APPENDIX A
ANNEX G-3
Continued

G-3: Geological Investigations – Green, Blue and Yellow Lines

Please refer to the pdf bookmarks for
direct access to each annex

SOILS TEST CORE BORING NUMBER "CP06-L30PP-CB-0003"

Miami-Dade County, Florida

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 6 SHEETS
1. PROJECT	L-30 Seepage Management Pilot Project Top Of Levee L-30 (Center of Roadway)
2. BORING DESIGNATION	CP06-L30PP-CB-0003
LOCATION COORDINATES	X = 821,358 Y = 519,743
3. DRILLING AGENCY	Challenge Engineering & Testing, Inc.
CONTRACTOR FILE NO.	2006D30
4. NAME OF DRILLER	Adam Benson
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	105.0 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLE (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	CME 55 Truckrig
☐ AUTO HAMMER ☒ MANUAL HAMMER	
12. TOTAL SAMPLES	DISTURBED 33 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	5
14. ELEVATION GROUND WATER	5.0 Ft.
15. DATE BORING	STARTED 10-07-06 / COMPLETED 10-18-06
16. ELEVATION TOP OF BORING	17.2 Ft.
17. TOTAL RECOVERY FOR BORING	73 %
18. SIGNATURE AND TITLE OF INSPECTOR	Bob Momberger, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
17.2	0.0						17.2		
			L-30 Levee Fill Material						
							Advanced Boring w/ tricone roller bit		

0
5
10
15

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JUN 02

(Continued)

Boring Designation CP06-L30PP-CB-0003

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 2 OF 6 SHEETS
PROJECT: L-30 Seepage Management Pilot Project	COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
LOCATION COORDINATES: X = 821,358 Y = 519,743	ELEVATION TOP OF BORING: 17.2 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
-0.3	17.5						Advanced Boring w/ tricone roller bit		
		Slightly Weathered	LIMESTONE, oolitic, sparsely fossiliferous, moderately hard, slightly weathered, fine-grained, thick bedding, vuggy, peat filled vugs, Ft. Thompson Formation, 2.5Y 8/2 pale yellow	100	1	RQD 50	4 x 5-1/2" Diamond Impregnated Bit DT = 3 mins HP = 250 psi DFR = 50 %		
			At El. -2.8 Ft., vuggy, quartz filled vugs				-2.8		
			From El. -4.3 to -12.8 Ft., aphanitic, thick bedding, pitted, sand filled pits, 2.5Y 7/2 light gray	100	2 BOX 1	RQD 30	4 x 5-1/2" Diamond Impregnated Bit DT = 6 mins HP = 250 psi DFR = 25 %		
			At El. -6.8 Ft., pitted, clay filled pits				-7.8		
-12.8	30.0			70	3	RQD 45	4 x 5-1/2" Diamond Impregnated Bit DT = 5 mins HP = 250 psi DFR = 0 %		
			LIMESTONE, fossiliferous, very soft, slightly weathered, aphanitic, thin bedding, vuggy, clay filled vugs, 2.5Y 8/1 white	6	BOX 2 4	RQD 0	4 x 5-1/2" Diamond Impregnated Bit DT = 3 mins HP = 250 psi DFR = 0 %		
							-17.8		

15 20 25 30 35

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Boring Designation CP06-L30PP-CB-0003

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 3 OF 6 SHEETS

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
L-30 Seepage Management Pilot Project	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 821,358 Y = 519,743	17.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
		Slightly Weathered	At El. -17.8 Ft., sparsely fossiliferous, moderately hard, slightly weathered, aphanitic, thick bedding, pitted	90	5	RQD 50	4 x 5-1/2" Diamond Impregnated Bit DT = 4 mins HP = 250 psi DFR = 0 %		
			At El. -21.8 Ft., fossiliferous				-22.8		
			At El. -25.8 Ft., soft, vuggy, clay filled vugs	96	BOX 2 6	RQD 20	4 x 5-1/2" Diamond Impregnated Bit DT = 2 mins HP = 250 psi DFR = 0 %		
		Unweathered	At El. -27.3 Ft., moderately hard, unweathered, aphanitic, medium bedding, vuggy, sand filled vugs, 5Y 8/1 white				-27.8		
				70	7	RQD 20	4 x 5-1/2" Diamond Impregnated Bit DT = 3 mins HP = 250 psi DFR = 0 %		
							-32.8		
				90	BOX 3 8	RQD 25	4 x 5-1/2" Diamond Impregnated Bit DT = 4 mins HP = 250 psi DFR = 0 %		
							-37.8		

35 40 45 50 55

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Boring Designation CP06-L30PP-CB-0003

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 4 OF 6 SHEETS

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
L-30 Seepage Management Pilot Project	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 821,358 Y = 519,743	17.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
		Slightly Weathered	At El. -37.8 Ft., slightly weathered, pitted, 2.5Y 8/1 white	70	9 BOX 3	RQD 20	4 x 5-1/2" Diamond Impregnated Bit DT = 2 mins HP = 250 psi DFR = 0 %		
-44.8	62.0	Unweathered	LIMESTONE, hard, unweathered, pitted, 2.5Y 6/1 gray	80	10	RQD 20	4 x 5-1/2" Diamond Impregnated Bit DT = 7 mins HP = 250 psi DFR = 0 %		
		Moderately Weathered	At El. -47.8 Ft., moderately weathered, thin bedding, vuggy, clay filled vugs	40	11 BOX 4	RQD 0	4 x 5-1/2" Diamond Impregnated Bit DT = 2 mins HP = 250 psi DFR = 0 %		
-49.8	67.0		LIMESTONE, soft, clay filled vugs						
-54.8	72.0		SHELL, mostly angular sand to gravel-sized shell up to 1/2", few fine-grained sand-sized carbonate, trace limestone up to 1/8", strong reaction with HCl, wet, 5Y 7/1 light gray	20	12	RQD 0	4 x 5-1/2" Diamond Impregnated Bit DT = 1 mins HP = 250 psi DFR = 0 %		
			At El. -57.1 Ft., little fine-grained sand-sized carbonate, Pinecrest Sand Formation						

Depth scale: 55, 60, 65, 70, 75

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JUN 02

Boring Designation CP06-L30PP-CB-0003

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 5 OF 6 SHEETS
PROJECT: L-30 Seepage Management Pilot Project	COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
LOCATION COORDINATES: X = 821,358 Y = 519,743	ELEVATION TOP OF BORING: 17.2 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				0	13	RQD 0	4 x 5-1/2" Diamond Impregnated Bit		
				67	14		SPT Sampler -59.3	4 2 2	4
				73	15		SPT Sampler -60.8	3 2 4	6
				73	16		SPT Sampler -62.3	3 2 3	5
			At El. -62.3 Ft., mostly angular fine to coarse gravel-sized shell up to 1/2", few silt, few clay, strong reaction with HCl, wet, 10Y 6/1 greenish gray	47	17		SPT Sampler -63.8	7 6 6	12
-65.3	82.5			97	18		SPT Sampler -65.3	5 4 7	11
-66.8	84.0		SAND, silty, mostly fine-grained sand-sized carbonate, little angular sand to gravel-sized shell up to 1/2", few sandstone, strong reaction with HCl, wet, moderate cementation, N 6/ gray (SM)	100	19		-65.6 SPT Sampler -66.8 Advanced Boring	50/0.3'	
			SHELL, low plasticity, mostly angular sand to gravel-sized shell up to 1/2", little clay, few silt, strong reaction with HCl, wet, 10Y 6/1 greenish gray	90	20		SPT Sampler -68.3	14 14 17	31
				53	21		SPT Sampler -69.8	9 19 21	40
			At El. -69.8 Ft., mostly angular fine gravel-sized shell up to 3/4", few silt, strong reaction with HCl, wet, 10Y 6/1 greenish gray	80	22		SPT Sampler -71.3	19 22 26	48
			At El. -71.3 Ft., little silt	90	23		SPT Sampler -72.8	22 21 17	38
-72.8	90.0								
			SAND, silty, mostly medium-grained sand-sized quartz, some angular medium-grained sand-sized shell up to 1/4", strong reaction with HCl, wet, N 6/ gray (SM)	97	24		SPT Sampler -74.3	11 12 15	27
				97	25		SPT Sampler -75.8	14 14 14	28
				97	26		SPT Sampler -77.3	9 6 7	13
				67	27		SPT Sampler	8	

75 80 85 90 95

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JUN 02

Boring Designation CP06-L30PP-CB-0003

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 6 OF 6 SHEETS
PROJECT: L-30 Seepage Management Pilot Project	COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
LOCATION COORDINATES: X = 821,358 Y = 519,743	ELEVATION TOP OF BORING: 17.2 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
			At El. -77.8 Ft., some angular sand to gravel-sized shell up to 1/2", trace silt, strong reaction with HCl, wet, N 6/ gray	67	27		SPT Sampler -78.8	5 6	11
			At El. -78.8 Ft., some angular sand to gravel-sized shell up to 1"	97	28		SPT Sampler -80.3	2 3 7	10
				97	29		SPT Sampler -81.8	29 25 23	48
			At El. -81.8 Ft., little angular medium-grained sand-sized shell up to 1/4", strong reaction with HCl, wet, N 6/ gray	97	30		SPT Sampler -83.3	12 20 27	47
			At El. -83.3 Ft., some angular sand to gravel-sized shell up to 1"	93	31		SPT Sampler -84.8	10 26 28	54
			At El. -84.8 Ft., some angular sand to gravel-sized shell up to 1-1/2"	70	32		SPT Sampler -86.3	15 26 13	39
-87.8	105.0		At El. -86.3 Ft., little angular sand to gravel-sized shell up to 1/2", weak cementation, 10Y 7/1 light greenish gray	73	33		SPT Sampler -87.8	6 7 8	15

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Set 17.5 Ft. of 8" Schedule 40 PVC Pipe Through Center of L-30 Levee To Top of Rock.

3. Boring Drilled/Sampled In Three Phases:
A. Set Surface Casing.
B. 4" Wireline Rock Coring To Base Of Rock.
C. Splitspoon Sampling 30 Ft. Below Base of Rock.

4. Borehole Reamed To 7.5" To Base of Rock. USGS Performed Borehole Logging.

5. 2" Monitoring Well Set @
X = 821356 Y= 519734

Screen From -41.8 to -43.8 Ft.

6. Cored to 80 Ft. To Confirm Out of Rock

7. Boring sealed with available sediment.

140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.).

Abbreviations:
DT = Drill Time.
HP = Hydraulic Pressure.
DFR = Drill Fluid Return.

95 100 105 110 115

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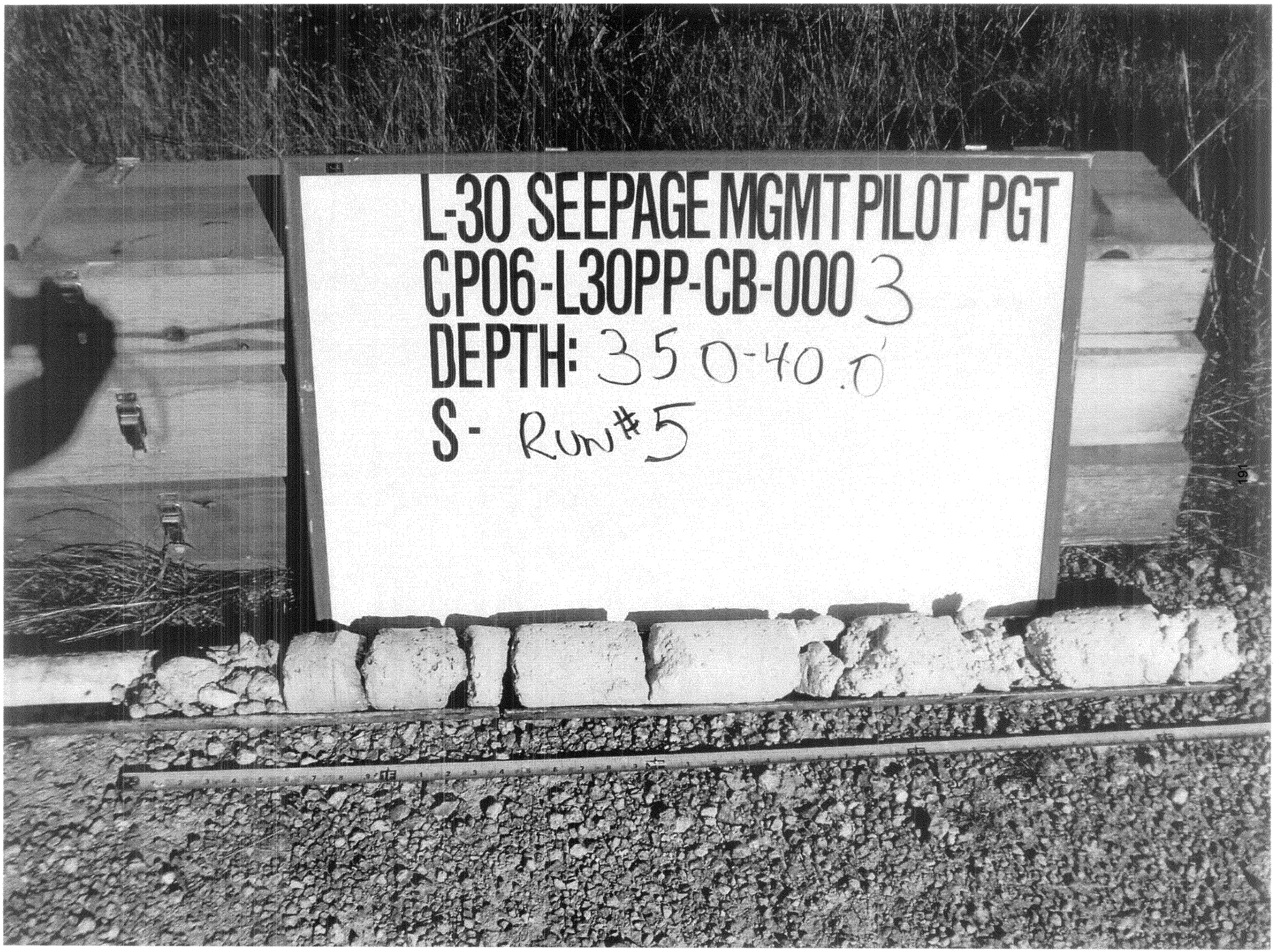
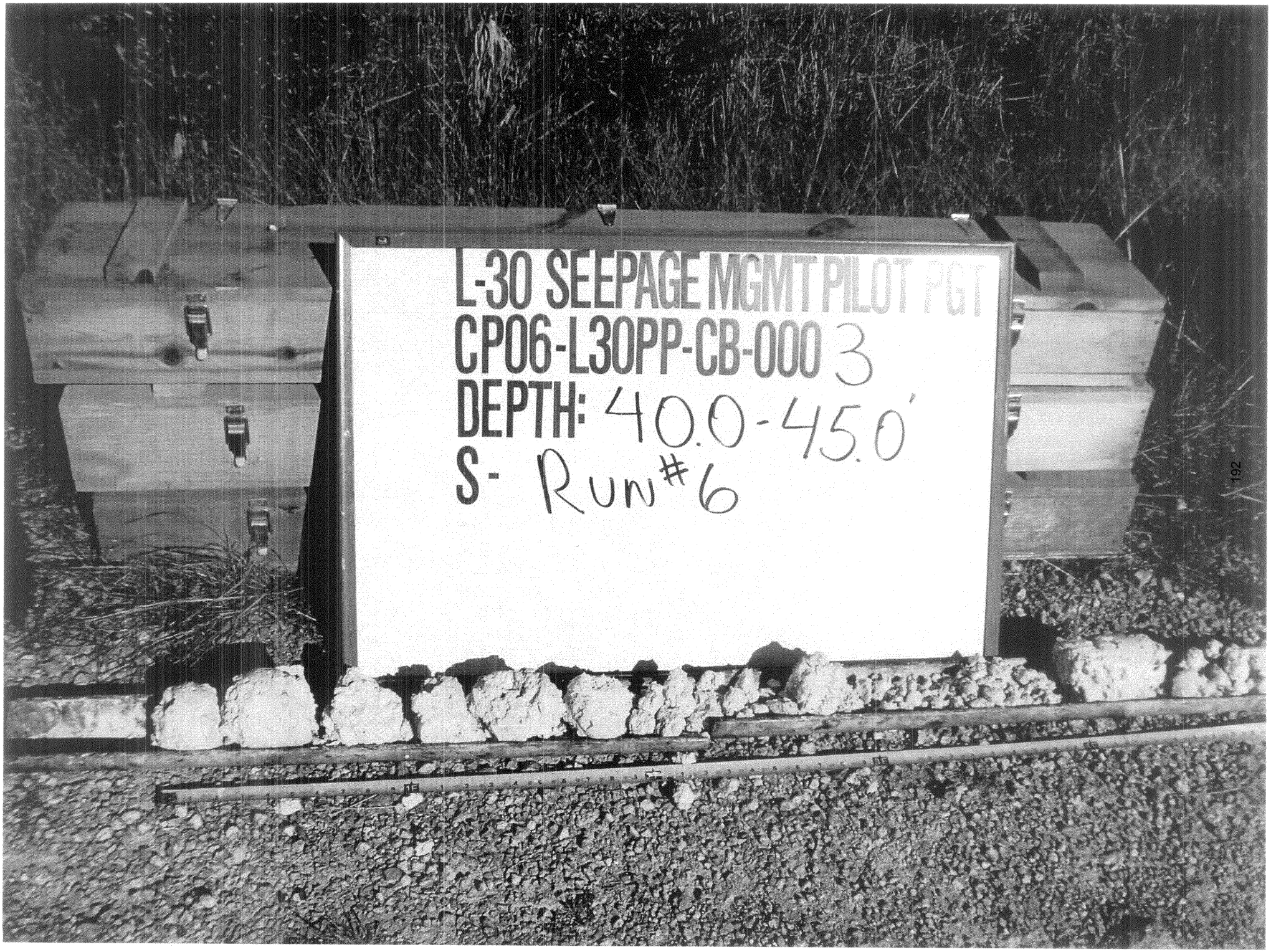
L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 17.5-20.0'
S- RUN #1

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 20.0-25.0'
S- Run# 2

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 25.0 - 30.0
S- Run#3

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 30.0-35.0'
S- RUN#4

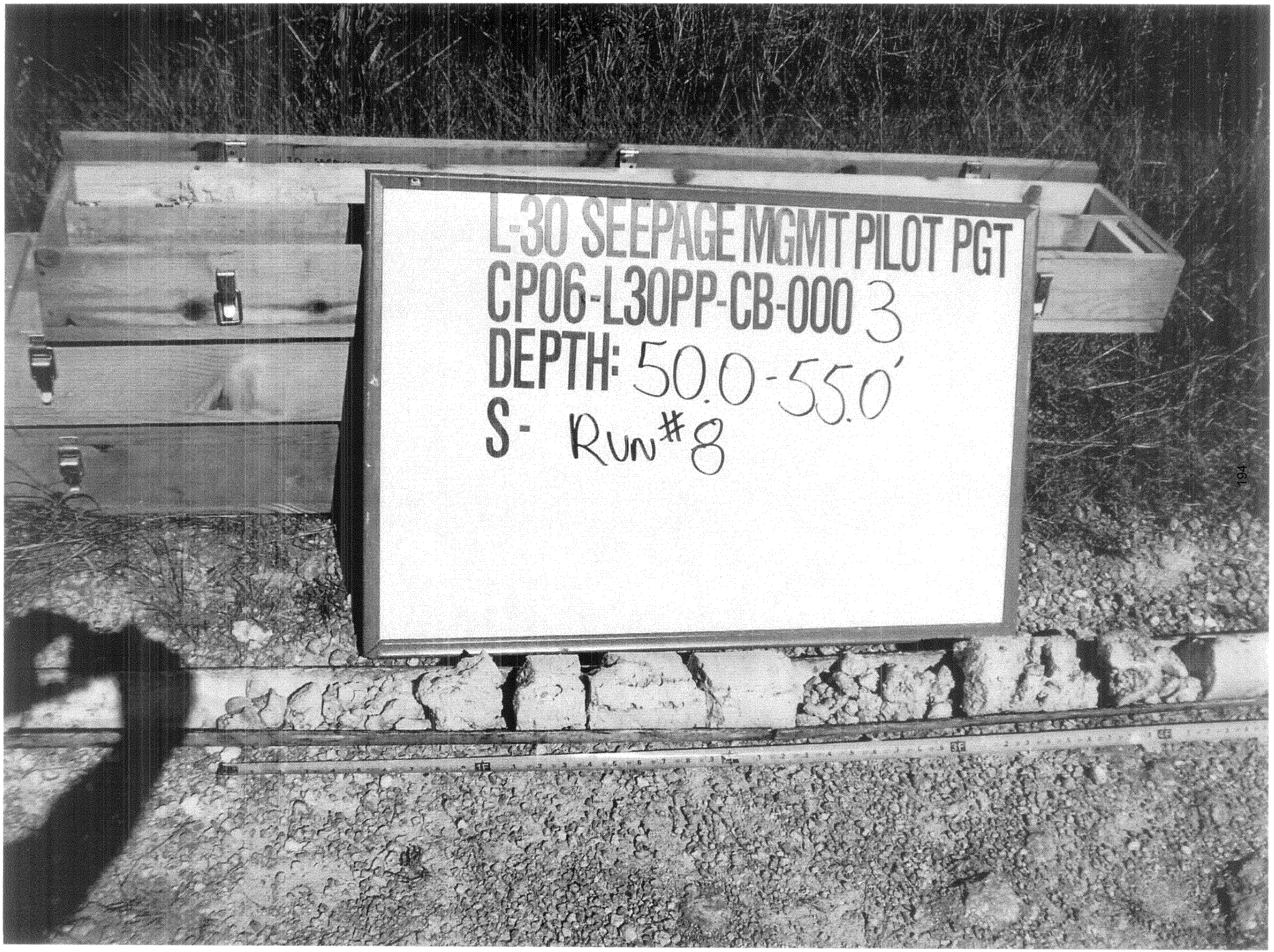

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 350-40.0'
S- Run#5


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 40.0-45.0'
S- Run #6

192

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 45.0-50.0'
S- Run# 7

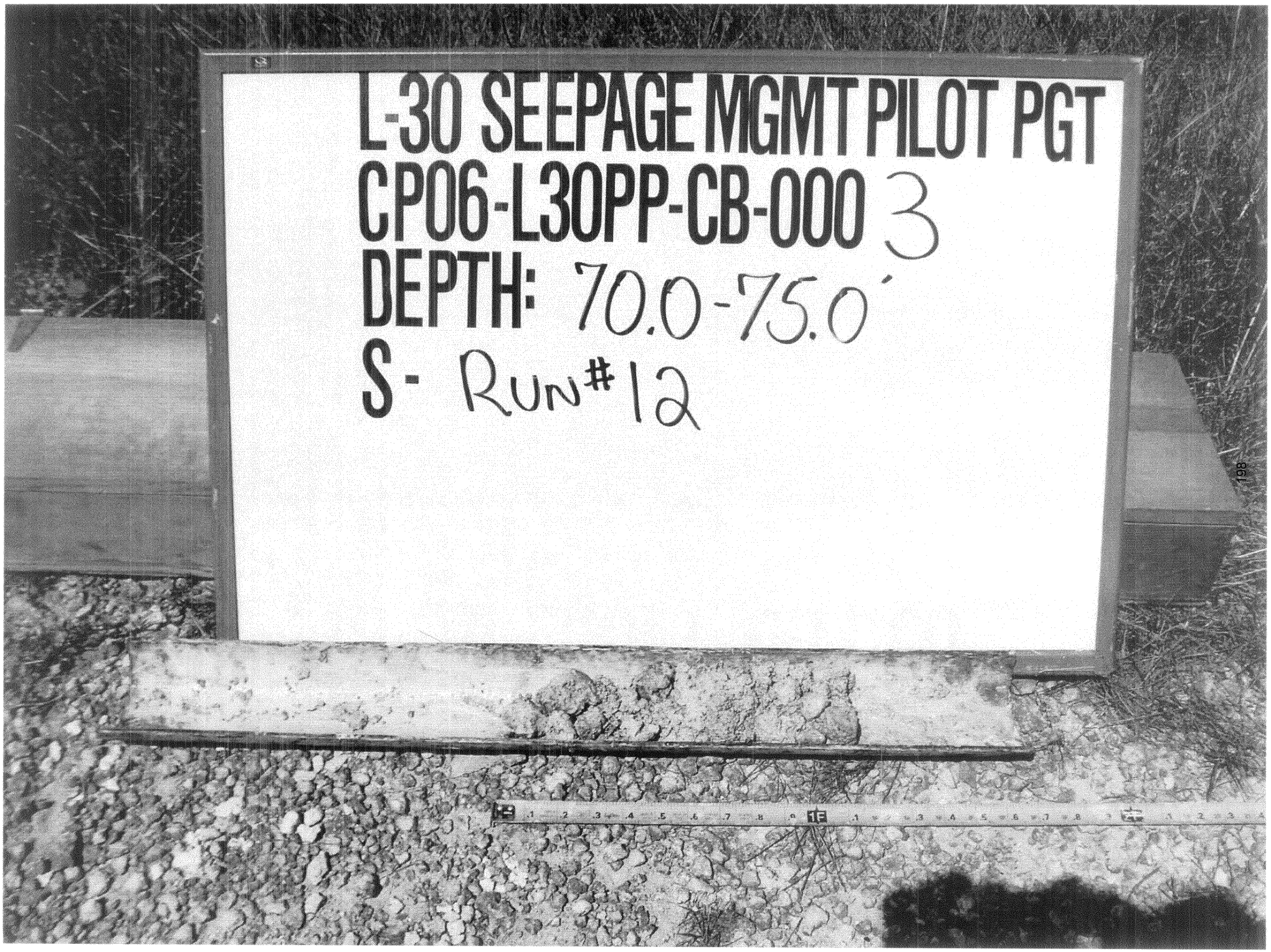
193


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 50.0-55.0'
S- Run #8

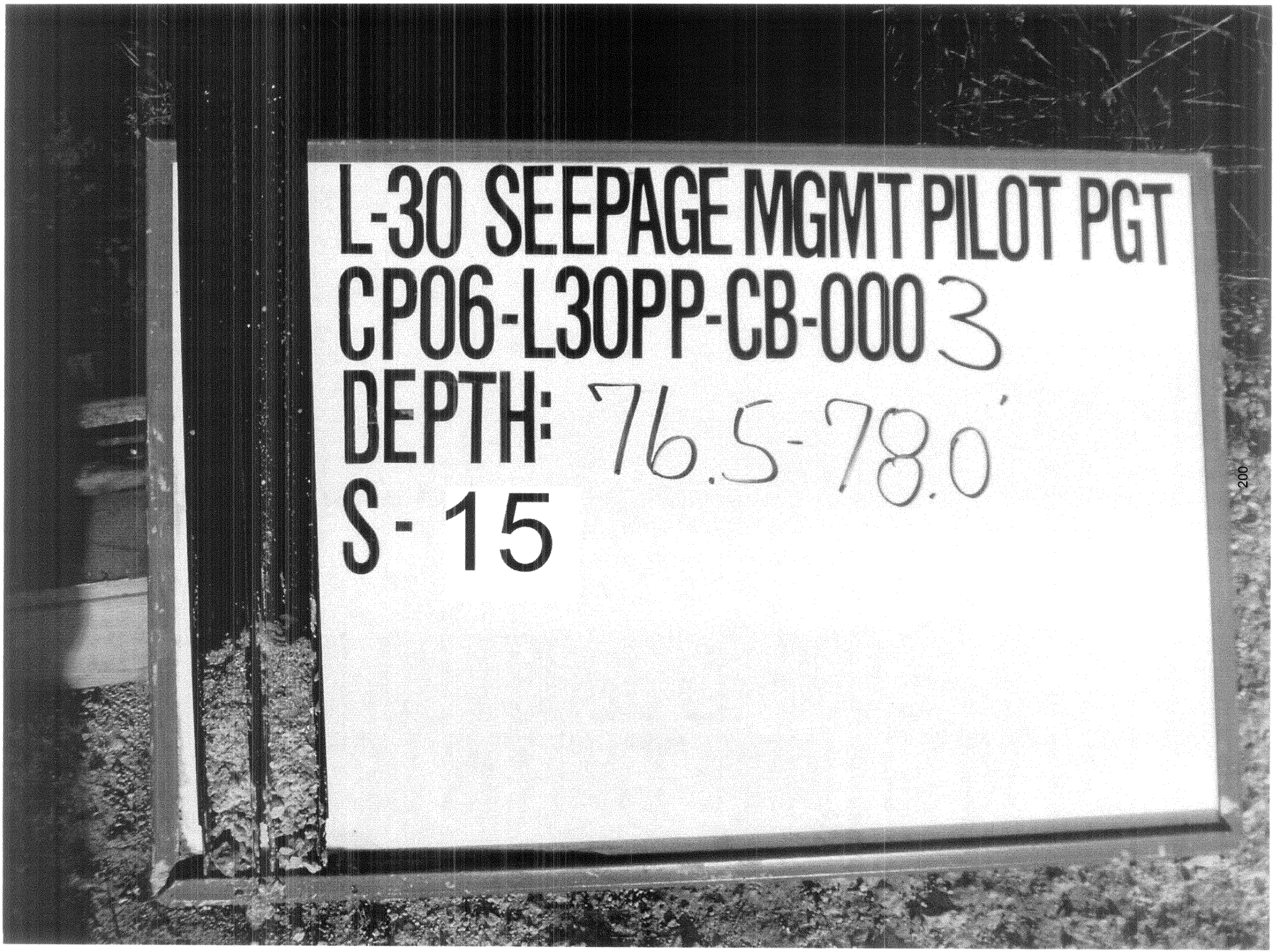
L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 55.0-60.0'
S- RUN# 9

