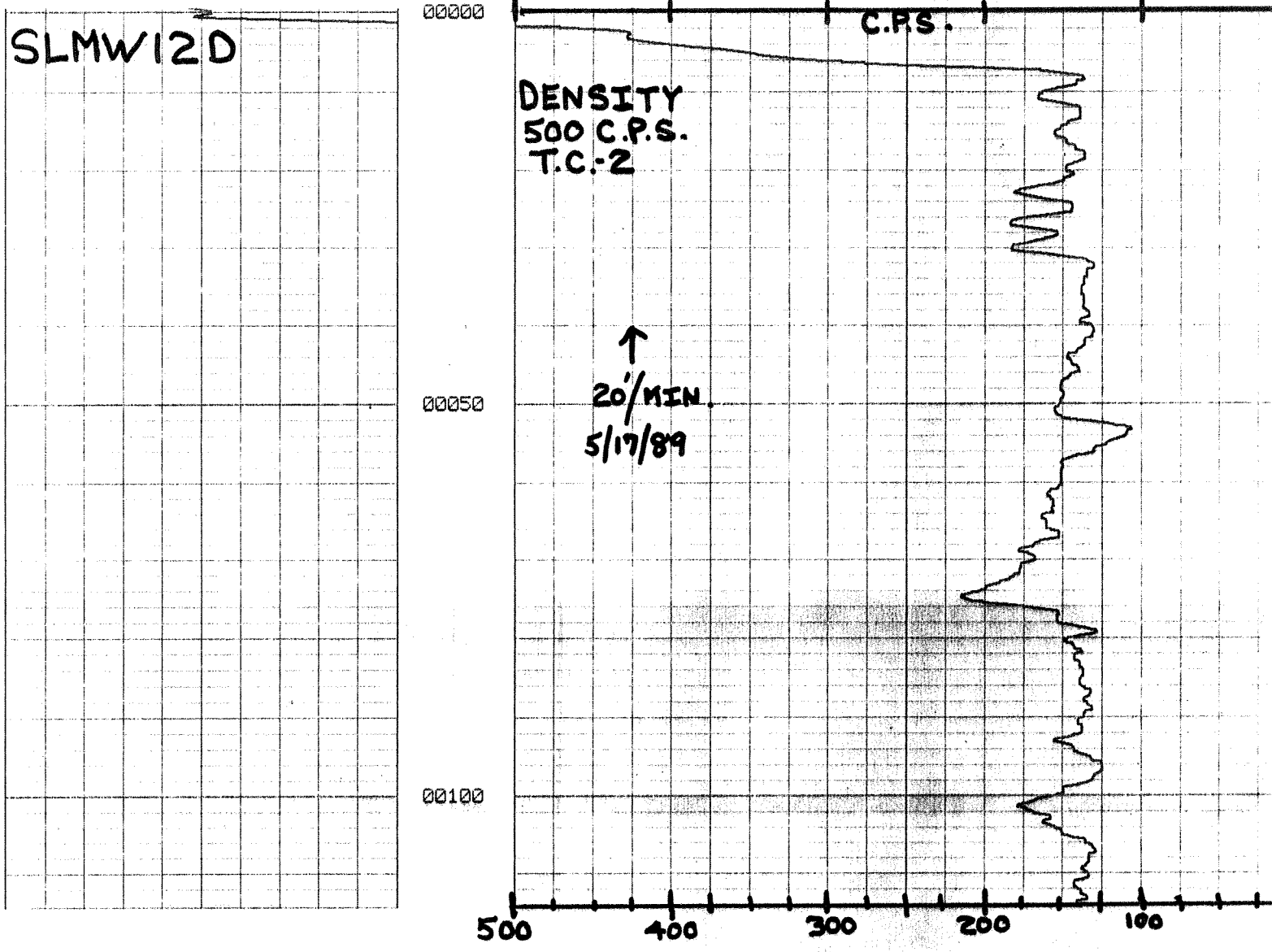
TIME DRIVE SCALE = TEN INCHES PER MINUTE

