46° 47' 44.6" 28° 13' 37.6

LABORATORY BORING LOG

SAMPLE NO. 1

Boring Number 99-82UB

Location

Date Taken 10 Oct 99 M.S.L. -0.7

| CONSISTENCY | COLOR | | | | DESCRIPTION OF MATERIAL | | | |

Cup # 67

LIQUID AND PLASTIC LIMIT TESTS

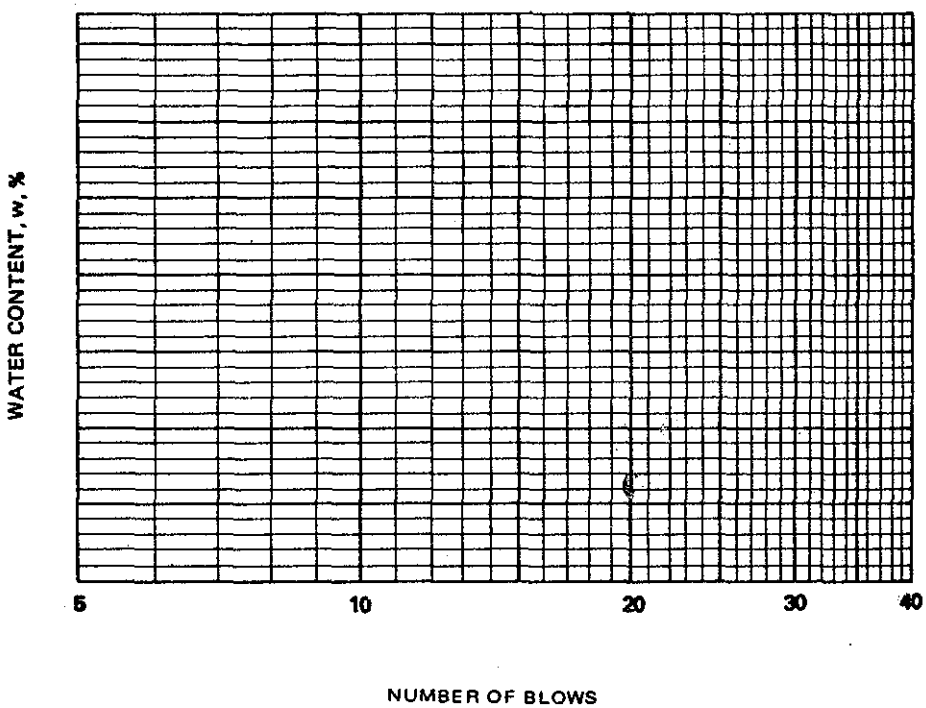
For use of this form, see EM 1110-2-1906.

PROJECT 20-02 ARANSAS WILDLIFE REFUSE DATE 14 OCT 1999

BORING NO. 99-82 4B SAMPLE NO. 1-B

LIQUID LIMIT

			1	2	3	4	5	6
RUN NO.			1	2				
TARE NO.			218	223				
WEIGHT IN GRAMS	TARE PLUS WET SOIL		29.05	29.26				
	TARE PLUS DRY SOIL		25.21	25.43				
	WATER	W_w	3.84	3.83				
	TARE		14.64	14.84				
	DRY SOIL	W_s	10.57	10.59				
WATER CONTENT, %		w	36.33	36.17				
NUMBER OF BLOWS			27	27				



LL 37 37

PL 16 17

PI 20

Symbol from plasticity chart CL-4

PLASTIC LIMIT

			1	2	3	4	5	NATURAL WATER CONTENT
RUN NO.			1	2				
TARE NO.			27	25				
WEIGHT IN GRAMS	TARE PLUS WET SOIL		21.18	20.87				
	TARE PLUS DRY SOIL		19.65	19.31				
	WATER	W_w	1.53	1.56				
	TARE		10.10	10.04				
	DRY SOIL	W_s	9.55	9.27				
WATER CONTENT, %		w	16.02	16.83				
PLASTIC LIMIT			16	17				

REMARKS

TECHNICIAN J.M^c COMPUTED BY J.M^c CHECKED BY

ENG FORM 1 JUN 65 3838

☆U.S.GPO:1984-0-452-954/18850

PLATE III-1

LIQUID AND PLASTIC LIMIT TESTS

For use of this form, see EM 1110-2-1906.

