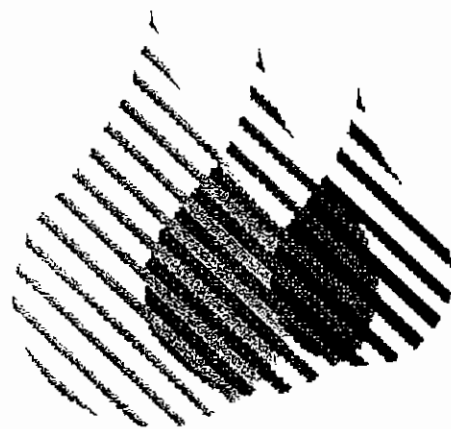


Miami-Dade South District Regional
Class I Injection Facility No. 50

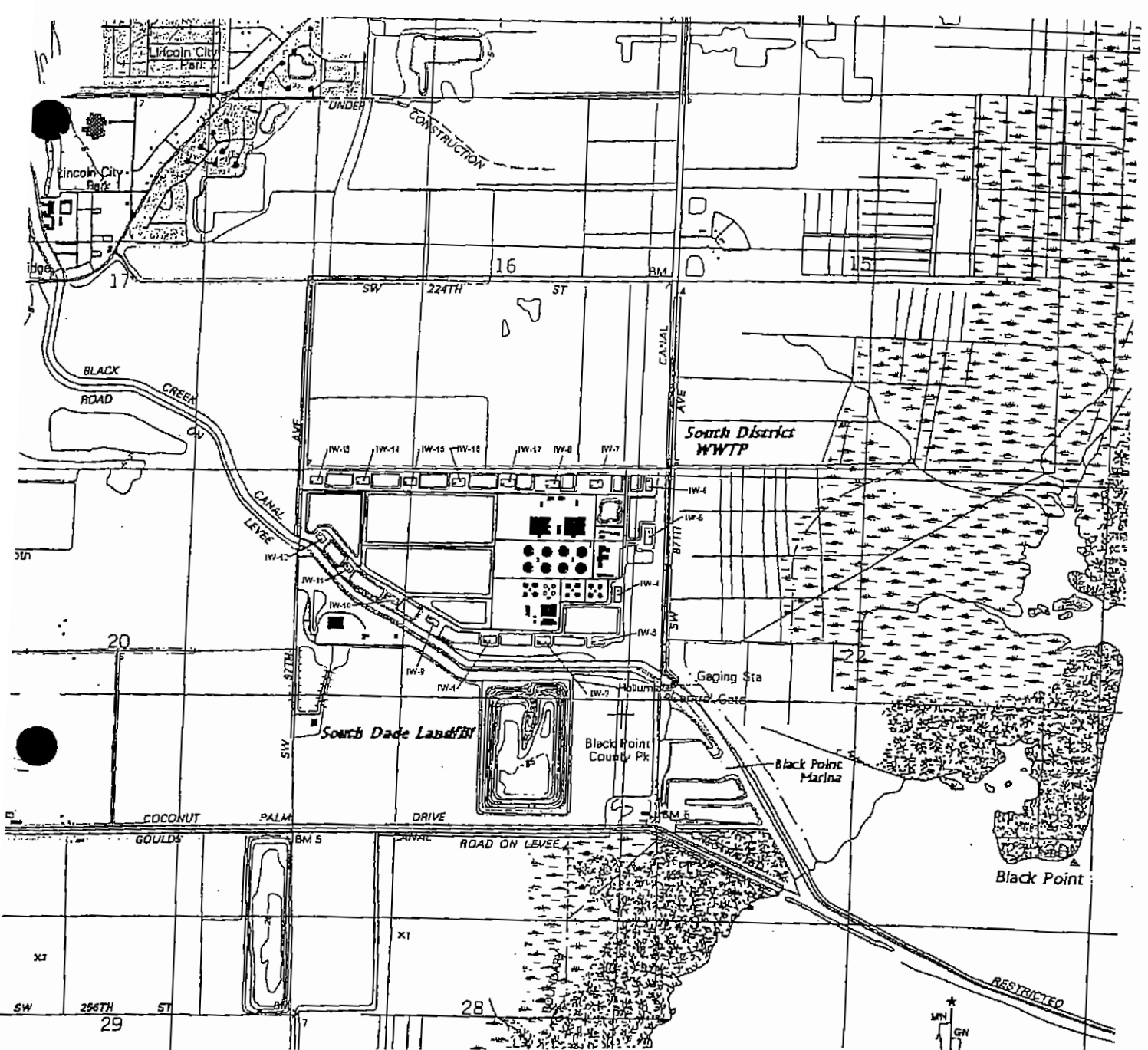
MIAMI-DADE WATER AND SEWER DEPARTMENT
SOUTH DISTRICT WASTEWATER TREATMENT PLANT



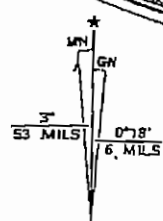
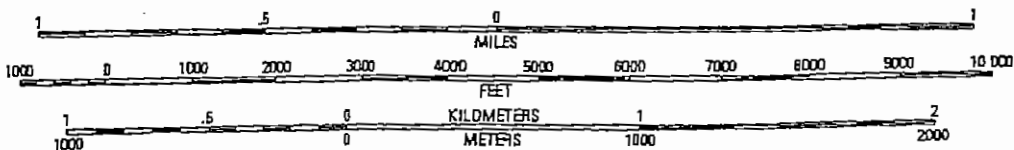
SERVE • CONSERVE

DRILLING AND TESTING OF INJECTION AND
MONITORING WELLS FOR THE SOUTH DISTRICT
REGIONAL WASTEWATER TREATMENT PLANT

CONTRACT NO. S-154

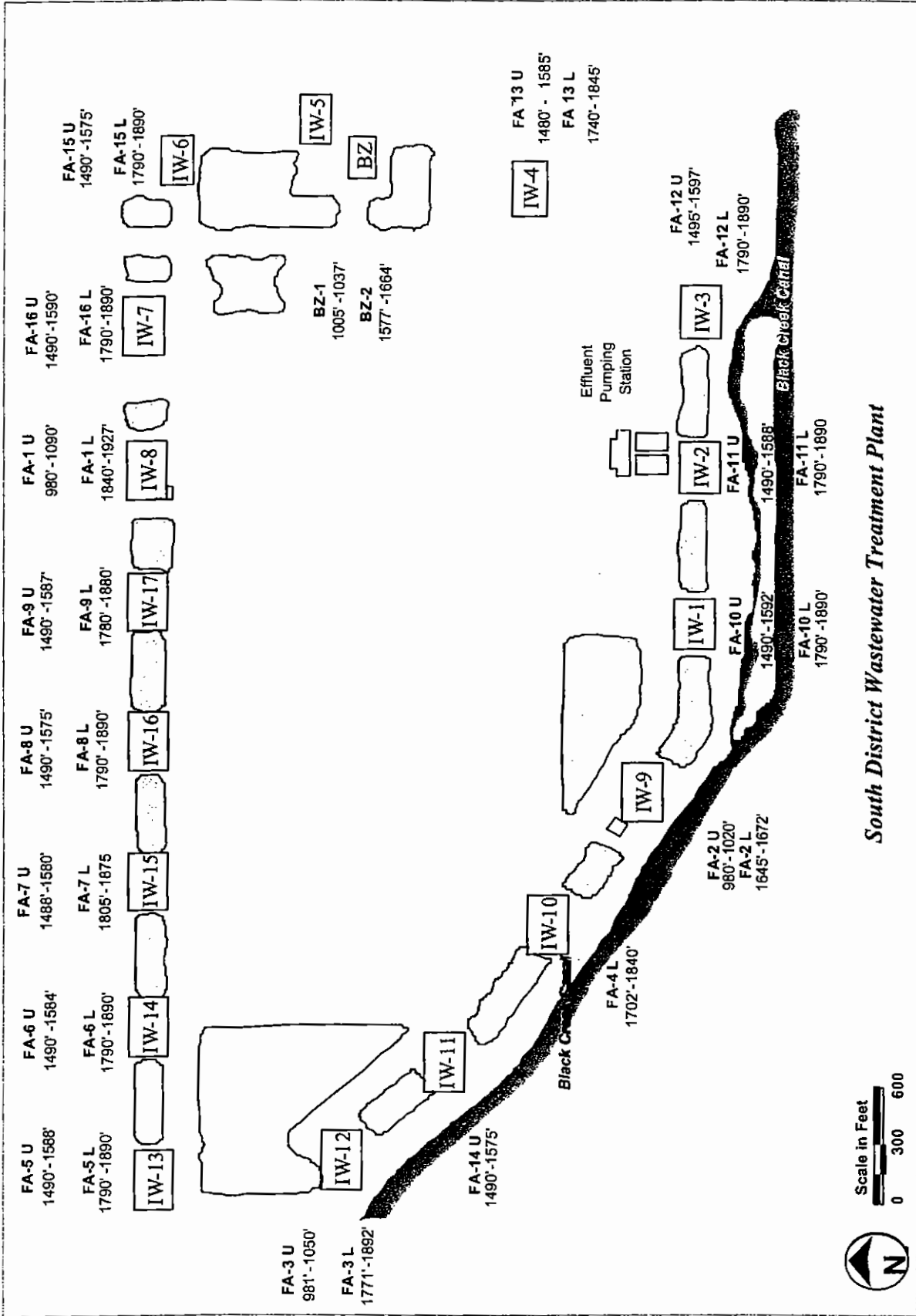


SCALE 1:24 000



CONTOUR INTERVAL 5 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929
 DEPTH CURVES AND SOUNDINGS IN FEET. DATUM IS MEAN LOWER LOW WATER
 THE RELATIONSHIP BETWEEN THE DATUMS IS VARIABLE

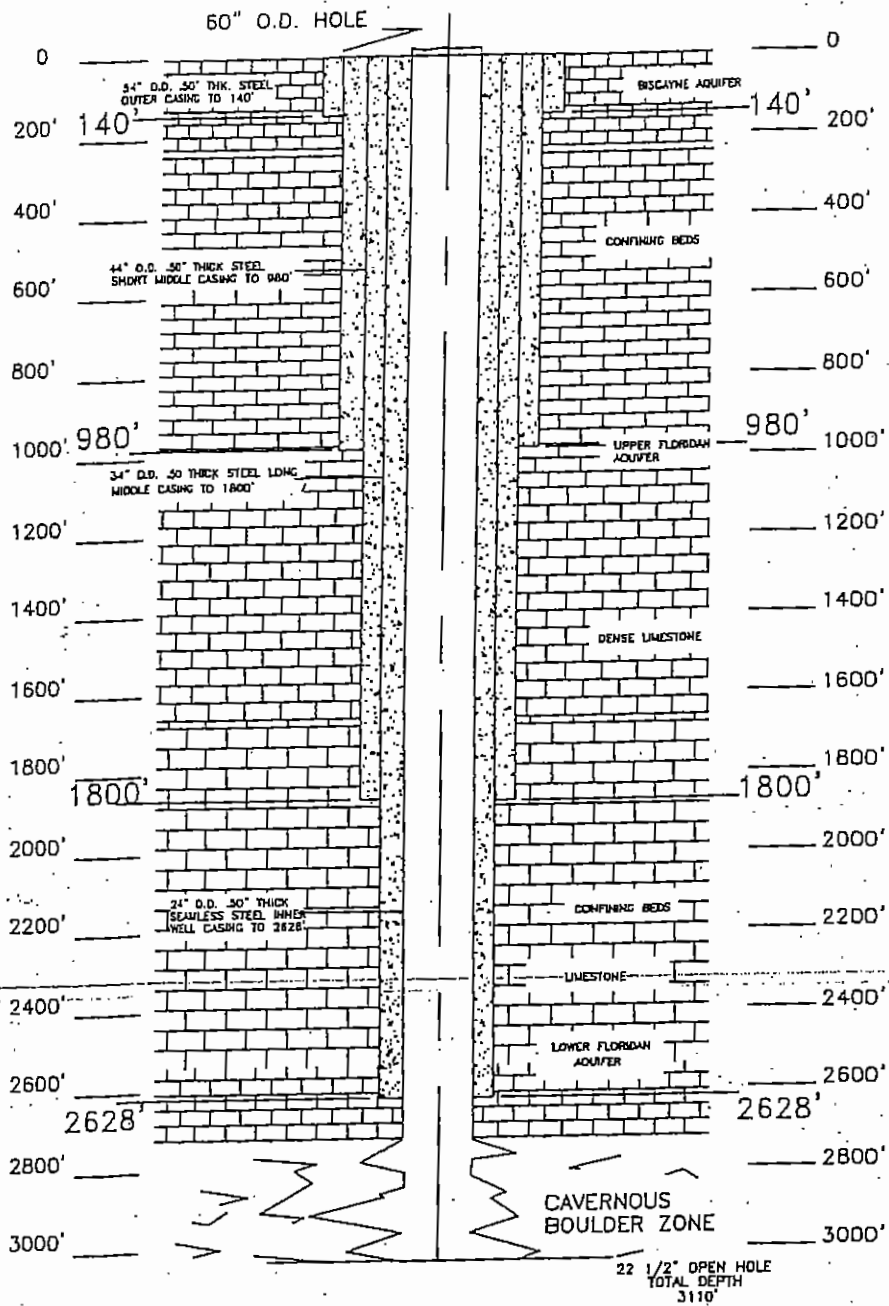
SOUTH DISTRICT WASTEWATER TREATMENT PLANT	
FIGURE - 1	
MIAMI-DADE WATER AND SEWER DEPARTMENT	
DATE: 4-21-1997	SCALE: AS NOTED
SHEET: 1 OF 1	
DRAWN: RMO	CHECKED:



South District Wastewater Treatment Plant

Scale in Feet
0 300 600





WELL DIAGRAM I-1
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

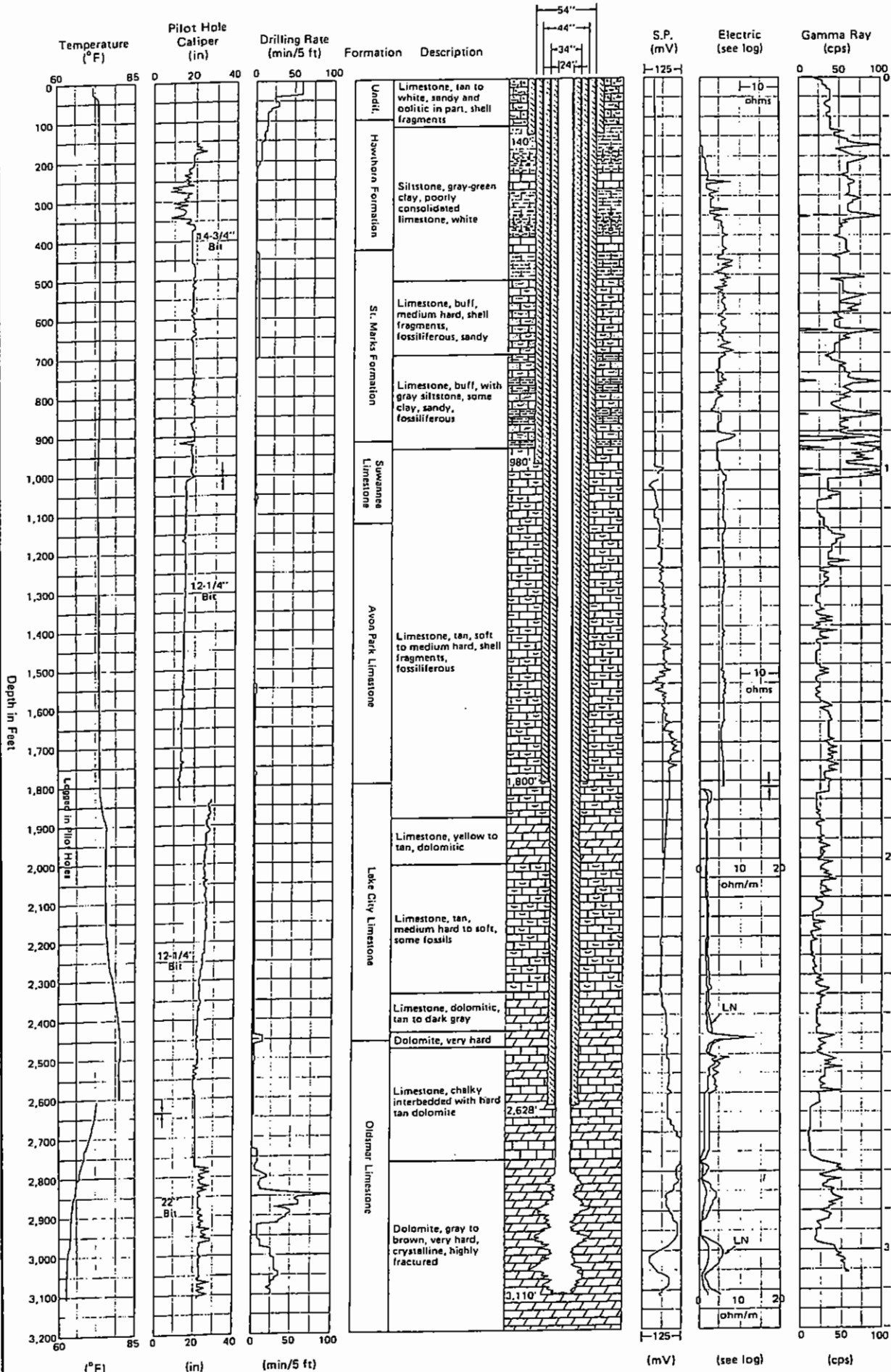
SDWWTP INJECTION WELL I-1
AS-BUILT DIAGRAM

DATE: 12/17/98

SCALE:

NO. RA. KED. E.V.H.

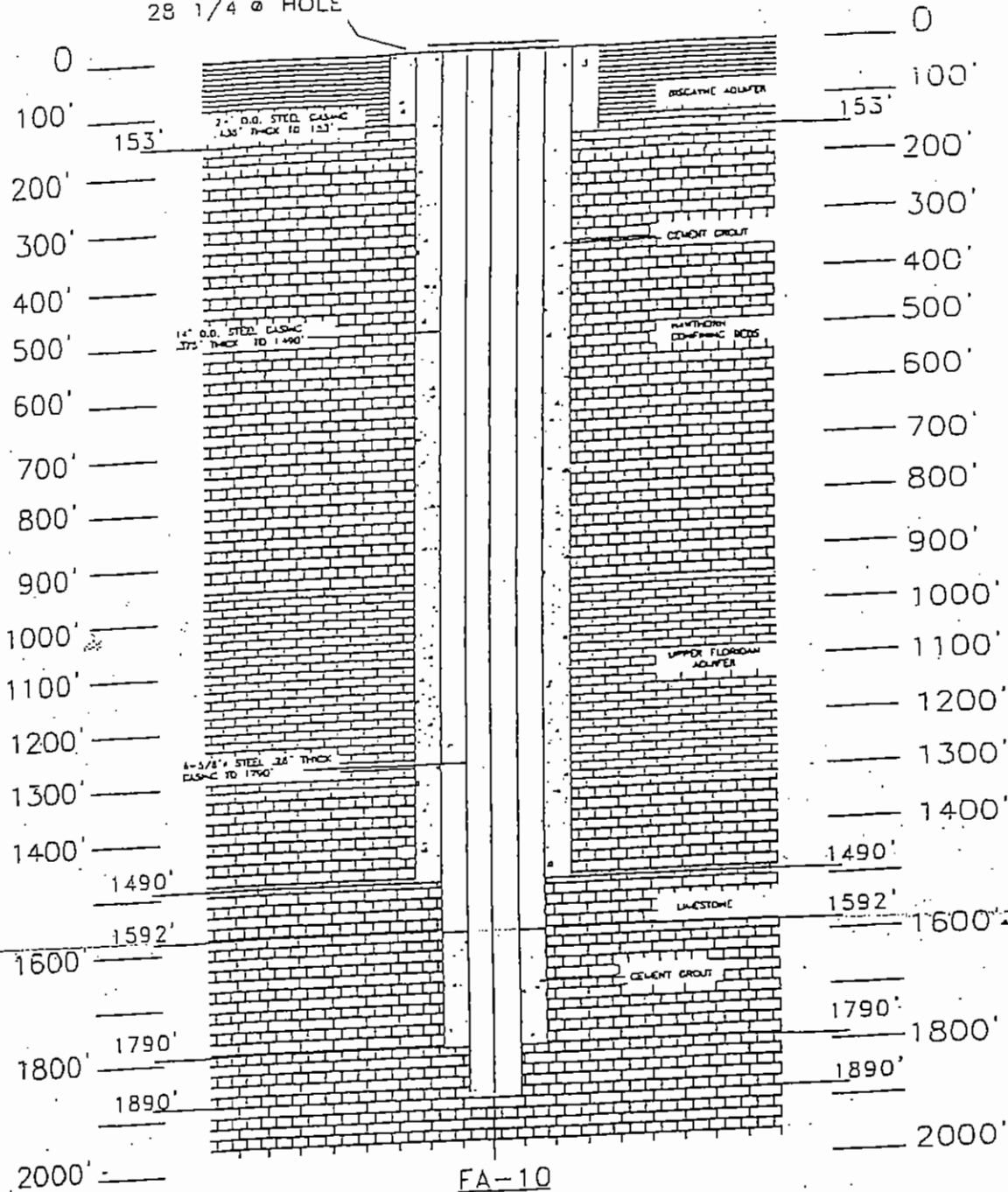
LITHOLOGY AND
WELL CONSTRUCTION OF
WELL I-1



Summary of drilling and logging data—Well I-1.

FIGURE 2.1-1.

28 1/4" Ø HOLE



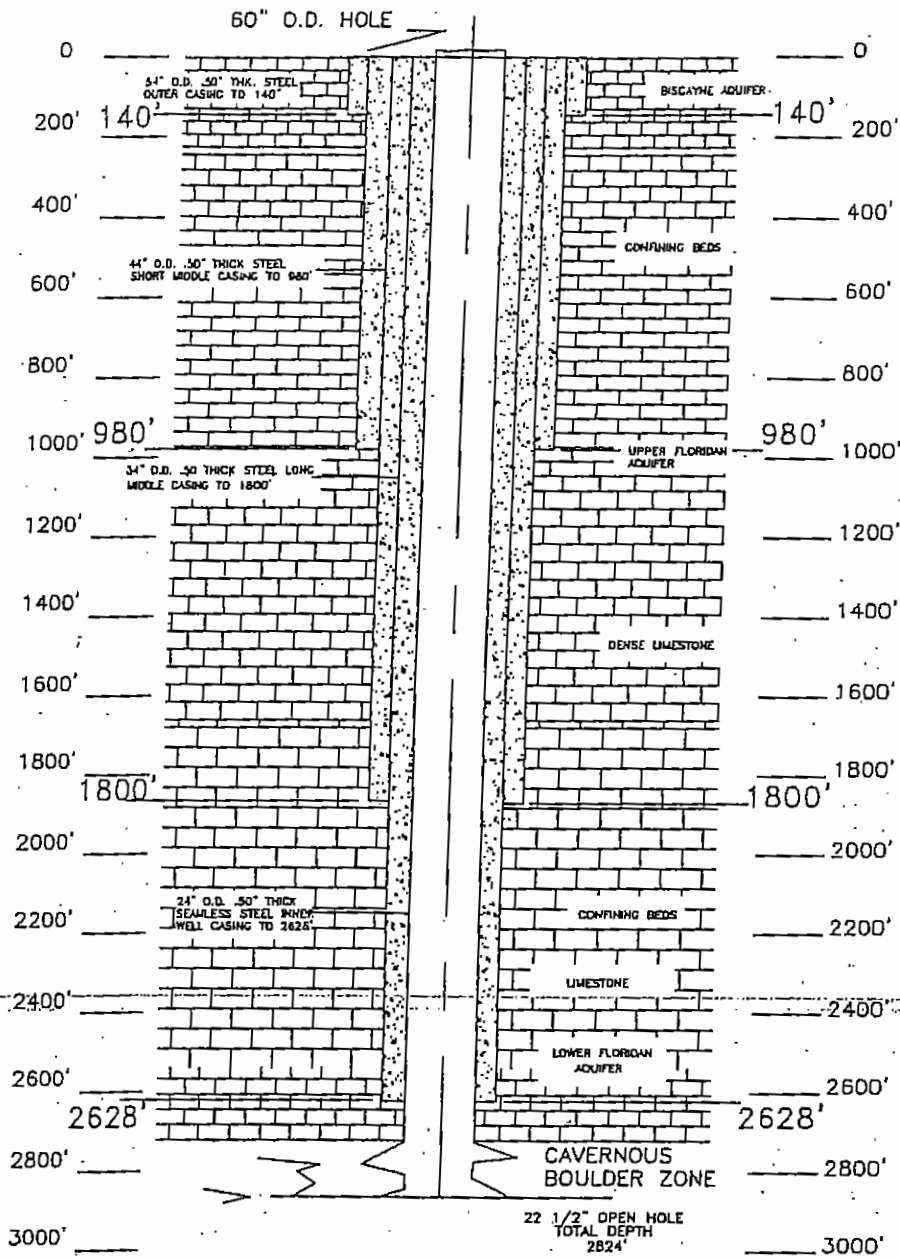
FA-10
 FLORIDAN AQUIFER MONITORING WELL
 CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL
 3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP MONITOR WELL FA-10 AS-BUILT DIAGRAM	
DATE: 10/18/95	SCALE:

DRAWN BY: C.V.H.
CHECKED BY: C.V.H.