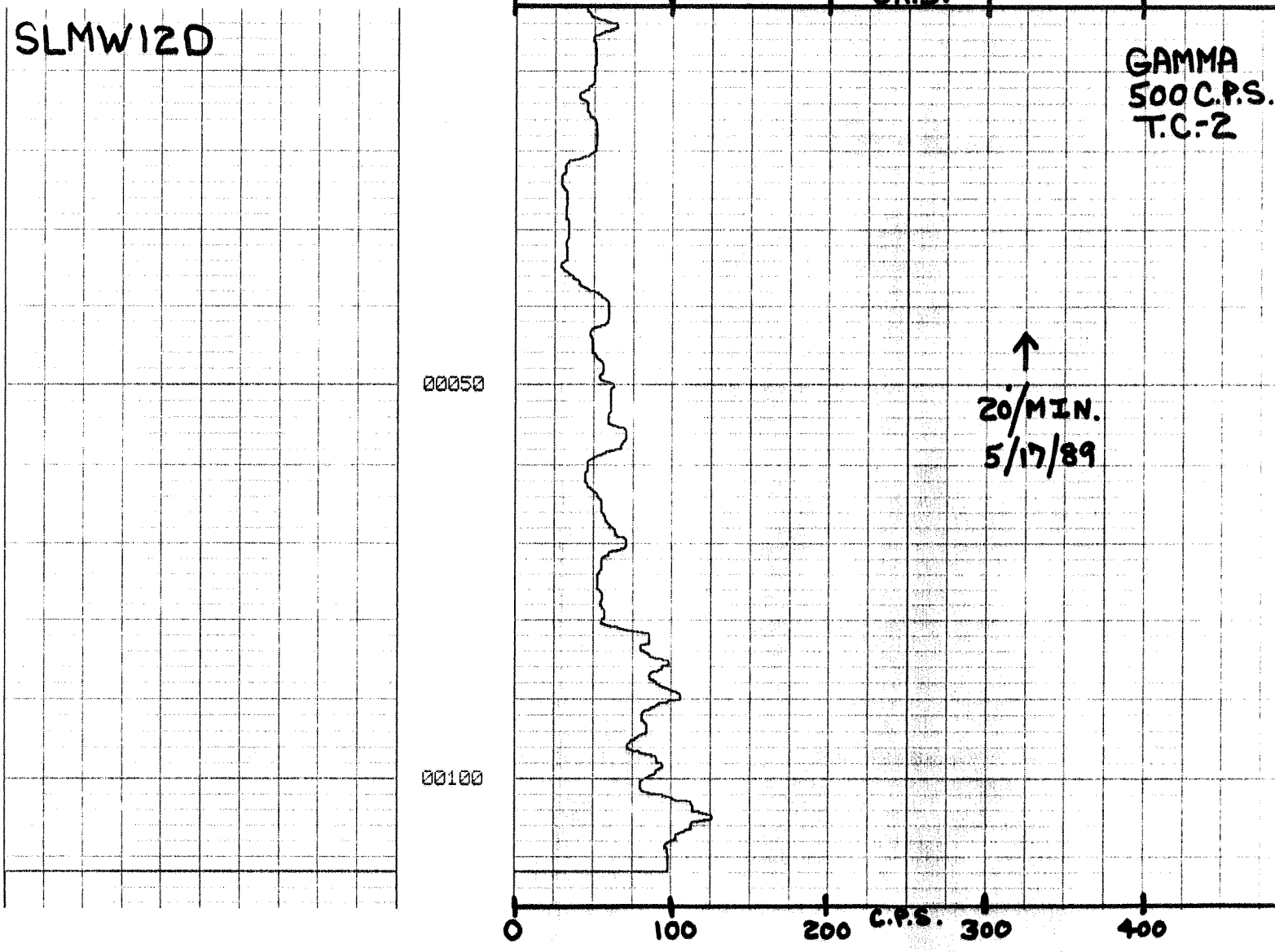
CHANNEL 1 CONFIGURATION:
SPAN = 552
OFFSET = 2860
DOT CODE = SOLID
DEPTH OFFSET = .0
BACKUP = OFF