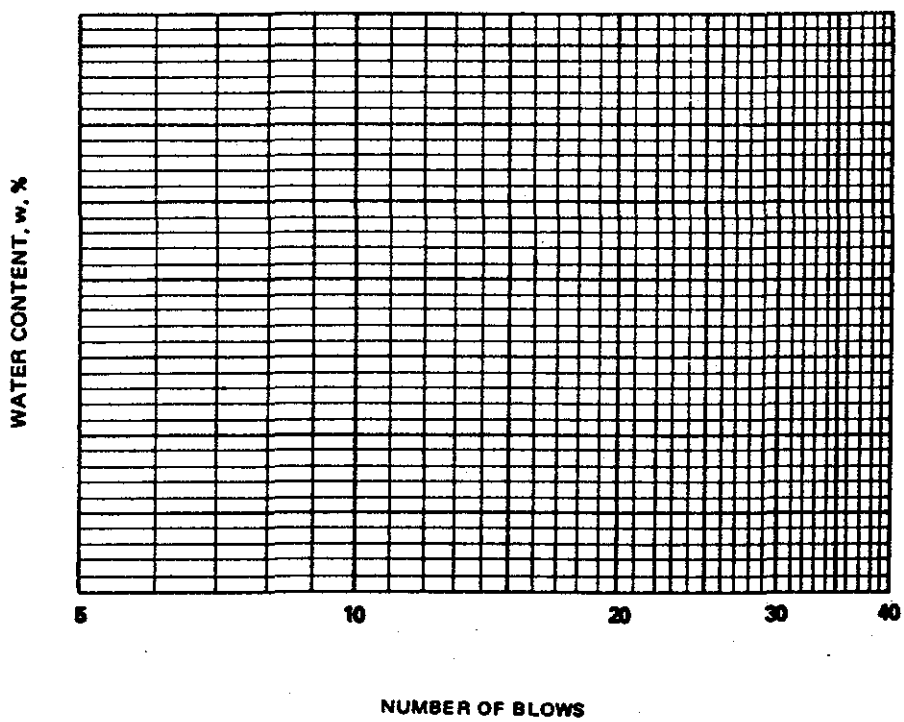
PROJECT G.I.W.W. ARANSAS Wildlife DATE 30

BORING NO. 99-82UB SAMPLE NO. 2-C

LIQUID LIMIT

	RUN NO.	1	2	3	4	5	6
	TARE NO.	106	118				
WEIGHT IN GRAMS	TARE PLUS WET SOIL	23.99	23.96				
	TARE PLUS DRY SOIL	19.65	19.80				
	WATER W_w	4.34	4.16				
	TARE	10.56	10.95				
	DRY SOIL W_s	9.09	8.85				
	WATER CONTENT, % w	47.74	47.01				
	NUMBER OF BLOWS	21	23				

CUP NO. 29



LL 47

PL 20

PI 27

Symbol from plasticity chart CL6

PLASTIC LIMIT

	RUN NO.	1	2	3	4	5	NATURAL WATER CONTENT
	TARE NO.	10	49				
WEIGHT IN GRAMS	TARE PLUS WET SOIL	21.21	21.03				
	TARE PLUS DRY SOIL	19.30	19.13				
	WATER W_w	1.91	1.90				
	TARE	9.92	9.81				
	DRY SOIL W_s	9.38	9.32				
	WATER CONTENT, % w	20.36	20.39				
	PLASTIC LIMIT	20	20				

REMARKS

TECHNICIAN COMPUTED BY CHECKED BY

ENG FORM 1 JUN 65 3838

☆U.S.GPO:1984-0-452-954/18650

LIQUID AND PLASTIC LIMIT TESTS CL-6

SAMPLE NO:2-C
BORING NO:99-82-UB LL: 47 PL: 20 PI: 27 TECH:V.J.LDATE:12-27-1999

LIQUID LIMIT

RUN NO.	(1)	(2)	(3)	(4)	(5)	(6)
TARE NO.	106	118				
TARE + WET SOIL WT.	23.99	23.96				
TARE + DRY SOIL WT.	19.65	19.80				
WATER WT.	4.34	4.16				
TARE WT.	10.56	10.95				
DRY SOIL WT.	9.09	8.85				
WATER CONTENT(%).	47.74	47.01				
NUMBER OF BLOWS.	21.00	23.00				
LIQUID LIMIT.	47	47				