Revision 7, 10/24/96



WELL DIAGRAM 1-2
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

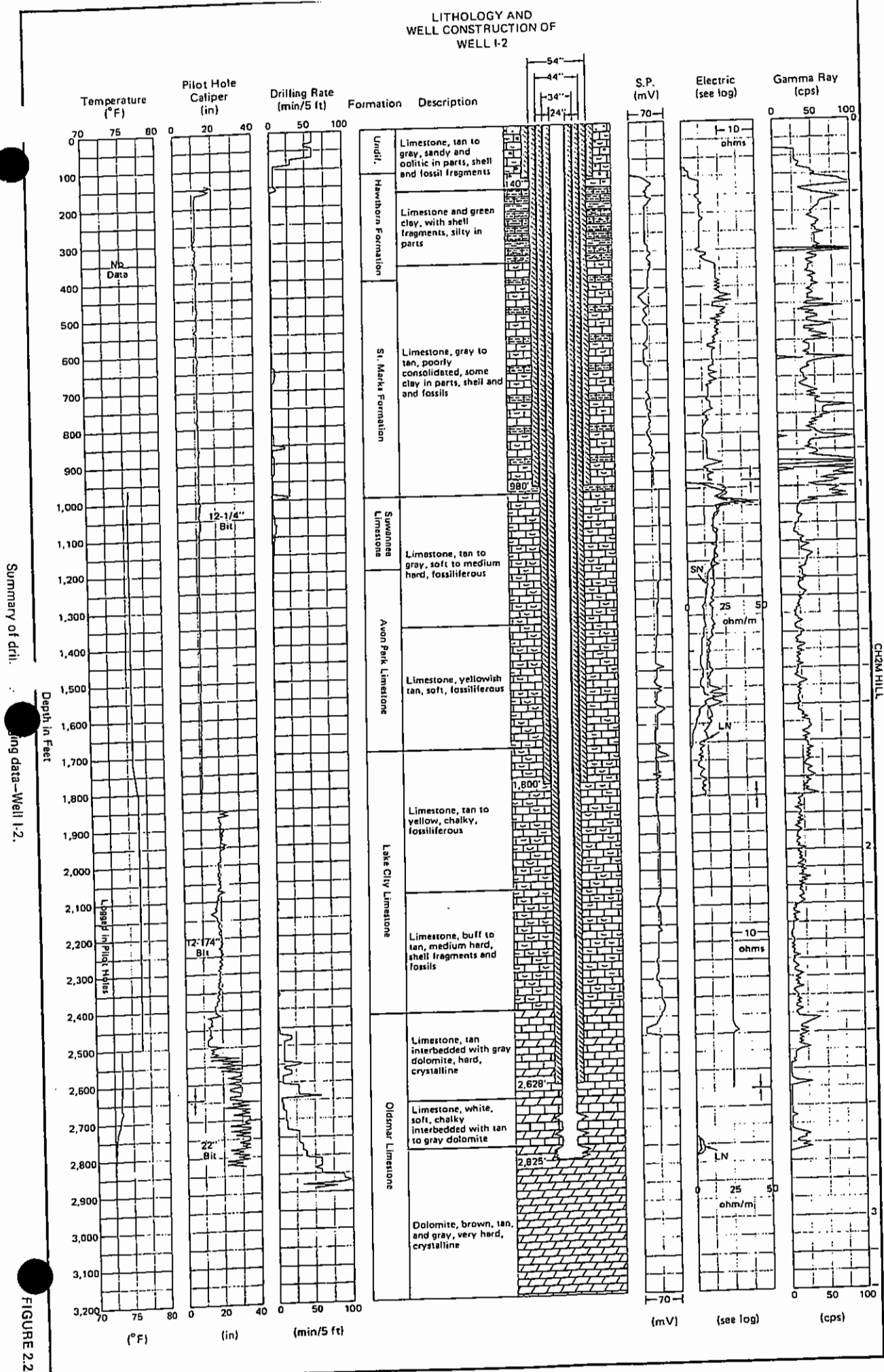
SDWWTP INJECTION WELL 1-2
AS-BUILT DIAGRAM

DATE: 12/17/98

SCALE:

IN R.A. EVH
KED.

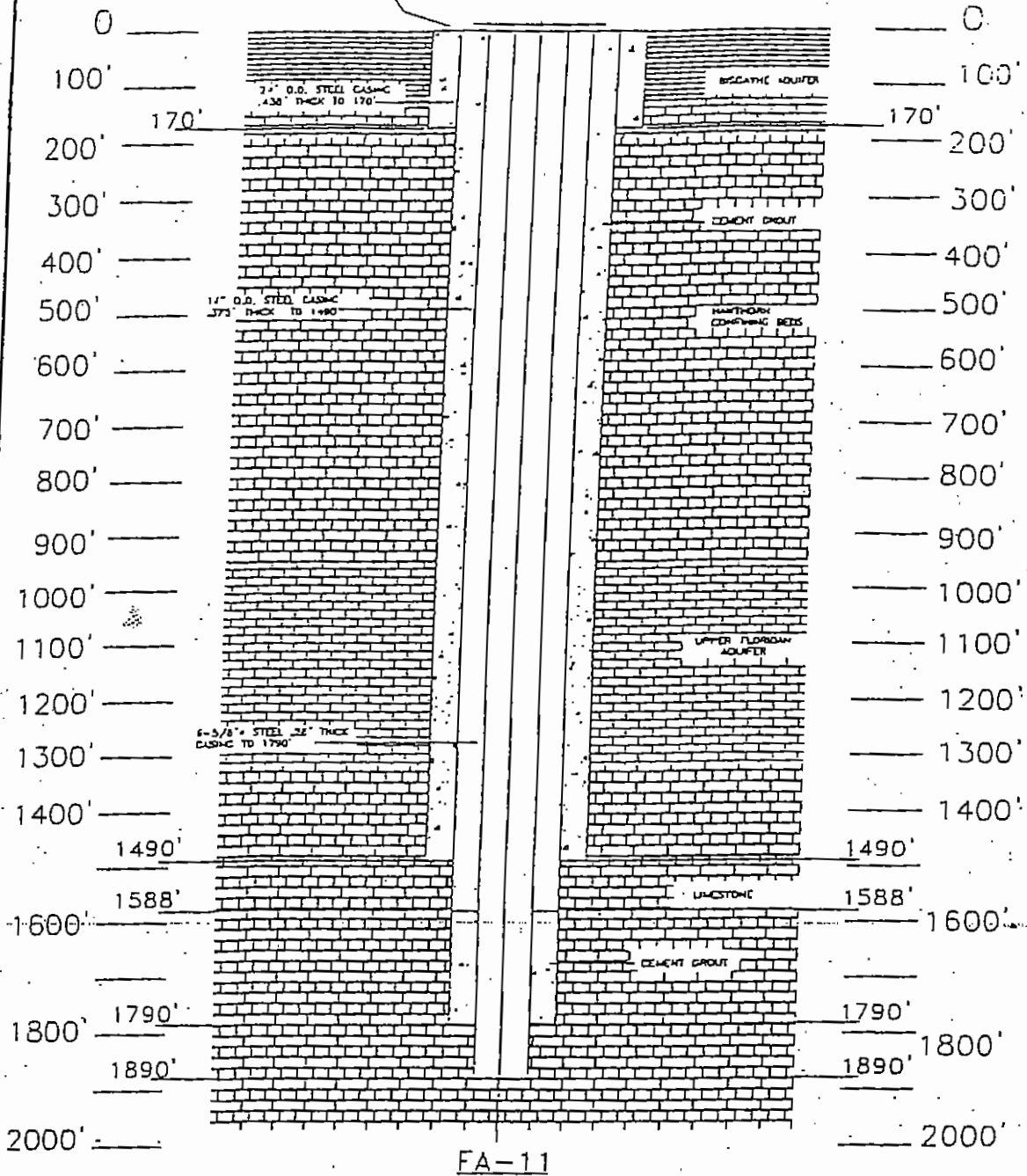
LITHOLOGY AND WELL CONSTRUCTION OF WELL I-2



Summary of drilling data—Well I-2.

FIGURE 22-1.

28 1/4" Ø HOLE



FLORIDAN AQUIFER MONITORING WELL
 CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL
 3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

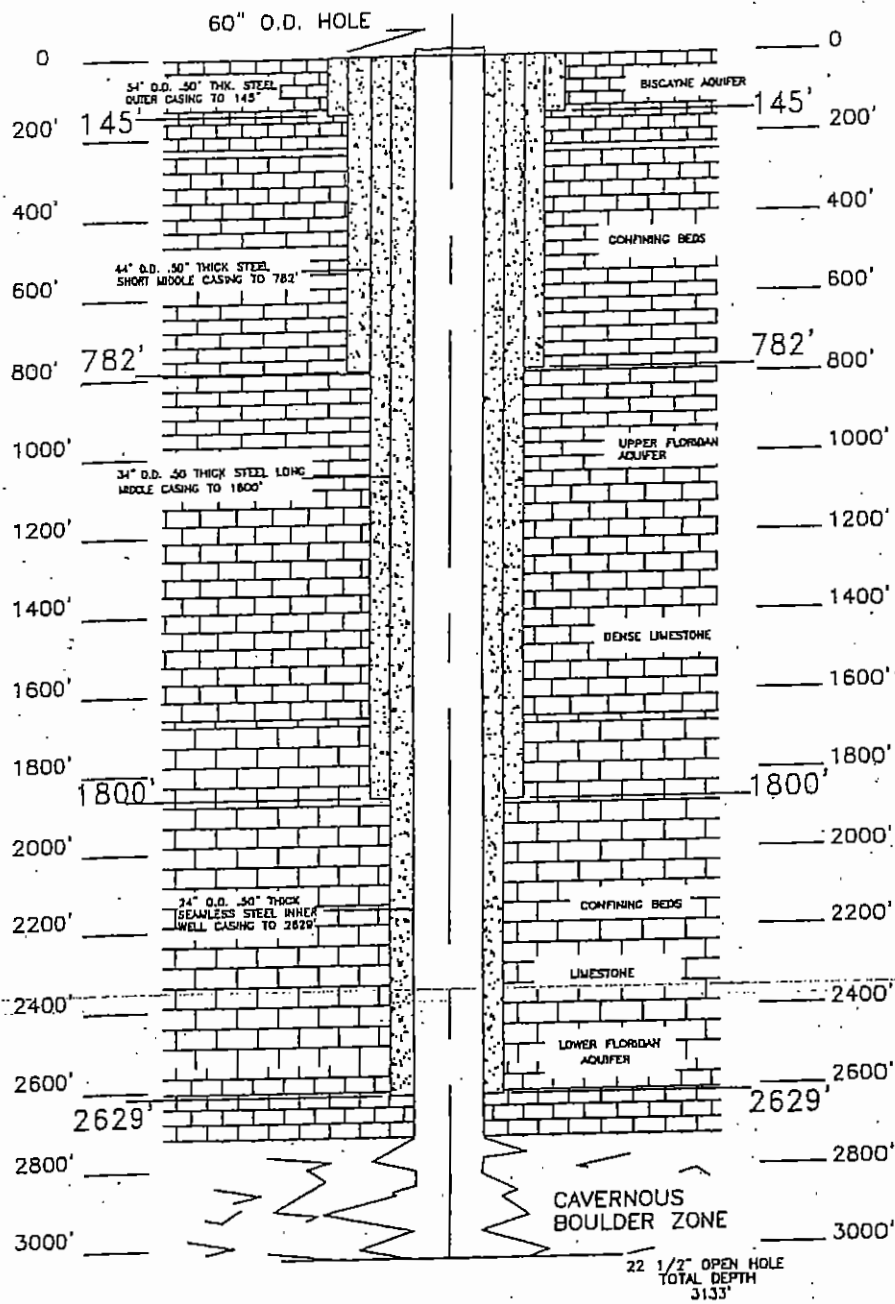
SDWWTP MONITOR WELL FA-11
 AS-BUILT DIAGRAM

DATE: 10/18/95

SCALE:

Revision 7, 10/24/96

DRAWN BY: A. CHECKED BY: E.V.H.