SYSTEM CONFIGURATION:
DEPTH SCALE = FIVE INCH SCALE
CHART SCALE = A.P.I. LINEAR
TIME DRIVE SCALE = TEN INCHES PER MINUTE

TIME DRIVE SCALE = TEN INCHES PER MINUTE

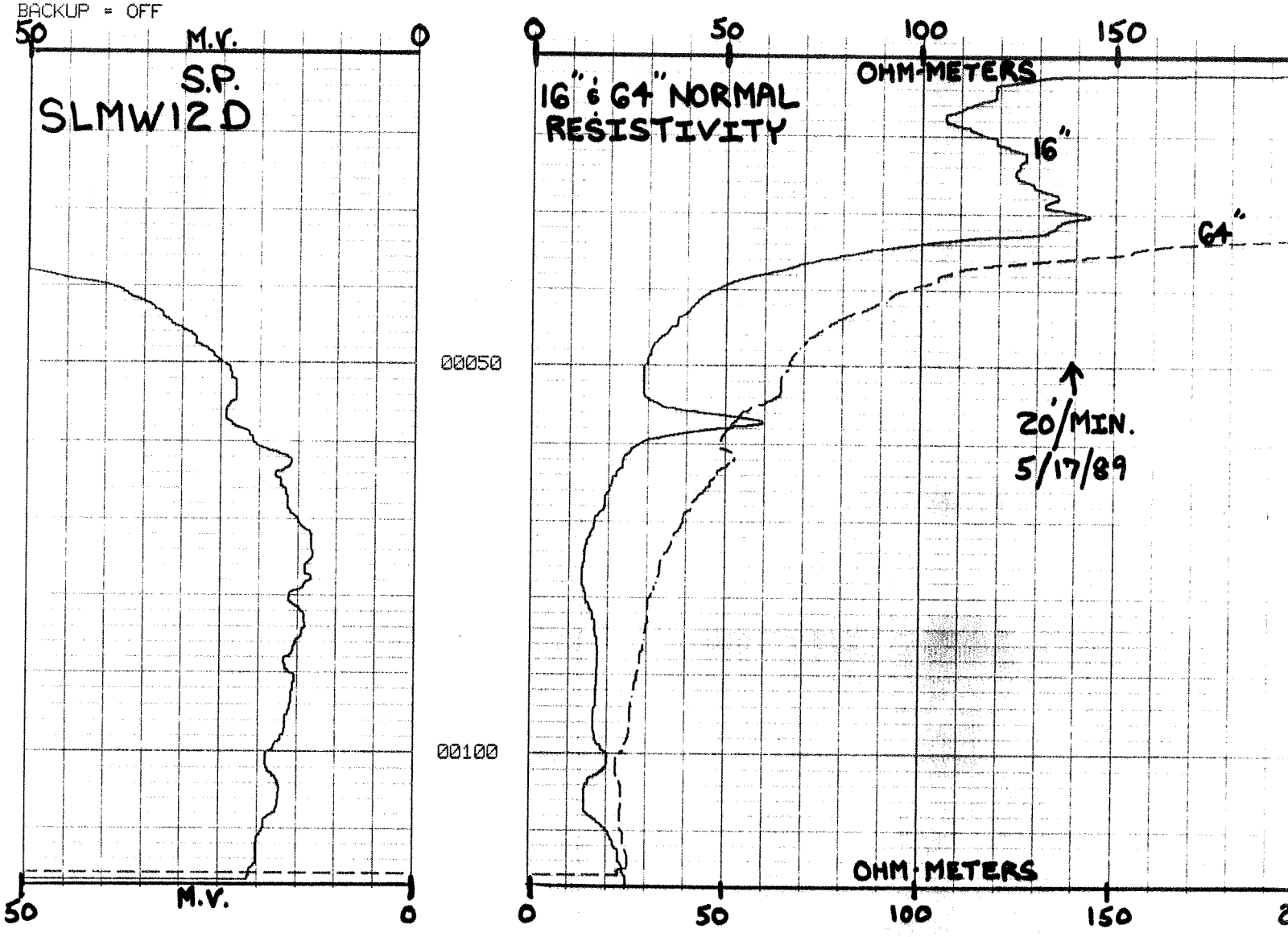
CHANNEL 2 CONFIGURATION:
SPAN = 200
OFFSET = 2358
DOT CODE = SOLID
DEPTH OFFSET = 5.0
BACKUP = OFF



SYSTEM CONFIGURATION:
DEPTH SCALE = FIVE INCH SCALE
CHART SCALE = A.P.I. LINEAR
TIME DRIVE SCALE = TEN INCHES PER MINUTE

BACKUP = OFF

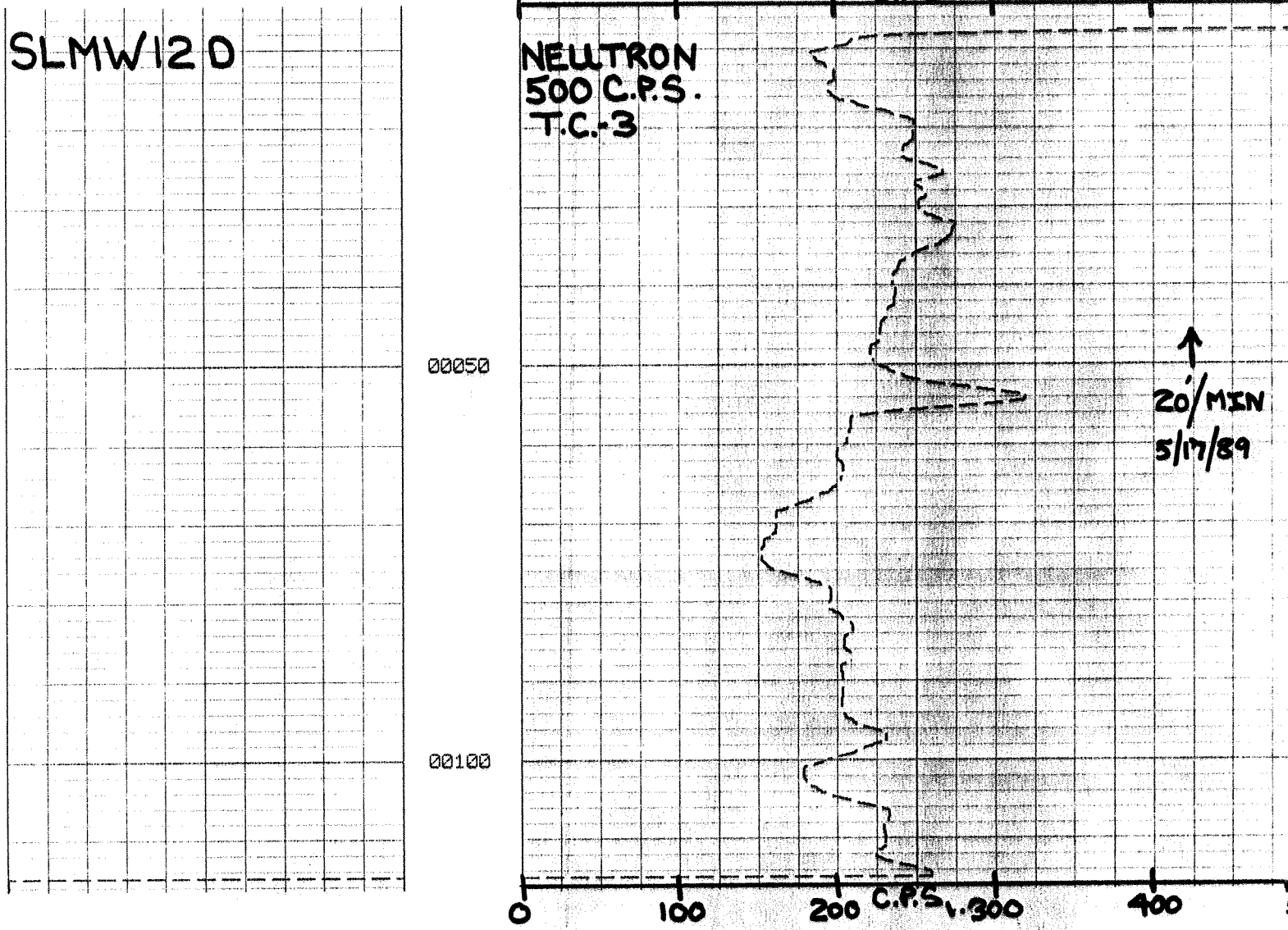
CHANNEL 3 CONFIGURATION:
SPAN = 1025
OFFSET = 25
DOT CODE = SOLID
DEPTH OFFSET = 1.0
BACKUP = OFF