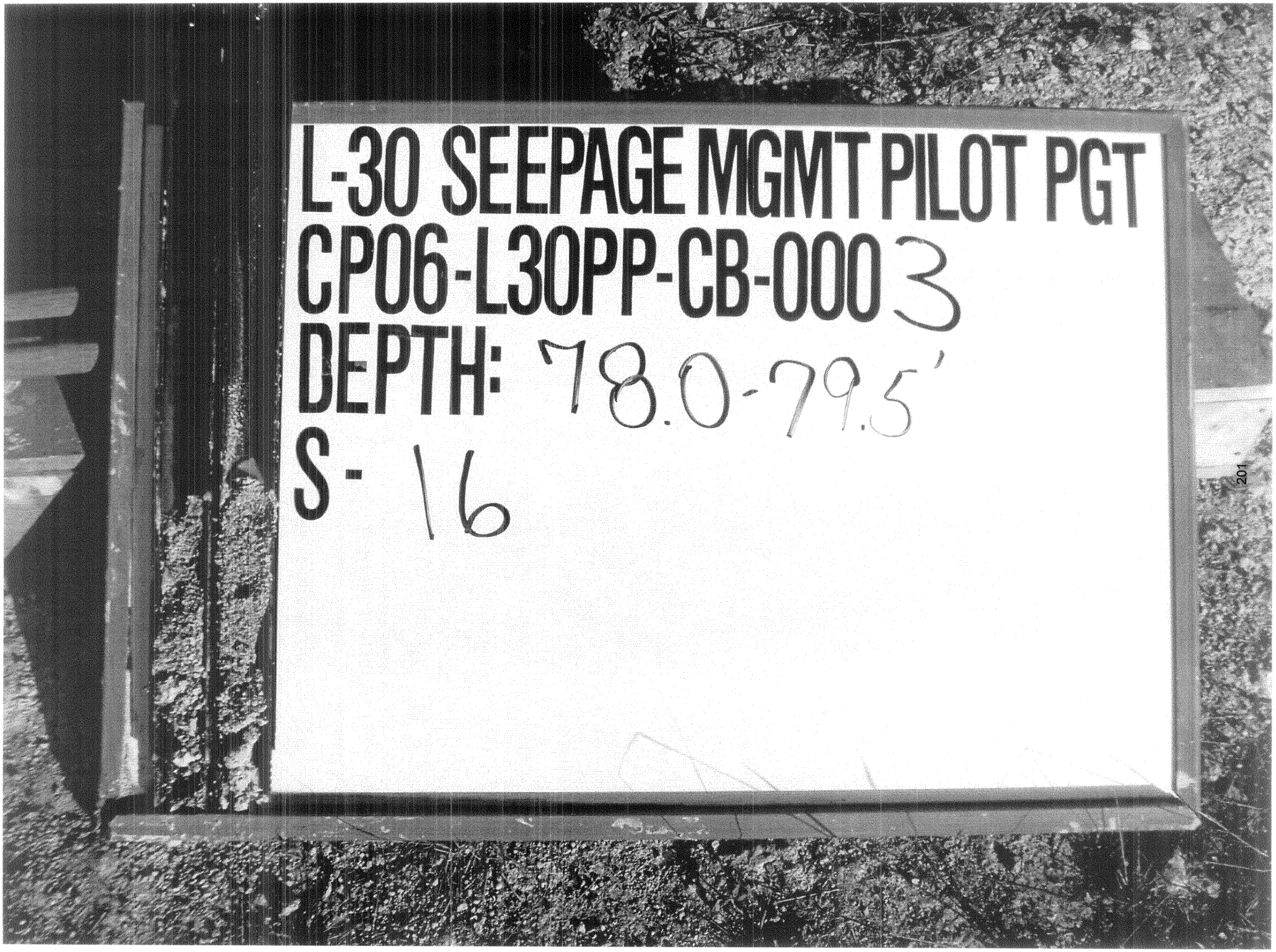
L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 60.0-65.0'
S- Run #10

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 65.0-70.0'
S- RUN #11


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-000 3
DEPTH: 70.0-75.0'
S- RUN#12

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 75.0-76.5
S- 14


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 76.5-78.0'
S-15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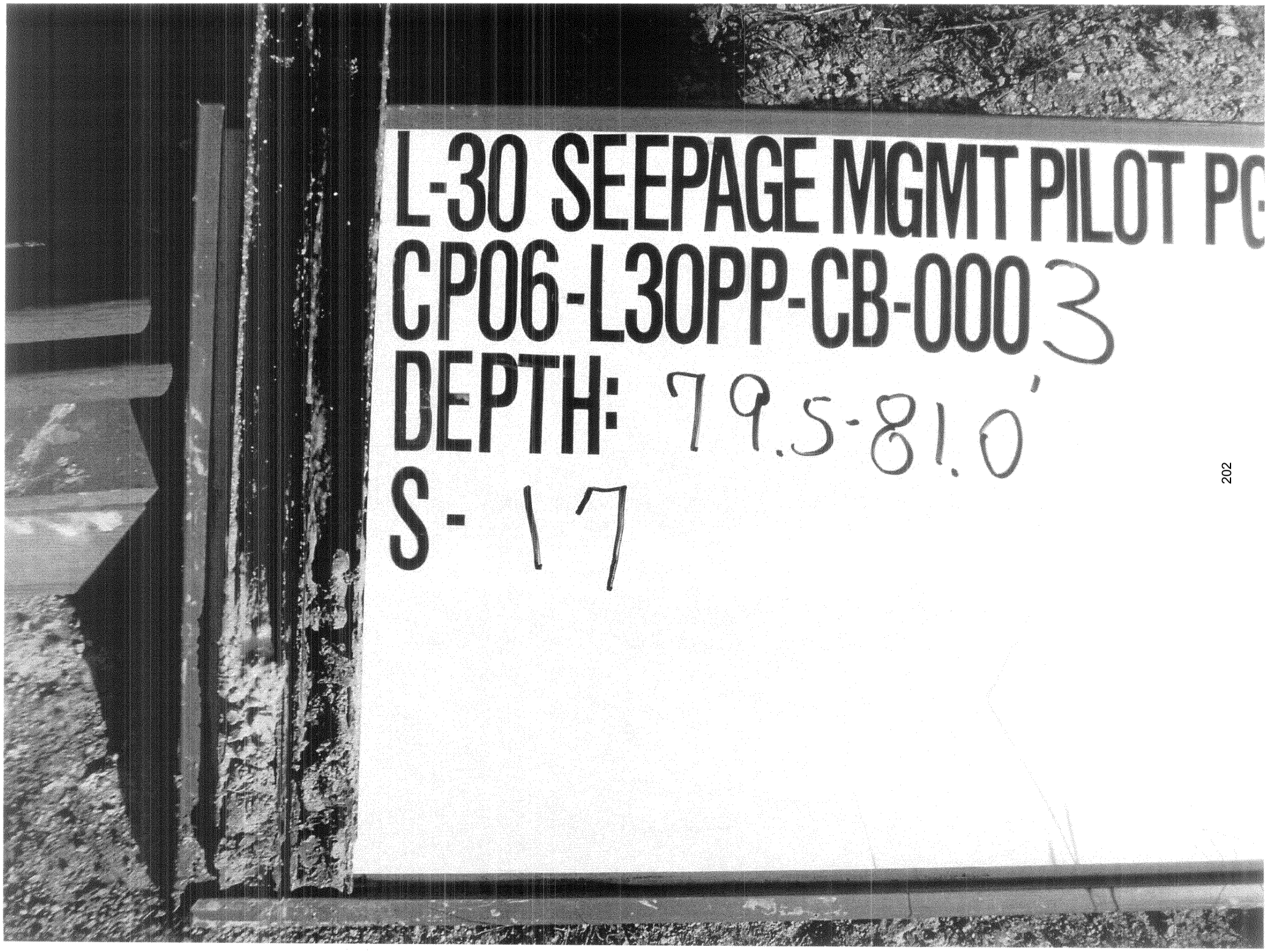
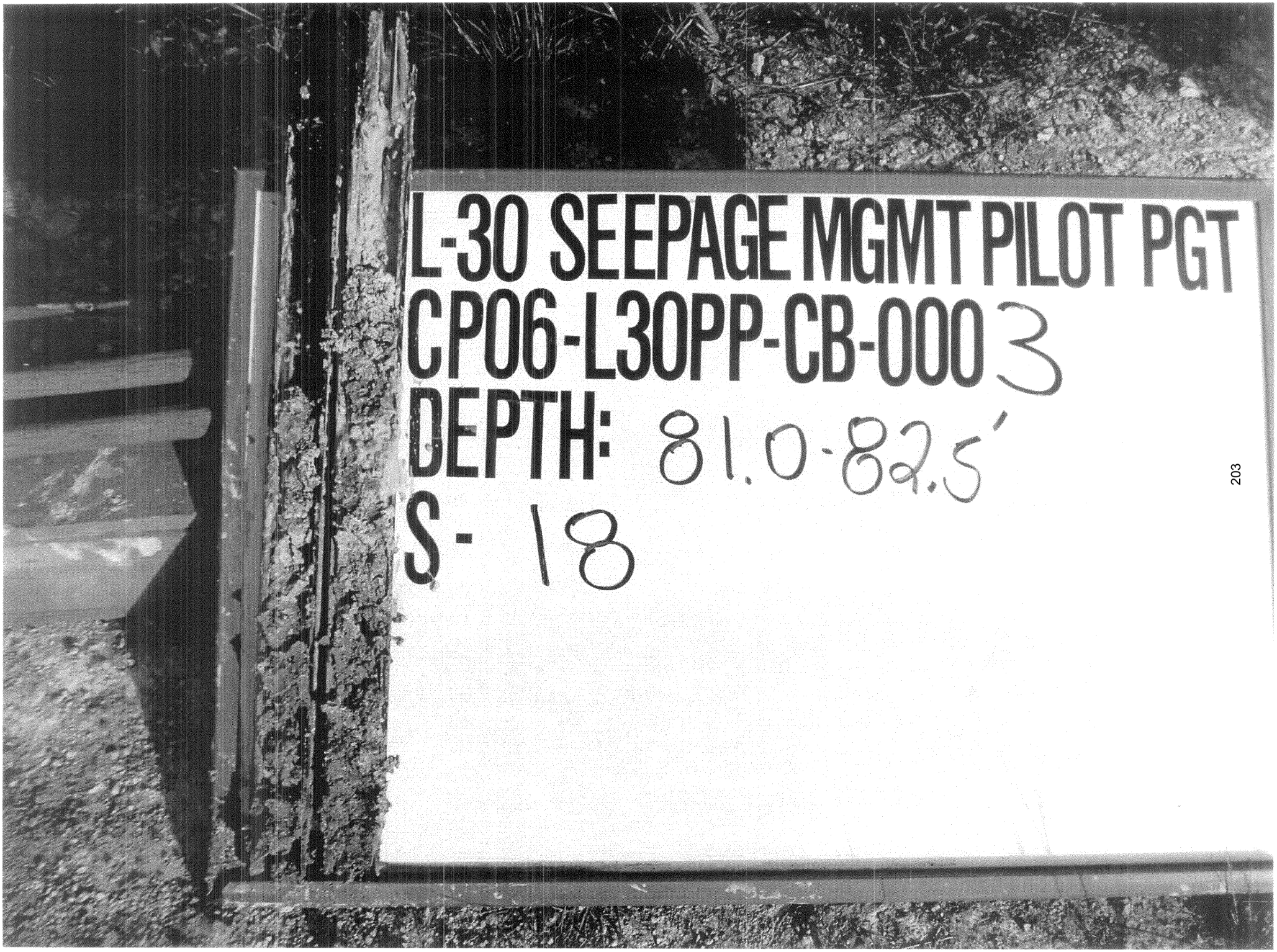
CP06-L30PP-CB-0003
DEPTH: 78.0-79.5'
S- 16

201


L-30 SEEPAGE MGMT PILOT PG
CP06-L30PP-CB-0003
DEPTH: 79.5-81.0'
S-17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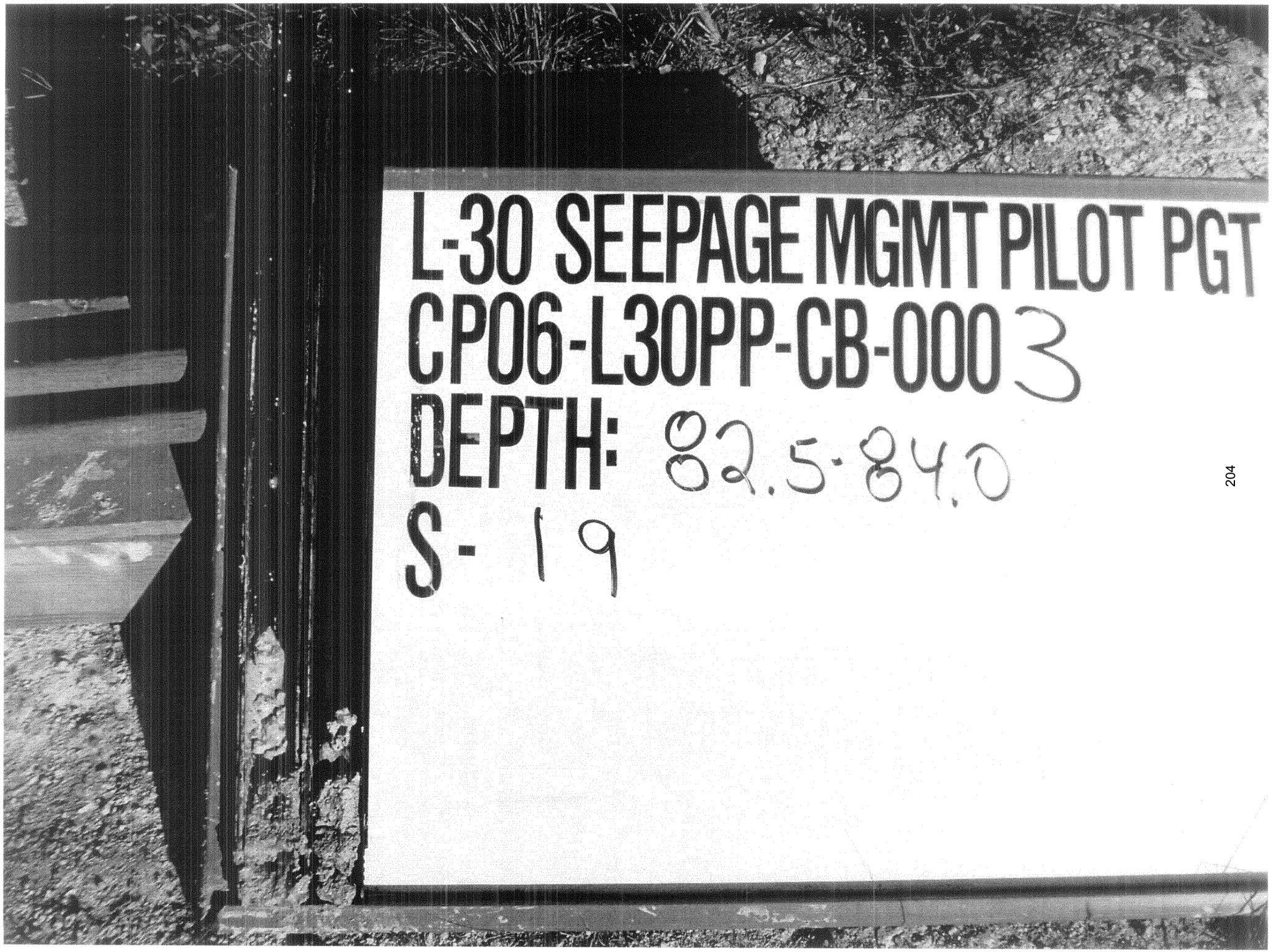
CP06-L30PP-CB-0003
DEPTH: 81.0-82.5'
S-18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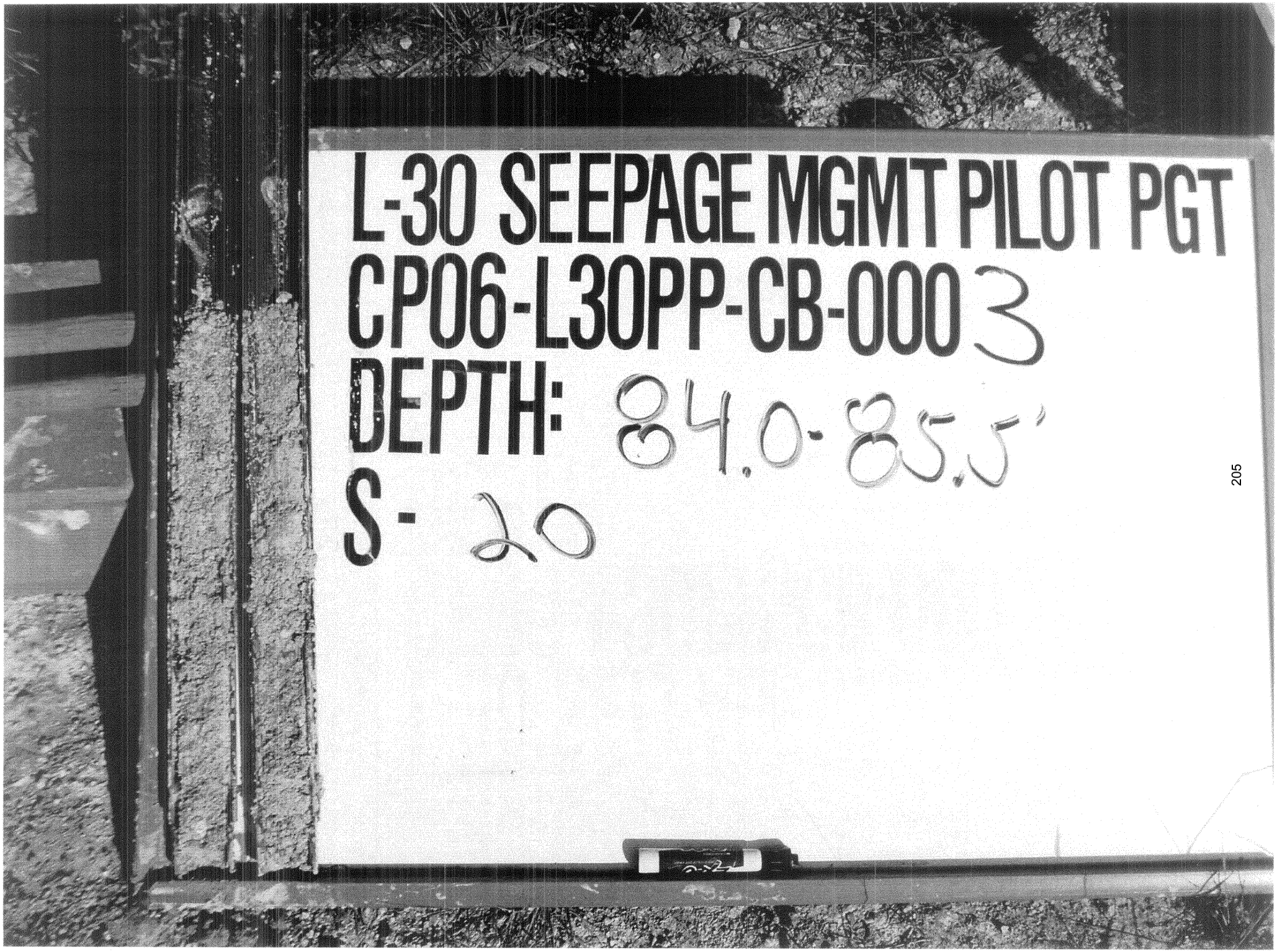
CP06-L30PP-CB-0003
DEPTH: 82.5-84.0
S-19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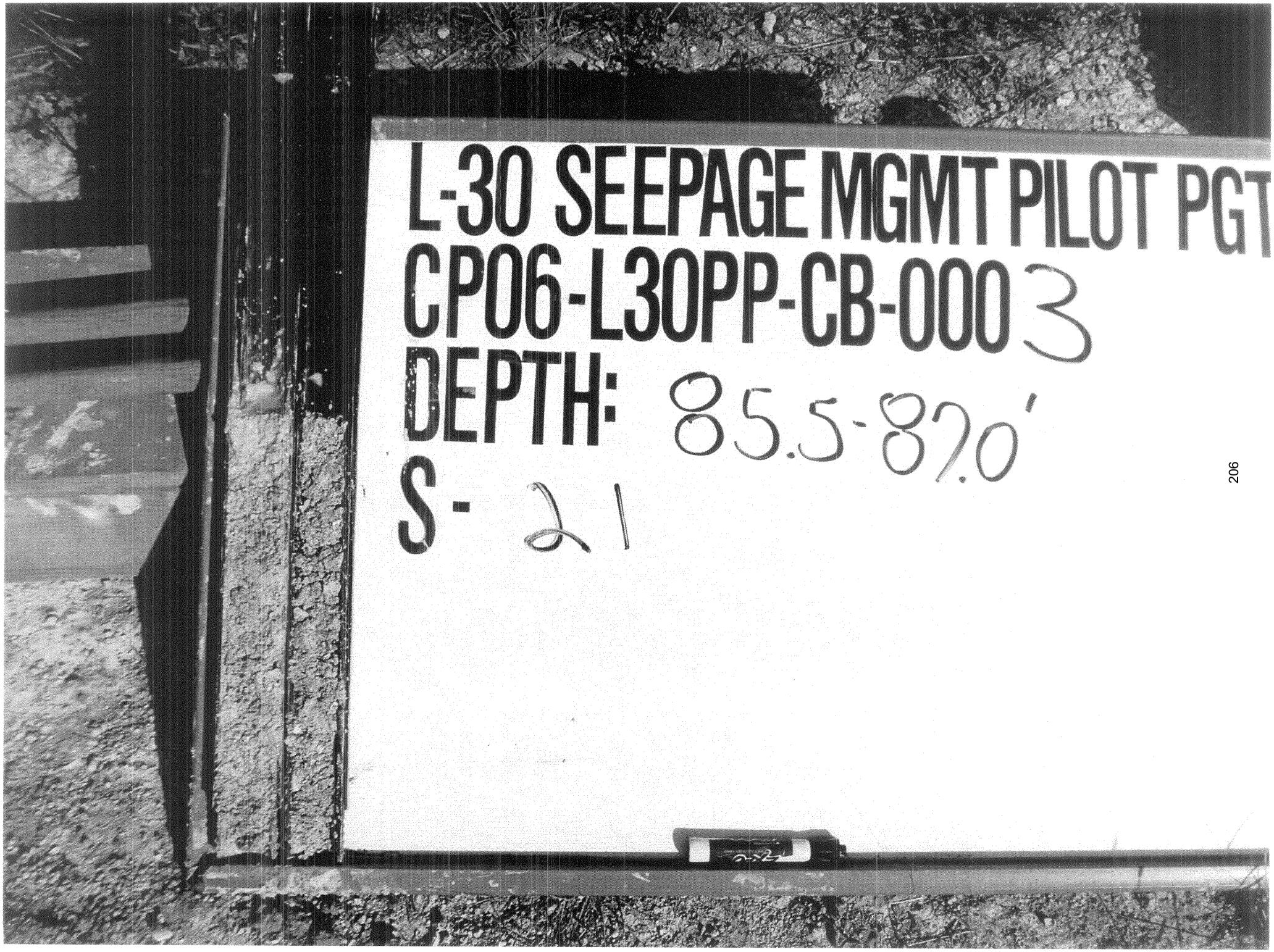
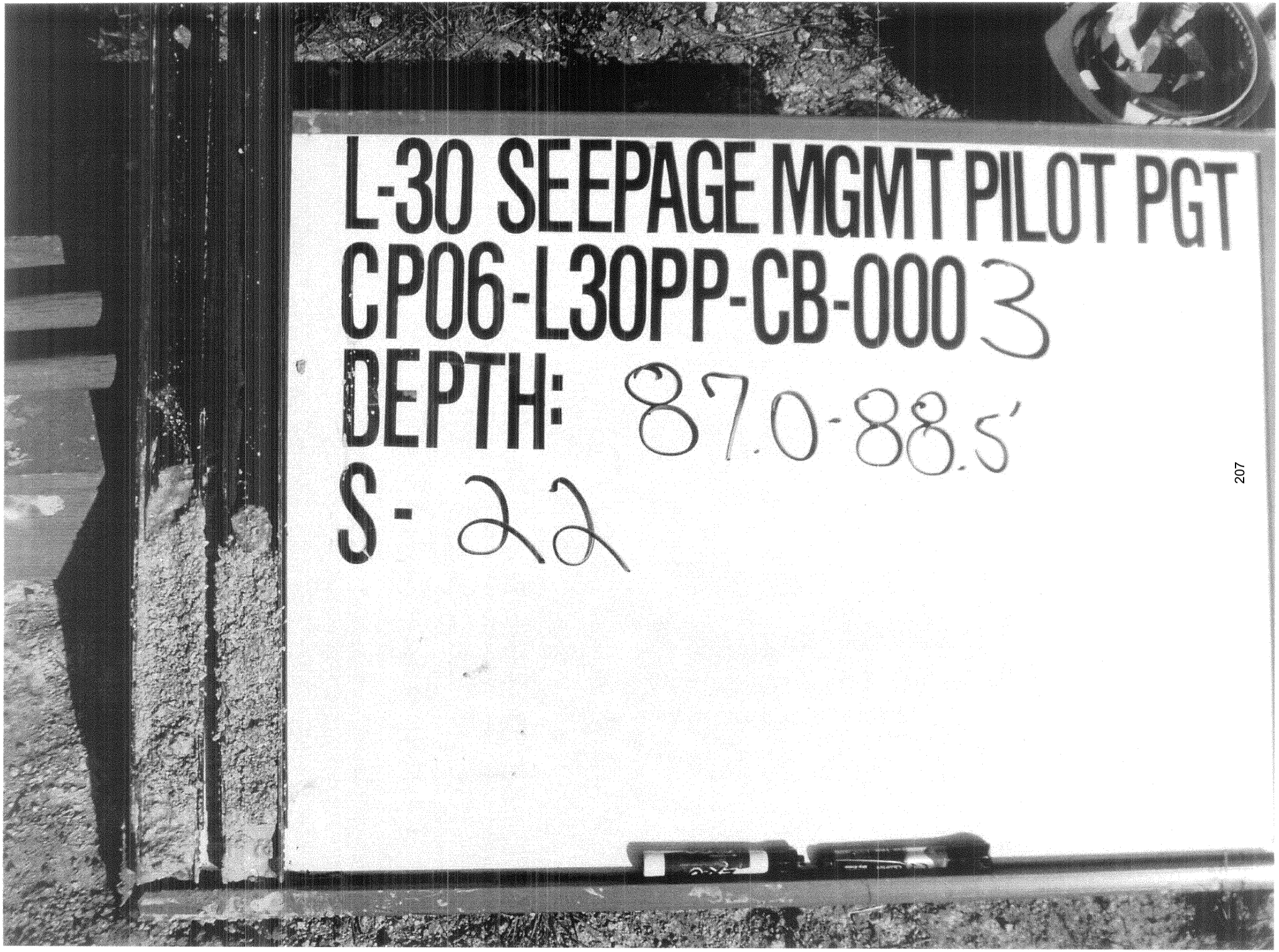
CP06-L30PP-CB-0003
DEPTH: 84.0-85.5'
S- 20