PLASTIC LIMIT

TARE NO.	10	49				
TARE + WET SOIL WT.	21.21	21.03				
TARE + DRY SOIL WT.	19.30	19.13				
WATER WT.	1.91	1.90				
TARE WT.	9.92	9.81				
DRY SOIL WT.	9.38	9.32				
WATER CONTENT(%).	20.36	20.39				
PLASTIC LIMIT.	20	20				

91° 47' 44.6"

37.6"

Gauge 2.50
Wt. Depth 3.20

BORING LOG
FIELD DATA

Project G.I.W.W. Arkansas Wildlife Refuse Site _____ Date 10/10
Location _____ Job No. 20-02
Drill Rig _____ Inspector Richards Operator Duneau Surface El -0.7 Boring No. 99-82 UB

SAMPLE NUMBER	DATE TAKEN	STRATUM FROM	STRATUM TO	DRIVE FROM	DRIVE TO	SAMPLE FROM	SAMPLE TO	TYPE OF SAMPLER			CLASSIFICATION AND REMARKS
1	10/10			0.0	4.0	0.0	2.5	5" Undist			2.5 rec VSO Gr CH
2				4.0	7.5	4.0	7.0				3.0 rec VSO Gr CH
3				8.0	11.5	8.0	11.0				3.0 rec VSO Gr CH
4				13.0	13.5			Spiritspoon	14		
				13.5	14.0				5		
				14.0	14.5	14.0	14.5		8		GMG SM
5				18.0	18.5				12		
				18.5	19.0				12		
				19.0	19.5	19.0	19.5		21		

WES FORM JAN 74 819 EDITION OF NOV 1971 MAY BE USED

Sheet _____ of _____ Sheets

96° 47' 44.6" 28° 13' 37.6

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB
Boring At the Boat Channel.

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E. -0.7

SAMPLE NO. 1

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS ASSIGNED	LOG	SAMPLE FROM PAR KO	SAMPLE TO W/W UDT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PENTRN. RES	U.C.T.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.L.	SIZE	TEST WATER CONTENT	UDT
0.0			0.0	2.0	61	2.0	CL SS	VSO	GR	SIF								
A			120	199.2	61													
0.8							Cl A	VSO	Gr.	MS lgb ar sn few		SIF	Slus	Pos				
B	RT 18		195	173.5	60													
1.7			2.0	4.0		4.0	NS											
C																		
D																		

Shell Fragments

Classifier JMC Recorder P.L. Checker Date Analyzed OCT 14 1999 Sheet 1 of 4 Sheets

LMN Form 721
Rev 69

(Replaces previous edition & LMN Form 680, 30 Jun 66)

MC, UDW, LL, PL

OCT 28 '99 11:03AM COMM-ED-HD

P.1

96° 47' 44.6" 28° 13' 37.6

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E. -0.7

SAMPLE NO.

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS	ASSIGNED	LOG	SAMPLE FROM PAN NO	SAMPLE TO W/W DRY WT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PENTHN. RES.	U.C.T.	BULK DENSITY	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	SIZE	SAME WATER CONTENT	UCT DEPTH
0.0				0.0	2.0	61	2.0	CL SS	VSO	GR	SIF								
A				125	179.2	61													
0.8								Cl A	VSO	Gr	NS lge ars Am few SIF Shell								
B	RTTB			195	173.5	60													
1.7				2.0	4.0		4.0	NS											
C																			
D																			

Classifier JMC Recorder R L Checker Date Analyzed OCT 14 1999 Sheet 1 of 4 Sheets

LMN Form 721 Rev 69 (Replaces previous edition & LMN Form 680, 30 Jun 66)

OCT 28 '99 11:24 CEMVN-ET-ED P.1/4

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99- 82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E.

SAMPLE NO. 2

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS ASSIGNED	LOC	SAMPLE FROM PAN NO.	SAMPLE TO	WATER CONTENT	STRAIN CHARGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PERCEN. RES.	S.G.I.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.I.	SIZE	TRUE WATER CONTENT	DIST. DEPTH
4.0																		
A	DISCARD		4.0	5.9	54	5.9	CL SS.	VSO	GR	SIF OX								
4.5			300	lle														
B																		
			500	151.4	54		CL G	VSO	Gr	Ins lge ors SM few		SIF	OX					
5.5																		
C		1	5.9	6.6		6.6	SM		GR GNG	CS. SIF								
			624	170.5	53													
		2																
6.3			248				SM		Gr. GNG	ors ch few SIF								
		1	6	7.5	41	7.5	CL SS.	VSO	GR	SIF								
D		2	395	187.5	41		CL G	VSO	Gr	Ins lge ors SM few		SIF						
7.2																		

