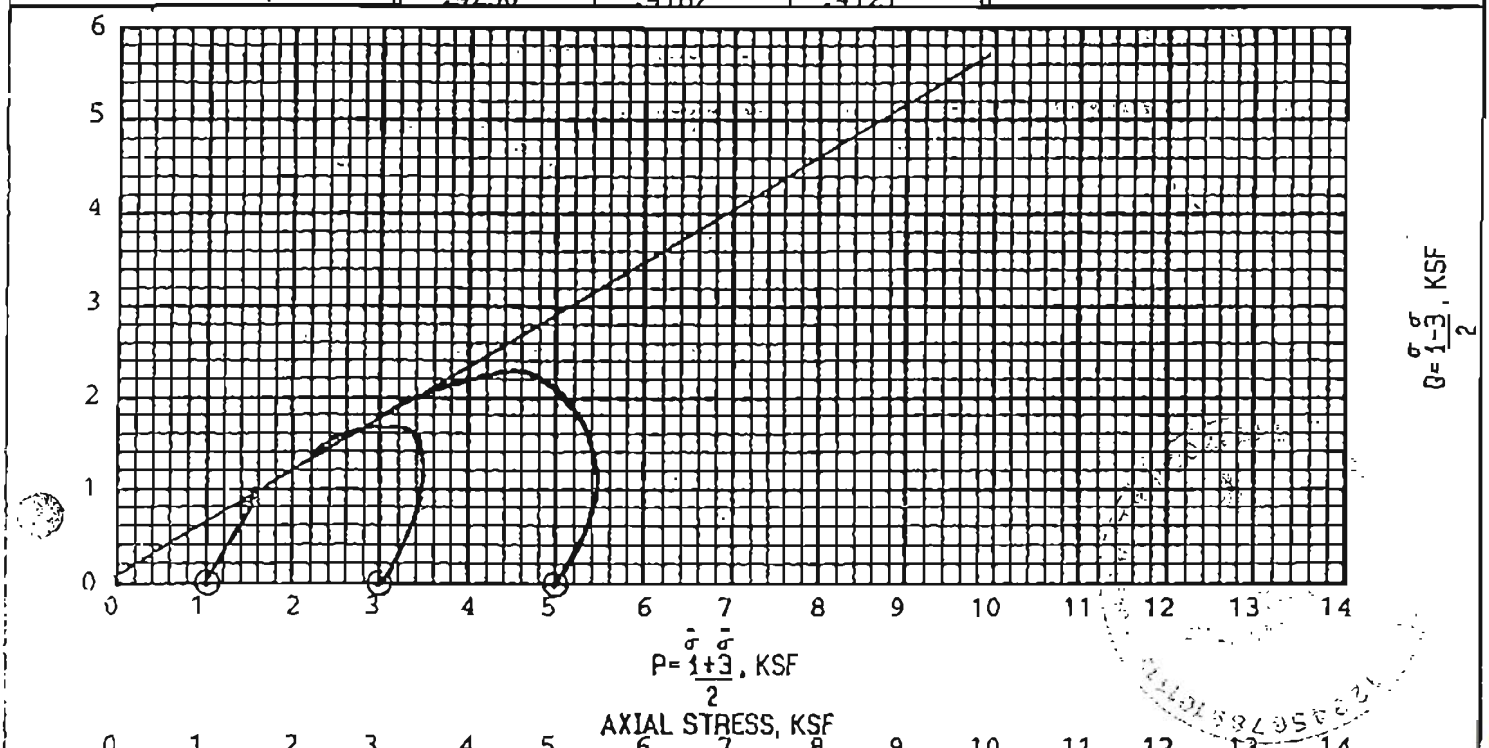
GROUND ENGINEERING
AND TESTING SERVICE, INC

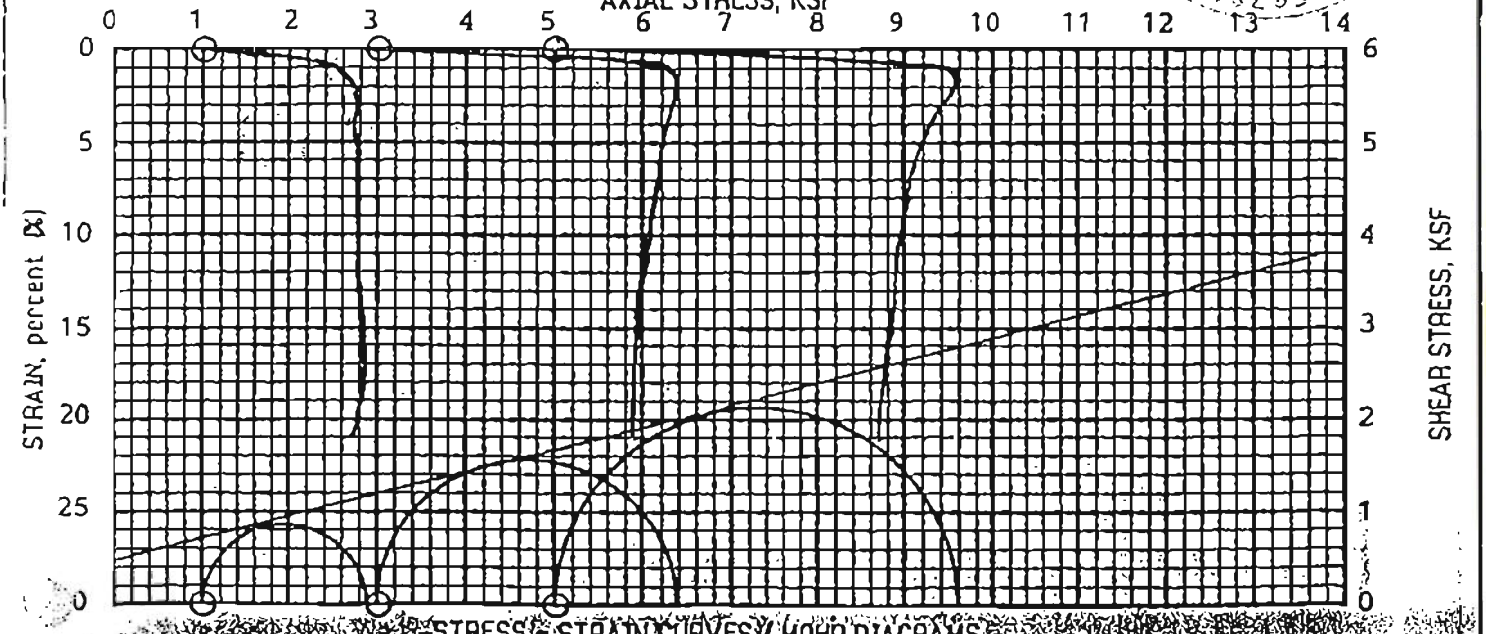
TRIAXIAL SHEAR TEST
CONSOLIDATED UNDRAINED / PORE PRESSURE

GROUND ENGINEERING & TESTING SERVICE, INC.

JOB NO. B1778-010	JOB NAME PERK ENGINEERING	BORING/PIT NO. N/A
REVIEWED	LOCATION	SAMPLE NO./TYPE Coarse Refuse 90% Compaction
DATE 9/95	TEST PROCEDURE SEE NOTE 1	DEPTH/ELEVATION N/A

SPECIMEN NO.	1	2	3	TOTAL Ø = 14.5°
CONFINING PRESSURE, KSF	1	3	5	TOTAL C = 0.5 KSF
INITIAL DRY DENSITY, PCF	91.7	91.7	91.7	EFF. Ø = 33.35°
INITIAL MOISTURE, %	6.5	6.5	6.5	EFF. C = 0.12 KSF
INITIAL VOID RATIO, e	.4706	.4699	.4699	Gs = 2.16
CONS. DRY DENSITY, PCF	94.6	95	95.4	
CONS. MOISTURE, %	19.7	19.4	19.1	
CONS. VOID RATIO, e	.4250	.4182	.4121	