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 85.5-87.0'
S- 21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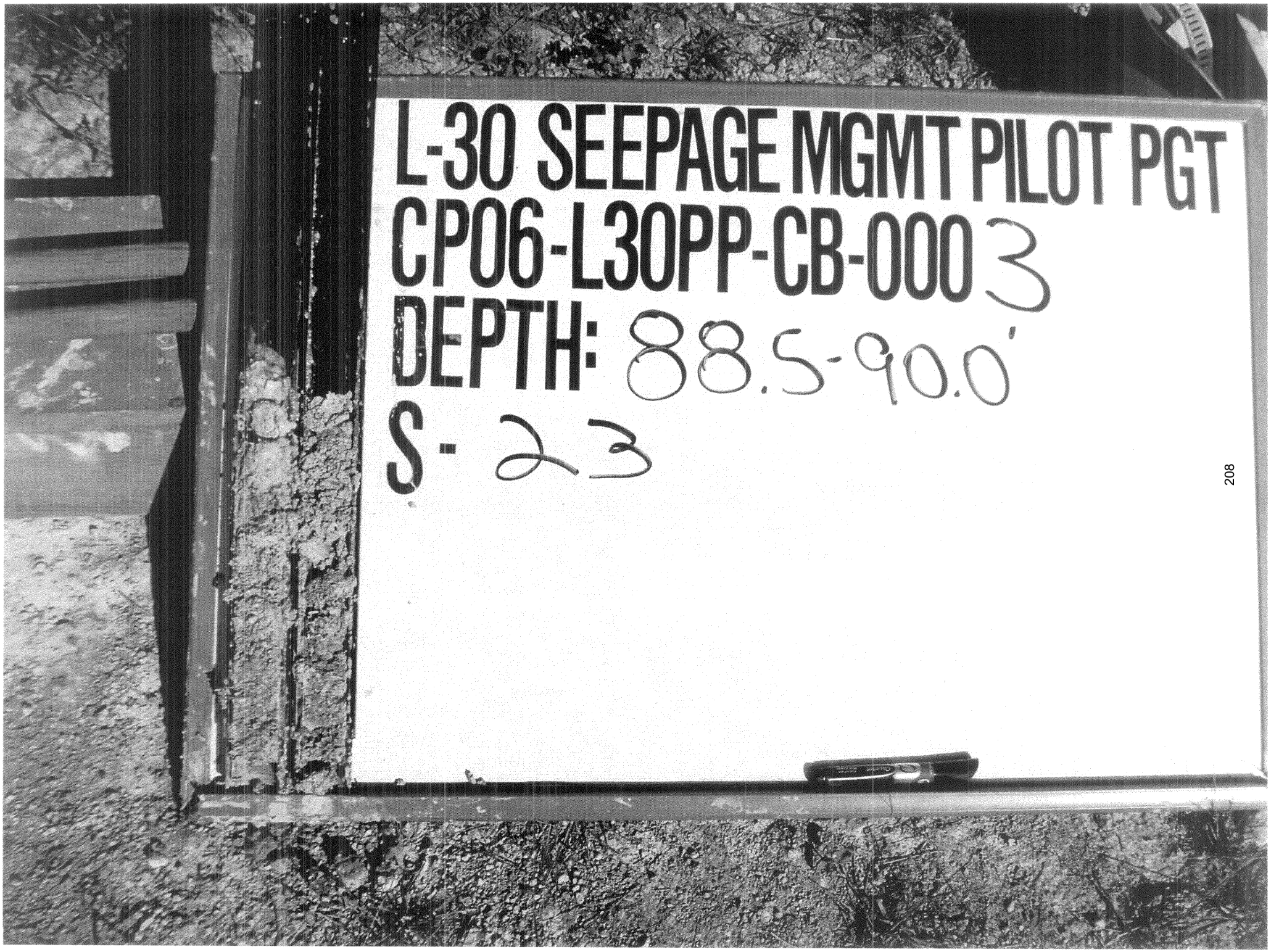
CP06-L30PP-CB-0003
DEPTH: 87.0-88.5'
S-22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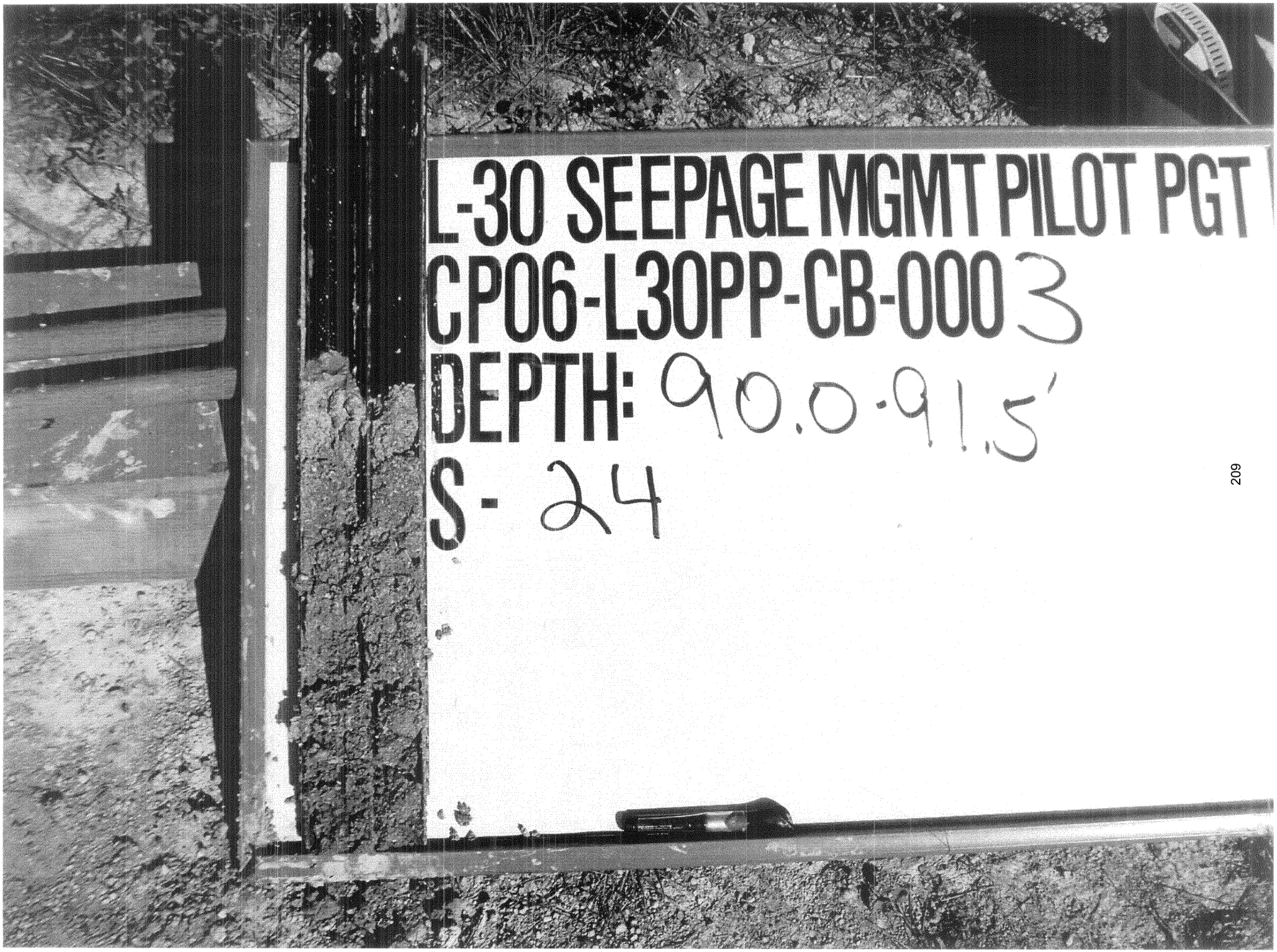
CP06-L30PP-CB-0003
DEPTH: 88.5-90.0'
S-23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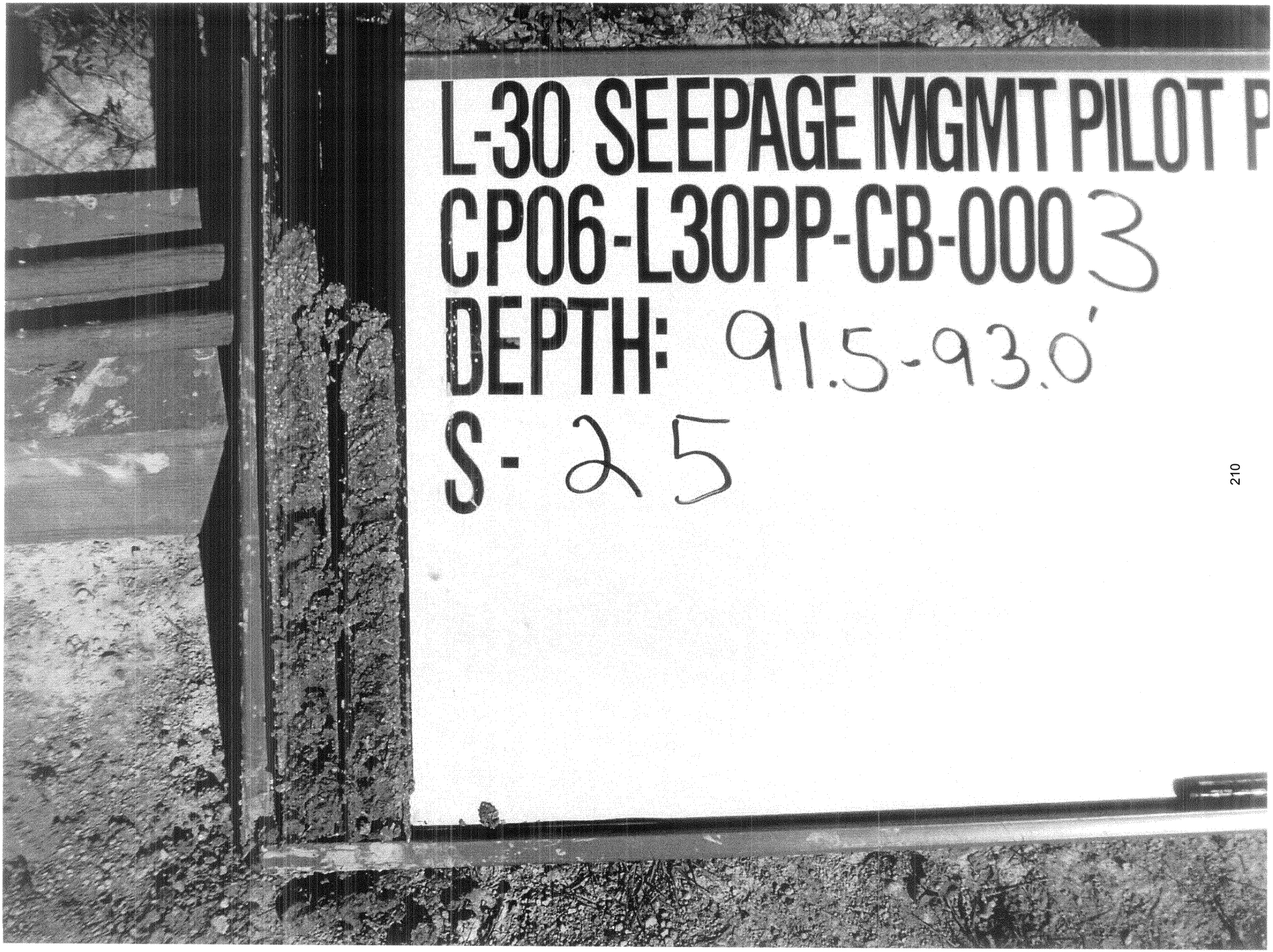
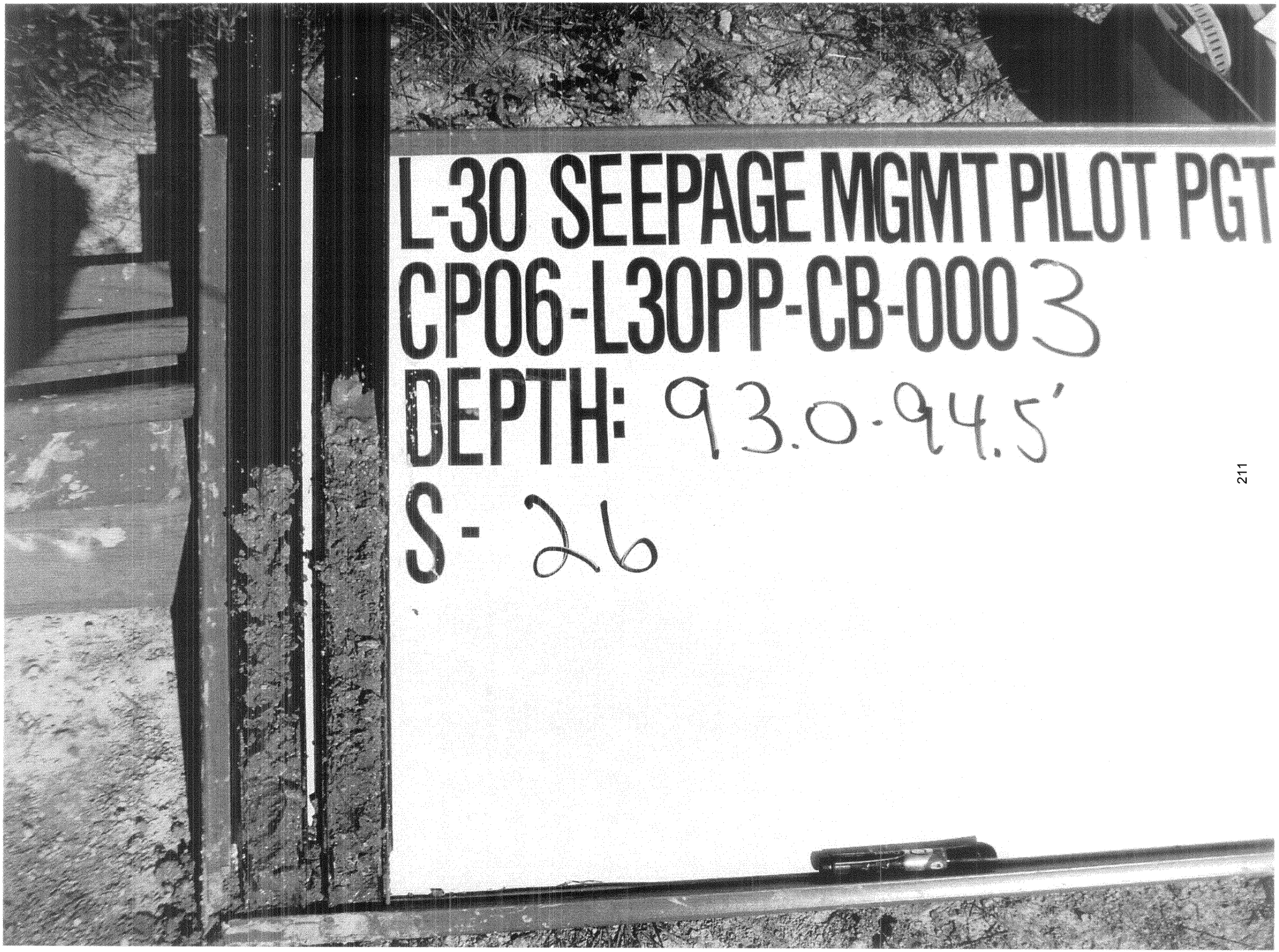
CP06-L30PP-CB-0003
DEPTH: 90.0-91.5'
S-24


L-30 SEEPAGE MGMT PILOT P
CP06-L30PP-CB-0003
DEPTH: 91.5-93.0'
S-25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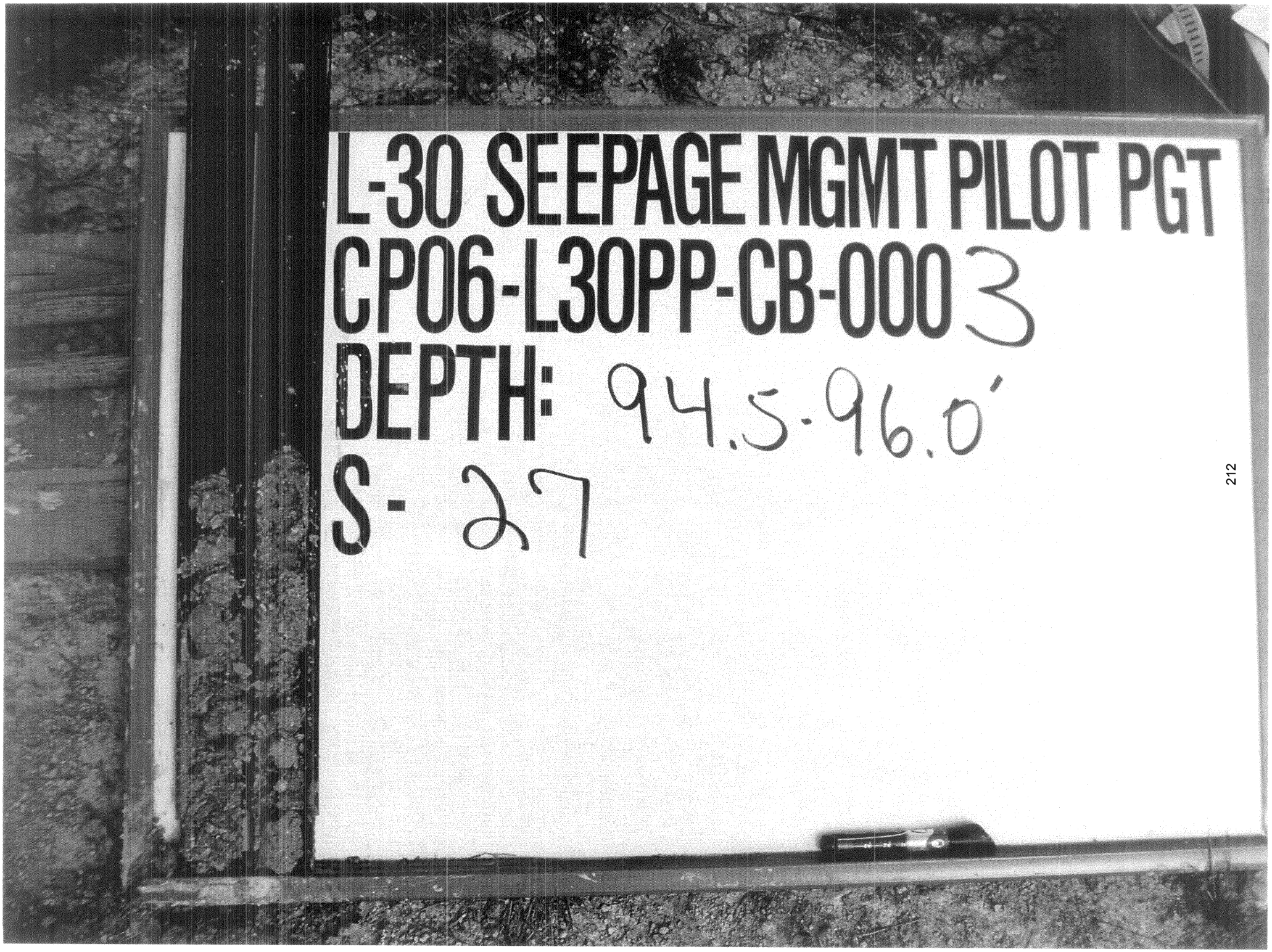
CP06-L30PP-CB-0003
DEPTH: 93.0-94.5'
S-26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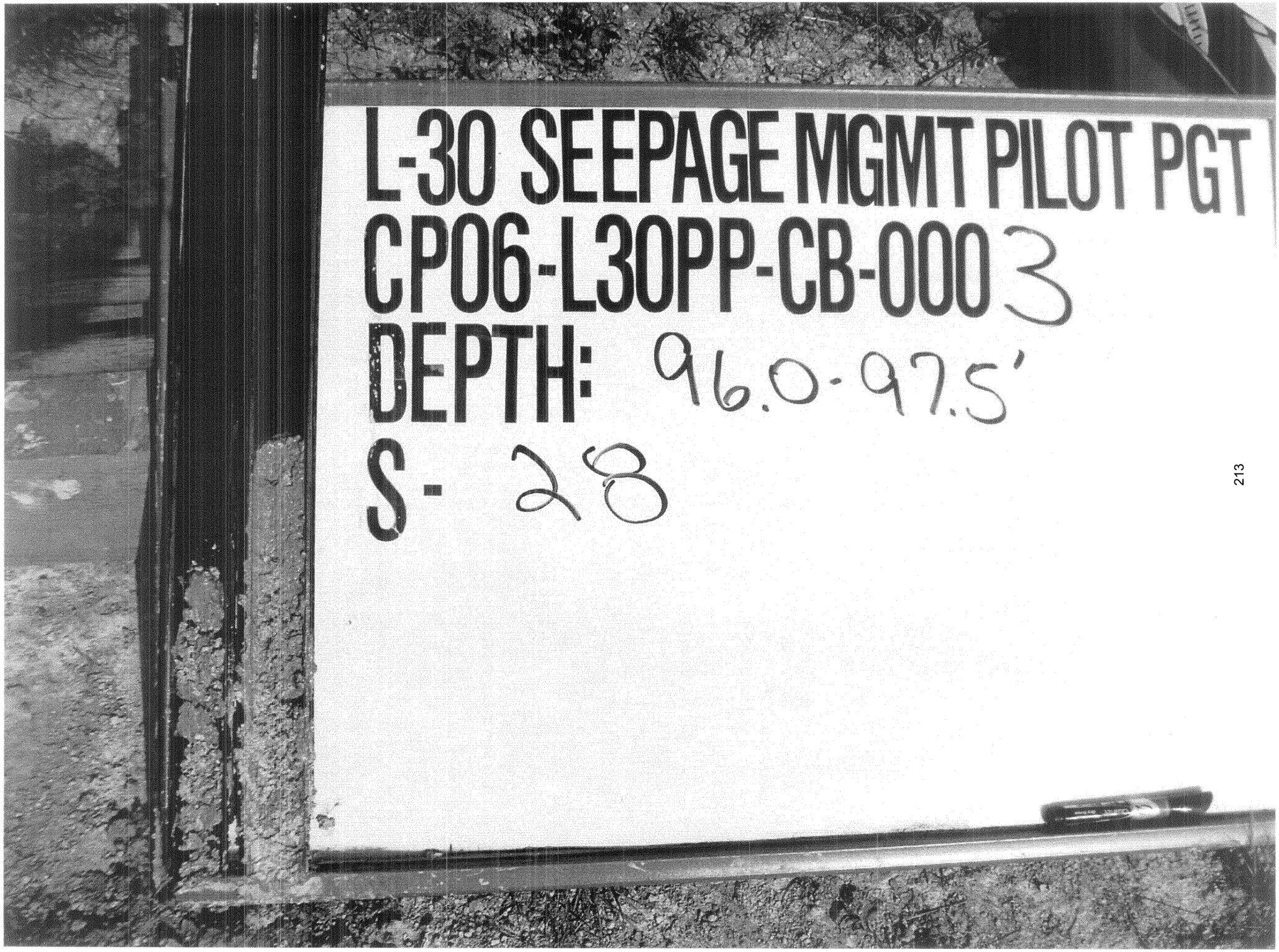
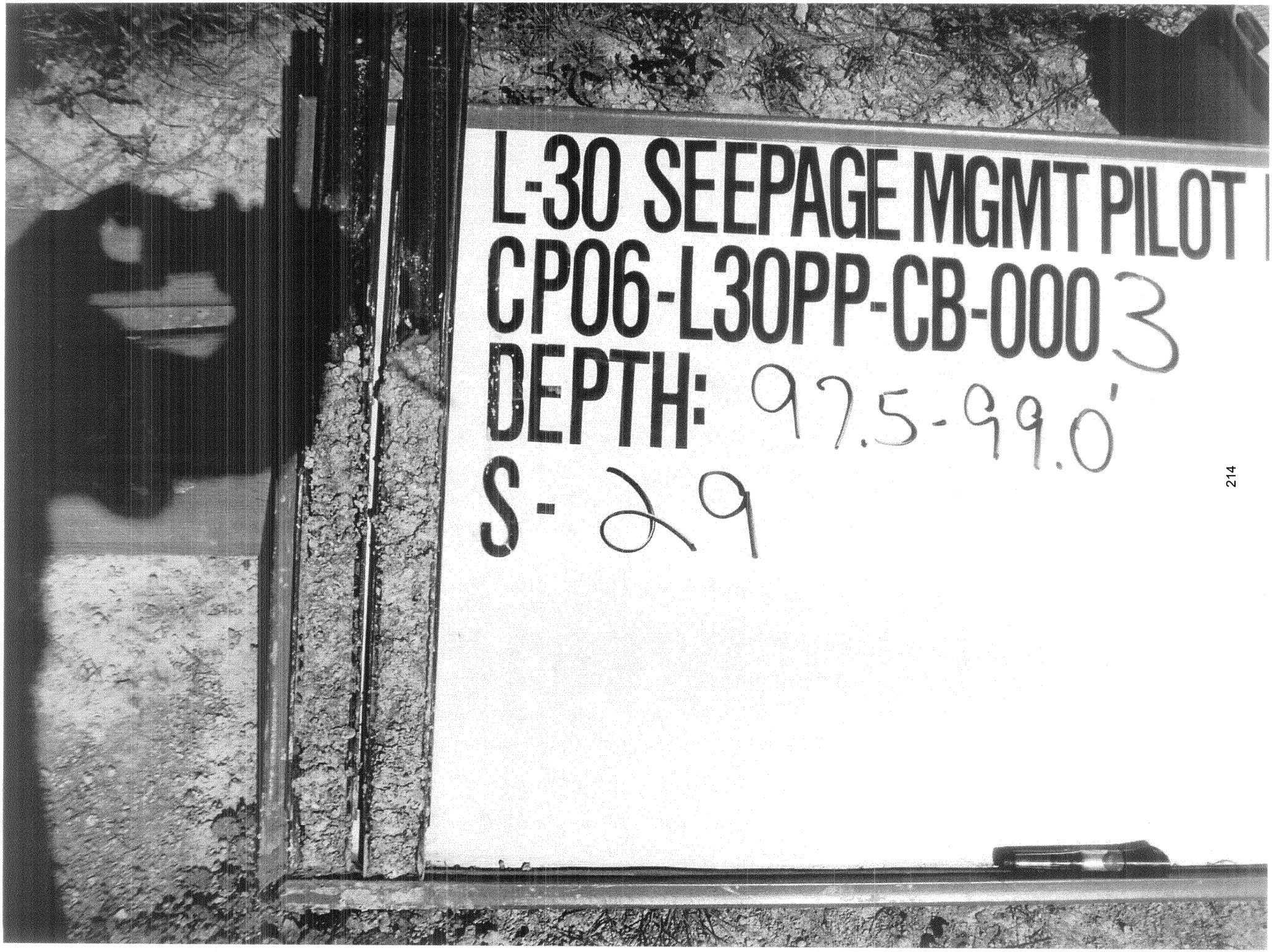
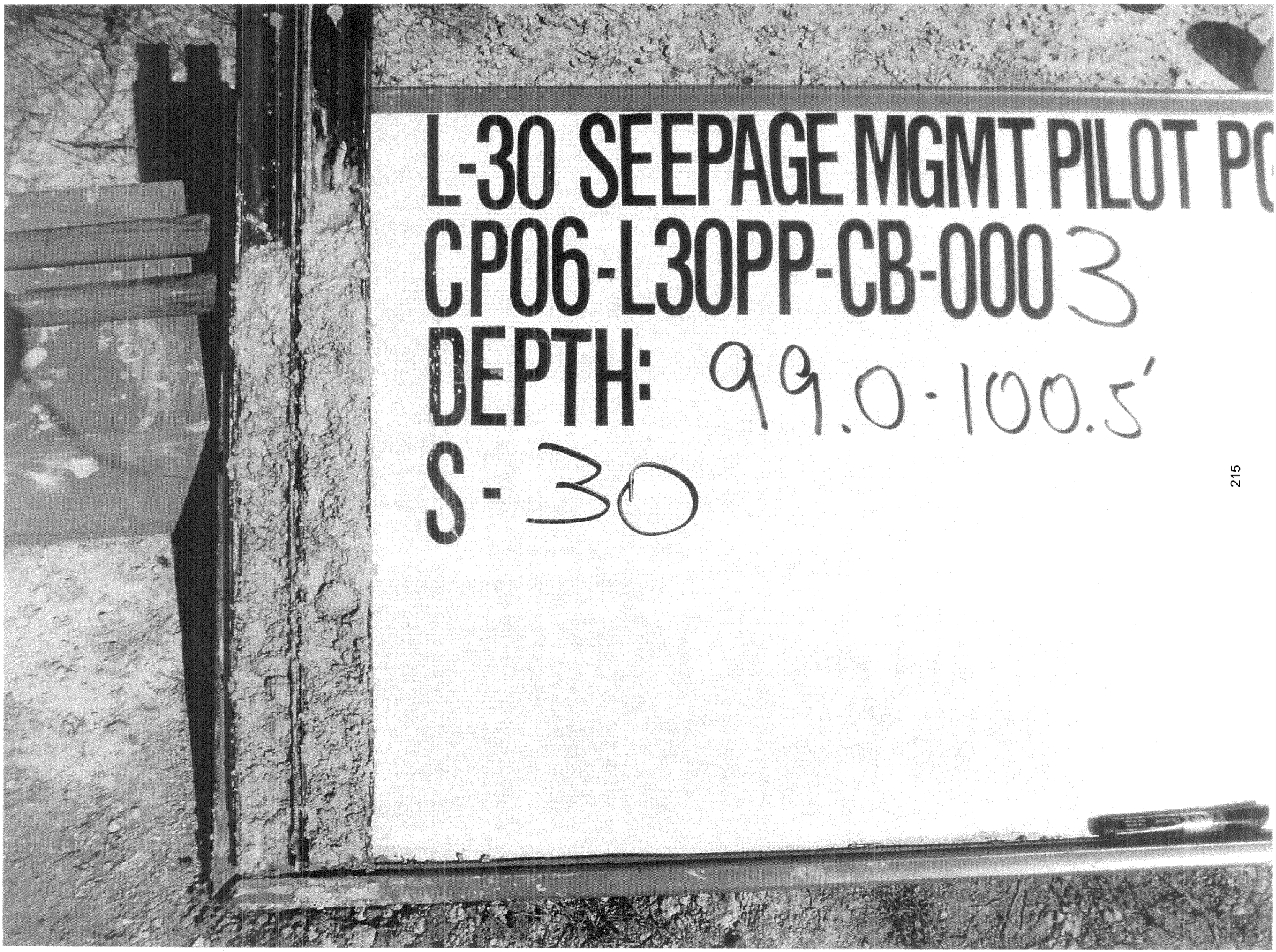
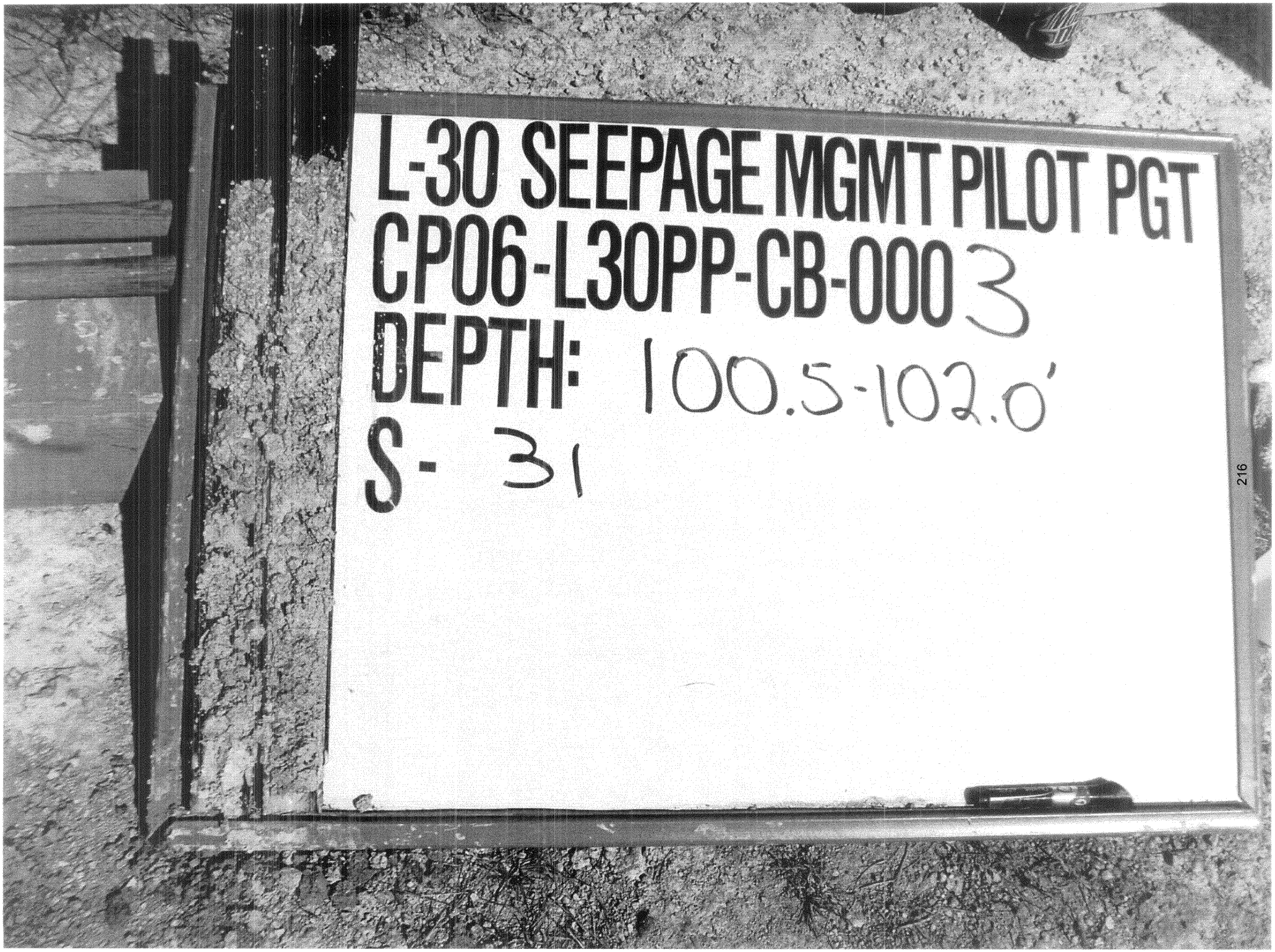
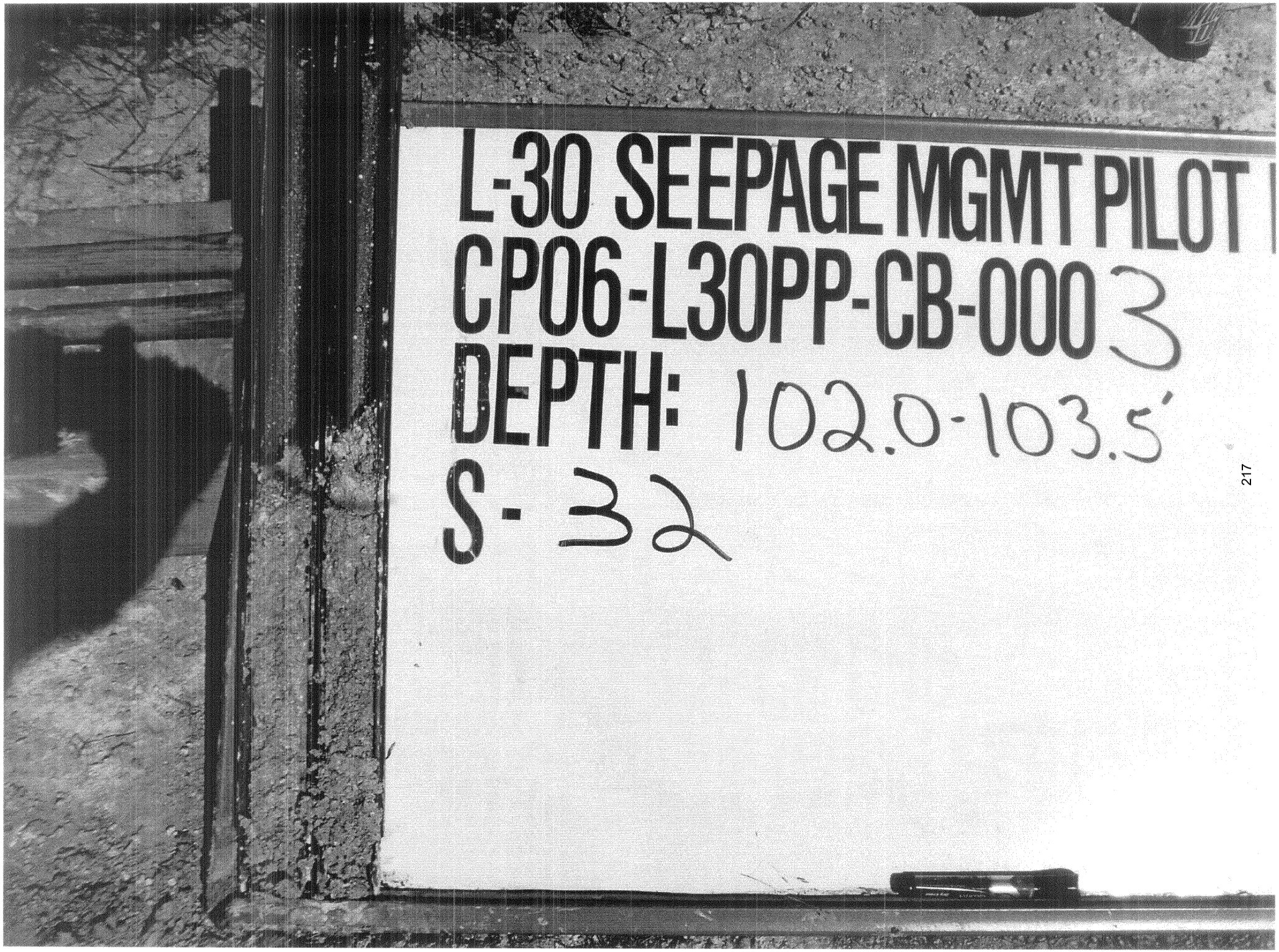
CP06-L30PP-CB-0003
DEPTH: 94.5-96.0'
S-27