Classifier JMc Recorder RL

weight

weight

Checked DEC 14 1999

Sheet 2 of 2 Pages

LMW Form 721 (Replaces previous edition & LMW Form 680)
Rev 69

96° 47' 44.6 20 12 37.6

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E. -0.7

SAMPLE NO 1

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS	ASSIGNED	LOG	SAMPLE FROM PAN NO	SAMPLE TO (W/W) DRY WT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PENTRN. RES.	U.C.Y.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.L.	SIZE	TEST WATER CONTENT	UCT DEPTH	DRY WT
0.0				0.0	2.0	61	2.0	CL SS	VSO	GR	SIF									
A				120	179.2	61														160
0.8	ATTB							CL A	VSO	Gr	MS Ig ars Sm Few Sif Sl Usb Pos									
B				195	173.5	60														132
1.7				2.0	4.0		4.0	NS												
C																				
D																				

Classifier JMC Recorder [illegible] Checker Date Analyzed OCT 14 1999 Sheet 1 of 4 Sheets

LMN Form 721
Nov 69
(Replaces previous edition & LMN Form 680, 30 Jun 66)

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E.

SAMPLE NO

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS	SAMPLE FROM PAN NO.	SAMPLE TO	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PENETR. RES.	U.C.T.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.L.	DIST.	TEST WATER CONTENT	U.C.T. DEPTH
8.0		7.5	14.0			SM		LGRGN									
A		694															
8.8																	
B	SV	446				SM 1		LGR GN	SPK S DW (specks of duck wood)								
9.5																	
C		548															
10.6																	
D																	

Classifier TMS Recorder R.L. Checker Date Analyzed OCT 14 1999 Sheet 3 of 4 Sheets

LMN Form 721
Nov 69

(Replaces previous edition & LMN Form 680, 3[illegible])

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ S.S.E.

SAMPLE NO. 4-5

FOR UNDISTURBED

DEPTH & SUB SAMP	TESTS	ASSIGNED	LOG	SAMPLE FROM PAR. NO.	SAMPLE TO DRY WT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	Clay Stratus	MODIFICATION SYMBOLS	PENTRN. RES	U.C.T.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.L.	FILL	TEST WATER CONTENT	UCT DEPTH
A				14.0	14.5			SM		BNG	CS		13							
				15.0							CL									
				19.0	19.5		19.5	SM		T	CS		33							
				39.2							CL									
B																				
C																				
D																				

Classifier _____ Recorder _____ Date Analyzed OCT 18 1999 Sheet 5 of 5 Sheets

LMN Form 721
Nov 69

(Replaces previous edition & LMN Form 600, 30 Jun 66)

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99- 82UB
5" UNDIST.

① Boring Number 99-82UB

②-④ Location

⑤ Date Taken 10 Oct '99

⑥ G.S.E.

SAMPLE NO 2

FOR UNDISTURBED

DEPTH & SUB SAMP.	VESTS	LOG	SAMPLE FROM PAR TID	SAMPLE TO W/ WBT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PERTRN. RES.	U.C.T.	BULK DENSITY	ATTERBERG LIMIT L.L.	ATTERBERG LIMIT P.L.	SIZE	TEST WATER CONTENT	UCT DEPTH	DRY WT.
4.0																			
A			4.0	5.9	54	5.9 CL	SS	VSO	GR	SIF OX									
4.5			300	167.8	56														111.8
B			50	151.1	54		CL G	VSO	BG	INS lge ang SM few SIF OR									102.3
5.4																			
C			5.9	6.6		6.6 SM			GR GNG	CS SIF									
			524	170.5	53														157
6.3			248				SM d		Gr GNG	INS ch few SIF									
D		1	6.6	7.5	41	7.5 CL	SS	VSO	GR	SIF									
		2	395	187.5	41		CL b	VSO	Gr	INS lge ang SM few SIF									130
7.2																			

Classifier JMS Recorder RL Checker Date Analyzed OCT 14 1999 Sheet 2 of 2 Sheets

LMN Form 721
Rev 69
(Replaces previous edition & LMN Form 680, 30 Jun 66)

LABORATORY BORING LOG

FOR UNDISTURBED SAMPLES ONLY

20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99-82UB
5" UNDIST.