STRESS - STRAIN CURVES / MOHR DIAGRAMS

NOTE 1: REMOLDED TO 90% MOD PFC @ OPTM

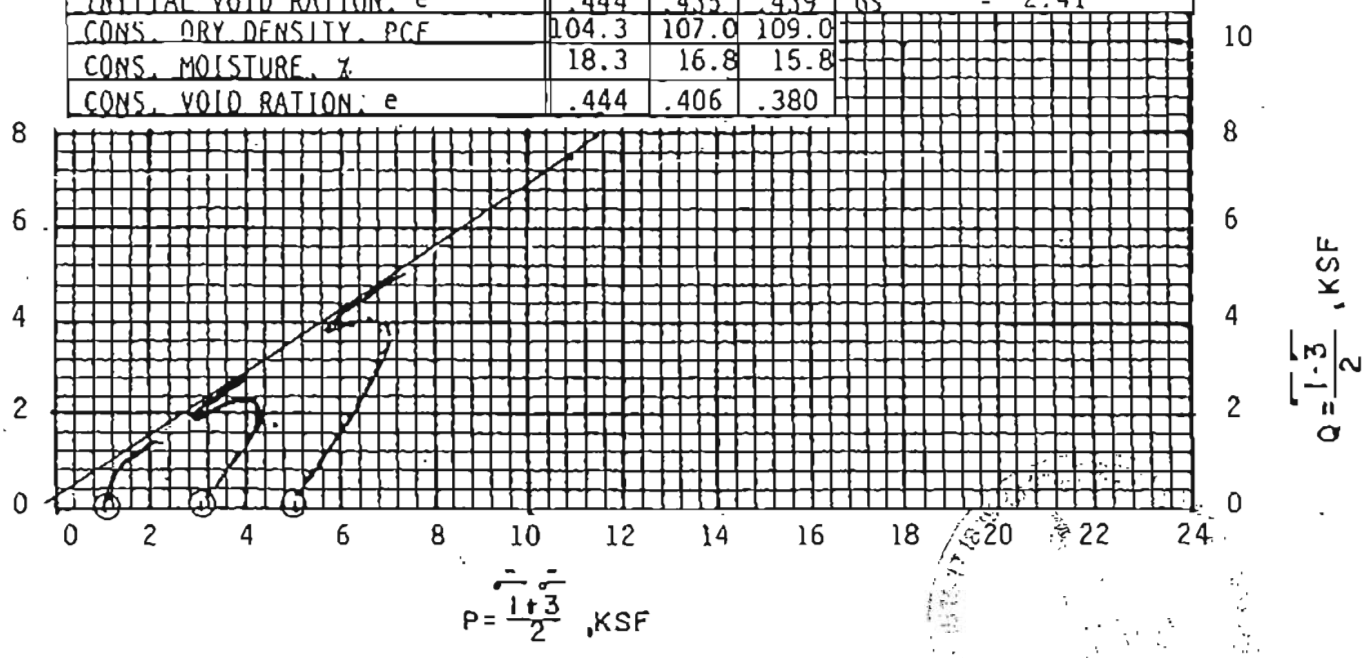
Taken from F-3222

TRIAXAL SHEAR/CONSOLIDATED UNDRAINED/PORE PRESSURE

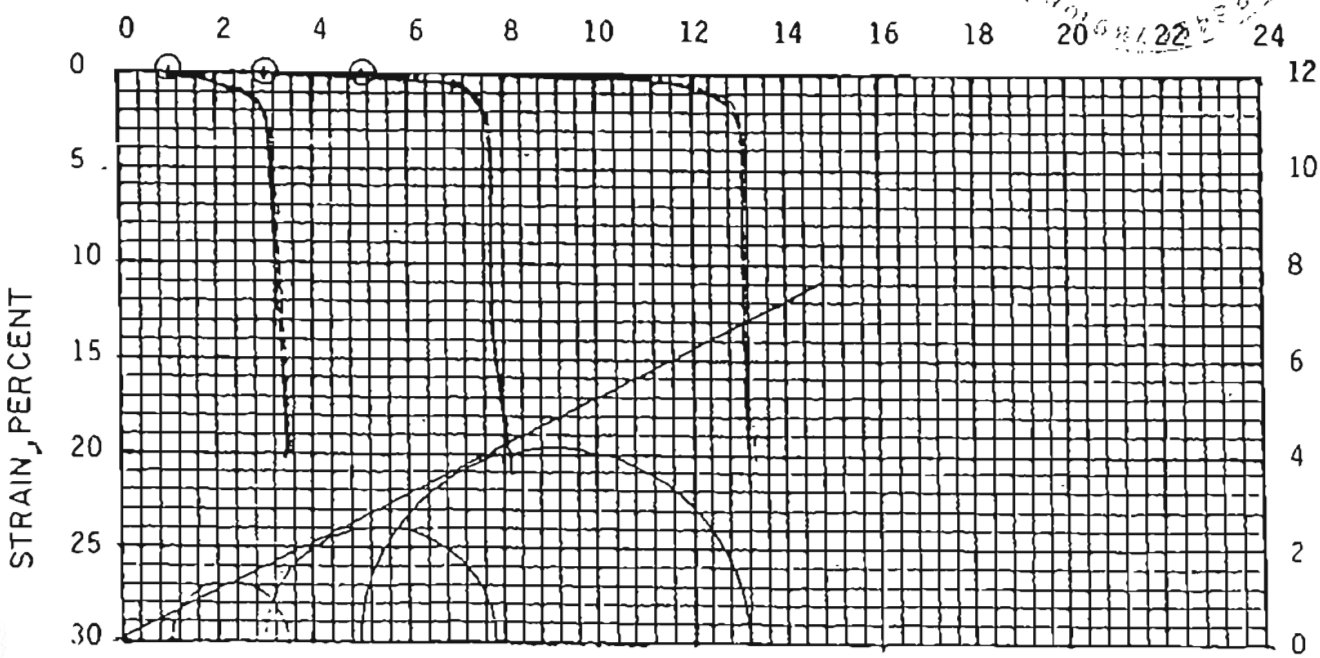
JOB NO. 81778	JOB NAME Perc Engineering	BORING/PIT NO. B-2
REVIEWED	LOCATION PMNR #2	SAMPLE NO./TYPE S-2
DATE 09/91	TEST PROCEDURE Remolded 90%	DEPTH/ELEV. 0

SPECIMEN NO.	1	2	3
CONFINING PRESSURE, KSF	1	3	5
INITIAL DRY DENSITY, PCF	104.2	104.3	104.5
INITIAL MOISTURE, %	10.2	10.2	10.2
INITIAL VOID RATION, e	.444	.435	.439
CONS. DRY DENSITY, PCF	104.3	107.0	109.0
CONS. MOISTURE, %	18.3	16.8	15.8
CONS. VOID RATION, e	.444	.406	.380