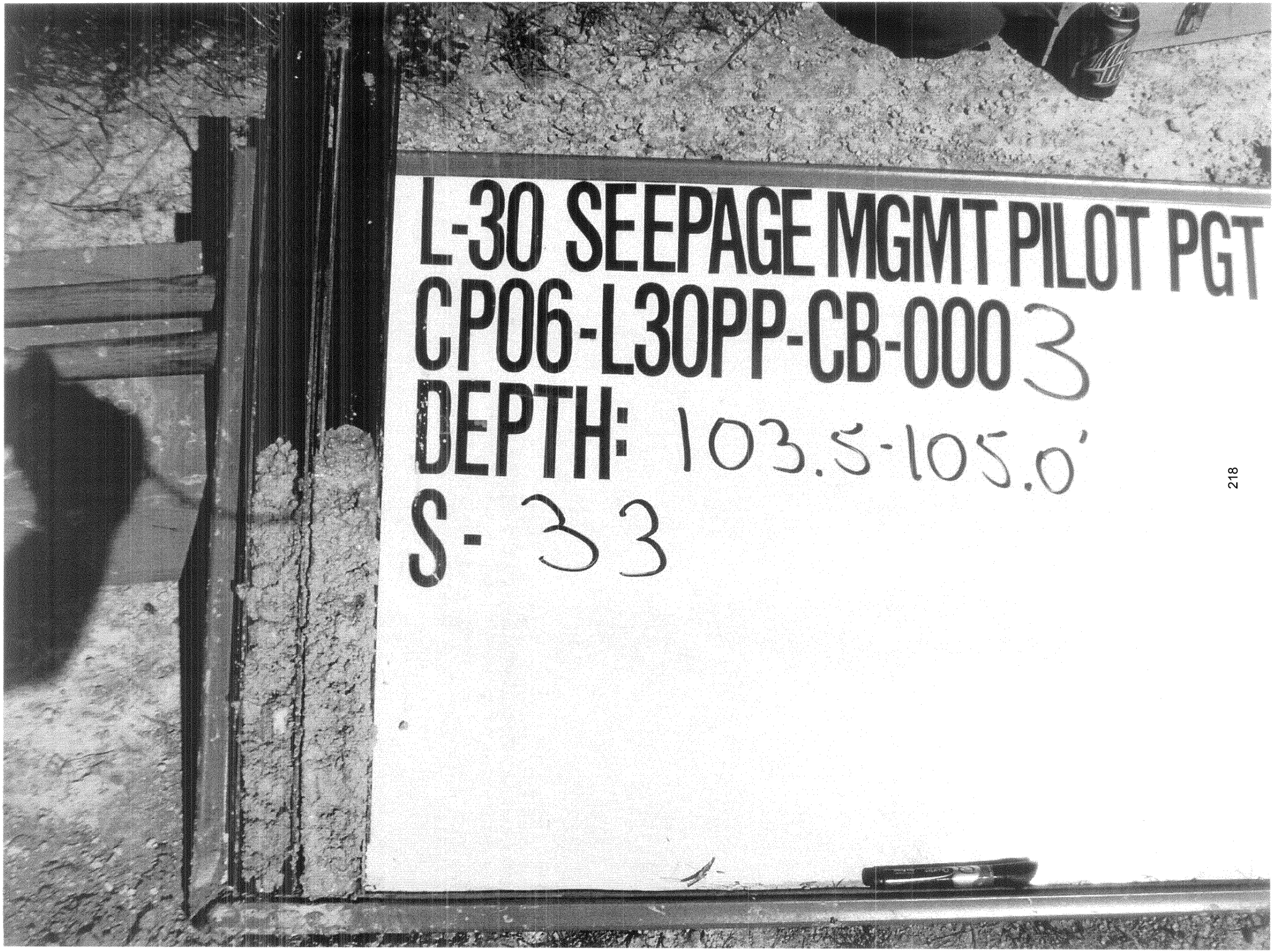

L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 96.0-97.5'
S- 28


L-30 SEEPAGE MGMT PILOT
CP06-L30PP-CB-0003
DEPTH: 97.5-99.0'
S-29


L-30 SEEPAGE MGMT PILOT PO
CP06-L30PP-CB-0003
DEPTH: 99.0-100.5'
S-30


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 100.5-102.0'
S- 31

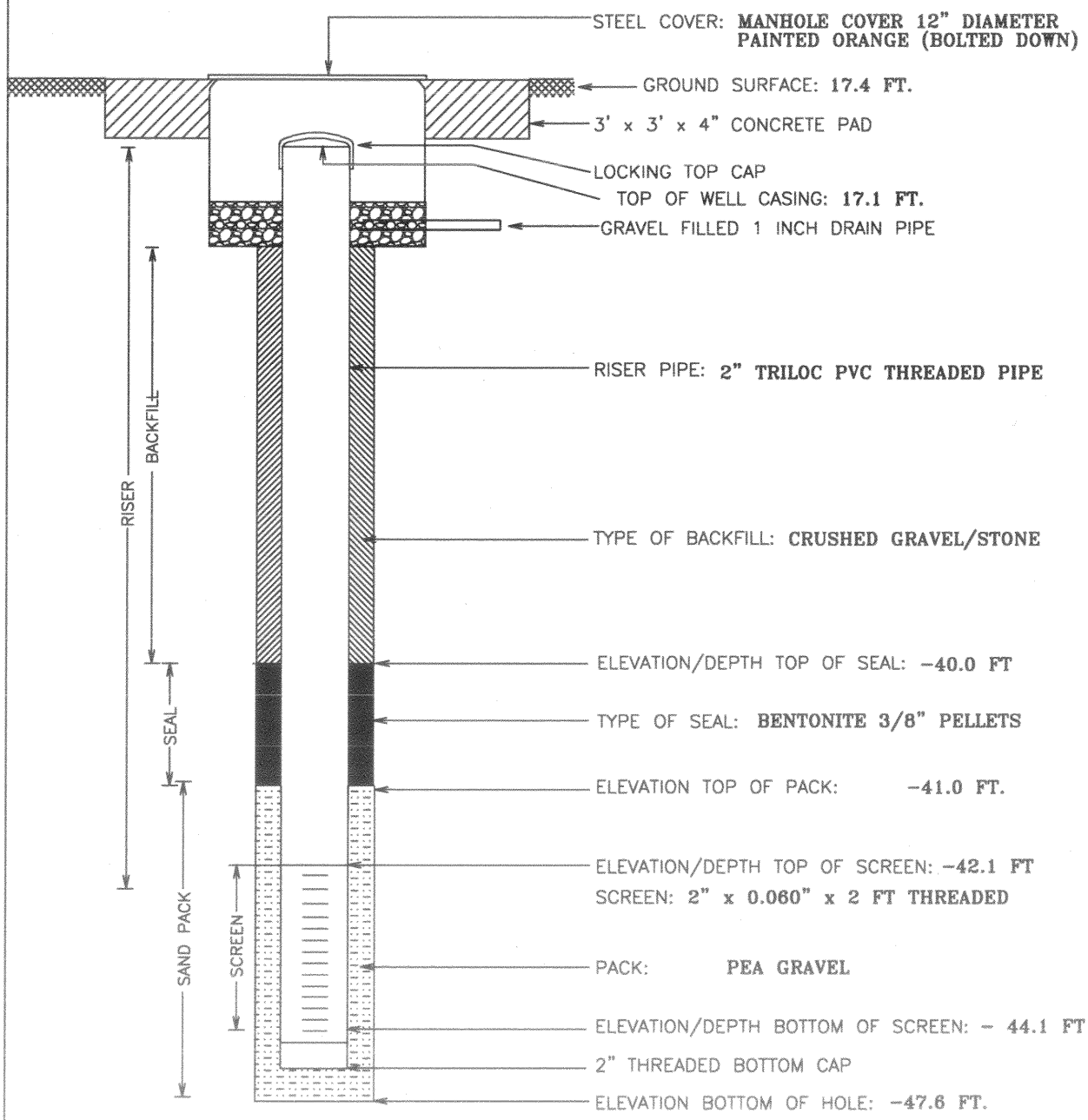

L-30 SEEPAGE MGMT PILOT
CP06-L30PP-CB-0003
DEPTH: 102.0-103.5'
S-32


L-30 SEEPAGE MGMT PILOT PGT
CP06-L30PP-CB-0003
DEPTH: 103.5-105.0'
S-33

MONITORING WELL CONSTRUCTION DIAGRAMS

CHALLENGE ENGINEERING & TESTING, INC. 4234 HALLS MILL ROAD, MOBILE, ALABAMA 36693 (251) 666-1435	MONITORING WELL CONSTRUCTION LOG
PROJECT: **L-30 SEEPAGE MANAGEMENT PILOT PROJECT DADE COUNTY, FLORIDA** LOCATION: **L-30 LEVEE (TAMIAMI TRAIL & KROME AVE.)** BORING: **CP06-L30PP-MW-0001** CHALLENGE JOB NO.: **2006D30** DATE: **OCTOBER 20, 2006**	DRILLER: **ADAM BENSON** DRILLING METHOD: **MUD ROTARY DRILLING** DEVELOPMENT METHOD: **PUMPING/SURGING** GROUND ELEVATION: **17.4**

LOCATION: TOP OF LEVEE L-30 (SOUTH SIDE OF ROADWAY)
N = 524,270 E = 826,074



CHALLENGE ENGINEERING & TESTING, INC.

4234 HALLS MILL ROAD, MOBILE, ALABAMA 36693 (251) 666-1435

MONITORING WELL CONSTRUCTION LOG

PROJECT: **L-30 SEEPAGE MANAGEMENT PILOT PROJECT DADE COUNTY, FLORIDA**

LOCATION: **L-30 LEVEE (TAMIAMI TRAIL & KROME AVE.)**

BORING: **CP06-L30PP-MW-0002**

CHALLENGE JOB NO.: **2006D30**

DATE: **OCTOBER 20, 2006**

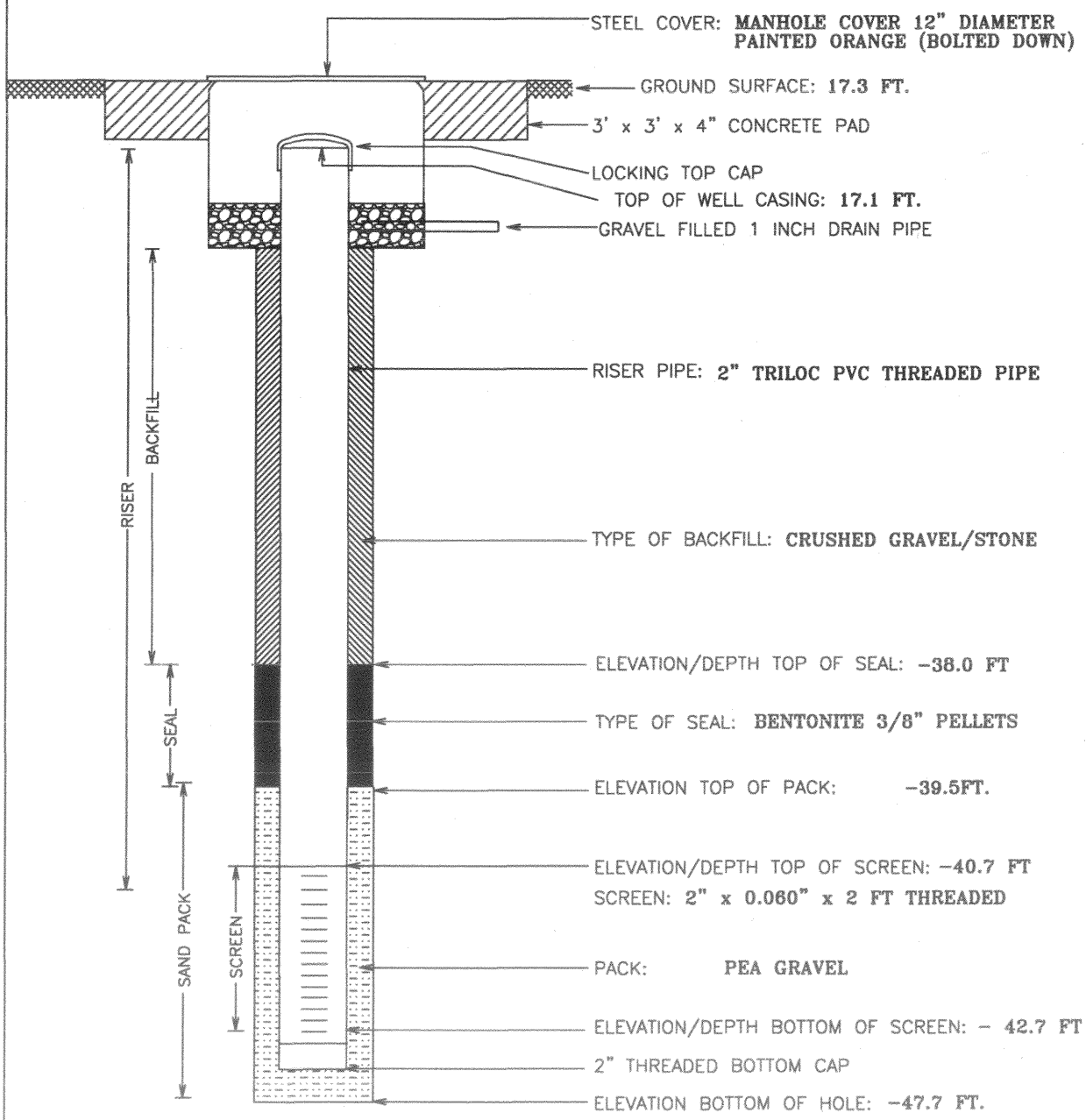
DRILLER: **ADAM BENSON**

DRILLING METHOD: **MUD ROTARY DRILLING**

DEVELOPMENT METHOD: **PUMPING/SURGING**

GROUND ELEVATION: **17.3 FT. NAVD88**

LOCATION: TOP OF LEVEE L-30 (SOUTH SIDE OF ROADWAY)
N = 522,036 E = 823,754



CHALLENGE ENGINEERING & TESTING, INC.

4234 HALLS MILL ROAD, MOBILE, ALABAMA 36693 (251) 666-1435

MONITORING WELL CONSTRUCTION LOG

PROJECT: **L-30 SEEPAGE MANAGEMENT PILOT PROJECT DADE COUNTY, FLORIDA**

LOCATION: **L-30 LEVEE (TAMIAMI TRAIL & KROME AVE.)**

BORING: **CP06-L30PP-MW-0003**

CHALLENGE JOB NO.: **2006D30**

DATE: **OCTOBER 20, 2006**

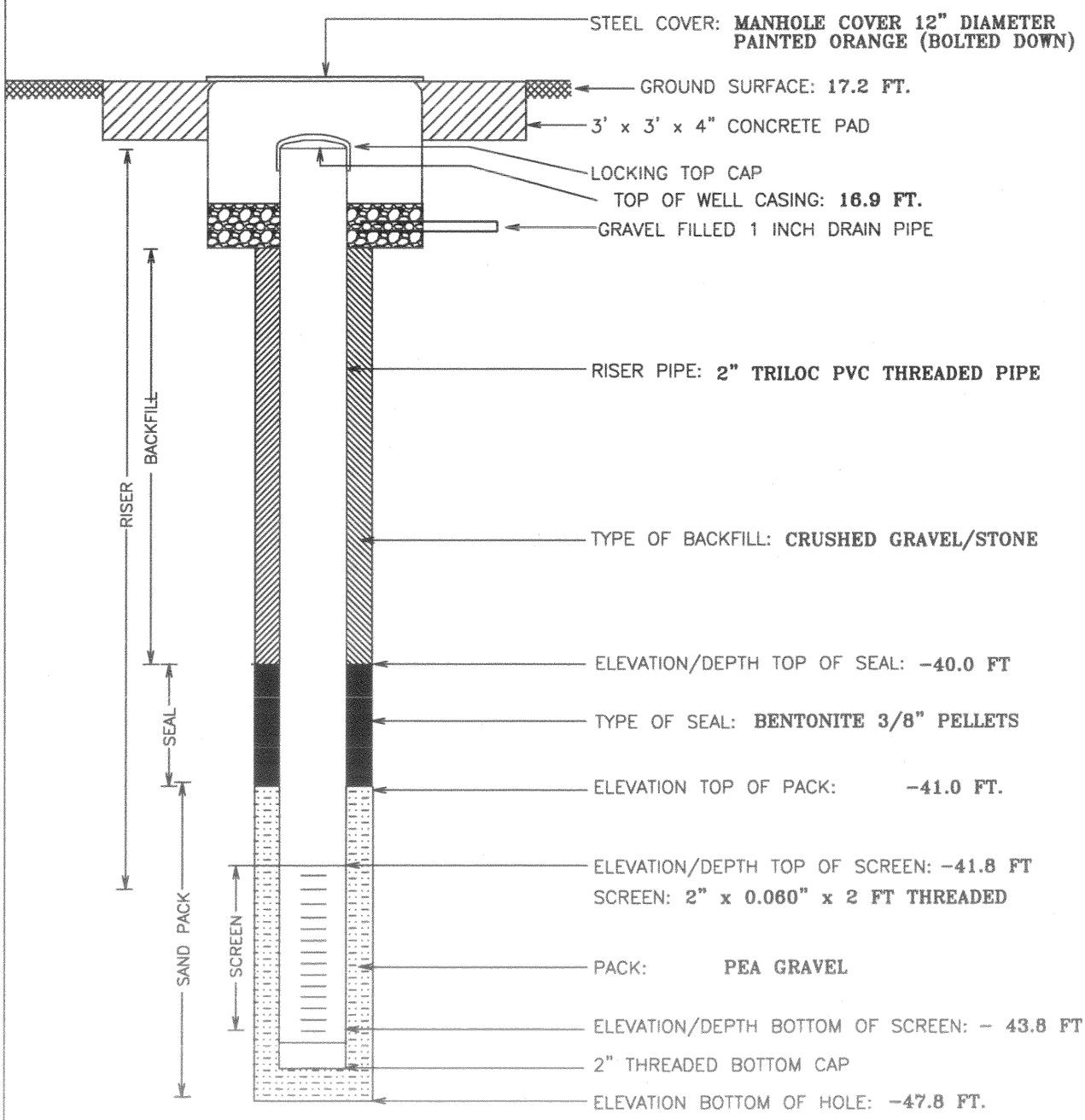
DRILLER: **ADAM BENSON**

DRILLING METHOD: **MUD ROTARY DRILLING**

DEVELOPMENT METHOD: **PUMPING/SURGING**

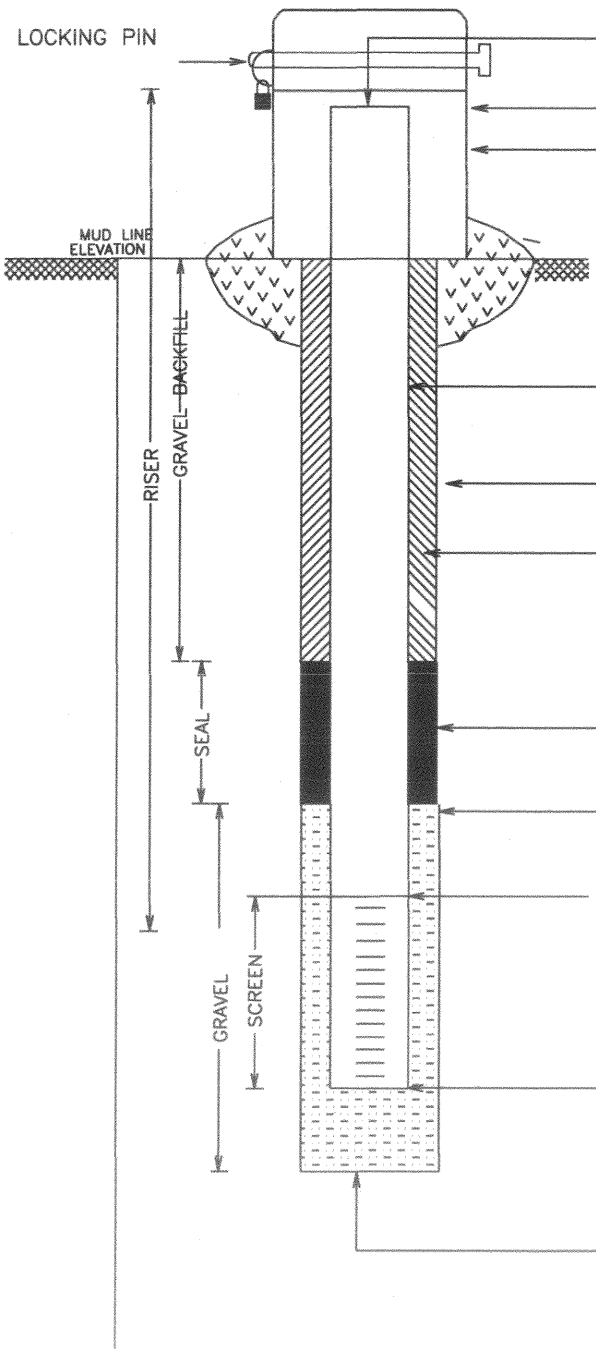
GROUND ELEVATION: **17.2 FT. NAVD88**

LOCATION: TOP OF LEVEE L-30 (SOUTH SIDE OF ROADWAY)
N = 519,734 E = 821,356



CHALLENGE ENGINEERING & TESTING, INC. 4234 HALLS MILL ROAD, MOBILE, ALABAMA 36693 (251) 666-1435	MONITORING WELL CONSTRUCTION LOG
PROJECT: **L-30 SEEPAGE MANAGEMENT PILOT PROJECT**	DRILLER: **ADAM BENSON**
LOCATION: **DADE COUNTY, FL (TAMIAMI TRAIL & KROME AVE.)**	DRILLING METHOD: **ROLLER BIT - WET ROTARY**
BORING: **CP06-L30PP-MW-0004**	DEVELOPMENT METHOD: **PUMPING/SURGING**
CHALLENGE JOB NO.: **2006D30**	TOP OF CASING: **12.00 FT.**
DATE: **NOVEMBER 2006**	FIELD GEOLOGIST: **BOB MOMBERGER, P.G.**