WELL DIAGRAM 1-3
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

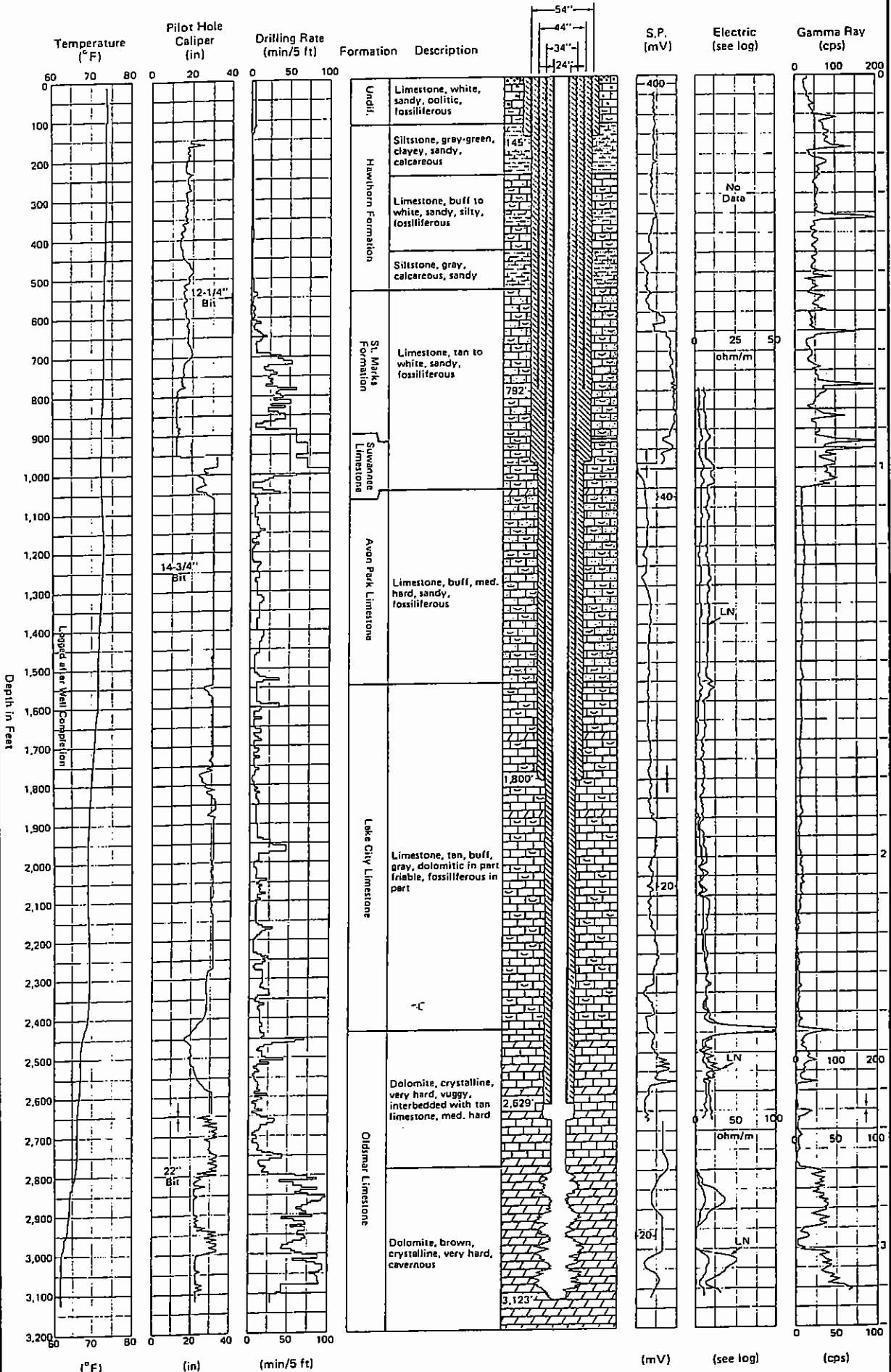
MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP INJECTION WELL 1-3
AS-BUILT DIAGRAM

DATE: 12/17/98

SCALE:

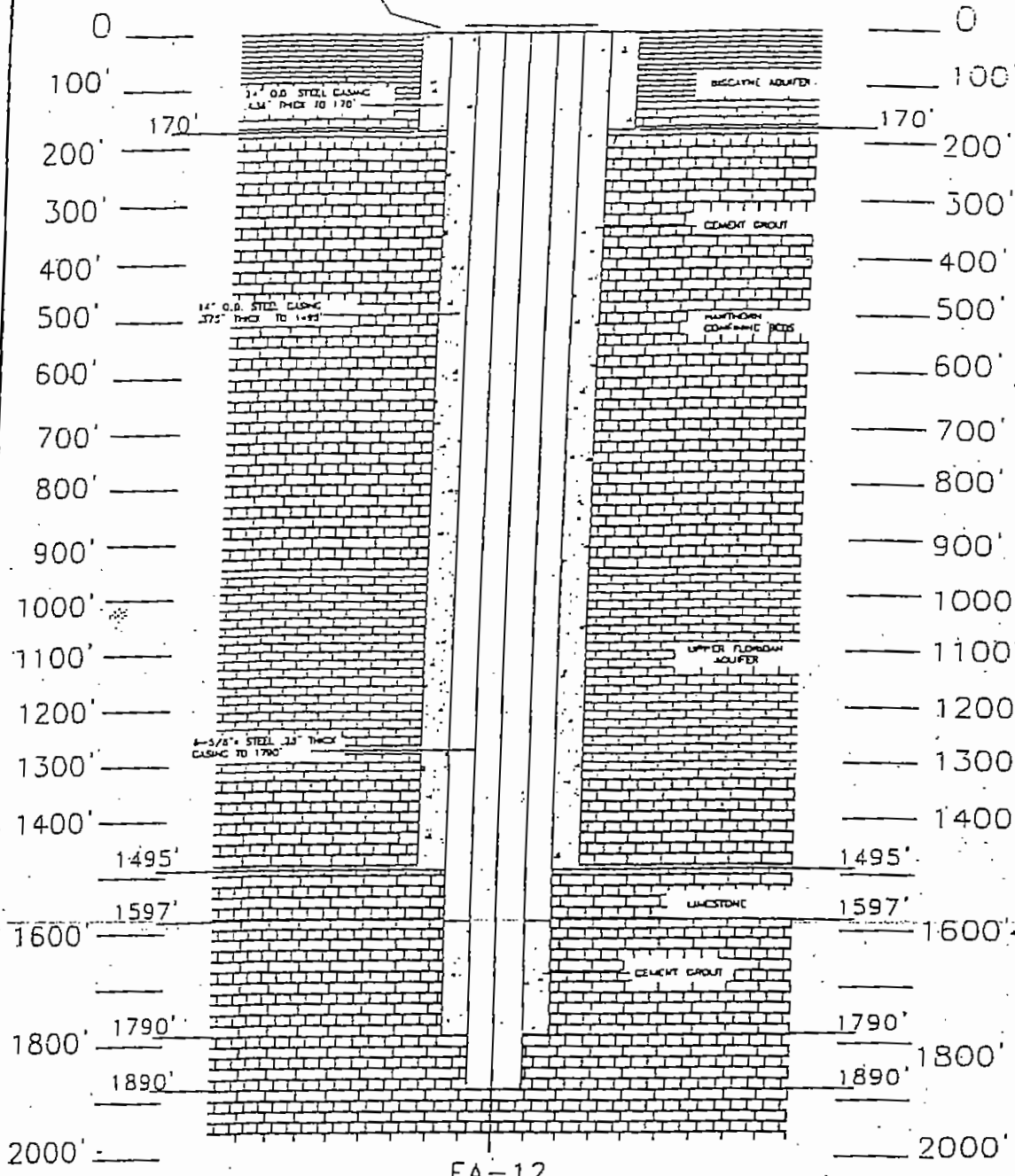
LITHOLOGY AND WELL CONSTRUCTION OF WELL I-3



Summary of drilling and logging data—Well I-3.

FIGURE 23.

28 1/4" Ø HOLE



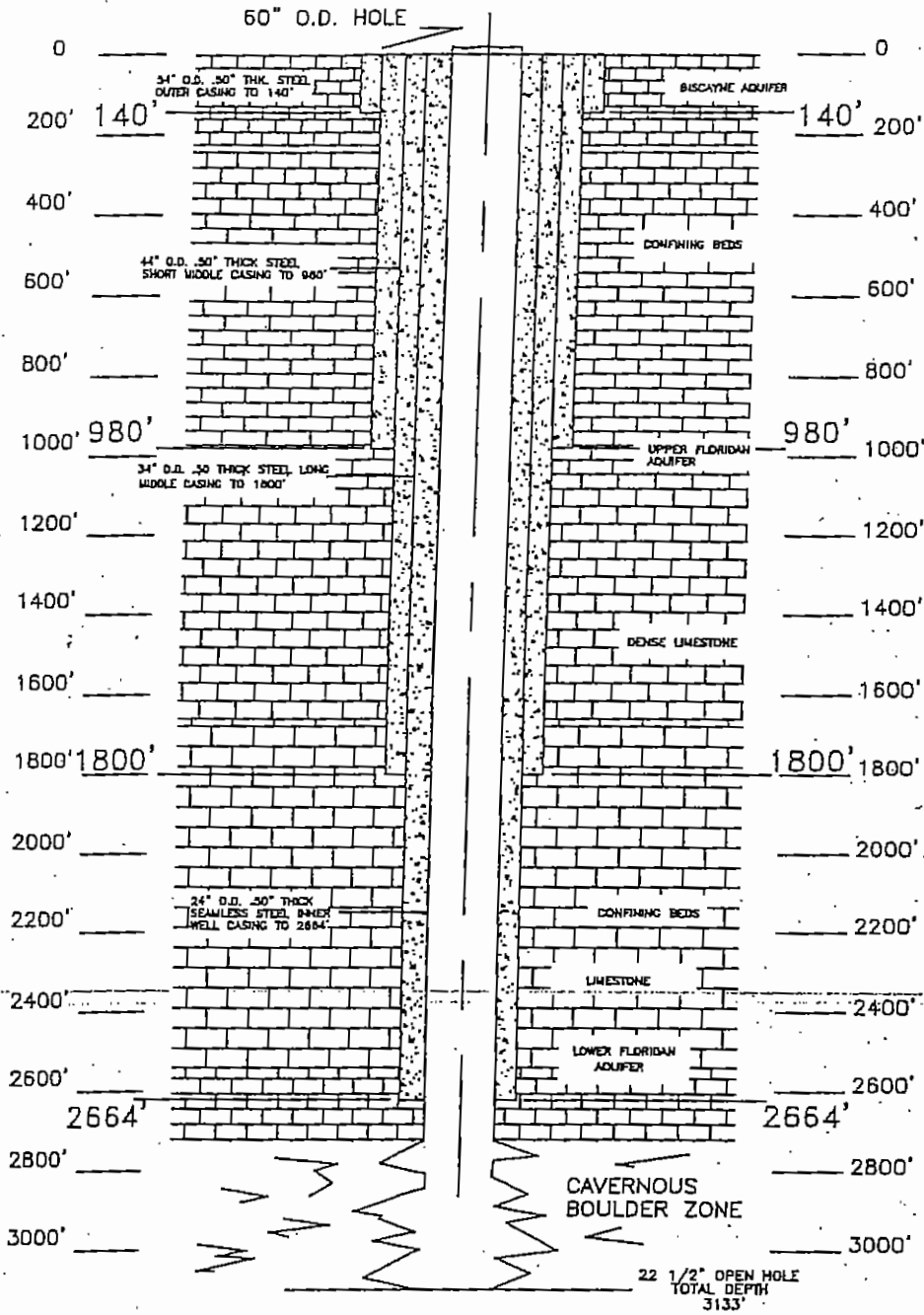
FLORIDAN AQUIFER MONITORING WELL
 CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL
 3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP MONITOR WELL FA-12 AS-BUILT DIAGRAM	
DATE: 10/18/95	SCALE:

Revision 7, 10/24/96

DRAWN BY: J.M.H.
CHECKED BY: J.M.H.