TOTAL Ø = 17.2°
TOTAL C = 0.4 ksf
EFF. Ø = 38.7°
EFF. C = 0.12 ksf
Gs = 2.41



AXIAL STRESS, KSF

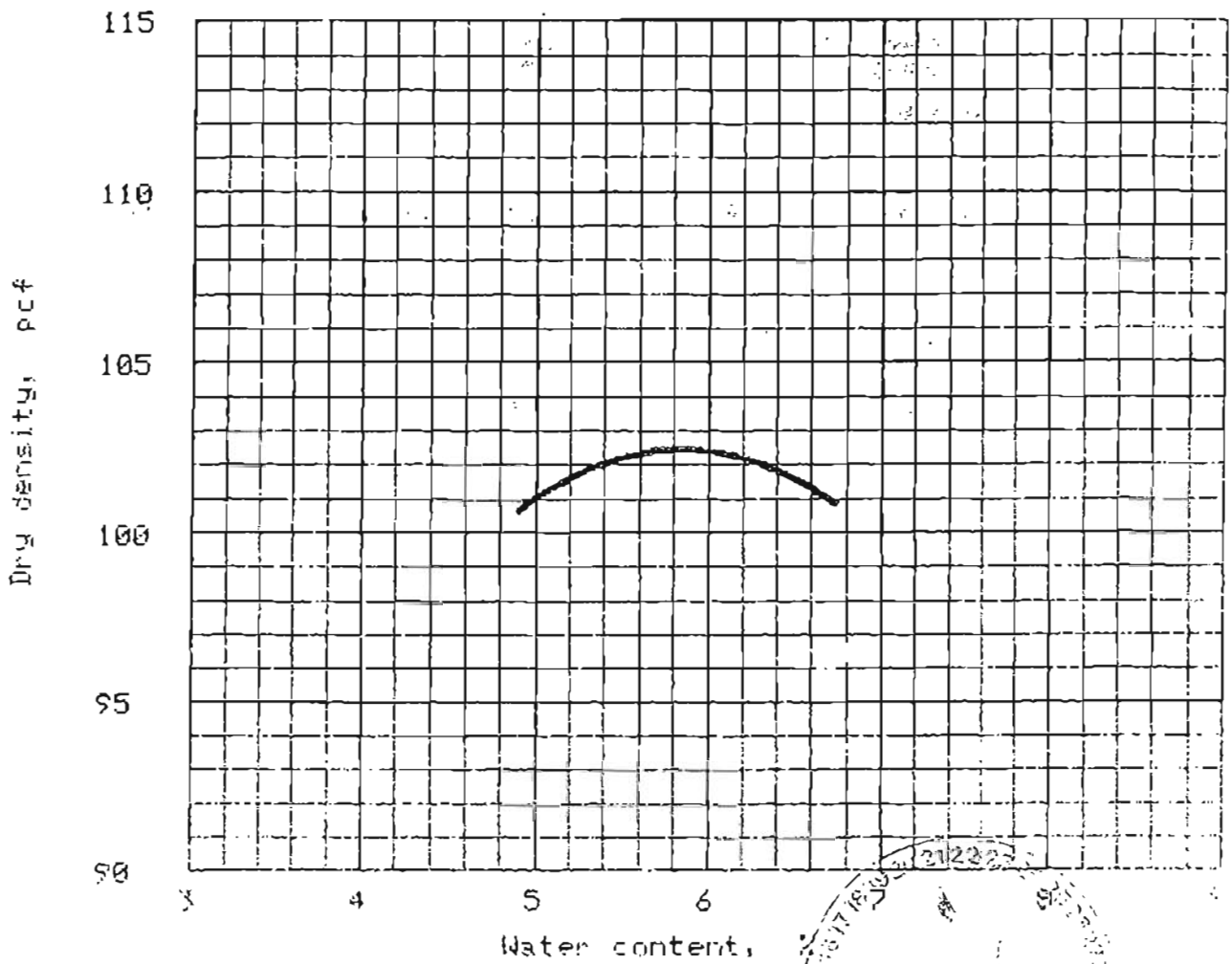


STRESS - STRAIN CURVES/MOHR DIAGRAMS

GROUND ENGINEERING
AND TESTING SERVICE INC

Taken from P-3256

PROCTOR TEST REPORT



"Standard" Proctor, ASTM D 698, Method C

Elev/ Depth	Classification USCS	Classification AASHTO	Nat. Moist.	Sp. G.	LL	PI	% 3/4 in	% No.