SYSTEM CONFIGURATION:
DEPTH SCALE = FIVE INCH SCALE
CHART SCALE = A.P.I. LINEAR
TIME DRIVE SCALE = TEN INCHES PER MINUTE

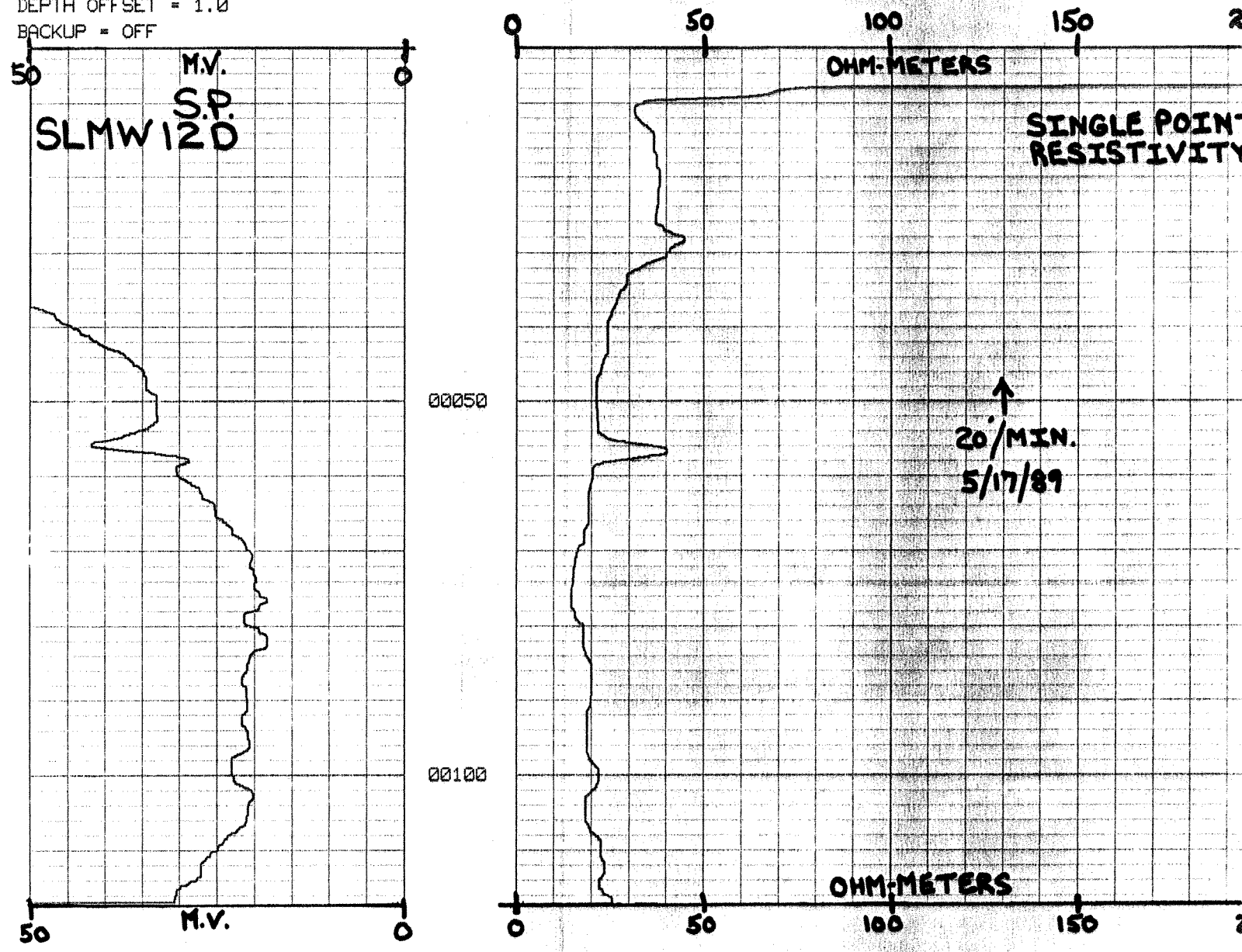
TIME DRIVE SCALE = TEN INCHES PER MINUTE