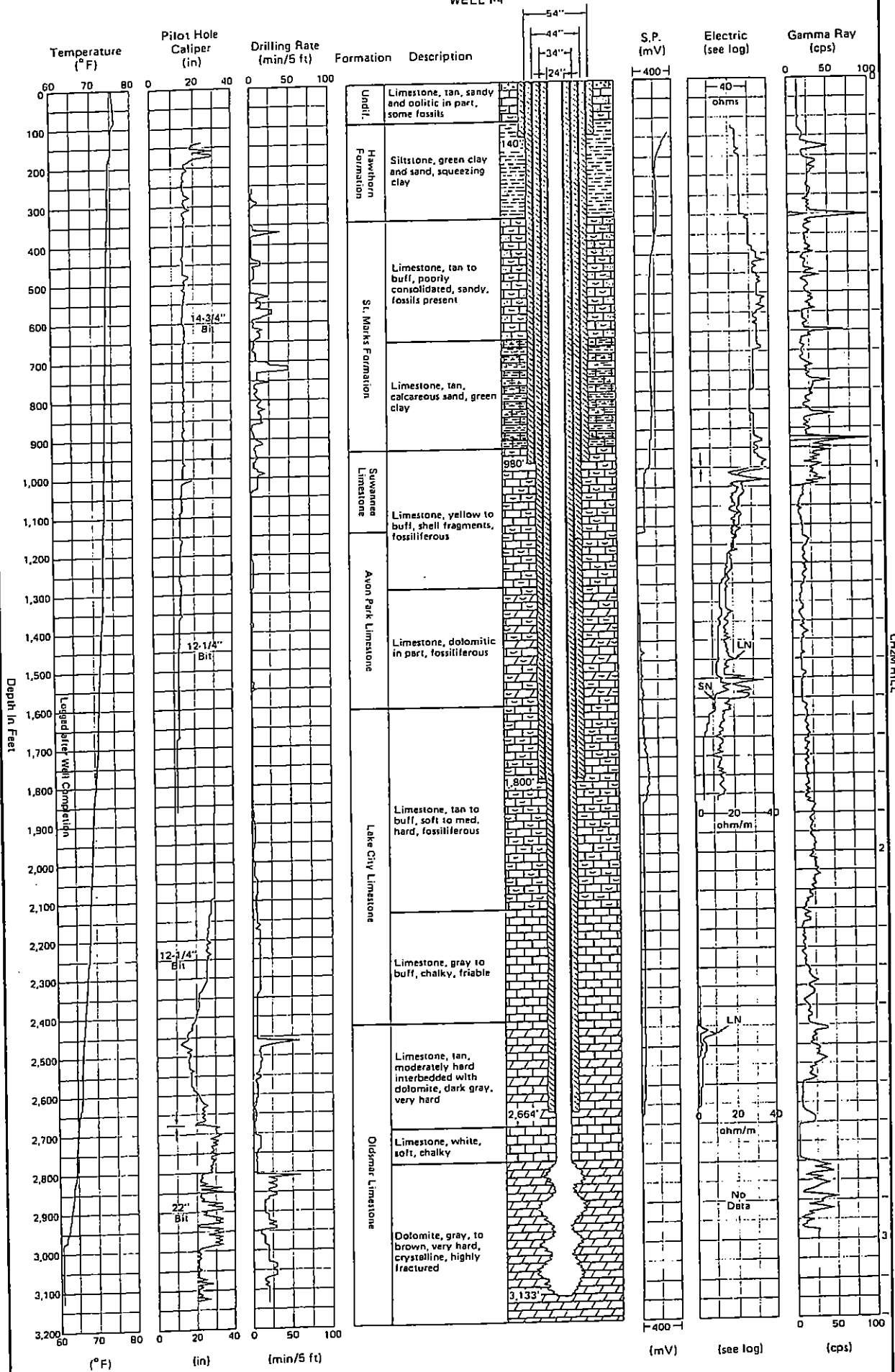


WELL DIAGRAM 1-4
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

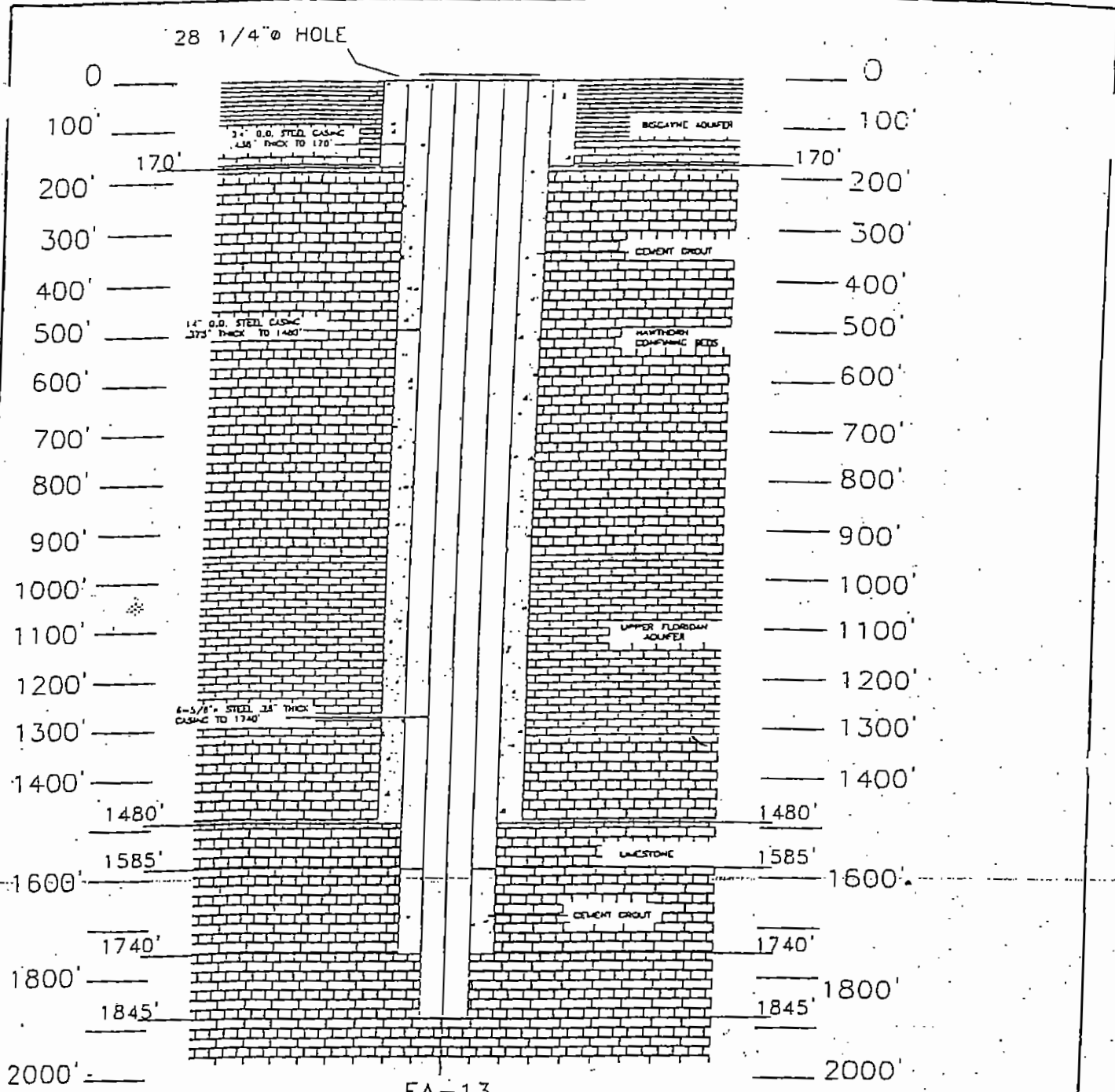
MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-4 AS-BUILT DIAGRAM	
DATE:	SCALE:

LITHOLOGY AND
WELL CONSTRUCTION OF
WELL I-4



Summary of drilling and logging data--Well I-4.

FIGURE 2.4-1.



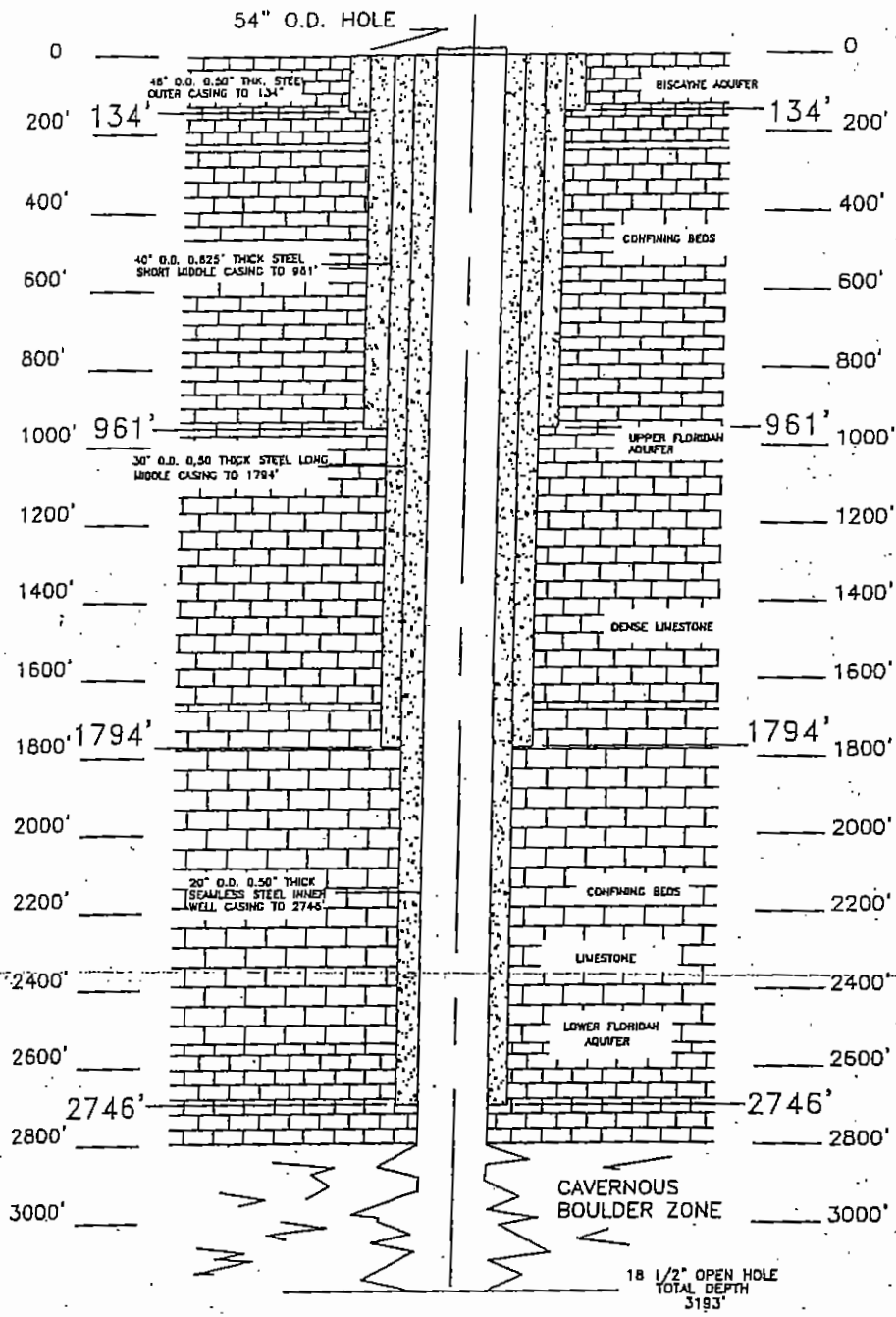
**FLORIDAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM**

3/4" = 100' VERTICAL
3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP MONITOR WELL FA-13 AS-BUILT DIAGRAM	
DATE: 10/18/95	SCALE:

Revision 7, 10/24/96

10/18/95 CHEG



WELL DIAGRAM 1-5
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-5 AS-BUILT DIAGRAM	
DATE:	SCALE:

RAVN
HECKED

DEPTH (FEET)