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 5.8 % Maximum dry density = 102.4 pcf	Coarse Refuse

Project No.: 1798
Project: Jim Walter Resources
Location: Mine #5

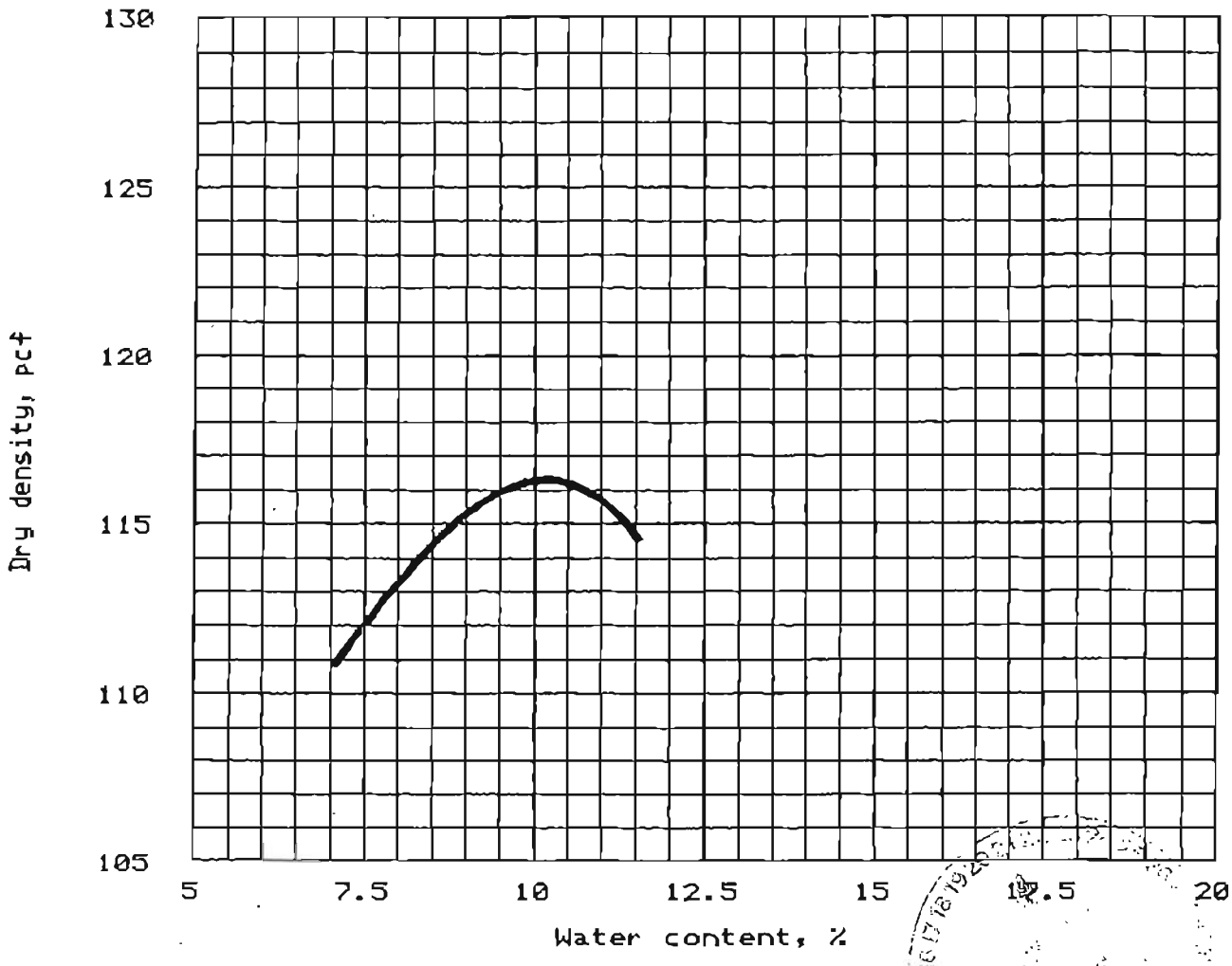
Date: 8-30-1995

Remarks:

PROCTOR TEST REPORT
PERC ENGINEERING CO., INC.