① Boring Number 99-82UB

②-⑤ Location

⑥ Date Taken 10 Oct '99

SAMPLE NO. 3

FOR UNDISTURBED

DEPTH & SUB SAMP.	TESTS	DESCRIPTION	SAMPLE FROM PAN NO	SAMPLE TO W/W DRY WT	WATER CONTENT	STRATUM CHANGE	BORING LOG	CONSISTENCY	COLOR	MODIFICATION SYMBOLS	PERTEN REF	U.C.T.	BULK DENSITY	ATTERBERG LIMIT			TARE WATER CONTENT	UCT DEPTH
8.0			7.5	14.0			SM		LGR GN									
A																		
8.8																		
B							SM		LGR GN	SPK S. dW								
C																		
10.6																		
D																		

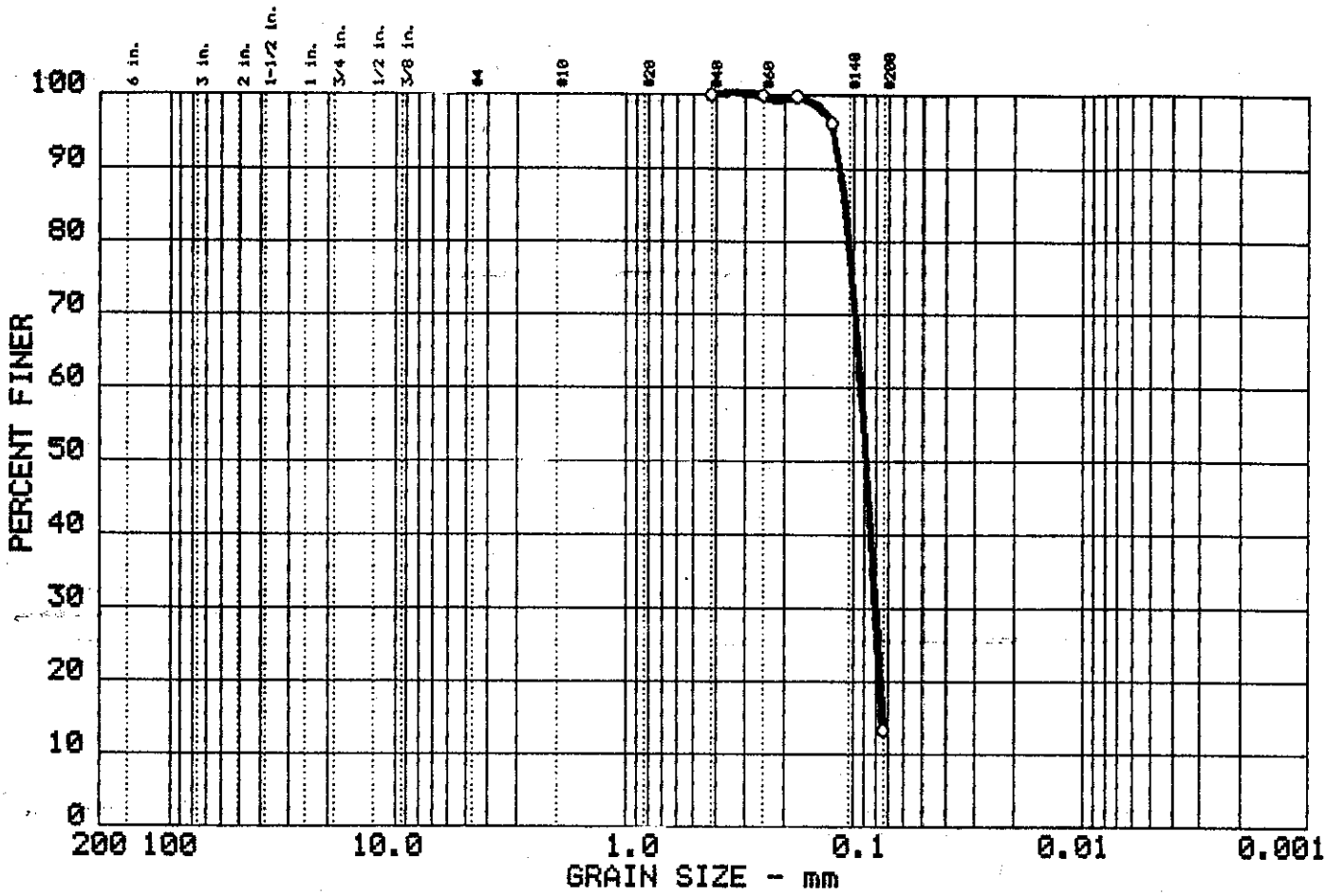
Classifier TMc Recorder RL

Sheet 3 of 4 Sheets

LMN Form 721
Nov 69

(Replaces previous edition & LMN Form 680, 30 Jun 66)