0

500

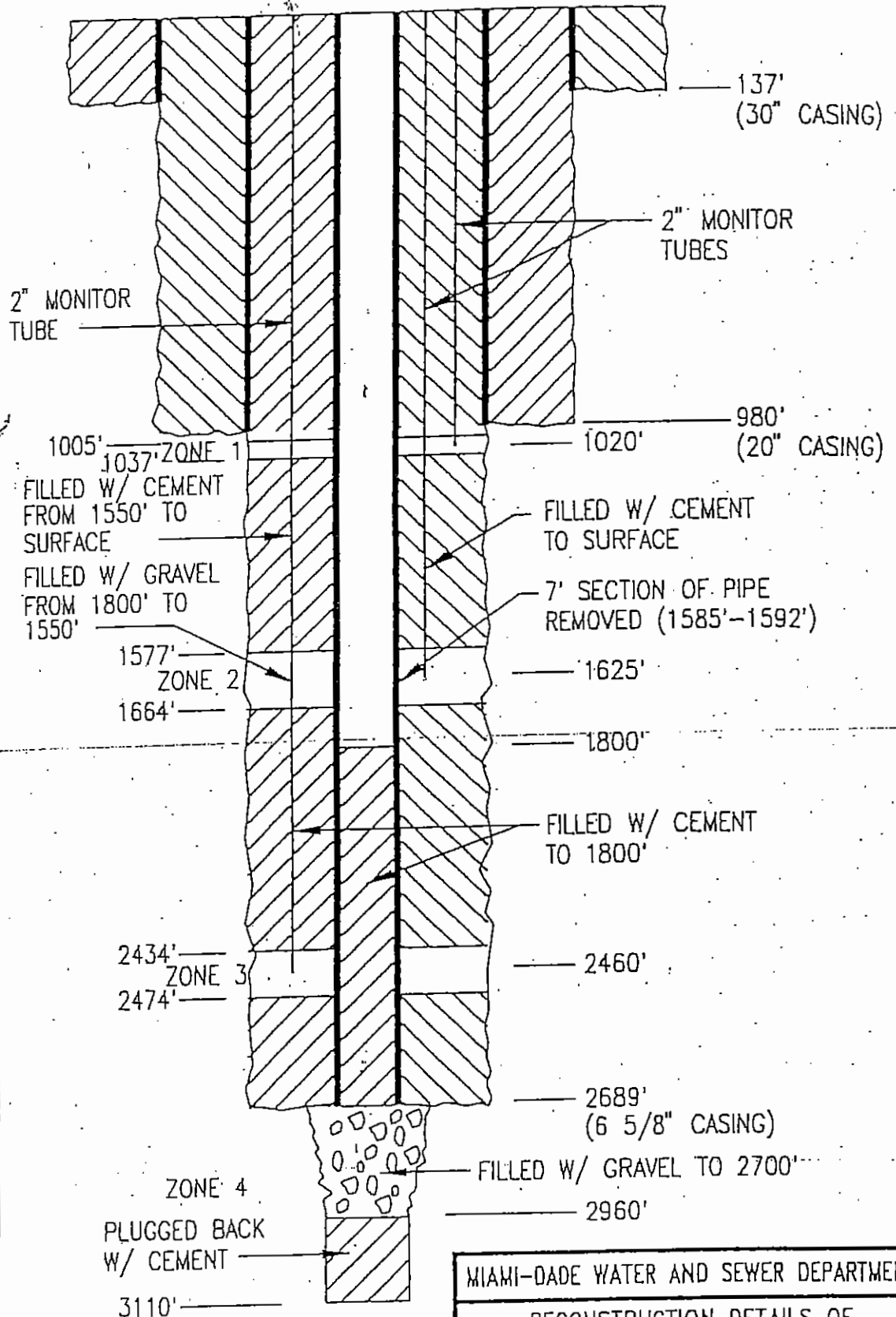
1000

1500

2000

2500

3000



MIAMI-DADE WATER AND SEWER DEPARTMENT

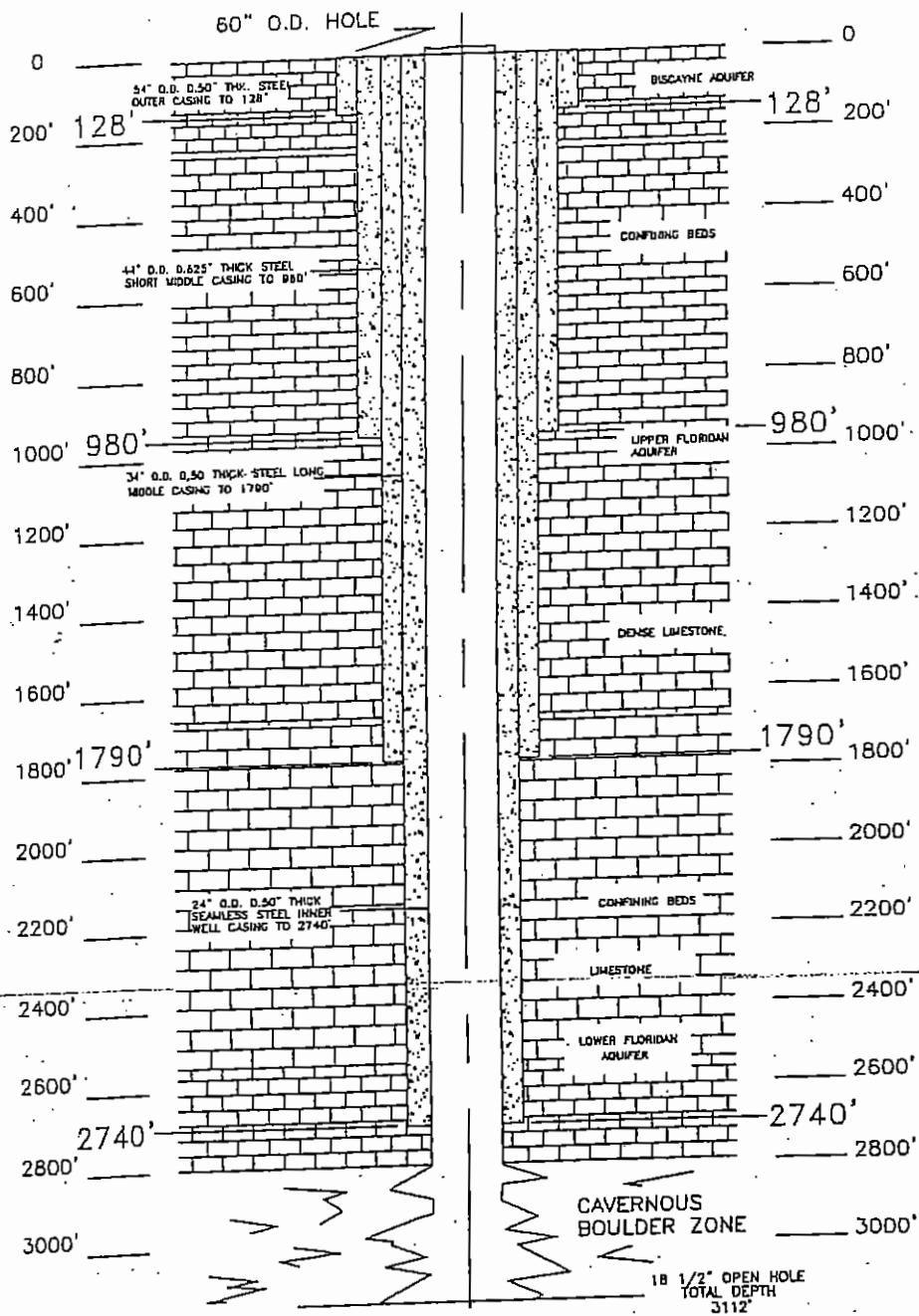
RECONSTRUCTION DETAILS OF
MONITORING WELL BZ-1
SDWWTP

DATE: 01/28/97

SCALE: N.T.S.

W.M. ASB.
CHECKED: E.V.H.

[Handwritten Signature]
1/20/97



WELL DIAGRAM I-6
(AS BUILT)

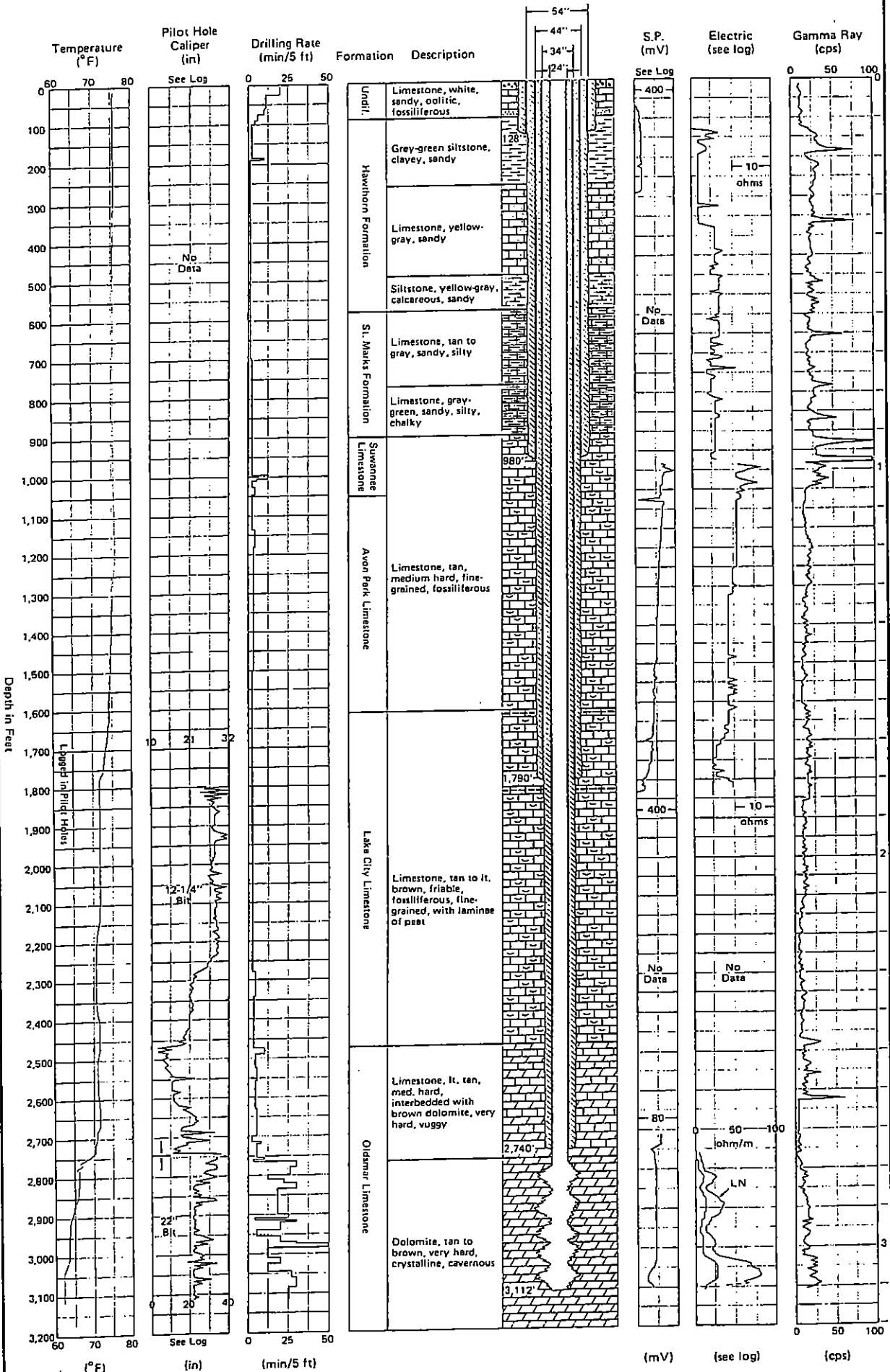
3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT
SDWWTP INJECTION WELL I-6
AS-BUILT DIAGRAM

DATE:

SCALE:

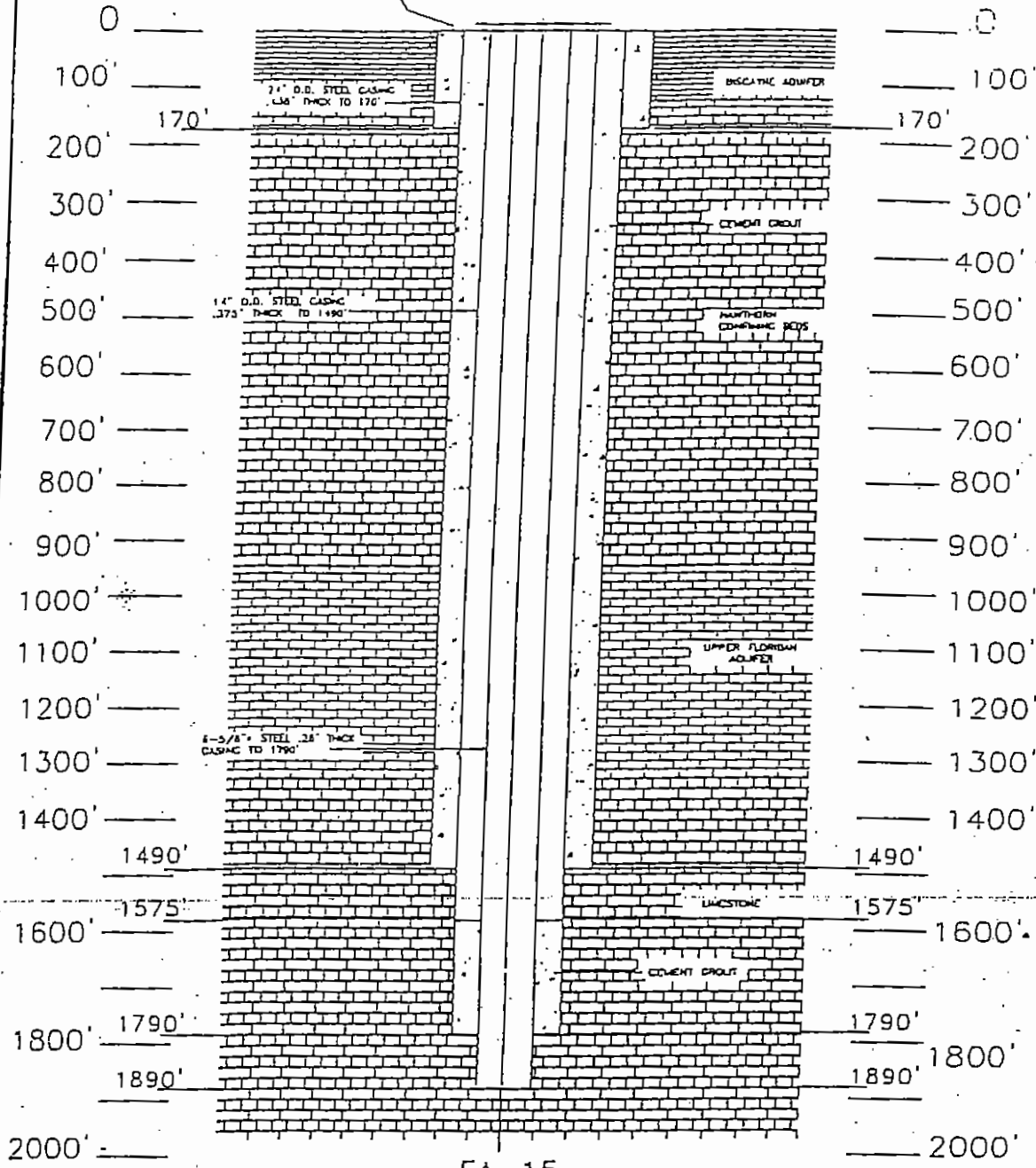
LITHOLOGY AND WELL CONSTRUCTION OF WELL I-6



Summary of drilling and logging data—Well I-6.