- MARINE WELL -



TOP CAP WITH VENT HOLE

ELEVATION OF TOP OF RISER PIPE: **12.00 FT.**

STICK-UP TOP OF SECURITY CASING: **6" SCHEDULE 80 PVC**

RISER PIPE: **2" TRILOC PVC THREADED PIPE**

BOREHOLE DIAMETER: **4.5"**

TYPE OF BACKFILL: **CRUSHED GRAVEL BACKFILL**

TYPE OF SEAL: **BENTONITE 3/8" PELLETS**

PEA GRAVEL BACKFILL

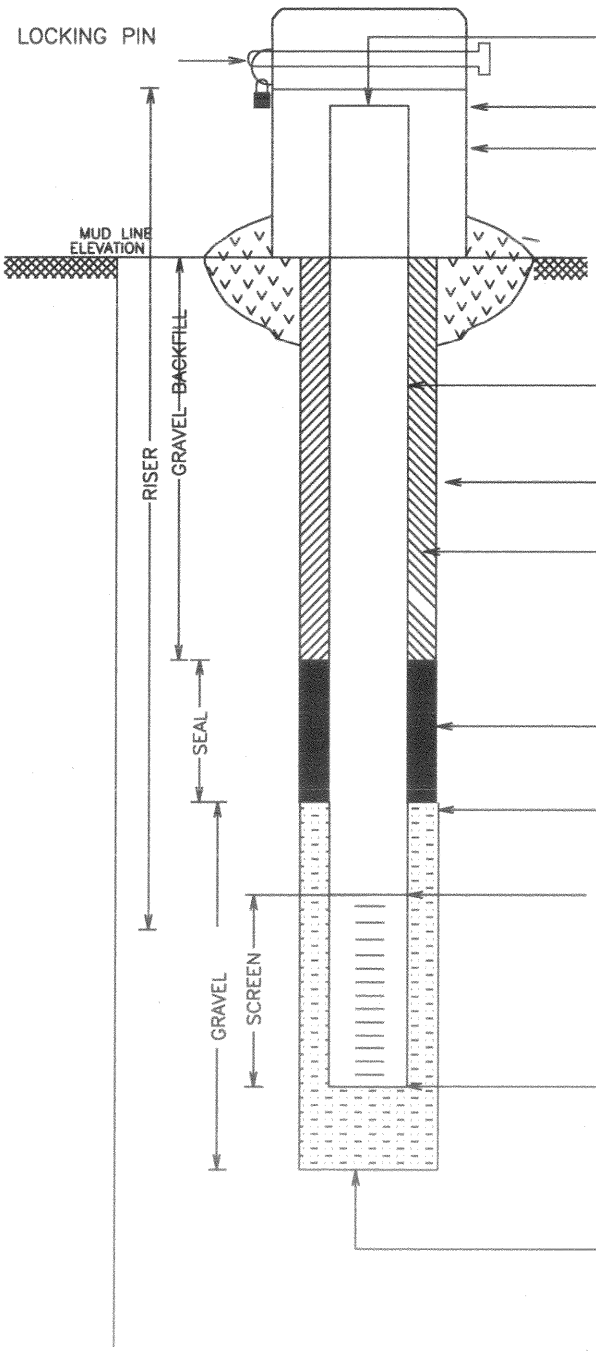
ELEVATION/DEPTH TOP OF SCREEN: **-23.8 FT.**
SCREEN: **2" x 0.060" x 2.0 FT THREADED**

ELEVATION/DEPTH BOTTOM OF SCREEN: **-25.8 FT.**

ELEVATION BOTTOM OF HOLE: **-30.0 FT**

CHALLENGE ENGINEERING & TESTING, INC. 4234 HALLS MILL ROAD, MOBILE, ALABAMA 36693 (251) 666-1435	MONITORING WELL CONSTRUCTION LOG
PROJECT: **L-30 SEEPAGE MANAGEMENT PILOT PROJECT**	DRILLER: **ADAM BENSON**
LOCATION: **DADE COUNTY, FL (TAMIAMI TRAIL & KROME AVE.)**	DRILLING METHOD: **ROLLER BIT - WET ROTARY**
BORING: **CP06-L30PP-MW-0005**	DEVELOPMENT METHOD: **PUMPING/SURGING**
CHALLENGE JOB NO.: **2006D30**	TOP OF CASING: **13.55 FT.**
DATE: **NOVEMBER 2006**	FIELD GEOLOGIST: **BOB MOMBERGER, P.G.**

- MARINE WELL -



TOP CAP WITH VENT HOLE

ELEVATION OF TOP OF RISER PIPE: **13.55 FT.**

STICK-UP TOP OF SECURITY CASING: **6" SCHEDULE 80 PVC**

RISER PIPE: **2" TRILOC PVC THREADED PIPE**

BOREHOLE DIAMETER: **4.5"**

TYPE OF BACKFILL: **CRUSHED GRAVEL BACKFILL**

TYPE OF SEAL: **BENTONITE 3/8" PELLETS**

PEA GRAVEL BACKFILL

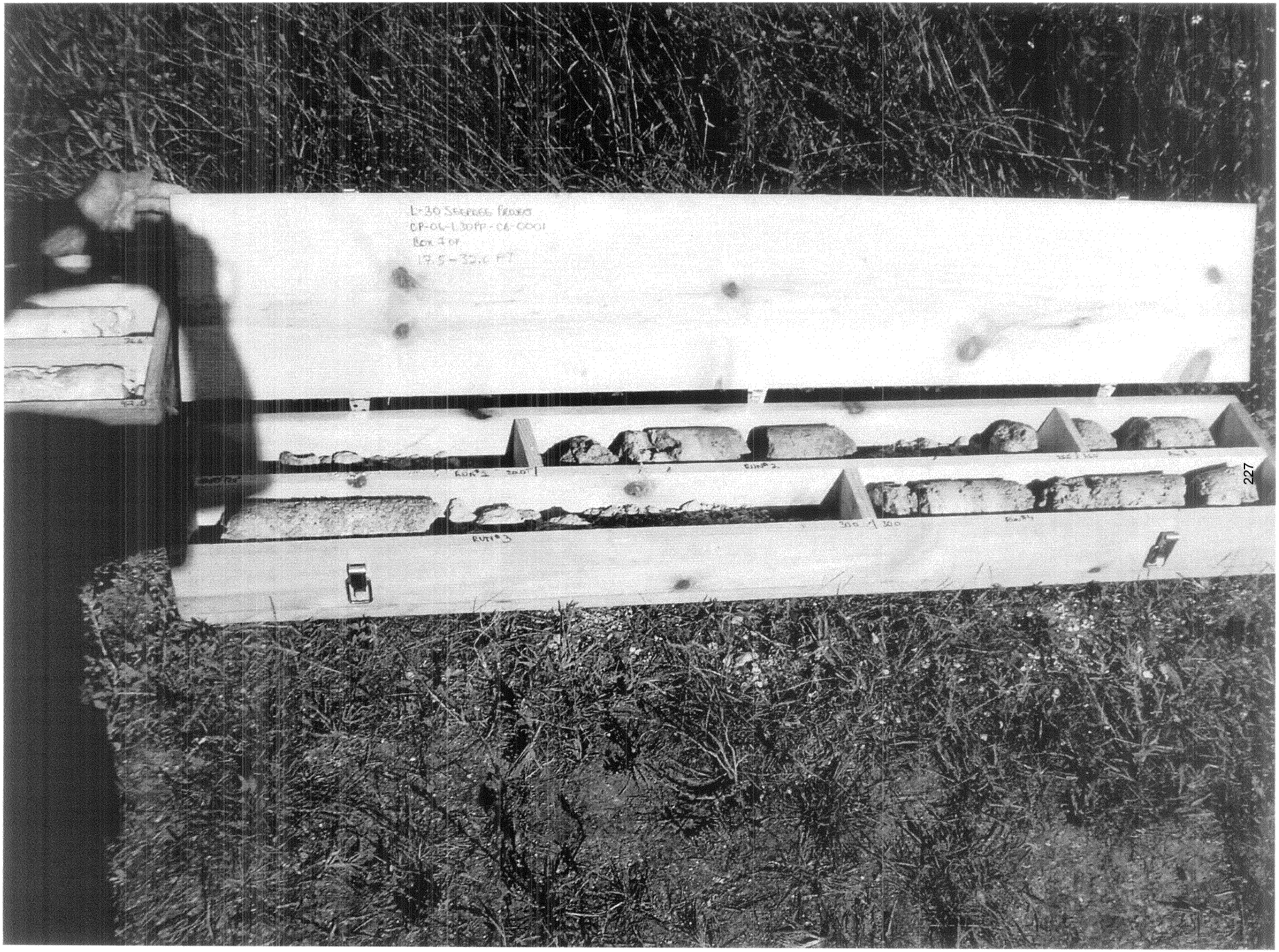
ELEVATION/DEPTH TOP OF SCREEN: **-26.20 FT.**
SCREEN: **2" x 0.060" x 2.0 FT THREADED**

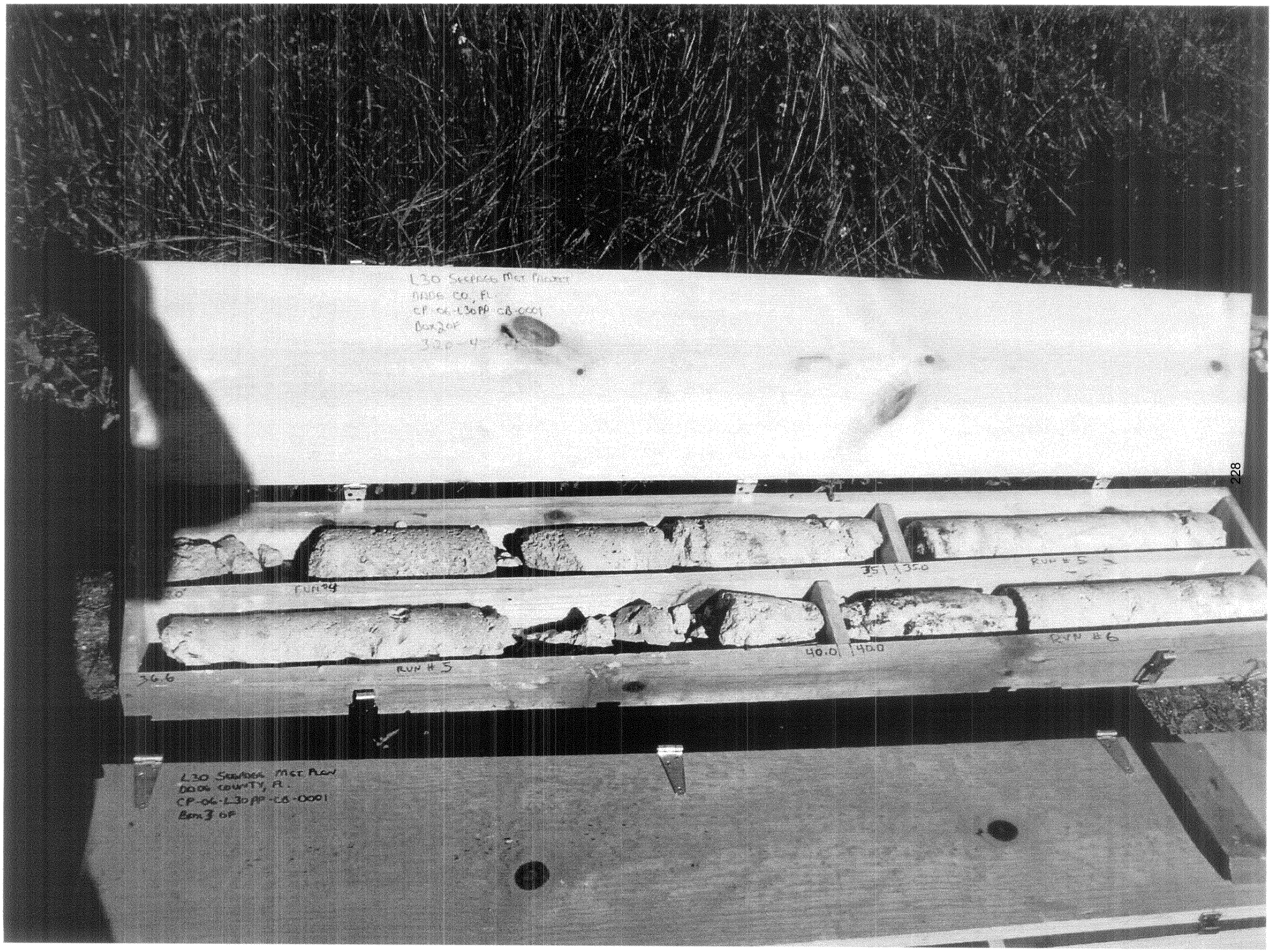
ELEVATION/DEPTH BOTTOM OF SCREEN: **-28.20 FT.**

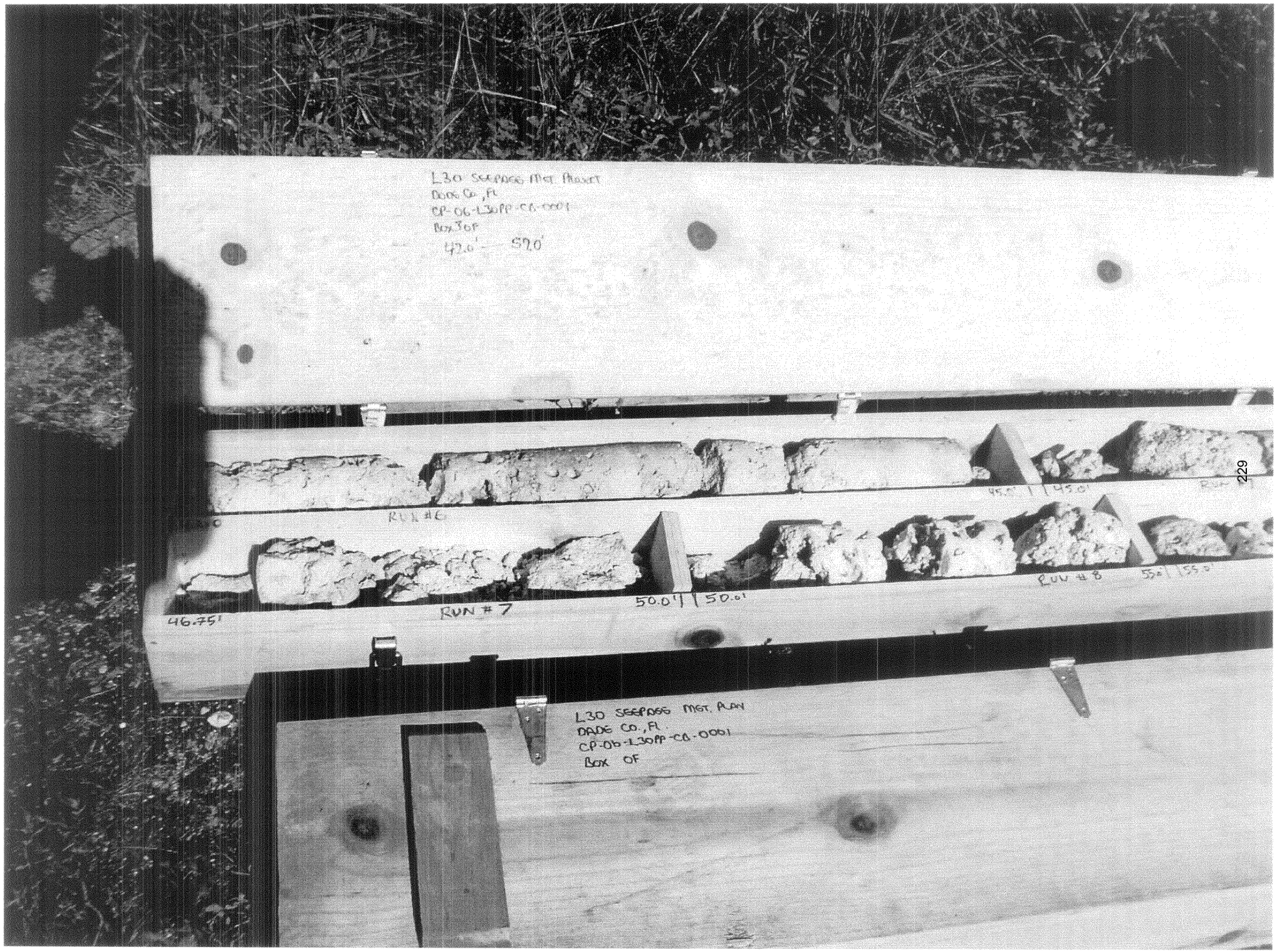
ELEVATION BOTTOM OF HOLE: **-31.5 FT**

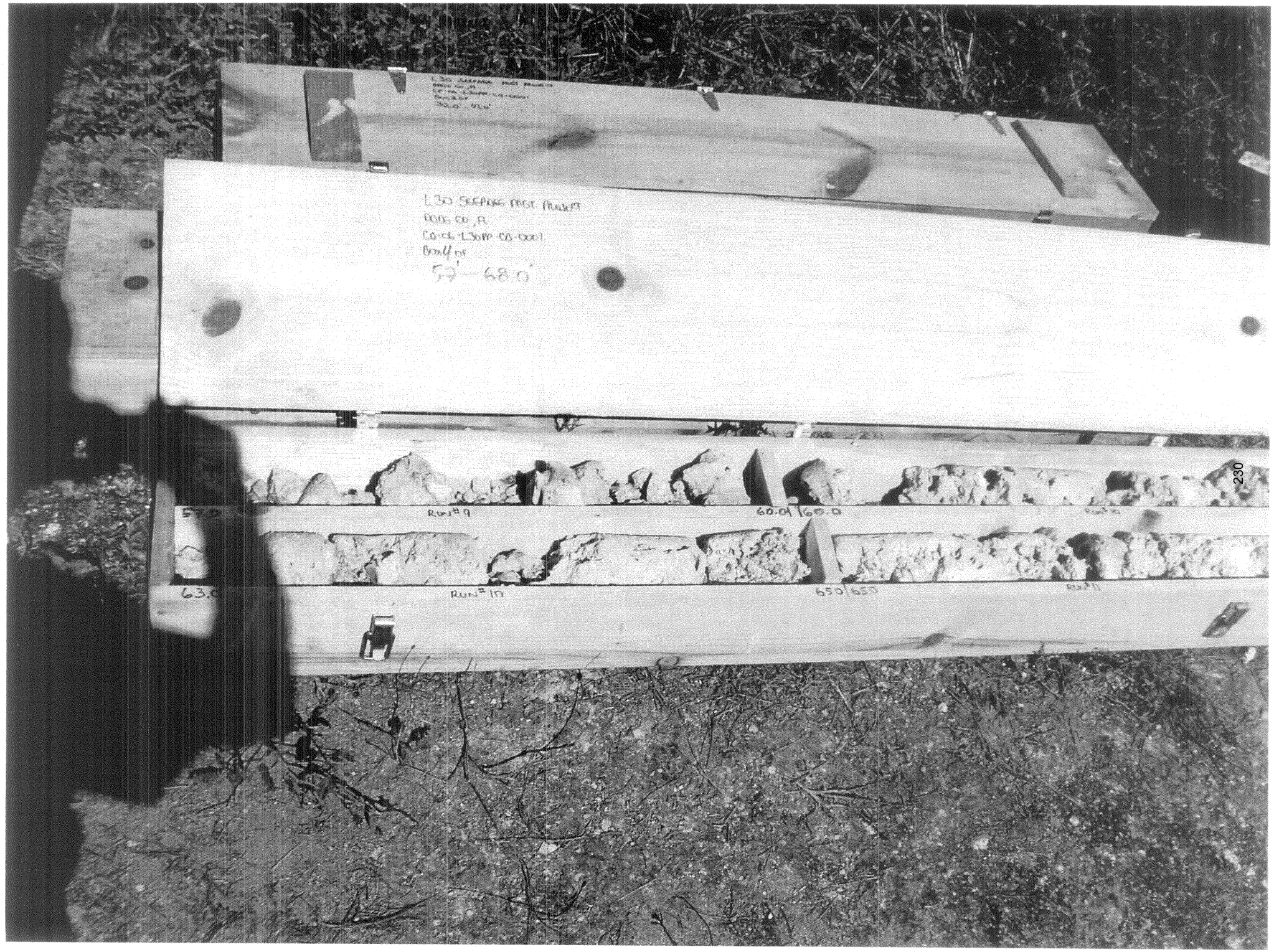
CORE BOX INVENTORY REPORT & PHOTOGRAPHS

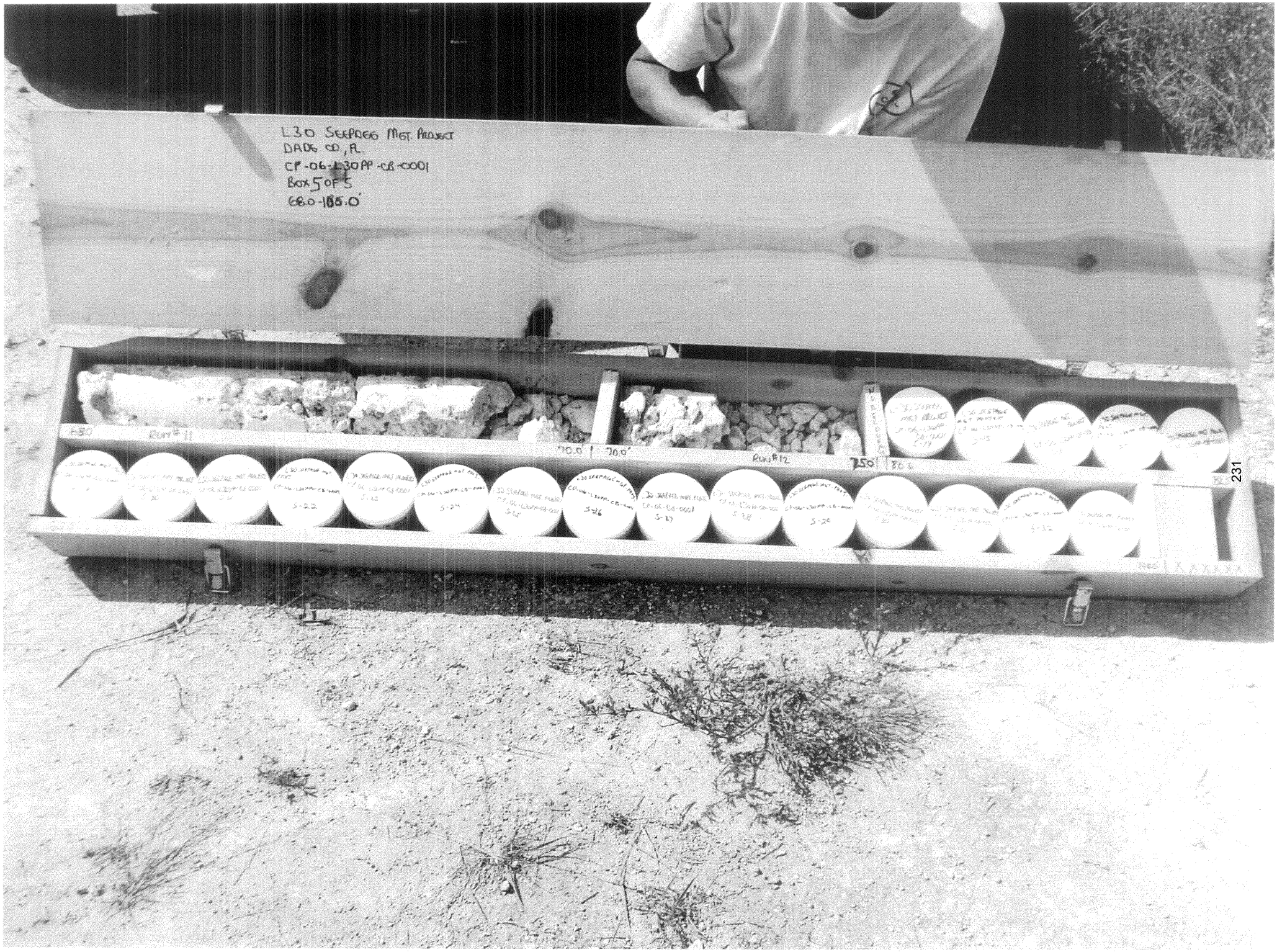
ENCP06-L30PP-CB-0001	L-30 Seepage M~BOX 1 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -0.2 TO -14.7; BOX ID: 1A Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0001	L-30 Seepage M~BOX 2 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -14.7 TO -24.7; BOX ID: 2ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0001	L-30 Seepage M~BOX 3 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -24.7 TO -39.7; BOX ID: 3ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0001	L-30 Seepage M~BOX 4 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -39.7 TO -50.7; BOX ID: 4ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0001	L-30 Seepage M~BOX 5 OF 5 BOXES; BORING 1 OF 2 BORINGS; EL. -50.7 TO -87.7; BOX ID: ~Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0002	L-30 Seepage M~BOX 1 OF 4 BOXES; BORING 1 OF 1 BORING; EL. 0.2 TO -12.5; BOX ID: 6A Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0002	L-30 Seepage M~BOX 2 OF 4 BOXES; BORING 1 OF 1 BORING; EL. -12.5 TO -32.5; BOX ID: 7ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0002	L-30 Seepage M~BOX 3 OF 4 BOXES; BORING 1 OF 1 BORING; EL. -32.5 TO -52.5; BOX ID: 8ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0002	L-30 Seepage M~BOX 4 OF 4 BOXES; BORING 1 OF 1 BORING; EL. -52.5 TO -91.5; BOX ID: 9ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0003	L-30 Seepage M~BOX 1 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -0.3 TO -11.8; BOX ID: 10ALoca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0003	L-30 Seepage M~BOX 2 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -11.8 TO -29.3; BOX ID: 1~Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0003	L-30 Seepage M~BOX 3 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -29.3 TO -44.8; BOX ID: 1~Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0003	L-30 Seepage M~BOX 4 OF 5 BOXES; BORING 1 OF 1 BORING; EL. -44.8 TO -86.3; BOX ID: 1~Loca~	1BX	PITCHFORDKARENEN-GG3295
ENCP06-L30PP-CB-0003	L-30 Seepage M~BOX 5 OF 5 BOXES; BORING 2 OF 2 BORINGS; EL. -86.3 TO -87.8; BOX ID: ~Loca~	1BX	PITCHFORDKARENEN-GG3295