Figure No.:

PROCTOR TEST REPORT Taken from P-3222



"Standard" Proctor, ASTM D 698, Method C

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
			%				%	%

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 10.2 % Maximum dry density = 116.3 pcf	COARSE REFUSE

Project No.:

Project: PITTSBURG & MIDWAY COAL MINING CO

Location: NORTH RIVER UNDERGROUND #1

Date: 3-05-1992

Remarks:

SAMPLE B-2

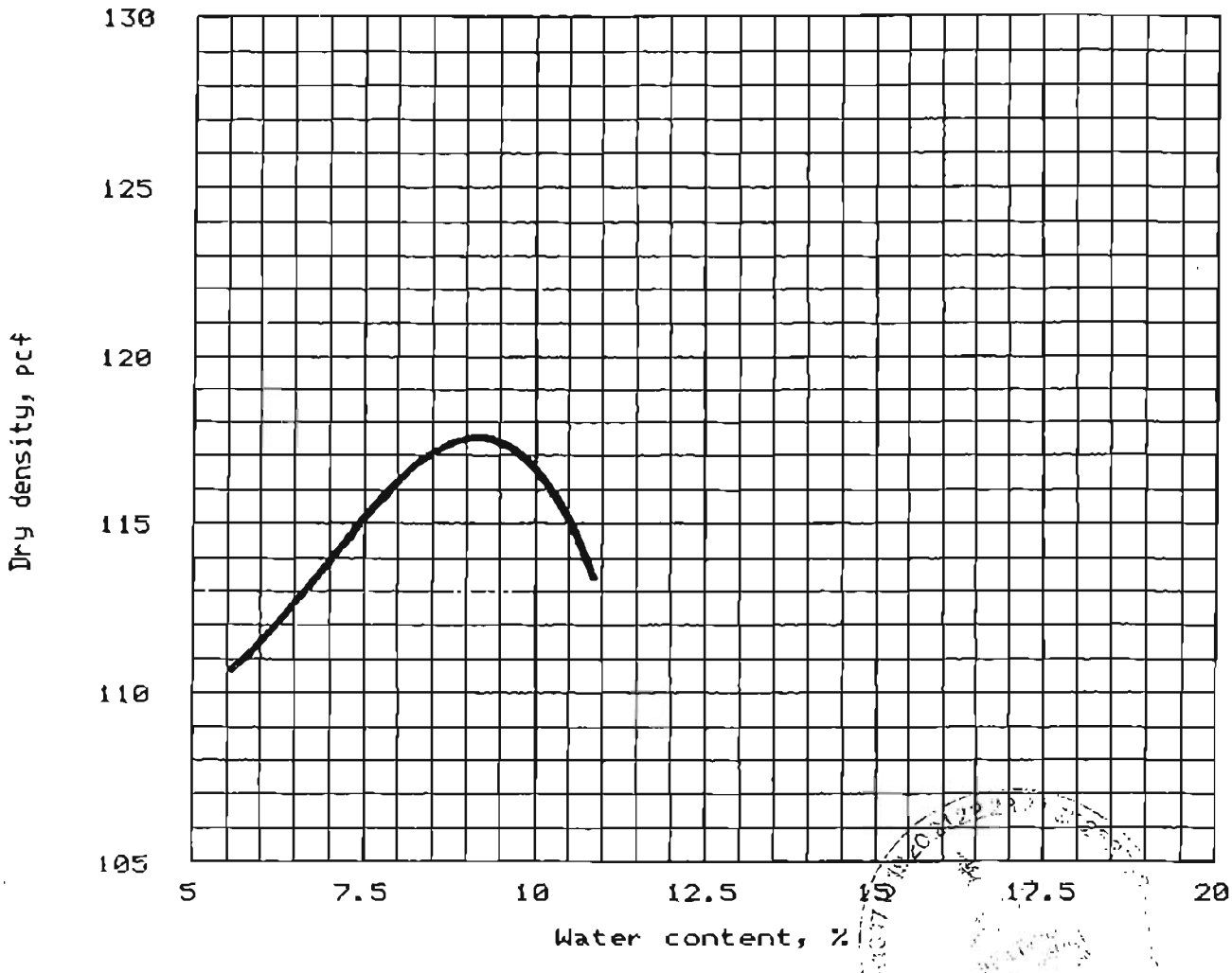
PROCTOR TEST REPORT

PERC ENGINEERING CO., INC.