CHANNEL 2 CONFIGURATION:
SPAN = 200
OFFSET = 2358
DOT CODE = DASHED
DEPTH OFFSET = 2.0
BACKUP = OFF



SYSTEM CONFIGURATION:
DEPTH SCALE = FIVE INCH SCALE
CHART SCALE = A.P.I. LINEAR
TIME DRIVE SCALE = TEN INCHES PER MINUTE

CHANNEL 3 CONFIGURATION:
SPAN = 1100
OFFSET = 25
DOT CODE = SOLID
DEPTH OFFSET = 1.0
BACKUP = OFF



SYSTEM CONFIGURATION:
DEPTH SCALE = FIVE INCH SCALE
CHART SCALE = A.P.I. LINEAR
TIME DRIVE SCALE = TEN INCHES PER MINUTE

ATTACHMENT A
USE OF RADIOACTIVE MATERIALS IN TEST WELL

1. Property owner authorizes use of sealed nuclear source for geophysical logging purposes in test well construction.

2. In the event the sealed source is lodged downhole, every effort at recovery of said source will be utilized.

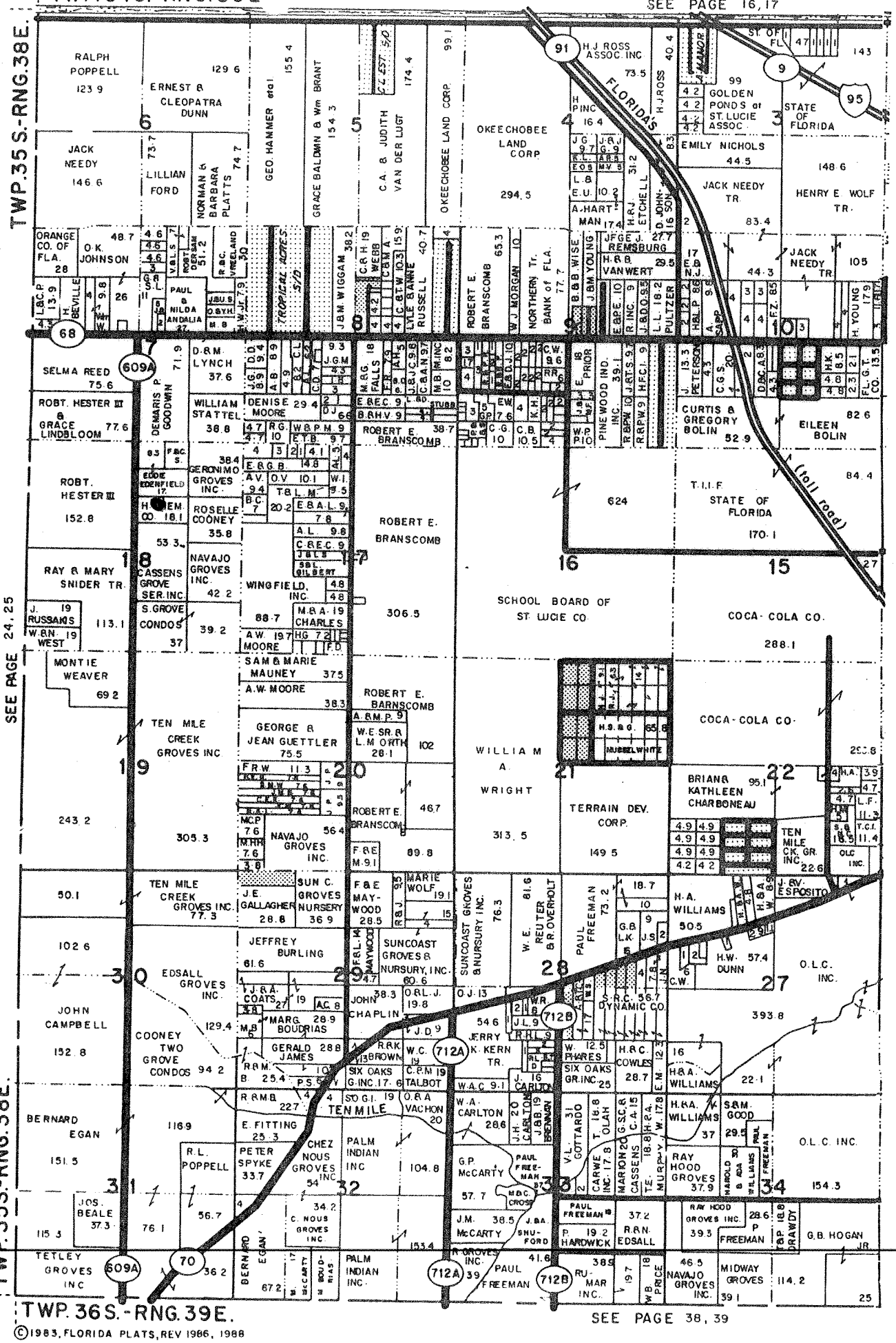
3. If a decision is made to abandon the sealed source downhole, it will be done so in compliance with Florida Administrative Code Section 10D-91.1200, Control of Radiation Hazard Regulations.