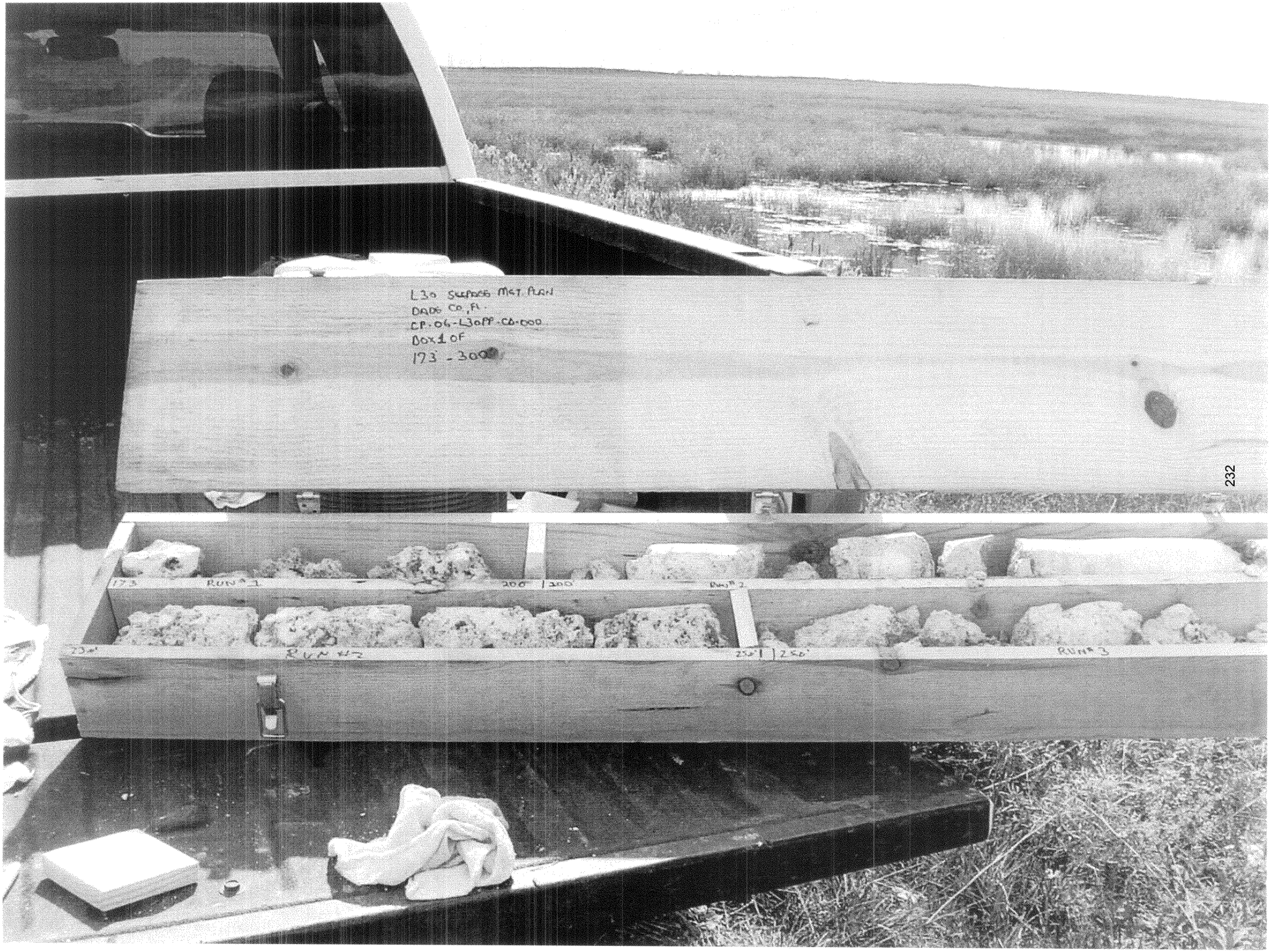

L-30 SEGREG PROFILE
CP-06-L30PP-CA-0001
BOX 3 OF
17.5 - 35.0 FT
RUT#2
RUT#3

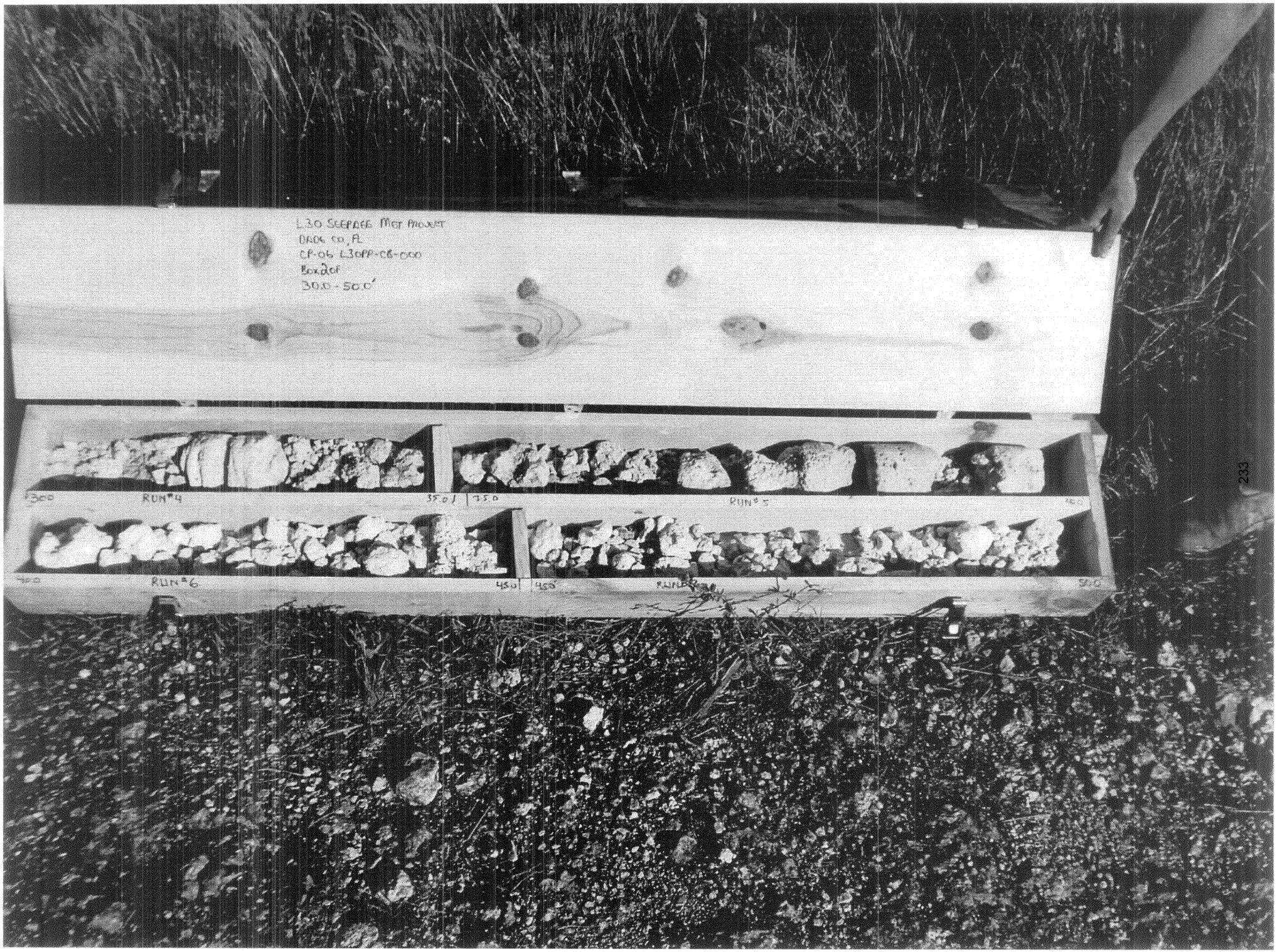

L30 Seepage Met Project
Dade Co., FL
CP-06-L30PP-CB-0001
Box 2 of
RUN #4
RUN #5
RUN #6
36.6
40.0
40.0
L30 Seepage Met Plan
Dade County, FL
CP-06-L30PP-CB-0001
Box 3 of


L30 SEEPAGE MGT. PROJECT
DADE CO., FL
CP-06-L30PP-CA-0001
BOX 3 OF
42.0' — 57.0'
RUN #6
RUN #7
46.75'
50.0' | 50.0'
RUN #8
L30 SEEPAGE MGT. PLAN
DADE CO., FL
CP-06-L30PP-CA-0001
BOX OF

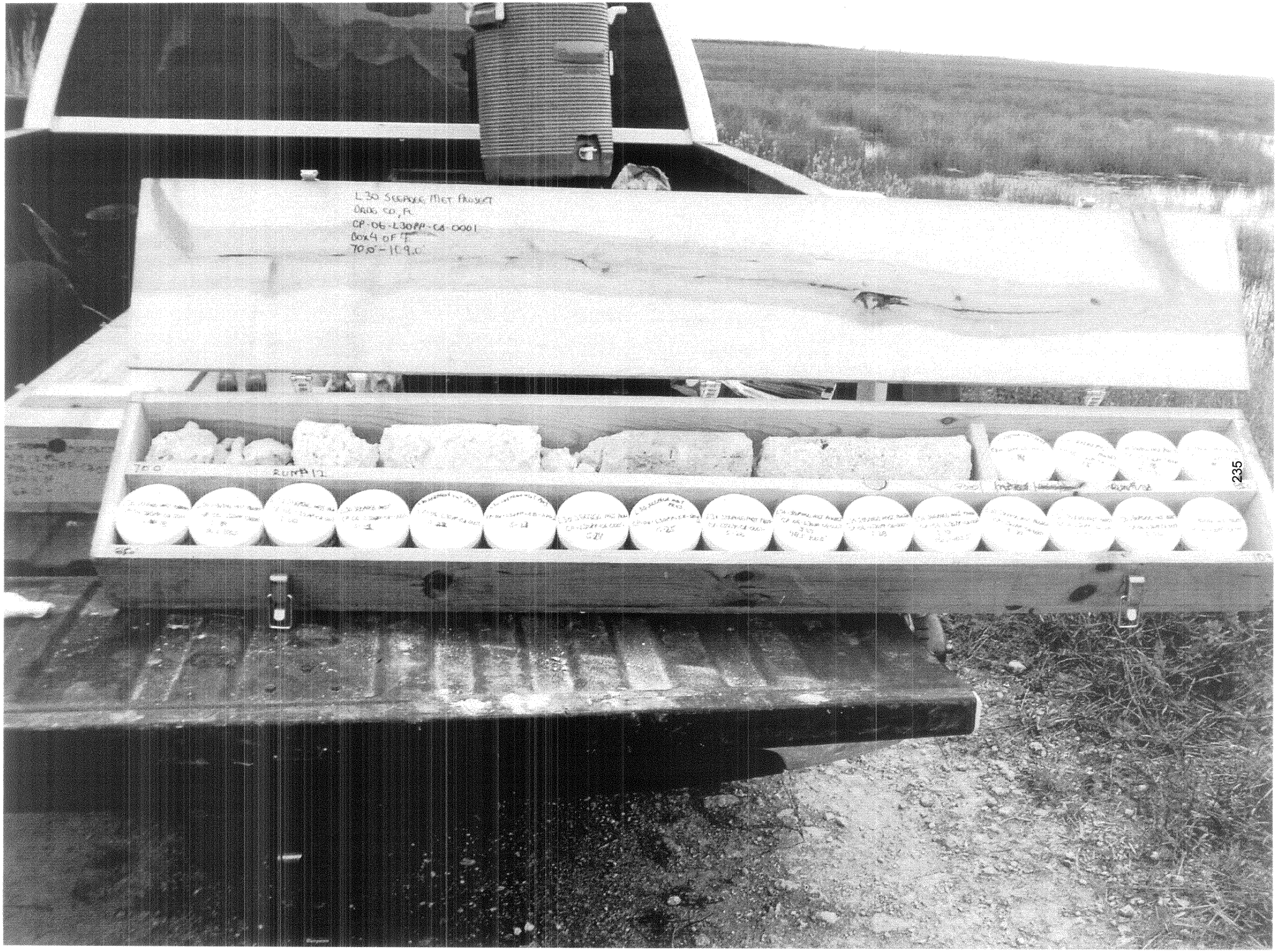

L30 SEEPAGE MOT PROJECT
ROIS CO. FL
CO-CS-L30PP-CO-0001
Box 4 of
59'-68.0'
Run#9
60.0\60.0
Run#10
65.0\65.0
Run#11

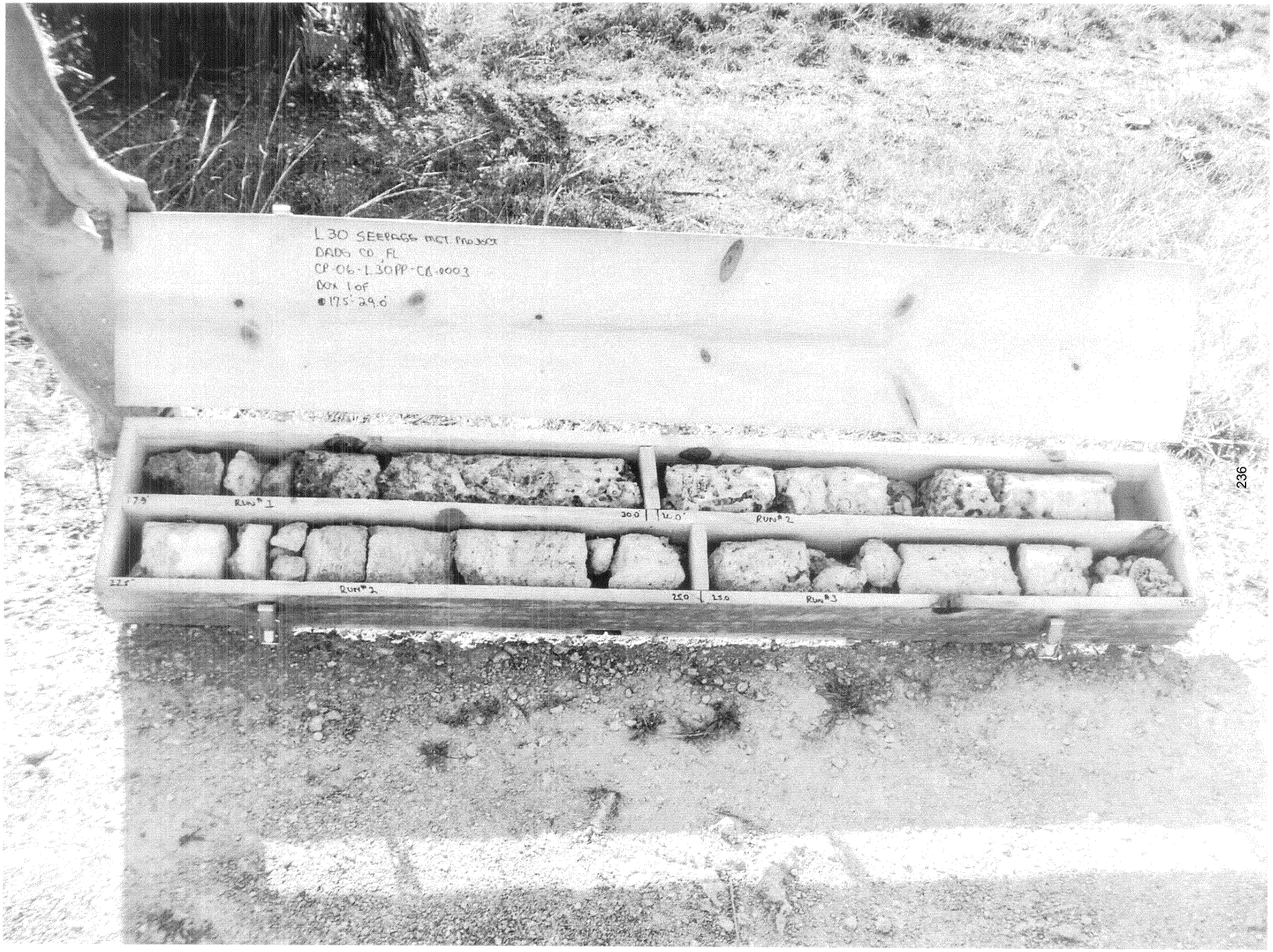

L30 SEEPAGE MGT. PROJECT
DADE CO., FL
CP-06-L30PP-CB-0001
BOX 5 OF 5
68.0-185.0'
Run #11
70.0'
70.0'
Run #12
S-22
S-24
S-26
S-28
S-32

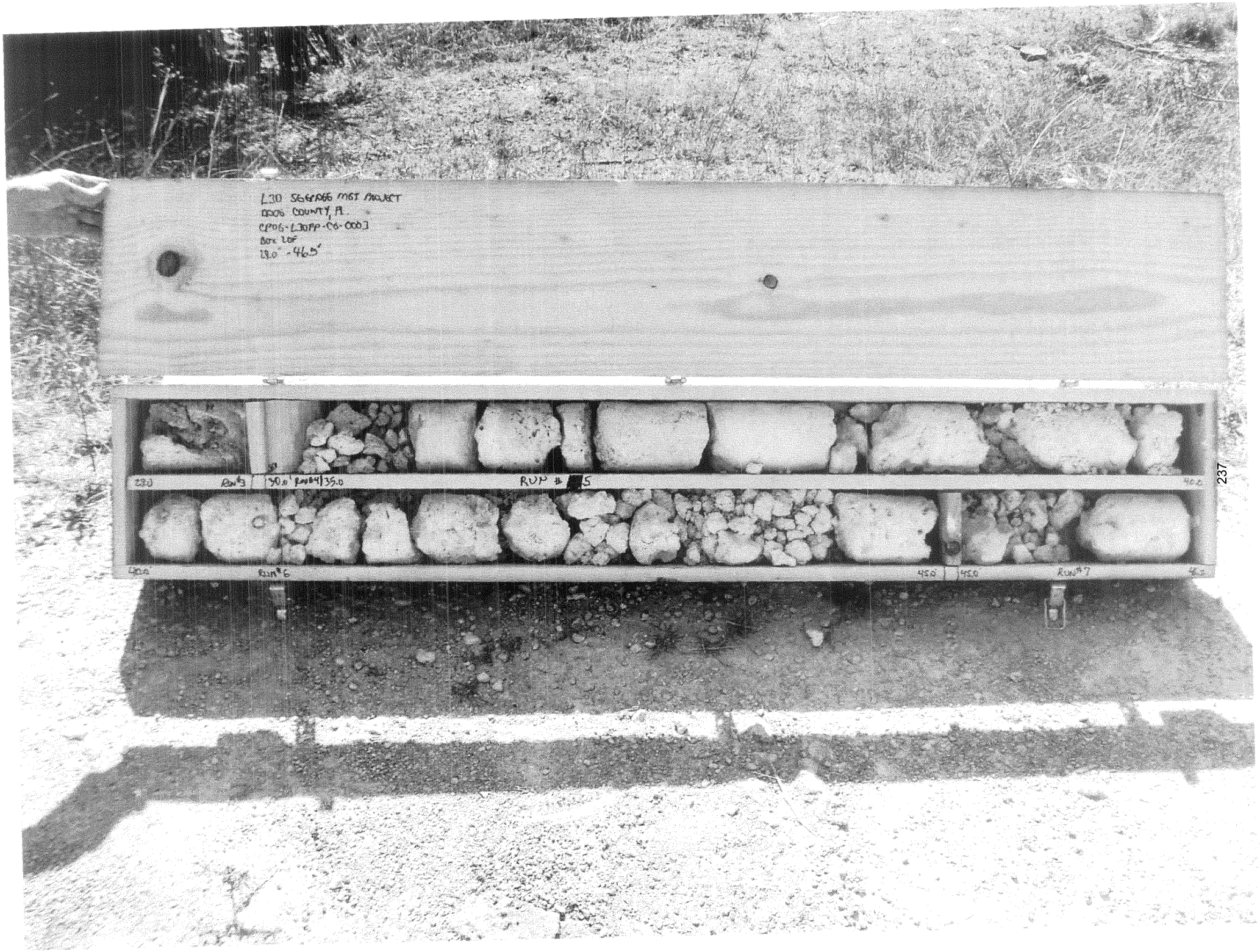

L30 SEEPAGE MGT. PLAN
DADE CO., FL.
CP-06-L30PP-CO-000
Box 1 OF
173 - 300
173
RUN #1
200' | 200'
RUN #2
230'
RUN #2
230' | 250'
RUN #3

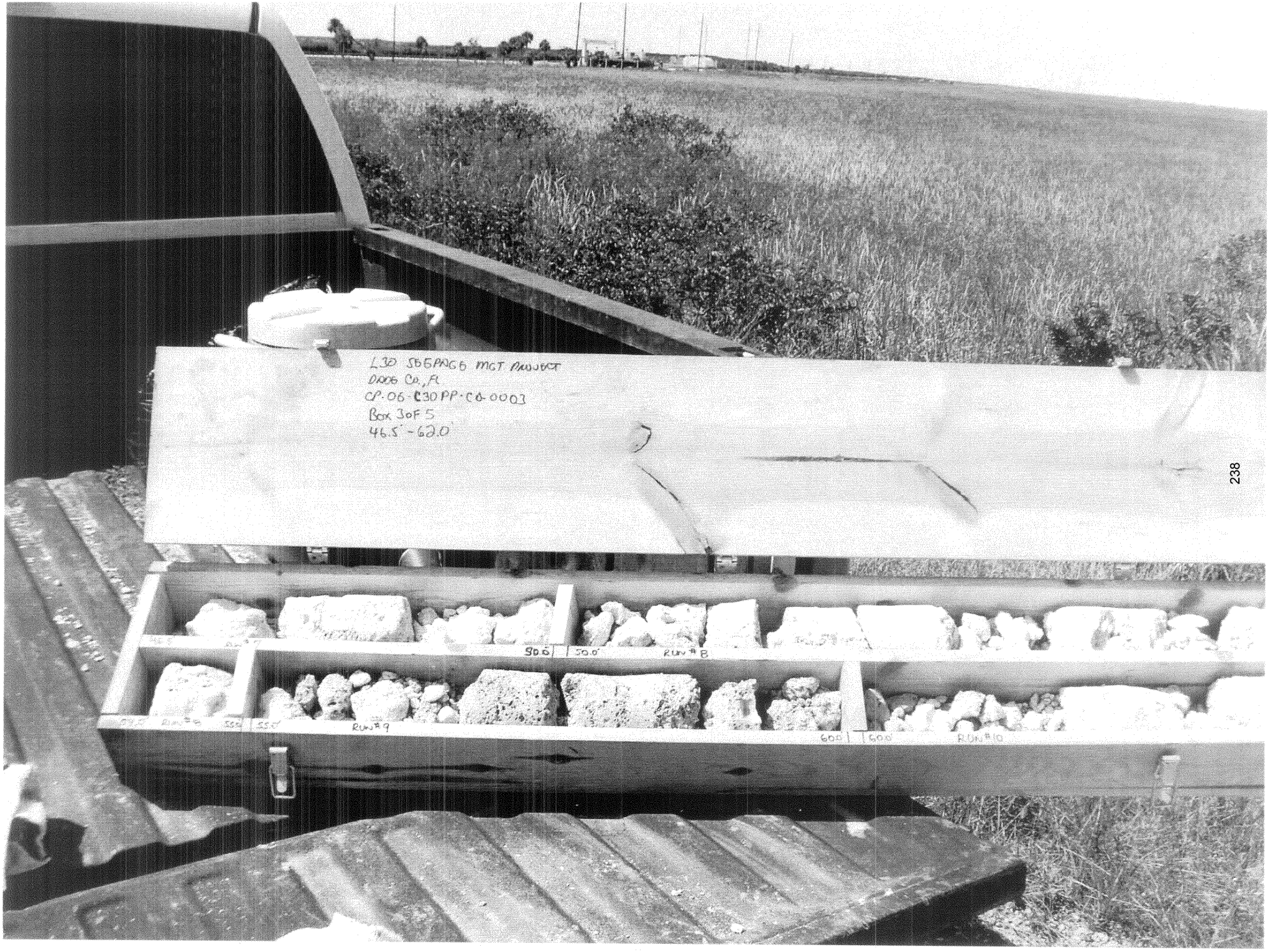

L30 SEEPAGE MGT PROJECT
DADE CO, FL
CP-06 L30PP-CB-000
Box 2 OF
30.0 - 50.0'
RUN #4
35.0
RUN #5
RUN #6
45.0
RUN #7

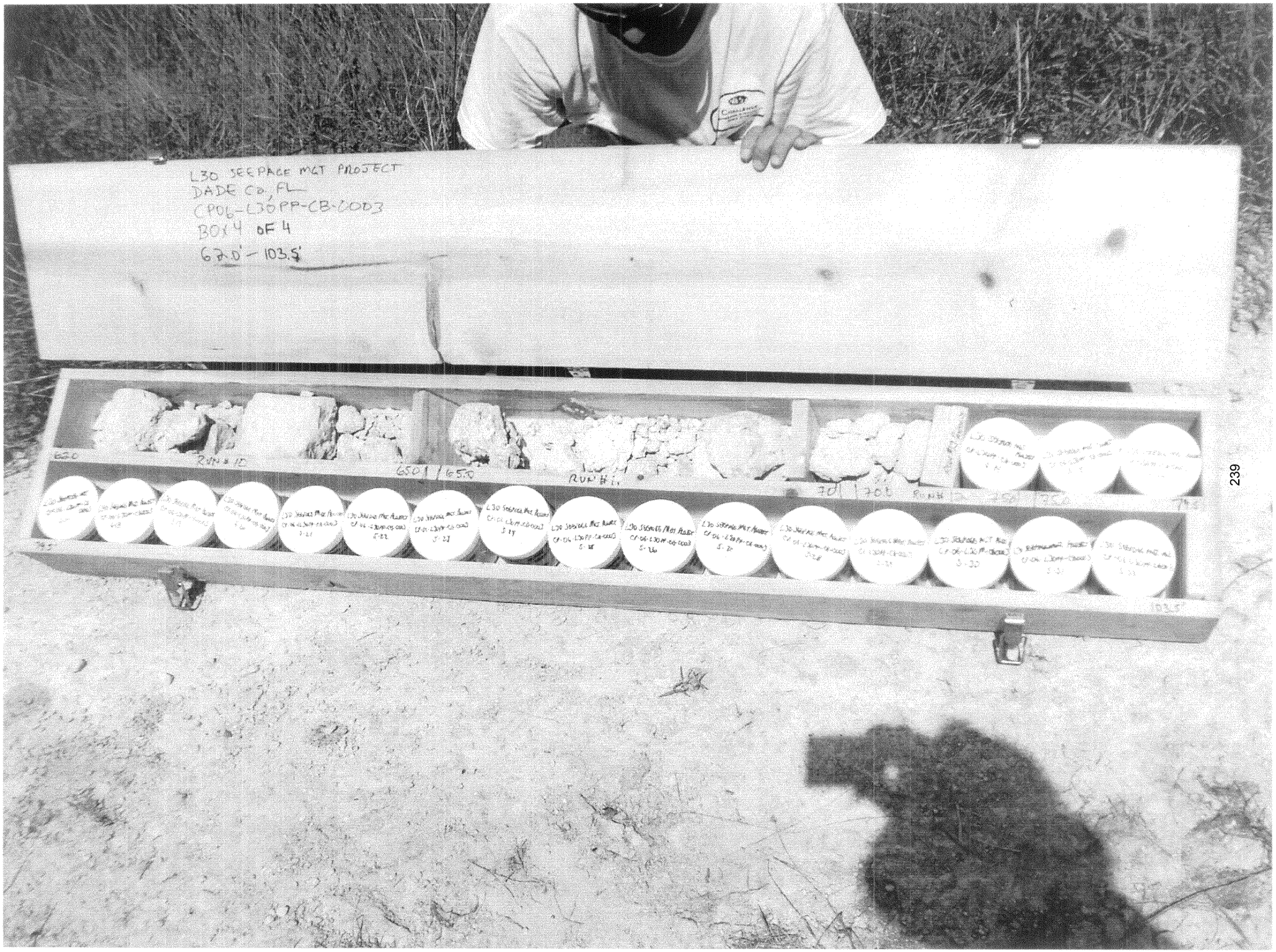
L30 SEWAGE
DADE CO. FL.
CP-06-L30PP-C1.001
BOX 3 OF
50.0'
50.0'
62.0
RUN #10
RUN #8
65.0
65.0


L30 SEEPAGE MIGT PROJECT
ORDS CO., FL
CP-06-L30PP-CS-0001
BOX 4 OF 7
70.0'-109.0'
RUN #12

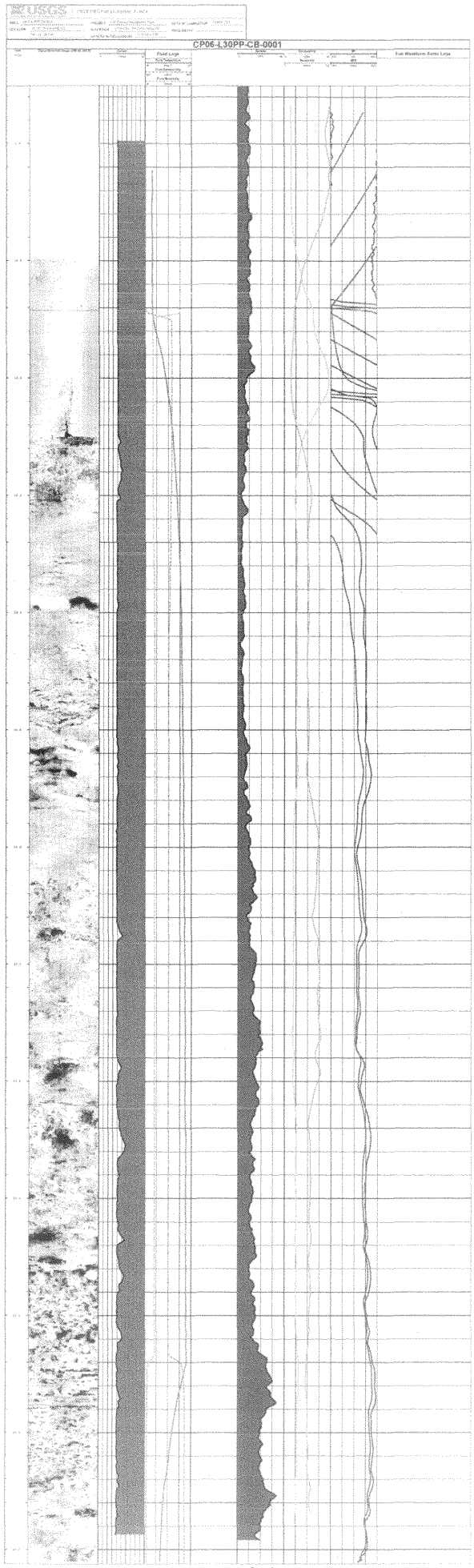

L30 SEEPAGE MCT PROJECT
DADE CO. FL
CP 06-L30PP-CB-0003
BOX 1 OF
@175' 29.0'
17.5'
RUN# 1
20.0
20.0'
RUN# 2
22.5'
RUN# 2
25.0
25.0
RUN# 3