Fig. No. _____

PROCTOR TEST REPORT

Taken from P-3222



"Standard" Proctor, ASTM D 698, Method C

Elev/ Depth	Classification USCS	Classification AASHTO	Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
			%				%	%

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 9.2 % Maximum dry density = 117.5 pcf	COARSE REFUSE

Project No.:

Project: PITTSBURG & MIDWAY COAL

Location: NORTH RIVER UNDERGROUND #1

Date: 3-05-1992

Remarks:

SAMPLE B-1

PROCTOR TEST REPORT

PERC ENGINEERING CO., INC.

Fig. No. _____

PERC ENGINEERING CO., INC.

ENGINEERS & SURVEYORS

TELEPHONE (205) 384-5553
FACSIMILE (205) 384-9491

P.O. BOX 1712
JASPER ALABAMA 35502

COMPANY NAME: MR Pratt One, L.L.C.

COLLECTED BY: SG

MINE NAME: Pratt Mine

DATE COLLECTED: 4-14-97

DRILL HOLE: CM-2

ANALYZED BY: JF

DATE ANALYZED: 5-1-97

All analysis is performed according to
EPA standards.

INTERVAL		PASTE pH	% SULFUR	MAX. POT. *ACIDITY	NEUT. *POT	A-B *ACCOUNT	ACID FORMING
0.00	0.01	4.510	0.005	0.156	-1.250	-1.406	N

*Calculated in tons CaCo3 per 1000 tons of material.

PERC ENGINEERING CO., INC.

ENGINEERS & SURVEYORS

TELEPHONE (205) 384-3553
FACSIMILE (205) 384-9491

P.O. BOX 1732
JASPER, ALABAMA 35502

COMPANY NAME: MR Pratt One, L.L.C.

MINE NAME: Pratt Mine

DRILL HOLE: CM-1

COLLECTED BY: SG

DATE COLLECTED: 4-14-97

ANALYZED BY: JF

DATE ANALYZED: 5-1-97

All analysis is performed according to EPA standards.

INTERVAL		PASTE pH	% SULFUR	MAX. POT. *ACIDITY	NEUT. *POT	A-B *ACCOUNT	ACID FORMING
0.00	0.01	4.360	0.004	0.125	-2.000	-2.125	N

*Calculated in tons CaCo3 per 1000 tons of material.

PERC ENGINEERING CO., INC.

ENGINEERS & SURVEYORS

TELEPHONE (205) 384-5553
FACSIMILE (205) 384-9491

P.O. BOX [illegible]
JASPER, ALABAMA [illegible]

COMPANY NAME: M R Pratt One L.L.C.

COLLECTED BY:

MINE NAME: Pratt Mine

DATE COLLECTED:

DRILL HOLE: Washer Refuse Sink

ANALYZED BY: J.R.

DATE ANALYZED: 2-7-97

All analysis is performed according to EPA standards.

INTERVAL		PASTE pH	% SULFUR	MAX. POT. *ACIDITY	NEUT. *POT	A-B *ACCOUNT	ACID FORMING
0.00	0.01	2.810	2.810	87.813	-6.250	-94.063	Y
**AVERAGE		2.810	2.810	87.813	-6.250	-94.063	Y

*Calculated in tons CaCo3 per 1000 tons of material.
**Averages do not include coal seam to be mined or intervals below lowest seam.
***Not analyzed