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	15	0.0	0.0	86.7	13.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.11	0.09	0.09	0.080	0.0746			

MATERIAL DESCRIPTION	USCS	AASHTO
o SM		

Project No.: 20-02
Project: G.I.W.W. ARANSAS WILDLIFE REFUSE
o Location: PORT LAVACA,TX.

Date: 16N0V99

Remarks:
PAN 592
CUP 48
ECS

GRAIN SIZE DISTRIBUTION TEST REPORT

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 15

Date: 16NOV99
Project No.: 20-02
Project: G.I.W.W. ARANSAS WILDLIFE REFUSE

Sample Data

Location of Sample: PORT LAVACA,TX.
Sample Description: SM
USCS Class:
AASHTO Class:
Liquid limit:
Plasticity index:

Notes

Remarks: PAN 592 CUP 48
ECS
Fig. No.: 4

Mechanical Analysis Data

	Initial
Dry sample and tare=	140.60
Tare =	0.00
Dry sample weight =	140.60

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
R 40	0.00	100.0
R 60	0.07	100.0
R 80	0.26	99.8
R 120	5.19	96.3
R 200	121.83	13.3

Fractional Components

% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 86.7
% FINES = 13.3

D85= 0.11 D60= 0.093 D50= 0.088
D30= 0.0799 D15= 0.07456

SIEVE ANALYSIS WORK SHEET

Project:	20-02 ARANSAS WILDLIFE REFUSE PORT LAVACA, TEXAS (99) BOR: 99- 82UB 5" UNDIST.	Date: Sheet No:

Boring No:										
U.S. STD Sieve No.	Opening mm.	Sample No. 4			Sample No.			Sample No.		
		Sample Elev.			Sample Elev.			Sample Elev.		
		Sample Wt. 140.6 gms			Sample Wt. gms			Sample Wt. gms		
		Sieve Wt 126.14 gms			Sieve Wt. gms			Sieve Wt. gms		
		Ret. gms	Ret. %	Pass %	Ret. gms	Ret. %	Pass %	Ret. gms	Ret. %	Pass %
1"	25.4	PAN	592							
3/4"	19.1	Cup	4/8							
1/2"	12.7									
3/8"	9.52									
4	4.76									
6	3.36									
10	2.00									
12	1.68									
16	1.19									
18	1.00									
20	0.84									
30	0.59									
35	0.50									
40	0.42	0.0								
50	0.297									
60	0.250	.07								
70	0.210									
80	0.177	.26								
100	0.149									
120	0.125	5.19								
140	0.105									
200	0.074	121.83								
230	0.062									
Pan										
Total										

Technician:	Computed:	Checked:

SIEVE ANALYSIS WORK SHEET

Project: 20-02 ARANSAS WILDLIFE REFUSE
PORT LAVACA, TEXAS (99)
BOR: 99- 82UB
5" UNDIST.

Date: 18 OCT 1999
Sheet No:

Boring No:

U.S. STD Sieve No.	Opening mm.	Sample No. 3-B			Sample No.			Sample No.		
		Sample Elev.			Sample Elev.			Sample Elev.		
		Sample Wt. 163.5 gms			Sample Wt. gms			Sample Wt. gms		
		Sieve Wt. 150.3 gms			Sieve Wt. gms			Sieve Wt. gms		
		Ret. gms	Ret. %	Pass %	Ret. gms	Ret. %	Pass %	Ret. gms	Ret. %	Pass %
1"	25.4	P -	446							
3/4"	19.1	C -	BF							
1/2"	12.7									
3/8"	9.52									
4	4.76									
6	3.36									
10	2.00									
12	1.68									
16	1.19									
18	1.00									
20	0.84									
30	0.59									
35	0.50									
40	0.42	0.0		100.0						
50	0.297									
60	0.250	0.5		99.7						
70	0.210									
80	0.177	7.3		95.5						
100	0.149									
120	0.125	52.4		68.0						
140	0.105									
[illegible]	[illegible]	140.7		9.4						