L30 SEGREGG MGT PROJECT
DADE COUNTY, FL.
CP06-L30PP-C6-0003
BOX 1 OF
18.0' - 46.5'
RUN #5
RUN #6
RUN #7


L30 SEEPAGE MGT. PROJECT
DADE Co., FL
CP-06-C30PP-C0-0003
Box 3 of 5
46.5'-62.0'
50.0'
50.0'
RUN #8
RUN #9
60.0'
60.0'
RUN #10


L30 SEEPAGE MGT PROJECT
DADE CO., FL
CP06-L30PP-CB-0003
BOX 4 OF 4
67.0' - 103.5'
RUN # 12
65.0 / 65.0
RUN # 11
70 / 70.0
RUN #
103.5'

U.S.G.S. BOREHOLE LOGS


CP06-L30PP-CB-0001

Well	Phase	Duration	Volume Recharged/Recovered (in million gallons)	Percent Recovery	Aquifer or Water Source	Sample Collection Date	Sample Collection Time	Gross Alpha, in pCi/L	Gross Alpha, Reporting Level	WQ FLAG for WQ 304
								WQ304	WQ306	
OKF-100 upper	Recharge	Week 1	7.773946		UFA	12-Jul-11	10:35			
OKF-100 lower	Recharge		7.773946		APPZ	12-Jul-11	12:00			
EXKR-1	Recharge		2.938902		Surface Water	11-Jul-11	15:21	0.597	3	U
MW-19	Recharge				UFA - 4200-FT					
MW-18	Recharge				UFA - 2350-FT					
MW-10	Recharge		7.773946		UFA - 350 ft SZMW	12-Jul-11	9:30			
MW-17	Recharge				SAS					
OKF-100 upper	Recharge	Week 3	81.716135		UFA	27-Jul-11	11:43	4.61	3	V
OKF-100 lower	Recharge		81.716135		APPZ	27-Jul-11	12:54	2.26	3	U
EXKR-1	Recharge		81.716135		Surface Water	26-Jul-11	13:10	0.245	3	U
MW-19	Recharge		86.726274		UFA - 4200-FT	28-Jul-11	11:17			
MW-18	Recharge		86.726274		UFA - 2350-FT	28-Jul-11	13:35			
MW-10	Recharge		86.726274		UFA - 350 ft SZMW	28-Jul-11	12:05	1.43	3	J
MW-17	Recharge				SAS	28-Jul-11	15:03			
OKF-100 upper	Recharge	Week 5	144.501563		UFA	9-Aug-11	9:51	3.19	3	V
OKF-100 lower	Recharge		144.501563		APPZ	9-Aug-11	11:07			
EXKR-1	Recharge		149.427474		Surface Water	10-Aug-11	11:50	1.31	3	U
MW-19	Recharge				UFA - 4200-FT					
MW-18	Recharge				UFA - 2350-FT					
MW-10	Recharge		149.427474		UFA - 350 ft SZMW	10-Aug-11	12:50	-0.283	3	U
MW-17	Recharge				SAS					
OKF-100 upper	Recharge	Week 7	214.208367		UFA	23-Aug-11	11:50	2.93	3	J
OKF-100 lower	Recharge		214.208367		APPZ	23-Aug-11	13:00	3.58	3	U
EXKR-1	Recharge		219.296561		Surface Water	24-Aug-11	11:30	0.843	3	U
MW-19	Recharge		224.014730		UFA - 4200-FT	25-Aug-11	12:02			
MW-18	Recharge		224.014730		UFA - 2350-FT	25-Aug-11	13:32			
MW-10	Recharge		224.014730		UFA - 350 ft SZMW	25-Aug-11	10:45	1.23	3	U
MW-17	Recharge				SAS	24-Aug-11	12:29	2.62	3	U
OKF-100 upper	Recharge	Week 9	289.282410		UFA	7-Sep-11	11:30	4.66	3	V
OKF-100 lower	Recharge		289.282410		APPZ	7-Sep-11	12:40	5.19	3	V
EXKR-1	Recharge		284.191399		Surface Water	6-Sep-11	11:10	0.421	3	U
MW-19	Recharge		294.198994		UFA - 4200-FT	8-Sep-11	13:55			
MW-18	Recharge		294.198994		UFA - 2350-FT	8-Sep-11	12:02			
MW-10	Recharge		294.198994		UFA - 350 ft SZMW	8-Sep-11	10:45			
MW-17	Recharge				SAS	6-Sep-11	12:20	6.78	3	V
OKF-100 upper	Recharge	Week 13	433.591124		UFA	5-Oct-11	12:00	2.82	3	U
OKF-100 lower	Recharge		433.591124		APPZ	5-Oct-11	13:30	-2.56	3	U
EXKR-1	Recharge		428.548053		Surface Water	4-Oct-11	11:30	0.281	3	U
MW-19	Recharge		438.582593		UFA - 4200-FT	6-Oct-11	12:09			
MW-18	Recharge		438.582593		UFA - 2350-FT	6-Oct-11	14:07			
MW-10	Recharge		438.582593		UFA - 350 ft SZMW	6-Oct-11	11:00	2.76	3	U
MW-17	Recharge				SAS	4-Oct-11	12:45	9.07	3	U
OKF-100 upper	Recharge	Week 17	536.941012		UFA	2-Nov-11	12:25	1.44	3	J
OKF-100 lower	Recharge		541.854719		APPZ	3-Nov-11	11:17			
EXKR-1	Recharge		536.941012		Surface Water	2-Nov-11	10:05	0.0372	3	U
MW-19	Recharge		541.854719		UFA - 4200-FT	3-Nov-11	12:55			
MW-18	Recharge		541.854719		UFA - 2350-FT	3-Nov-11	13:42			
MW-10	Recharge		541.854719		UFA - 350 ft SZMW	3-Nov-11	10:05			
MW-17	Recharge				SAS	2-Nov-11	11:12	3.45	3	U
OKF-100 upper	Recharge	Week 21	713.623007		UFA	7-Dec-11	13:35	1.3	3	U
OKF-100 lower	Recharge		718.616152		APPZ	8-Dec-11	13:05			
EXKR-1	Recharge		713.623007		Surface Water	7-Dec-11	11:50	0.553	3	U
MW-19	Recharge		718.616152		UFA - 4200-FT	8-Dec-11	14:05	1.15	3	U
MW-18	Recharge		718.616152		UFA - 2350-FT	8-Dec-11	15:11			
MW-10	Recharge		718.616152		UFA - 350 ft SZMW	8-Dec-11	11:30	0.888	3	U
MW-17	Recharge				SAS	7-Dec-11	12:20	5.8	3	J
OKF-100 upper	Recharge	Week 25	847.990793		UFA	3-Jan-12	12:10	1.36	3	U
OKF-100 lower	Recharge		847.990793		APPZ	3-Jan-12	13:15	4.14	3	U
EXKR-1	Recharge		852.955765		Surface Water	4-Jan-12	11:15	0.359	3	U
MW-19	Recharge		857.881459		UFA - 4200-FT	5-Jan-12	11:11			
MW-18	Recharge		857.881459		UFA - 2350-FT	5-Jan-12	12:25			
MW-10	Recharge		857.881459		UFA - 350 ft SZMW	5-Jan-12	13:25	0.937	3	U
MW-17	Recharge				SAS	5-Jan-12	13:55	3.82	3	U
OKF-100 upper	Storage	Week 29-31	998.358723		UFA	8-Feb-12	11:20	1.18	3	U
OKF-100 upper	Storage		998.358723		UFA	23-Feb-12	12:07			
OKF-100 lower	Recharge		998.358723		APPZ	8-Feb-12	12:34	0.204	3	U
EXKR-1	Recharge		995.849288		Surface Water	2-Feb-12	11:55	0.409	3	U
EXKR-1D	Recharge		998.358723		Surface Water	3-Feb-12	11:55			
MW-19	Recharge		998.358723		UFA - 4200-FT	9-Feb-12	12:02			
MW-18	Recharge		998.358723		UFA - 2350-FT	9-Feb-12	14:10			
MW-10	Recharge		998.358723		UFA - 350 ft SZMW	9-Feb-12	10:49	0.0476	3	U
MW-10	Recharge		998.358723		UFA - 350 ft SZMW	23-Feb-12	11:05			
MW-17	Recharge				SAS	9-Feb-12	12:56	3.67	3	U
OKF-100 upper	Storage	Weeks 32-34	998.358723		UFA	5-Mar-12	12:35	0.36	3	U
OKF-100 lower	Storage		998.358723		APPZ	5-Mar-12	13:45	5.22	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	6-Mar-12	10:17			
MW-18	Storage		998.358723		UFA - 2350-FT	6-Mar-12	13:45			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	6-Mar-12	11:16	0.0745	3	U
MW-17	Storage				SAS	6-Mar-12	12:05	2.75	3	U
OKF-100 upper	Storage	Week 35-36	998.358723		UFA	22-Mar-12	11:50			
OKF-100 upper	Storage		998.358723		UFA	4-Apr-12	10:00	1.53	3	J
OKF-100 lower	Storage		998.358723		APPZ	4-Apr-12	11:30	0.941	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	5-Apr-12	11:35			
MW-18	Storage		998.358723		UFA - 2350-FT	5-Apr-12	13:45			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	5-Apr-12	10:23	1.62	3	U
MW-17	Storage				SAS	5-Apr-12	12:20	2.02	3	U
OKF-100 upper	Storage	Week 39-40	998.358723		UFA	22-Mar-12	11:50			
OKF-100 upper	Storage		998.358723		UFA	4-Apr-12	10:00	1.53	3	J
OKF-100 lower	Storage		998.358723		APPZ	4-Apr-12	11:30	0.941	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	5-Apr-12	11:35			
MW-18	Storage		998.358723		UFA - 2350-FT	5-Apr-12	13:45			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	5-Apr-12	10:23	1.62	3	U
MW-17	Storage				SAS	5-Apr-12	12:20	2.02	3	U
OKF-100 upper	Storage	Week 44	998.358723		UFA	2-May-12	11:06	1.95	3	J
OKF-100 lower	Storage		998.358723		APPZ	2-May-12	12:27	4.44	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	3-May-12	13:14			
MW-18	Storage		998.358723		UFA - 2350-FT	3-May-12	14:23			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	3-May-12	11:30	0.566	3	U
MW-17	Storage				SAS	3-May-12	11:50	2.84	3	U

Table 8. Radionuclide concentrations and activities obtained during Cycle 4.

Well	Phase	Duration	Volume Recharged/Recovered (in million gallons)	Percent Recovery	Aquifer or Water Source	Sample Collection Date	Sample Collection Time	Gross Alpha, in pCi/L	Gross Alpha, Reporting Level	WQ FLAG for WQ 304
								WQ304	WQ306	
OKF-100 upper	Storage	Week 48	998.358723		UFA	13-Jun-12	10:51	1.65	3	U
OKF-100 lower	Storage		998.358723		APPZ	13-Jun-12	11:57	1.83	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	13-Jun-12	13:31			
MW-18	Storage		998.358723		UFA - 2350-FT	14-Jun-12	14:18			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	14-Jun-12	10:46	0.858	3	U
MW-17	Storage				SAS	14-Jun-12	12:42	< 2.71	3	U
OKF-100 upper	Storage	Week 52	998.358723		UFA	11-Jul-12	10:50	1.86	3	J
OKF-100 lower	Storage		998.358723		APPZ	11-Jul-12	11:57	<0.22	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	12-Jul-12	12:35			
MW-18	Storage		998.358723		UFA - 2350-FT	12-Jul-12	14:45			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	12-Jul-12	11:00	0.866	3	U
MW-17	Storage				SAS	12-Jul-12	13:05	< 1.58	3	U
OKF-100 upper	Storage	Week 56	998.358723		UFA	8-Aug-12	11:55	1.64	3	U
~~OKF-100 lower~~	~~Storage~~		~~998.358723~~		~~APPZ~~	~~8-Aug-12~~	~~13:06~~	~~9.17~~	~~3~~	~~Y~~
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	9-Aug-12	12:10			
MW-18	Storage		998.358723		UFA - 2350-FT	9-Aug-12	13:36			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	9-Aug-12	10:55	0.896	3	U
MW-17	Storage				SAS	8-Aug-12	13:41	10.2	3	U
OKF-100 upper	Storage	Week 60	998.358723		UFA	11-Sep-12	11:20	1.86	3	U
OKF-100 lower	Storage		998.358723		APPZ	11-Sep-12	12:25	13.7	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	12-Sep-12	12:11			
MW-18	Storage		998.358723		UFA - 2350-FT	12-Sep-12	13:35			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	12-Sep-12	10:50	1.54	3	J
MW-17	Storage				SAS	11-Sep-12	13:59	5.36	3	U
OKF-100 upper	Storage	Week 64	998.358723		UFA	10-Oct-12	12:05	2.28	3	J
OKF-100 lower	Storage		998.358723		APPZ	10-Oct-12	13:10	3.79	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	10-Oct-12	14:57			
MW-18	Storage		998.358723		UFA - 2350-FT	11-Oct-12	11:42			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	11-Oct-12	10:05	1.73	3	U
MW-17	Storage				SAS	11-Oct-12	12:55	< 4.18	3	U
OKF-100 upper	Storage	Week 68	998.358723		UFA	6-Nov-12	12:45	1.3	3	U
OKF-100 lower	Storage		998.358723		APPZ	6-Nov-12	14:01	1.5	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	8-Nov-12	12:12			
MW-18	Storage		998.358723		UFA - 2350-FT	8-Nov-12	13:42			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	8-Nov-12	12:50	2.44	3	J
MW-17	Storage				SAS	7-Nov-12	14:23	0	3	U
OKF-100 upper	Storage	Week 74	998.358723		UFA	18-Dec-12	11:20	1.35	3	U
OKF-100 lower	Storage		998.358723		APPZ	18-Dec-12	12:30	5.07	3	U
EXKR-1	Storage		998.358723		Stored Water					
MW-19	Storage		998.358723		UFA - 4200-FT	20-Dec-12	10:57			
MW-18	Storage		998.358723		UFA - 2350-FT	20-Dec-12	12:27			
MW-10	Storage		998.358723		UFA - 350 ft SZMW	19-Dec-12	10:15	1.48	3	U
MW-17	Storage				SAS	19-Dec-12	13:08	1.69	3	U

Table 8. Radionuclide concentrations and activities obtained during Cycle 4.

GEOLOGICAL INVESTIGATION PERTAINING TO L31N SLURRY WALL CONSTRUCTION

(U.S. ARMY CORPS OF ENGINEERS, 2011)

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www.amec.com CA-0007867

MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE
SITE PLAN
MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET - 5

P:\PROJECTS\-CO\16059 Mar\Year L31 Story\Wd\dwg\16059 SITE_LOC.dwg, 5 SITE PLAN, 10/11/2011 2:56:01 PM, mark.a.jones, BCI Engineers & Scientists, Inc.

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L-31N LEVEE
SITE PLAN
MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
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PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 6

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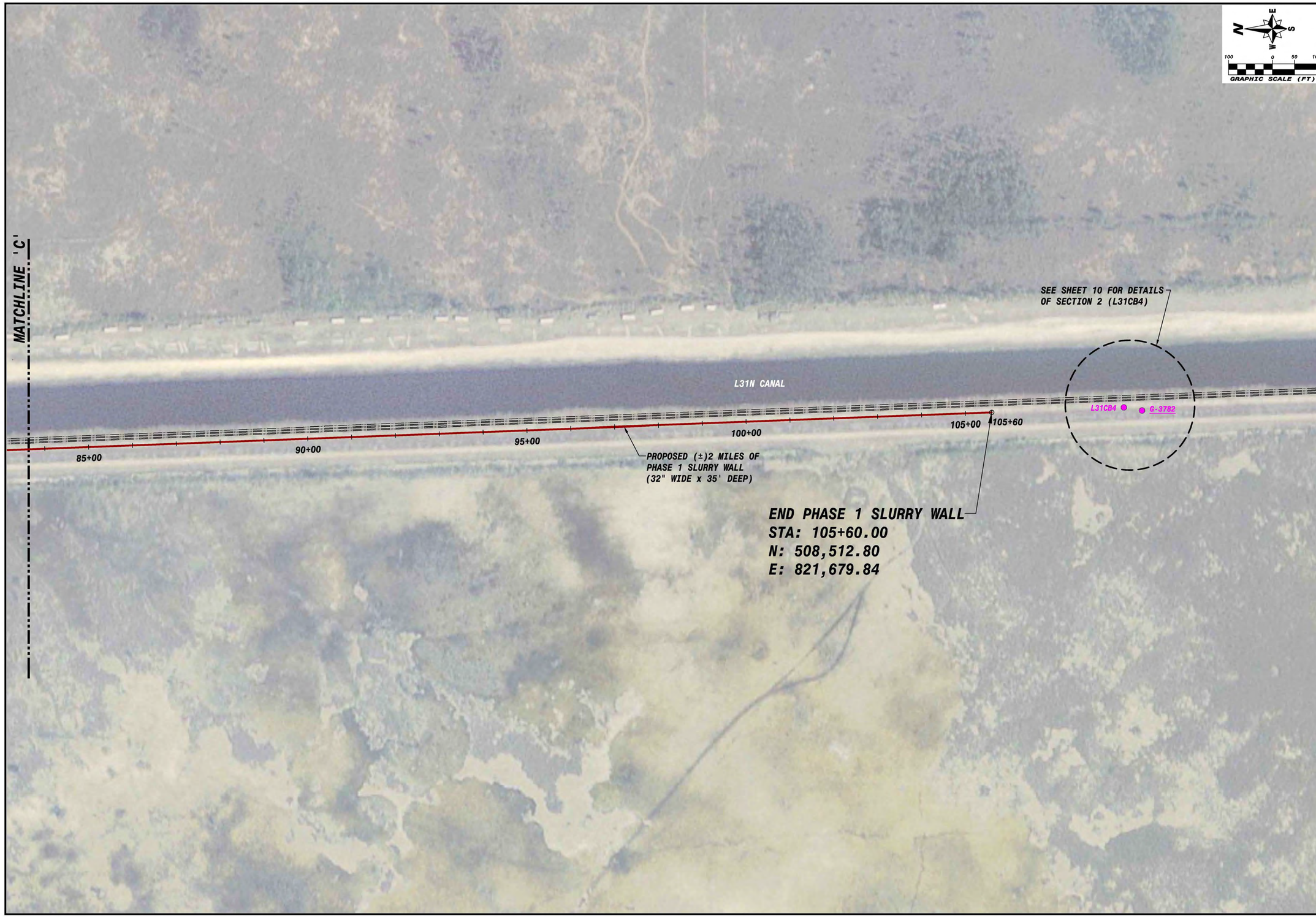

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MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE

SITE PLAN

MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 7

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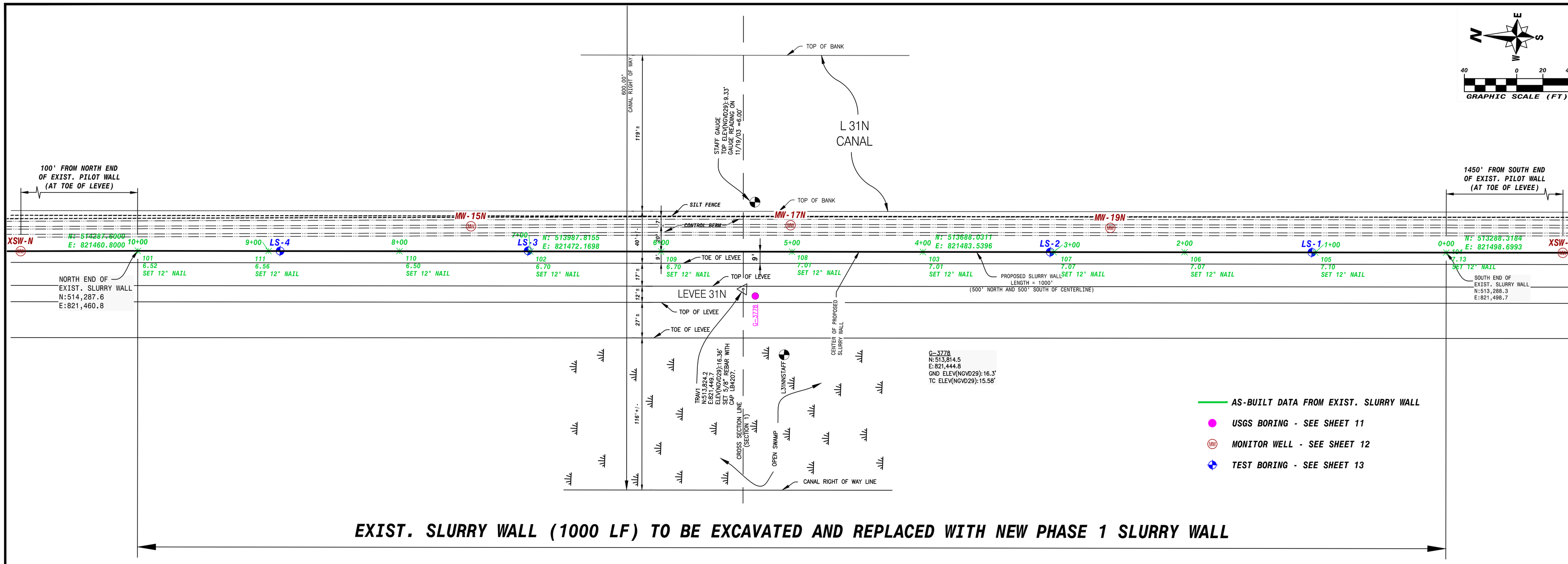
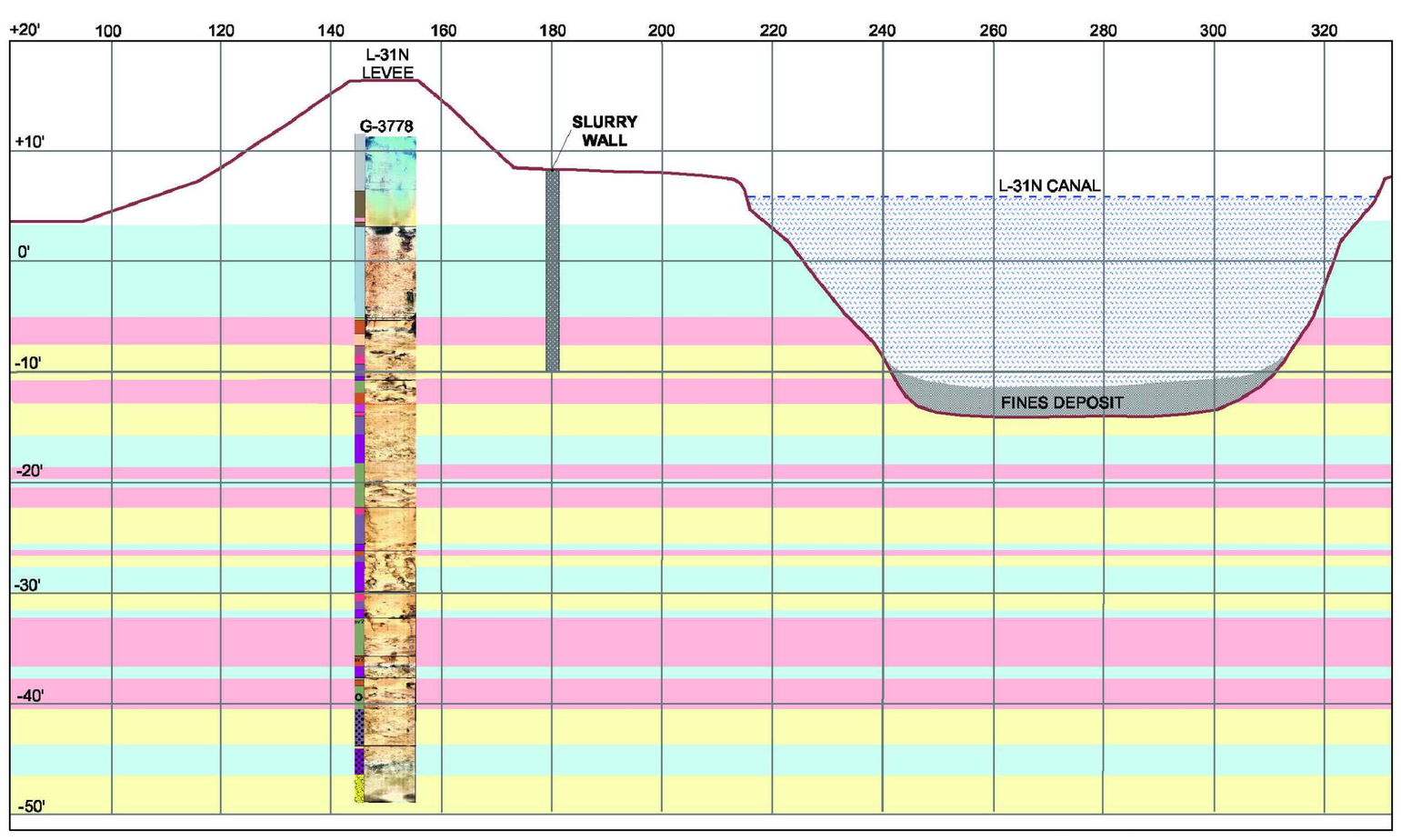
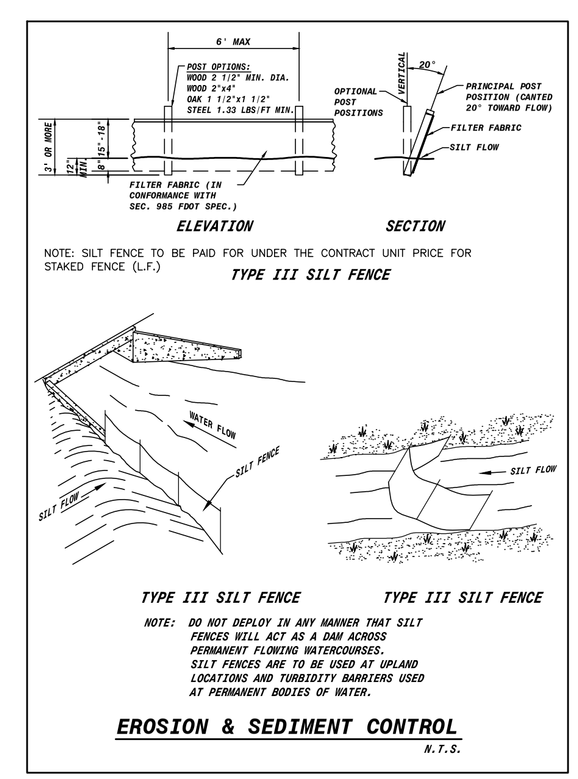




SCHEMATIC SECTION VIEW

DESIGNATION	NORTHING	EASTING	GROUND ELEVATION	TOP OF CASING	TOTAL DEPTH (ELEVATION)	SCREEN INTERVAL (ELEVATION)	
G-3778	513,814.5	821,444.8	16.3'	15.58'	-88	-86 to -88	NGVD29

DESIGNATION	NORTHING	EASTING	NGVD29 ELEV
TRAV1	513,824.2	821,449.7	16.36'



CONTRACTOR CERTIFICATION

I have read the notes and reviewed the plans and I propose to properly implement erosion and sediment control during construction.