4. In the event the said source is lost downhole, South Florida Water Management District will be responsible for the protection from any contamination of the well and surrounding formation water from said source.

5. The Radiation Safety Officer of this agency is responsible for compliance with the above-mentioned Department of Health and Rehabilitative Services regulations.

OWNER — DATE May 4, 1989

SFWMD RADIATION SAFETY OFFICER — DATE 5/11/89



"Protecting South Florida's Water Resources for 40 Years"
1949-1989

South Florida Water Management District

P.O. Box 24680 • 3301 Gun Club Road • West Palm Beach, FL 33416-4680 • (407) 686-8800 • FL WATS 1-800-432-2045

April 19, 1989

Mr. Jerry Selph, Branch Manager
Helena Chemical Company
P.O. Drawer 669
Fort Pierce, Florida 33454

Dear Mr. Selph:

Please consider this letter to be a formal request to allow the South Florida Water Management District to install a water table monitor well on your property located in Section 18, Township 35 South, Range 39 East. A more detailed location map is attached. The information we will gather during the construction and subsequent monitoring of this well will greatly assist us in our study of the Surficial Aquifer System in St. Lucie County.

I am including a Right of Entry / Well Construction Agreement and a form giving the District permission to run a special type of geophysical well log. The Right of Entry / Well Construction Agreement: 1) allows the SFWMD to construct and monitor the well(s) at the location described; 2) insures the property and well site will be restored to the condition it was in immediately prior to the construction of the well; 3) includes a "save and hold harmless" clause to protect the property owner from claims for damages or injuries. The Radioactive Materials Use Form allows the District to run a specialty well logging tool which uses a totally contained, low-level radioactive source to measure porosity of the aquifer sediments. At no time does this source come into contact with any sediment or water. Our geophysical logging team is licensed by the Florida Department of Health and Rehabilitative Services and has logged over 500 wells in the last 15 years without incident.

If you decide to allow the District to construct the monitor well, the attached forms must be signed and returned to me. The forms will be countersigned by the appropriate District representatives and copies will be sent to you for your records.

I thank you in advance for your assistance with our study. Your support will be especially helpful in providing information necessary to effectively protect and manage the ground water resources in St. Lucie County. You will be provided with copies of any data collected on your property. Please contact me if you have any questions or concerns.

Sincerely,

David Butler

David Butler
Staff Hydrogeologist
Hydrogeology Division

DB/hm
Enclosures: Right of Entry / Well Construction Agreement, Site Map

FORM 0428
6/86

RIGHT OF ENTRY AGREEMENT/WELL CONSTRUCTION

The SOUTH FLORIDA WATER MANAGEMENT DISTRICT and/or the United States Geological Survey (USGS) and the agents, employees or assigns of each, (Permittees) are hereby granted the right to enter upon property owned by Helena Chemical Company (owner), and described herein, for the following purposes:

1. To construct water well(s) for the purpose of gathering lithologic data.
2. To conduct aquifer performance and step drawdown test(s) to determine water availability.
3. To collect geophysical logs on selected well(s). *SEE ATTACHMENT "A"
4. To periodically be allowed access to the well(s) for the purpose of monitoring water levels and/or water quality sampling.

Such equipment as may be needed to accomplish the above purposes may be brought upon, over and across the property, which is described as follows:

SECTION 18
TOWNSHIP 35 SOUTH
RANGE 39 EAST

The permittees, and each of them, warrant to the undersigned that upon completion of the above purposes, the property will be left in, or restored to, the same condition as it was when the permittees or their contractor(s) first entered upon the land to begin their work.