FIGURE 2-6-1

28 1/4" Ø HOLE



FA-15

FLORIDAN ADQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL

3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

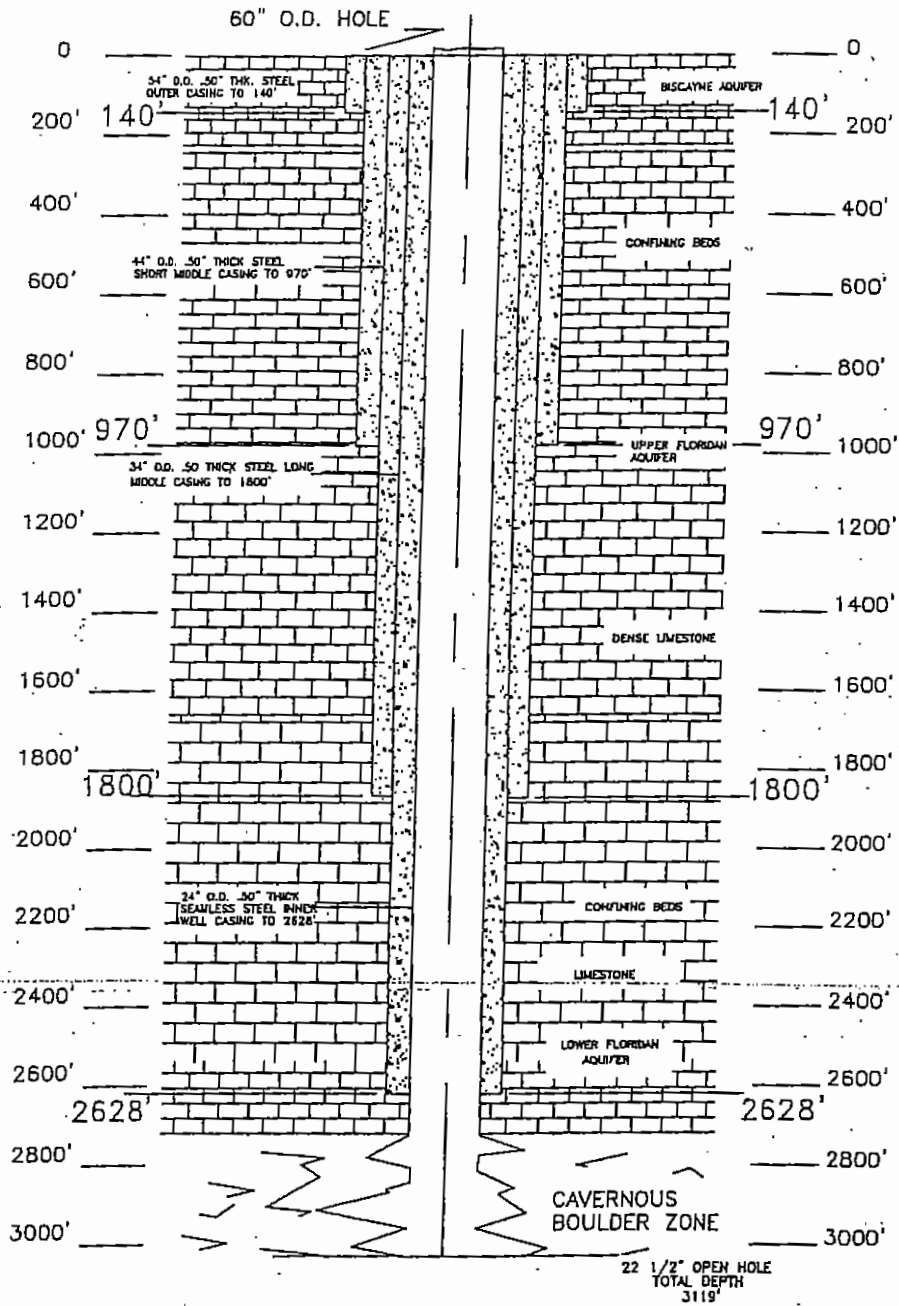
SDWWTP MONITOR WELL FA-15
AS-BUILT DIAGRAM

DATE: 10/18/95

SCALE:

Revision 7, 10/24/96

DRAWN BY: CUC/KR/P...V.H.



WELL DIAGRAM 1-7
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

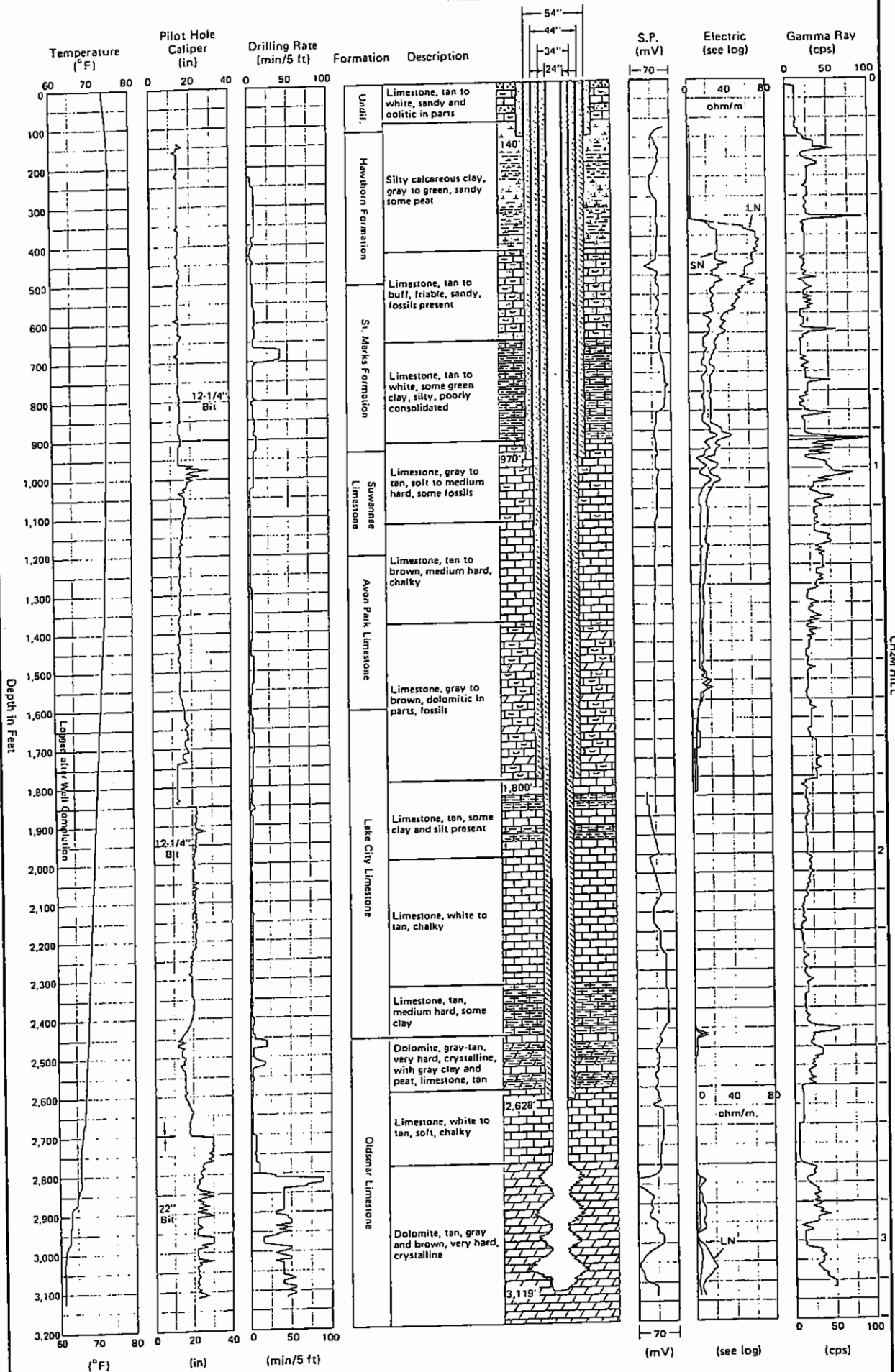
MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP INJECTION WELL 1-7
AS-BUILT DIAGRAM

DATE: 12/17/98

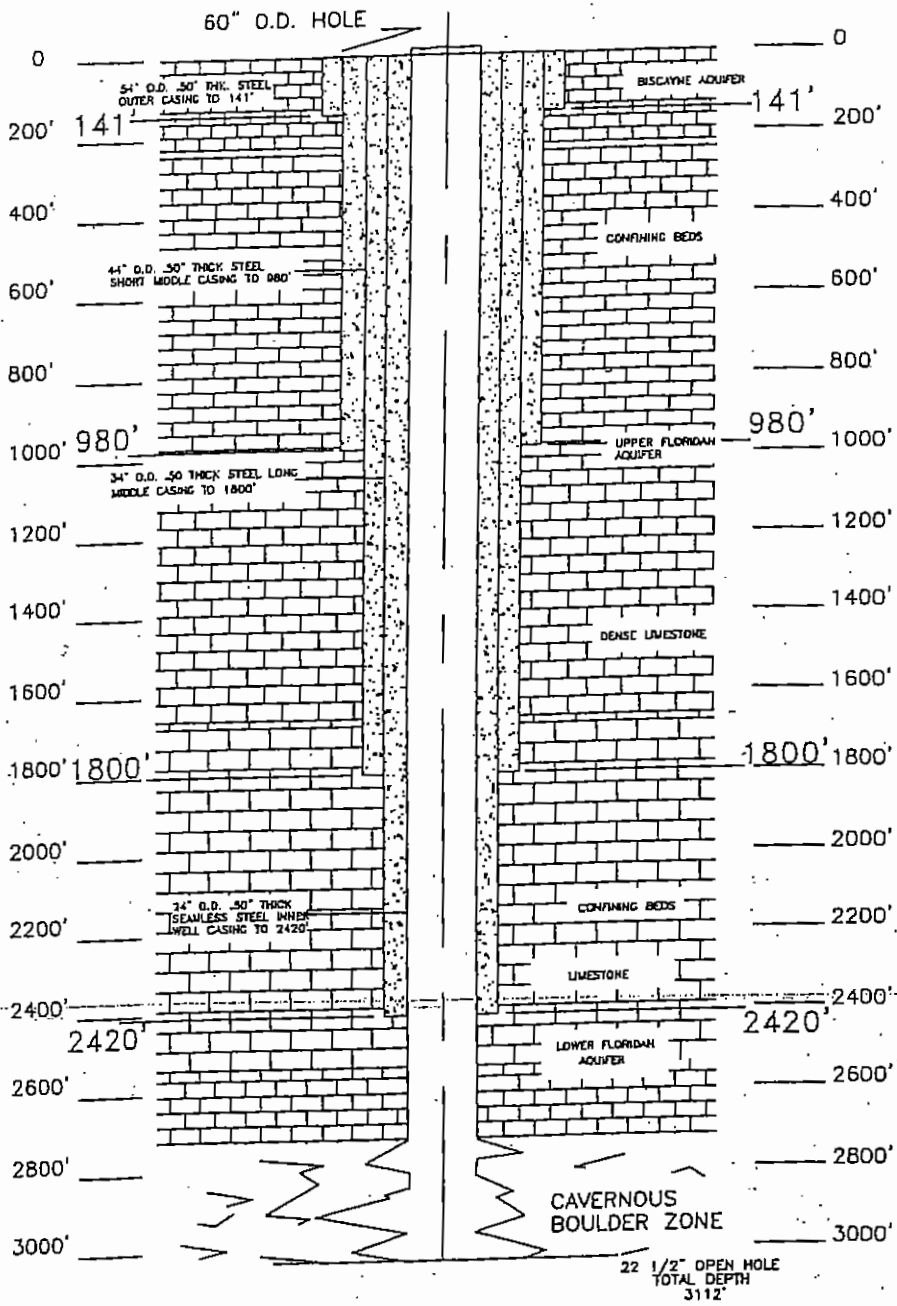
SCALE:

LITHOLOGY AND WELL CONSTRUCTION OF WELL I-7



Summary of drilling and logging data—Well I-7.