SIGNATURE: _____

PRINTED NAME: _____

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MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE

EXISTING TEST SECTION

MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

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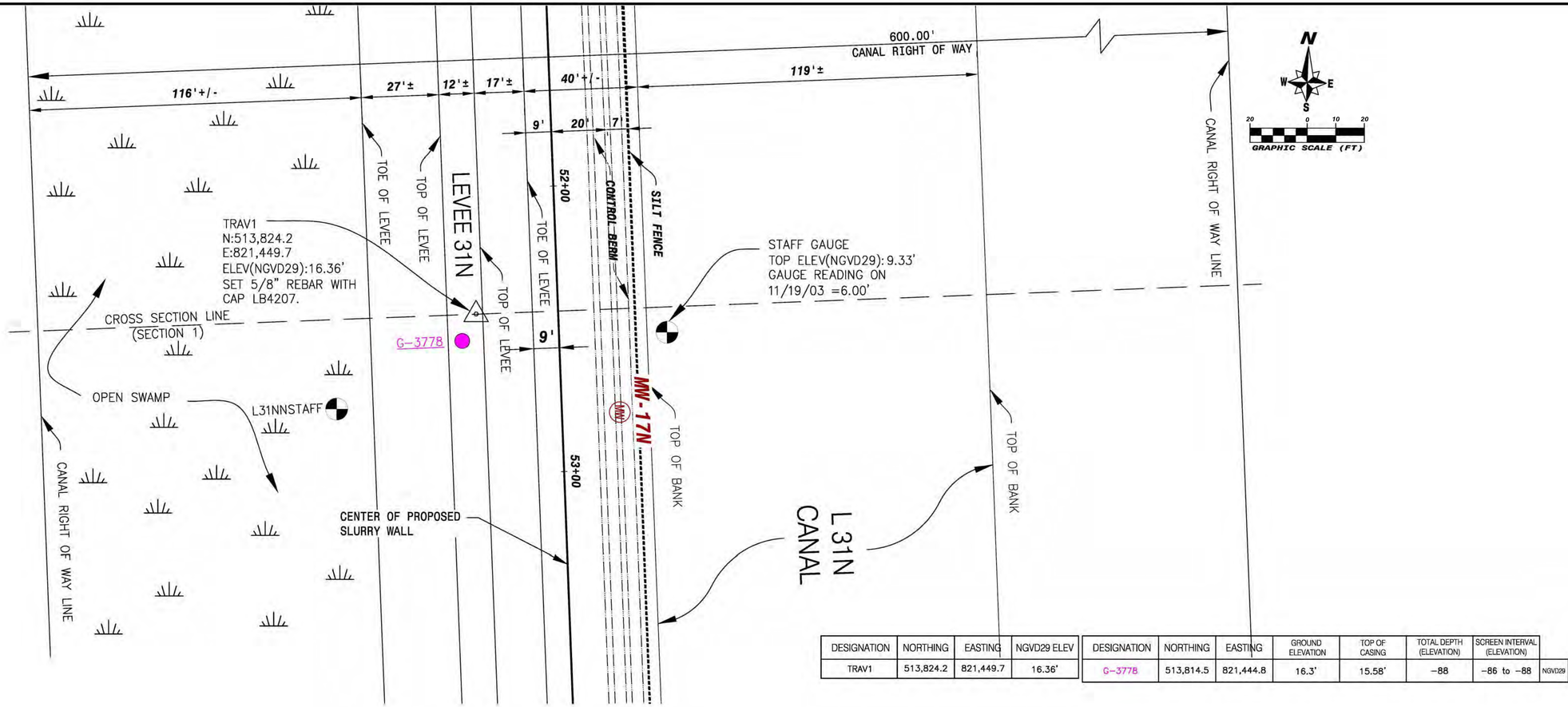
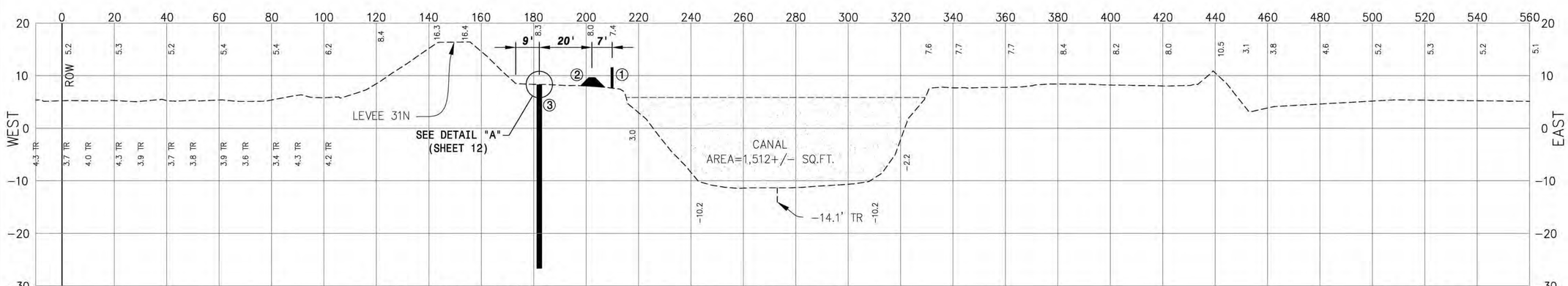
REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET - 8

P:\PROJECTS-CD\16059 MacVicar L31 Slurry Wall\dwg\16059 SITE.dwg, & EXISTING TEST SECTION, 10/11/2011 2:08:37 PM, mark.a.jones, BCI Engineers & Scientists, Inc.



DESIGNATION	NORTHING	EASTING	NGVD29 ELEV
TRAV1	513,824.2	821,449.7	16.36'

DESIGNATION	NORTHING	EASTING	GROUND ELEVATION	TOP OF CASING	TOTAL DEPTH (ELEVATION)	SCREEN INTERVAL (ELEVATION)	
G-3778	513,814.5	821,444.8	16.3'	15.58'	-88	-86 to -88	NGVD29



SURVEYORS NOTES:

1- FOR ADDITIONAL NOTES AND REFERENCES SEE SHEET No. 3.

2- ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NGVD29 DATUM.

① TYPICAL SILT FENCE (1200 LF) (FDOT INDEX 102)

② TYPICAL 2-FOOT HIGH RUNOFF CONTROL BERM CONSTRUCTED WITH NATIVE SOIL (1200 LF)

③ SLURRY WALL 32" WIDE X 35' DEEP (2 MILES) SEE DETAIL "A", SHEET 12

SECTION 1 (NGVD29)

WATER ELEVATION = 5.8'(NGVD29)
DATE = 10/27/2003

SECTION 1 (NGVD29)

GRAPHIC SCALE (FT)

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L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE

PLAN AND PROFILE
SECTION 1 - (G3778)
MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

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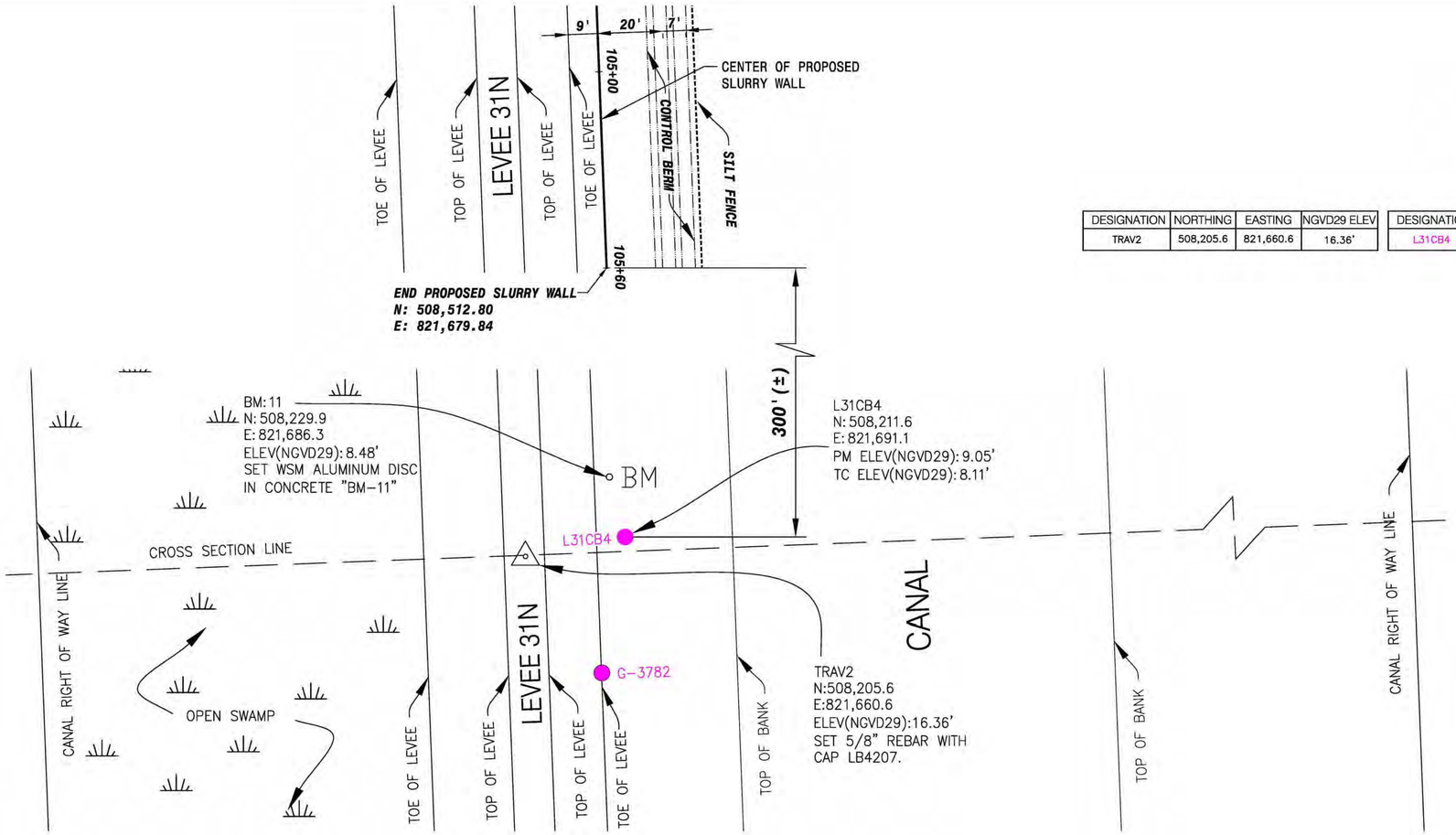
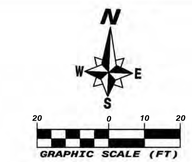
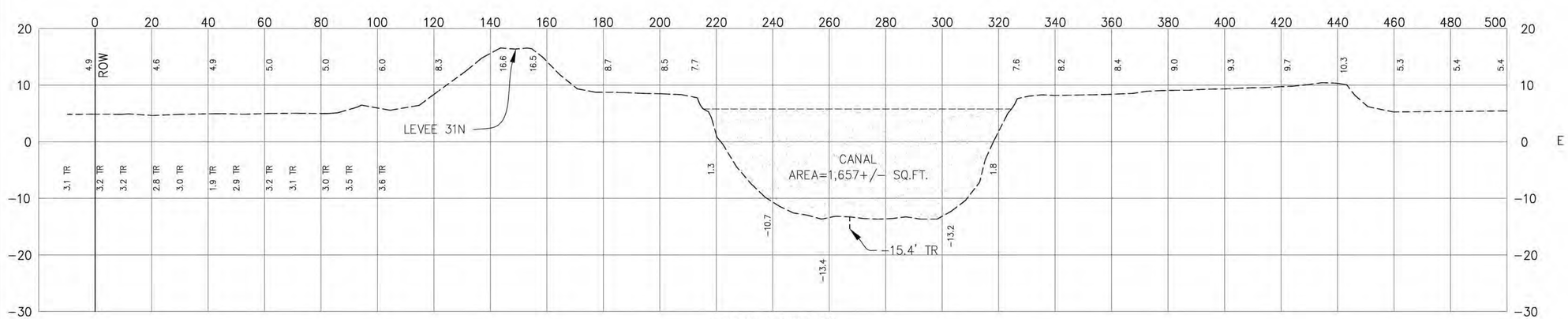
SHEET - 9





DESIGNATION	NORTHING	EASTING	NGVD29 ELEV
TRAV2	508,205.6	821,660.6	16.36'

DESIGNATION	NORTHING	EASTING	PLATFORM MARK	TOP OF CASING	
L31CB4	508,211.6	821,691.1	9.05'	8.11'	NGVD29



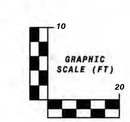
SECTION 2 (NGVD29)

WATER ELEVATION = 5.8'(NGVD29)
DATE = 10/27/2003

SURVEYORS NOTES:

1– FOR ADDITIONAL NOTES AND REFERENCES SEE SHEET No. 1 OF 9.

2– ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NGVD29 DATUM.



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L-31N LEVEE

PLAN AND PROFILE
SECTION 2 (L31CB4)
MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
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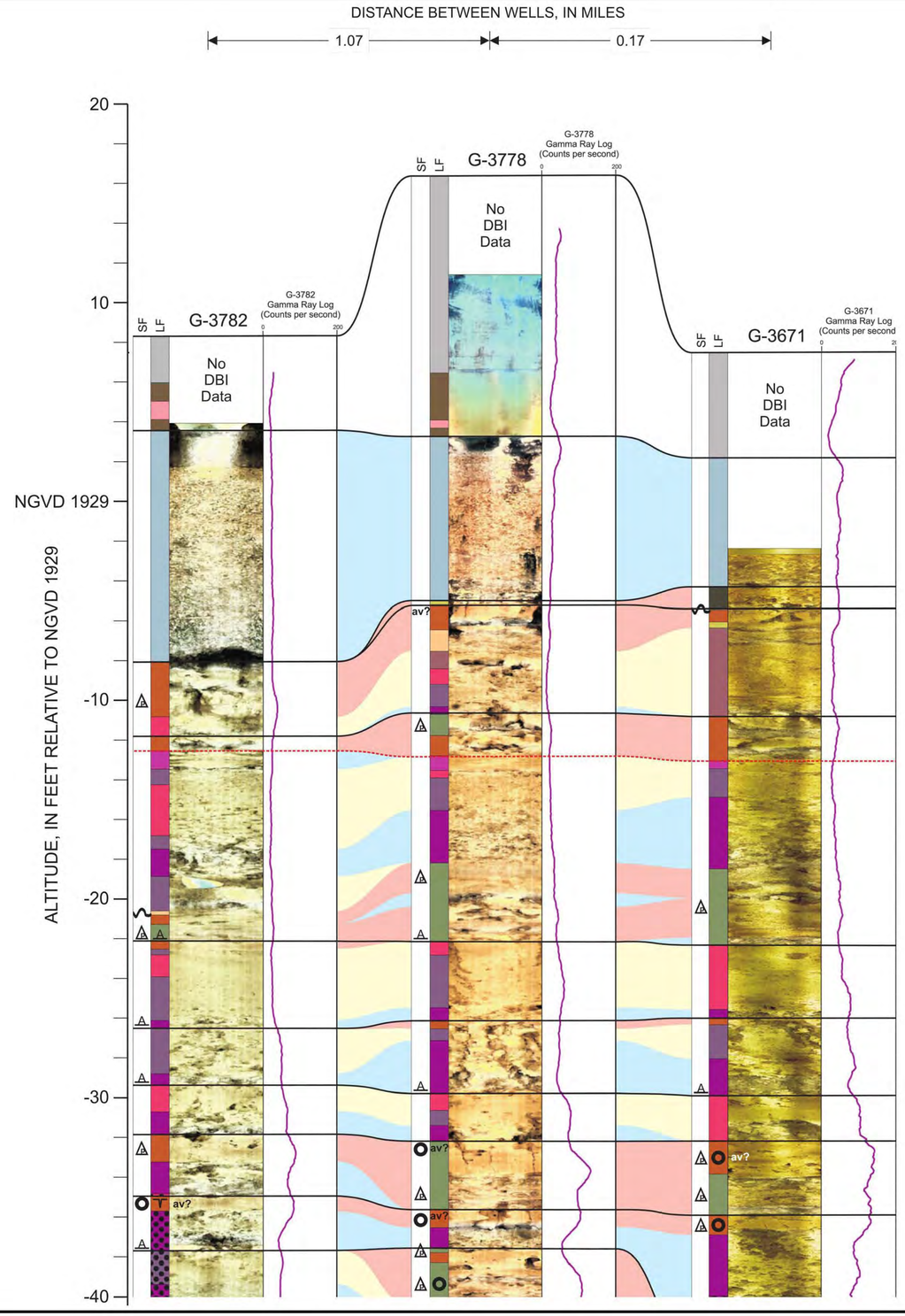
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 10



EXPLANATION

Lithofacies

- Peloid packstone/ grainstone
- Peloid wackestone/ packstone
- *Planorbella* floatstone/ rudstone & sandy *Planorbella* floatstone/ rudstone
- Gastropod floatstone/ rudstone & sandy gastropod floatstone/ rudstone
- Conglomerate & sandy conglomerate
- Autobreccia
- Pedogenic limestone
- Root-mold limestone
- Mudstone/wackestone & sandy mudstone/ wackestone
- Laminated peloid packstone/grainstone
- Skeletal packstone/ grainstone & sandy skeletal pack-stone/grainstone
- Coral framestone
- Pelecypod floatstone/ rudstone & sandy pelecypod floatstone/ rudstone
- Touching-vug pelecypod floatstone/rudstone & sandy touching-vug pelecypod floatstone/ rudstone
- Vuggy wackestone/ packstone
- Quartz sandstone & skeletal sandstone
- Quartz sand
- Calcareous sandstone
- Shelly quartz sand
- Limestone & sandy limestone
- Mollusk shells & sandy mollusk shells

Miscellaneous

- Fill
- Latence
- Peat
- No recovery
- Marl

- HFC3A STROMATOLITE LAYER
- STRATIGRAPHIC BOUNDARY--Dashed where uncertain
- BASE OF BISCAYNE AQUIFER

- ABRUPT CONTACT
- av? ALVEOLAR TEXTURE ?
- CHAROPHYTES
- CLAY RICH
- DBI DIGITAL BOREHOLE IMAGE
- LAMINATED CALCRETE
- CLAST OF LAMINATED CALCRETE
- FM FORMATION
- GAMMA RAY
- HFC HIGH-FREQUENCY CYCLE
- HFCS HIGH-FREQUENCY CYCLE SET
- HU HYDROGEOLOGIC UNIT
- LF LITHOFACIES
- MICRITIC RICH
- *PLANORBELLA*
- QU Q-UNIT (Perkins, 1977)
- SEMIVERTICAL CRACKS
- SF SIGNIFICANT FEATURES

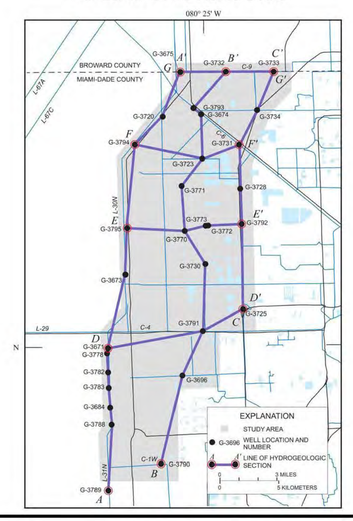
Pore Class

CARBONATE PORE CLASSES OF THE FORT THOMPSON FORMATION AND MIAMI LIMESTONE

- PORE CLASS III
- PORE CLASS II
- PORE CLASS I

- PORE CLASS II MIXED SILICICLASTICS AND CARBONATES

Vertical Scale Greatly Exagerated
Horizontal Scale Not to Scale



Reference: Cunningham, K. J., et al., USGS SIR 2005-5235

Know what's below. Call before you dig.

NO.	DATE	REVISION

amec
AMEC-BCI Engineers & Scientists, Inc.
2000 E. Edgewood Dr., Ste #215, Lakeland, FL 33803
Phone: 863.667.2345 Fax: 863.667.2662
www.amec.com CA-0007867

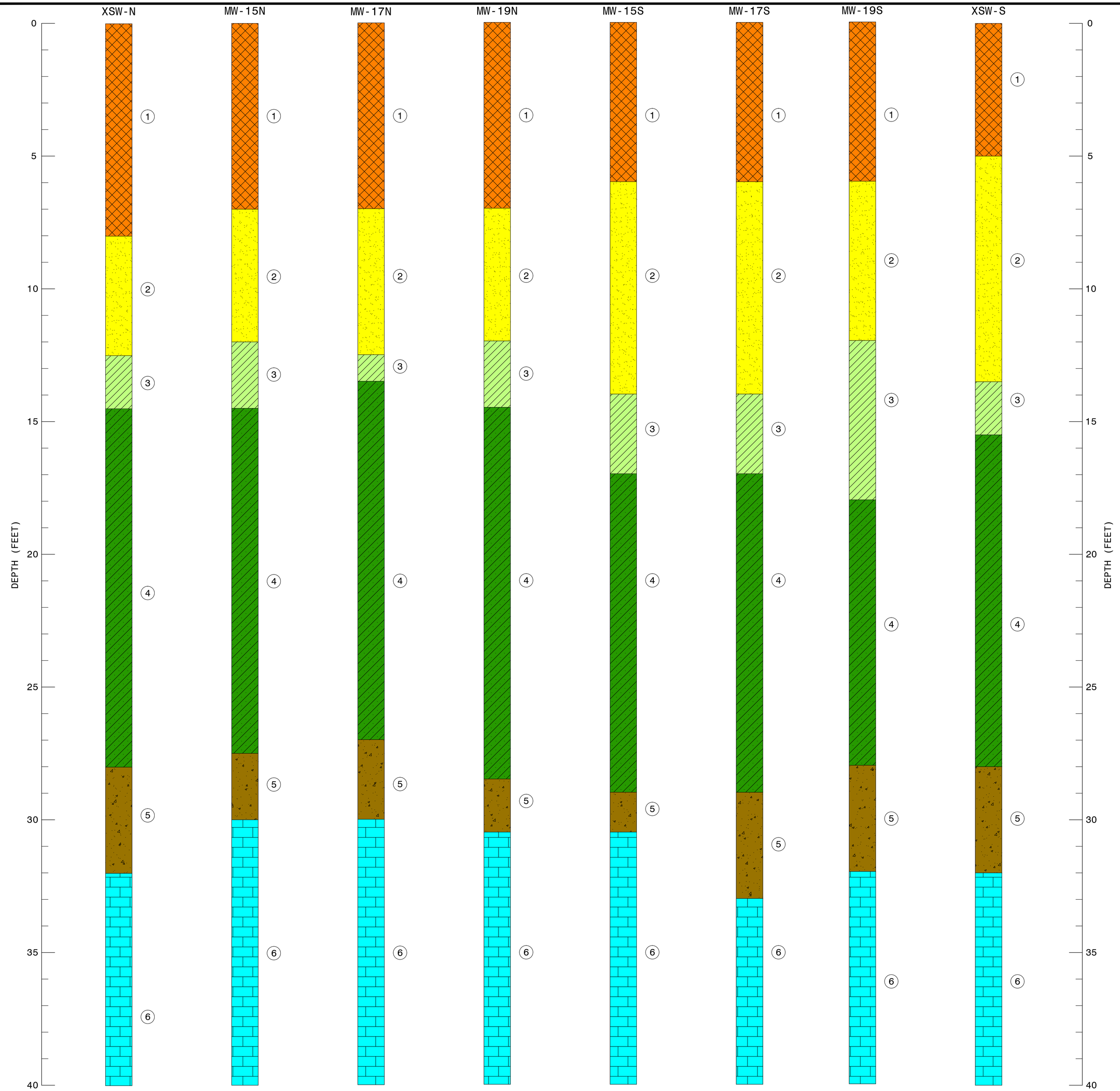
MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
USGS LOG
MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROWN, P.E.
FLA. REG. NO. 18234

DRAFT

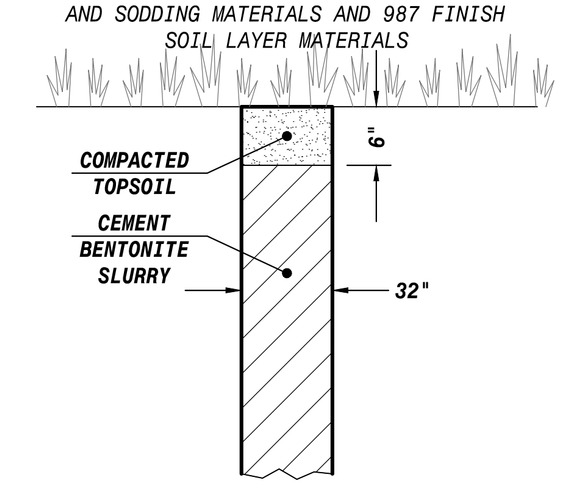
REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 11



EXPLANATION

1. FILL/PEAT/VOID
2. OOLITE LIMESTONE
3. HARD, DENSE LIMESTONE (Q4 MARKER)
4. MARINE LIMESTONE (GRAY AND WHITE)
5. FRESHWATER/BRACKISH WATER LIMESTONE (Q3 MARKER)
6. WHITE, MARINE LIMESTONE (VERY PERMEABLE)

GROUND SURFACE RESTORATION SHALL COMPLY WITH FDOT SPECIFICATIONS 981 - GRASSING AND SODDING MATERIALS AND 987 FINISH SOIL LAYER MATERIALS



DETAIL "A"
WALL COMPLETION
not to scale

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MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE

MONITOR WELL LOGS AND WALL DETAIL

MIAMI-DADE COUNTY, FLORIDA

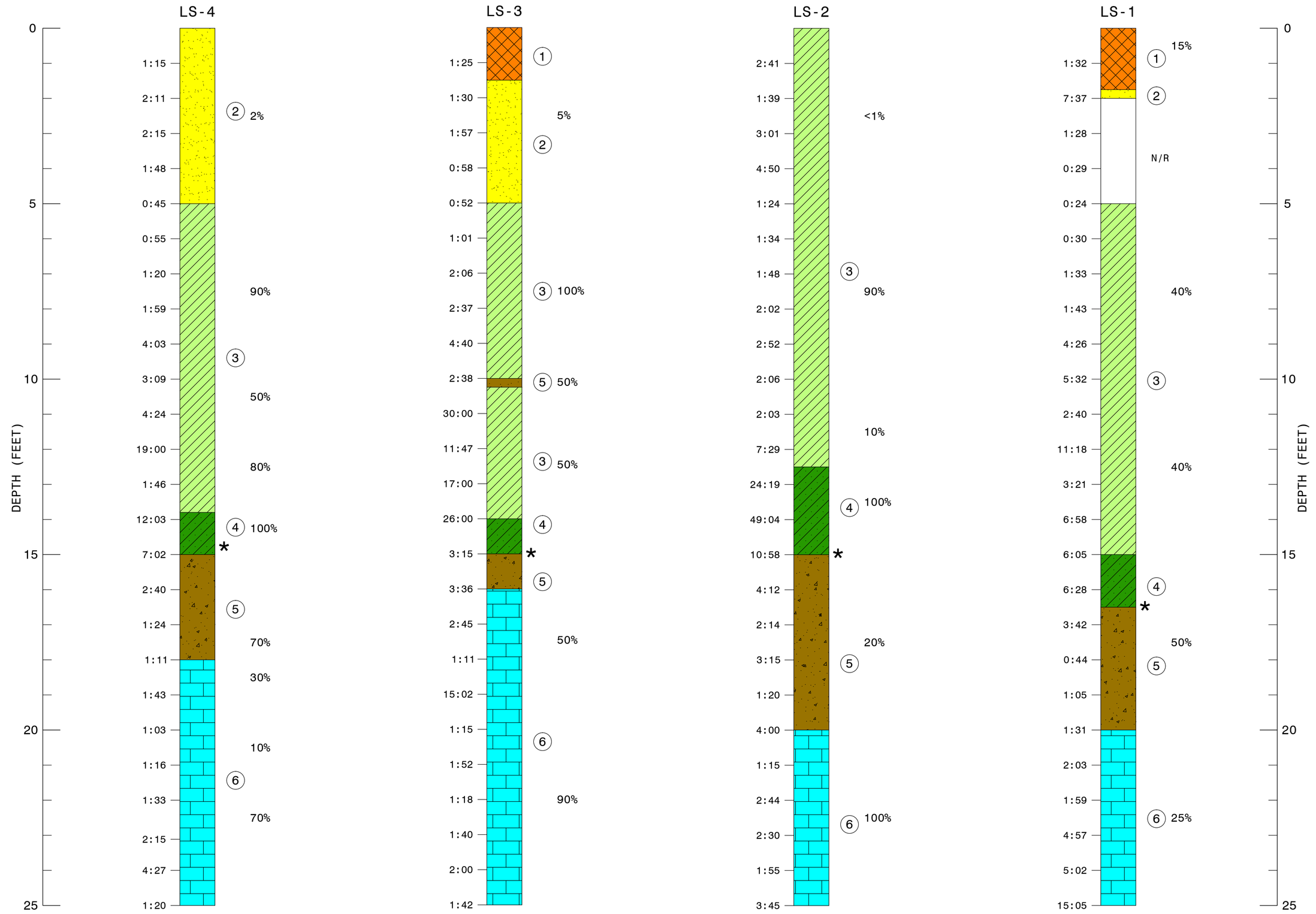
DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 12

P:\PROJECTS\C3D\16059 Rockrise L31 Berry Wallbag\16059 ENGINEERING_LOGS.dwg 12\MONITOR WELL LOGS AND WALL DETAIL, 10/11/2011 2:07:00 PM, mark.a.jones, BCI Engineers & Scientists, Inc.



EXPLANATION

1. FILL
2. LAKE FLIRT MARL; WITH LIMESTONE / MUDSTONE
3. MIAMI ODLITE; WHITE TO CREAM OOLITIC LIMESTONE, CAVITY RIDDLED
4. Q_4 LAYER; FRESH WATER LIMESTONE
5. TAN TO GRAY, FOSSILFEROUS, VARIABLE SANDSTONE FRAGMENTS
6. MARINE LIMESTONE; WHITE TO LIGHT GRAY FOSSILIFEROUS

%	PERCENT RECOVERY
N/R	NO RECOVERY
2:41	DRILLING RATE (MINUTES PER FOOT ADVANCED)
*	TOP OF FORT THOMPSON FORMATION

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MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION
L-31N SEEPAGE BARRIER: PHASE 1
L-31N LEVEE

BORING LOGS AND WALL DETAIL

MIAMI-DADE COUNTY, FLORIDA

DATE: October 11, 2011
DRAWN BY: MAJ
CHECKED BY: LGB
PROJECT NO.: 16059

LELSIE G. BROMWELL, P.E.
FLA. REG. NO. 18234

DATE:

REFER TO INDEX FOR TOTAL SHEETS INCLUDED.
SHEET – 13

253

P:\PROJECTS-CD\16059 MacVicar L-31 Seep Wallwag\16059 BORING LOGS.dwg, 1:1 BORING LOGS AND WALL DETAIL, 10/11/2011 2:07:31 PM, mark.a.jones, BCI Engineers & Scientists, Inc.