The permittees, and each of them, separately and severally, to the extent permitted by law, shall save and hold harmless the undersigned owner from claims for damages or injury caused by the permittees, their agents, servants, employees, or contractors, during the time this permit for access and use is in effect.

OWNER

Date: May 1, 1989

Executed by owner in presence of:

Darlene W. Brooks

Bob Davis

COUNTERSIGNED BY PERMITTEE(s)

for SFWMD

Date: 5/11/89

for

Date:

WELL COMPLETION REPORT

FORM 0124
Rev. 4/85

WELL PERMIT NO. _____

Helena Chemical Co. | P.O. Drawer 669 | Ft. Pierce | FL
Owner | Address | City | State | Zip

Contractor's Name | 2334 License No. | 5-17-89 Completion Date | 115 Casing Depth | 115 Total Depth | SCMW 123 Well #

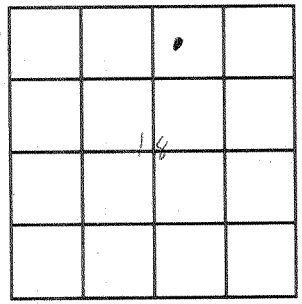
Anthony Lubrano
Driller's Name | Registration No.

TYPE OF WORK: Construct (✓) Repair ( ) Abandon ( )
WELL USE: Domestic Well ( ) Public ( ) Monitor (✓) Test ( )
Irrigation ( ) Fire Well ( ) Other _____
METHOD: Rotary with MUD (✓) or Air ( ), Cable Tool ( ), Jet ( )
Casing Driven ( ), Other _____
STATIC WATER LEVEL _____ Ft. below top of casing
PUMPING WATER LEVEL _____ Ft. after _____ Hrs. at _____ GPM
PUMP SIZE _____ H.P. CAPACITY _____ GPM
PUMP TYPE _____ INTAKE DEPTH _____ From top of ground

LOCATION
Located Near 0.5 miles South of Shino And SR 68
County St. Lucie

NW NE 14 35 39
¼ Section Township Range

27 26 11 80 28 20
Latitude-Longitude



LOCATE IN SECTION

Cuttings sent to District? (✓) Yes ( ) No

Note: PWS Wells attach a site map if well location is different from site location on permit application.

Grout Thickness & Depth	Casing & Screen Diameter & Depth		Depth (ft) From	Depth (ft) To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes Give color, grain size, and type of material Note cavities, depth to producing zones.
	2	60	0	60	CASING
	2	80	60	80	SCREEN
	2	115	80	115	CASING
Number of bags					

Casing: Black Steel ( ) Galv. ( ) PVC (✓) Fiberglass ( )
Screen: Type PVC Slot size 0.02
Screened from 60 (ft.) to 80 (ft.)
Type of grout with % additives _____
Water: Clear ( ) Colored ( ) Sulphur ( ) Salty ( ) Iron ( )
Conductivity _____ Chlorides _____ mg/l

WELL COMPLETION REPORT

FORM 0124
Rev. 4/85

WELL PERMIT NO. _____

SFWMD	3301 Gun Club Rd	WPB	FL	33409
Owner	Address	City	State	Zip

		6/18/76	50.2	58.2	PG 15 E
Contractor's Signature	License No.	Completion Date	Casing Depth	Total Depth	Well #

Driller's Name _____ Registration No. _____

TYPE OF WORK: Construct (✓) Repair ( ) Abandon ( )
WELL USE: Domestic Well ( ) Public ( ) Monitor (✓) Test ( )
Irrigation ( ) Fire Well ( ) Other _____
METHOD: Rotary with MUD (✓) or Air ( ), Cable Tool ( ), Jet ( )
Casing Driven ( ), Other _____
STATIC WATER LEVEL _____ Ft. below top of casing
PUMPING WATER LEVEL _____ Ft. after _____ Hrs. at _____ GPM
PUMP SIZE _____ H.P. CAPACITY _____ GPM
PUMP TYPE _____ INTAKE DEPTH _____
From top of ground

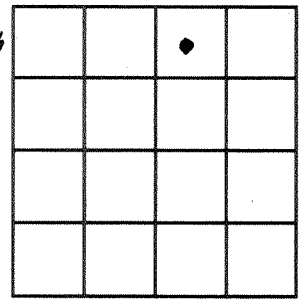
LOCATION

Located Near 0.8 Miles south of SR 68 on SHANN Rd

County St. Lucie

NW NE 18 35 39
¼ ¼ Section Township Range

27 26 11 80 29 20
Latitude-Longitude



LOCATE IN SECTION

Cuttings sent to District? ( ) Yes ( ) No

Note: PWS Wells attach a site map if well location is different from site location on permit application.

Grout Thickness & Depth	Casing & Screen Diameter & Depth		Depth (ft) From	Depth (ft) To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes Give color, grain size, and type of material Note cavities, depth to producing zones.
	2	50.2	0	50.2	CASING
	2	58.2	50.2	58.2	SCREEN
Number of bags					

Casing: Black Steel ( ) Galv. ( ) PVC (✓) Fiberglass ( )
Screen: Type PVC Slot size _____
Screened from 50.2 (ft.) to 58.2 (ft.)
Type of grout with % additives _____
Water: Clear ( ) Colored ( ) Sulphur ( ) Salty ( ) Iron ( )
Conductivity _____ Chlorides _____ mg/l

FORM RP-59
July 1979

WELL DRILLER'S LOG

PAGE 1

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PROJECT Helena Chem WELL NO. SLMW12D DATE 5-17-85

DEPTH	DESCRIPTION — ROCK TYPE, COLOR, HARDNESS, OTHER → clay/silc
0-4	lumpy brown and grey SAND; A few shells
5-6	AS ABOVE
6-8	clay with sand; clay green
8-9	AS ABOVE
9-10	clay, sand and shells
10-15	shells with some clay AND SAND
15-22	AS ABOVE; shells bigger
22-24	shell, brown sand (lumpy) & clay
24-25	L.S. some clay & sand
25-30	AS ABOVE; shells 25-30 ft
30-32	shells L.S. AND SAND, L.S decrease
32-33	shells & SAND; (some L.S.) MOS PASS THROUGH STRAINER
33-35	AS ABOVE,
35-39	AS ABOVE
39-42	shell & SAND; shell increase relative to
	SAND
	KD
	Lost circulation in shell & L.S ABOVE
42-52	Shell some sand & some clay
	L.S. increase with depth
52-53	Shell & L.S. bit chatter
	some SAND. SLOW DRILLING
53-55	hard L.S. bit chatter slow drill
	some SAND
55-57	AS ABOVE
57-62	shell with L.S. some clay AND SAND
	especially 60-61 ft.
	KD
62-64	shell, sand, L.S.
64-69	AS ABOVE
69-76	shell, sand, some L.S. more clay
76-75	CLAY & shell
75-78	AS ABOVE

FORM RP-59
July 1979

WELL DRILLER'S LOG

PAGE 2

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PROJECT Helena Chemical WELL NO. SLMW12D DATE 5-17-85

SCREEN 61-80'

DEPTH	DESCRIPTION – ROCK TYPE, COLOR, HARDNESS, OTHER
7.6-79	clay & shell; more shells less clay
79-81	AS ABOVE
81-82	CLAY increase relative to shell
	KD
82-85	CLAY, shell, L.S. (small amount)
85-88	AS ABOVE
88-89	more shell; some limy clay And L.S.
89-90	As above but more limy clay
90-94	AS ABOVE
94-96	AS ABOVE
96-101	more shell; clay content decrease
101-102	shell & phosphatic clay
	KD
102-105	Phosphatic clay and shell
105-108	Green & GREY CLAY; some shell, L.S
108-110	Limy grey clay And L.S. increas with depth
110-115	AS ABOVE
	TD = 115
	shallow well 63 ft lin - 3 ft - 60 ft lin

FORM RP-59
July 1979

WELL DRILLER'S LOG

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PROJECT Helena Chemical WELL NO. SLMW 120 DATE 5-17-85

DEPTH	DESCRIPTION – ROCK TYPE, COLOR, HARDNESS, OTHER
0-4	Lumpy brown and grey sand and clay
5-6	AS ABOVE
6-9	Green clay with sand
9-10	clay, sand, AND shell
10-15	shells; some clay and sand
15-22	AS ABOVE with bigger shells
	TD
22-24	shell, brown sand, lumpy clay
24-25	L.S; some clay and sand
25-30	AS ABOVE; shell 28-30 Ft
30-32	shells, L.S., and sand; L.S. decreases
32-39	shells, sand, some L.S.; most of sample passed
	through strainer
39-42	shells and sand; shells increase; sand decrease
	Lost circulation 30-42
	TD
42-52	shell some sand, clay, and L.S.
52-53	shell and L.S. bit chatter; some sand
	slow drilling
53-57	hard L.S. bit chatter slow drilling
57-62	shell with L.S. some clay and sand 60-61 Ft
	TD
62-69	shell, sand, and L.S.
69-70	shell, sand, some L.S. and clay
70-78	clay and shell
78-81	clay and shell; more shell than above interval
81-82	clay and shell; more clay than above
	TD
82-88	clay, shell, and a little L.S.
88-89	AS Above with more shell

FORM RP-59
July 1979

WELL DRILLER'S LOG

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PROJECT Helena Chemical WELL NO. SLMW 12P DATE 5-17-89

DEPTH	DESCRIPTION – ROCK TYPE, COLOR, HARDNESS, OTHER
89-96	mostly clay with shell and L.S
96-101	more shells, less clay
101-102	Shells and phosphatic clay
	TD
102-105	phosphatic ~~clay~~ and shell
105-108	Green and Grey clay; some shell and L.S.
108-110	Limy green clay and L.S
110-115	As Above
	TD = 115
	screen 60-80 ft
	shallow well measured 60 ft 11 in on 5-17-89