FIGURE 2.7.1.



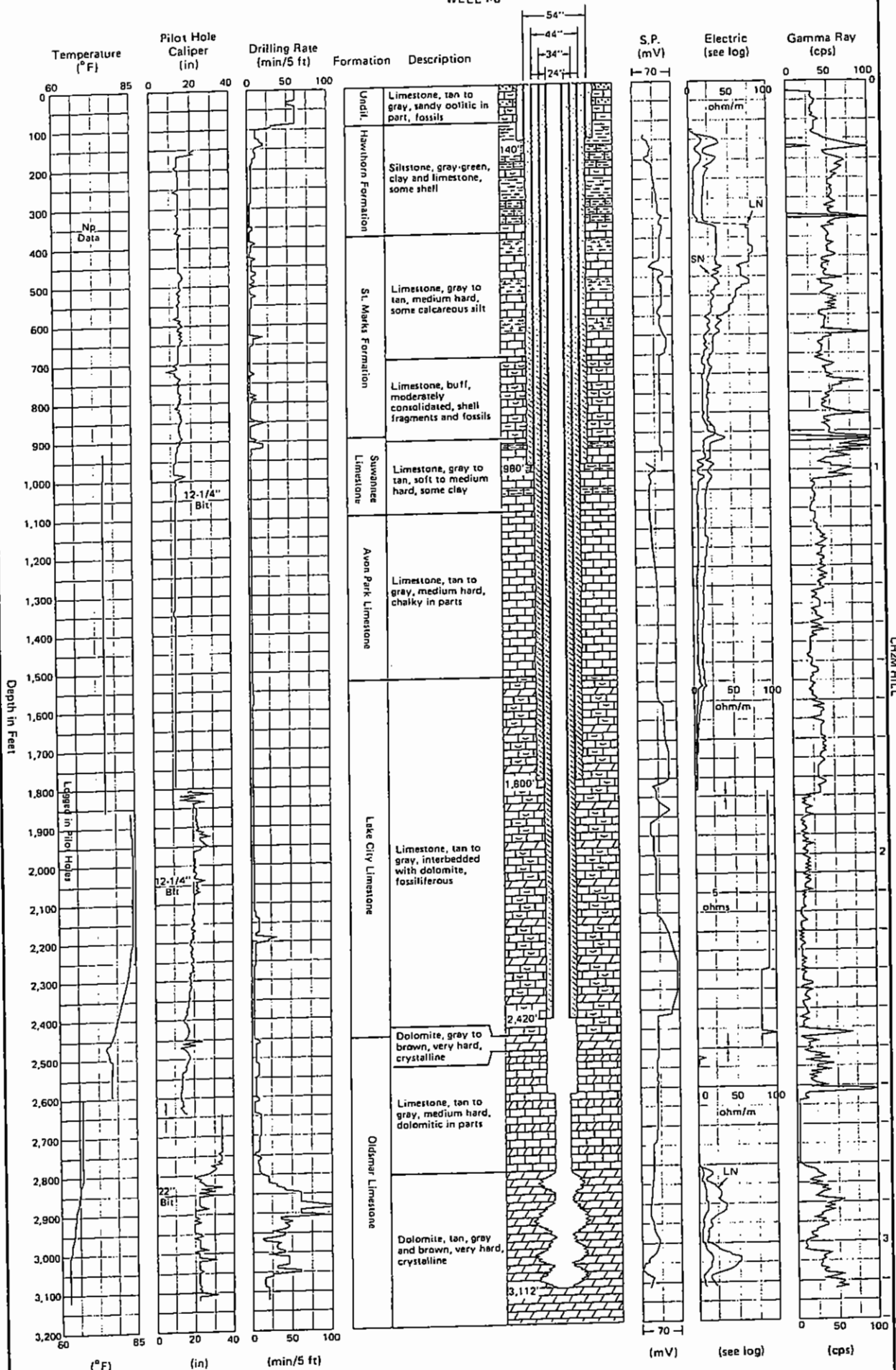
WELL DIAGRAM 1-8
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-8 AS-BUILT DIAGRAM	
DATE: 12/17/98	SCALE:

W.N.
R.A.
C.K.E.D.
E.V.H.

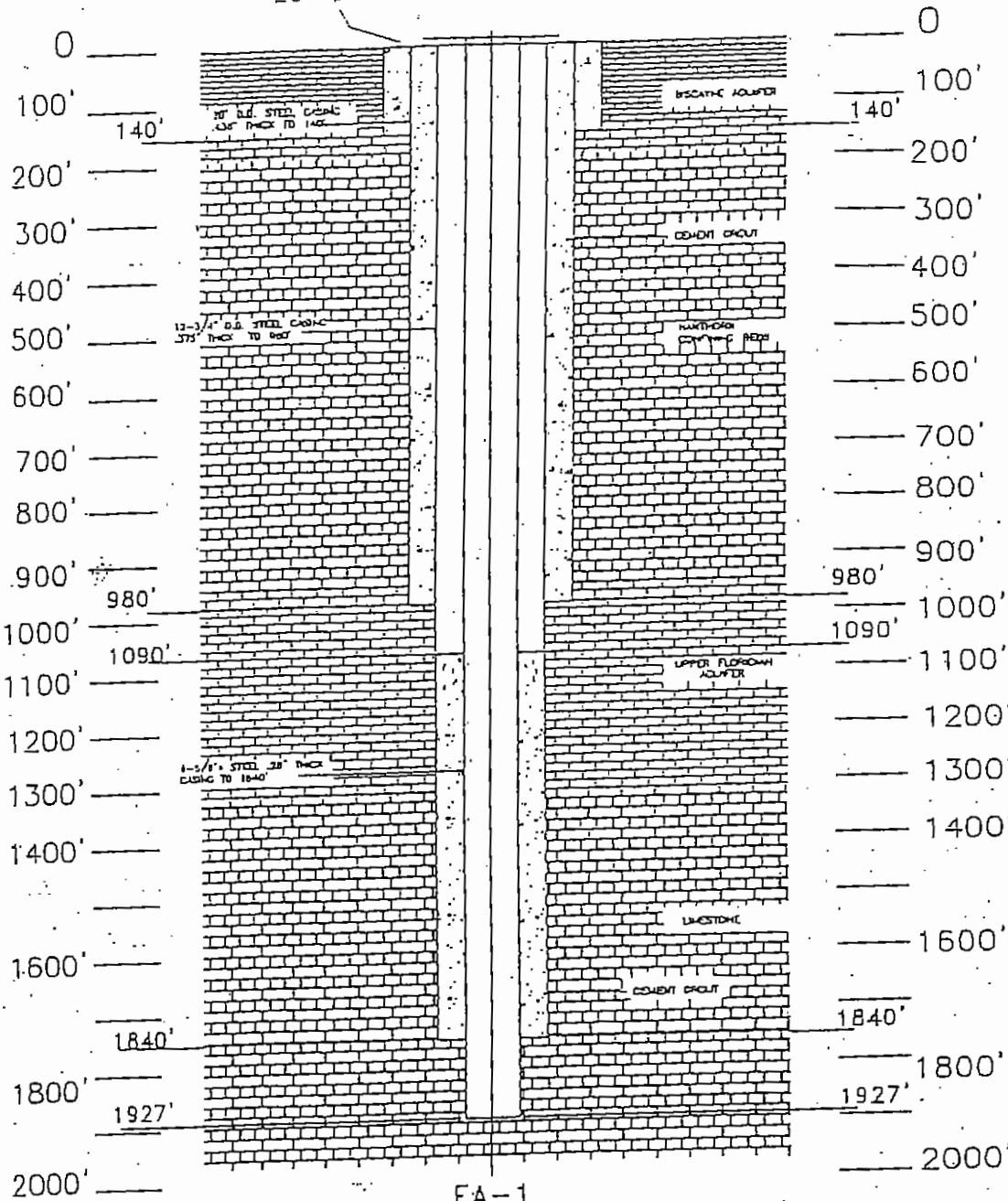
LITHOLOGY AND WELL CONSTRUCTION OF WELL I-8



Summary of drilling and logging data—Well I-8.

FIGURE 28-1

26" Ø HOLE



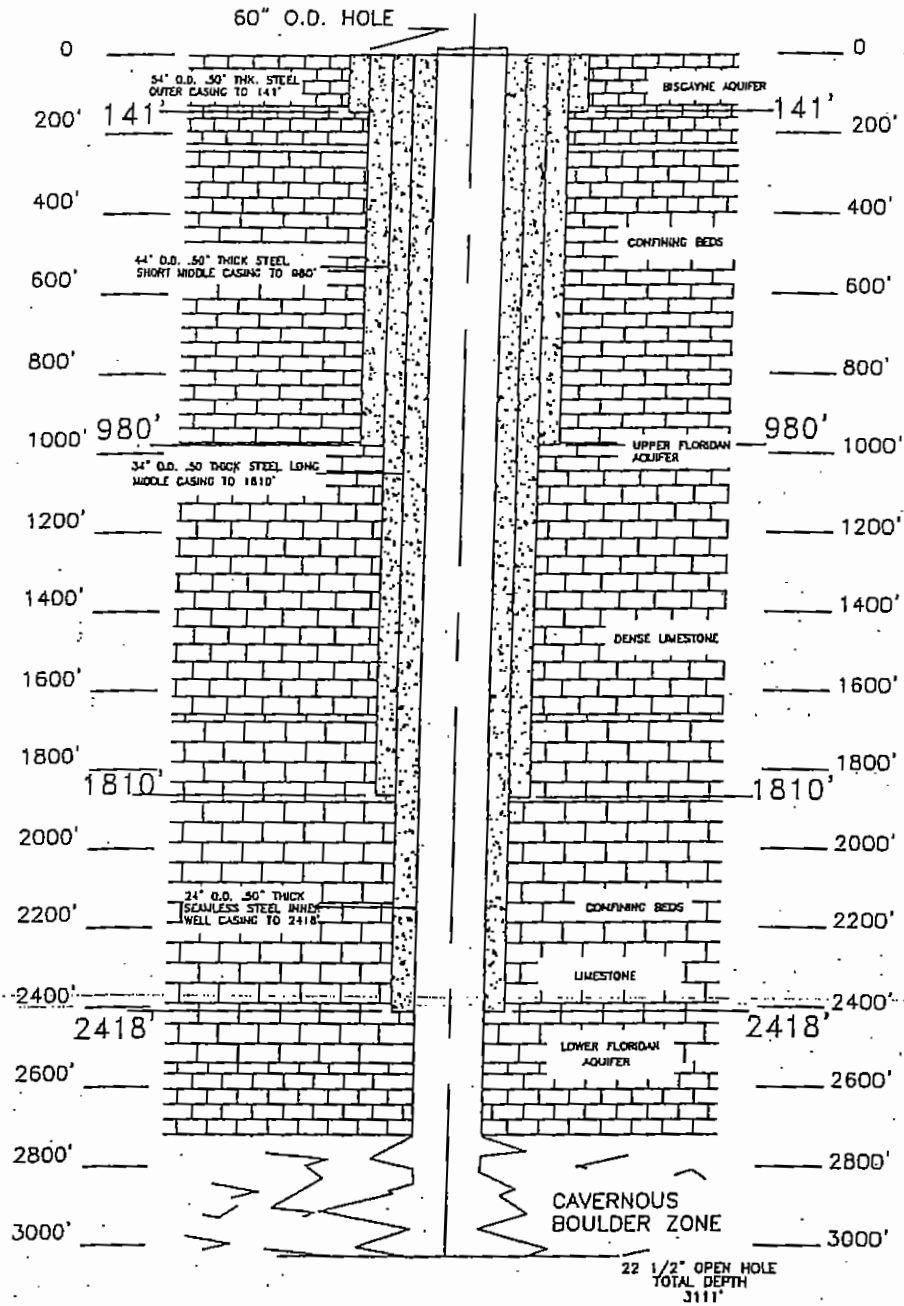
FA-1
 FLORIDAN AQUIFER MONITORING WELL
 CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL

3/4" = 1" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTW MONITOR WELL FA-1 AS-BUILT DIAGRAM	
DATE: 12/16/98	SCALE:
UPDATE	

DRAWN: R.A.
 CHECKED: E.V.H.



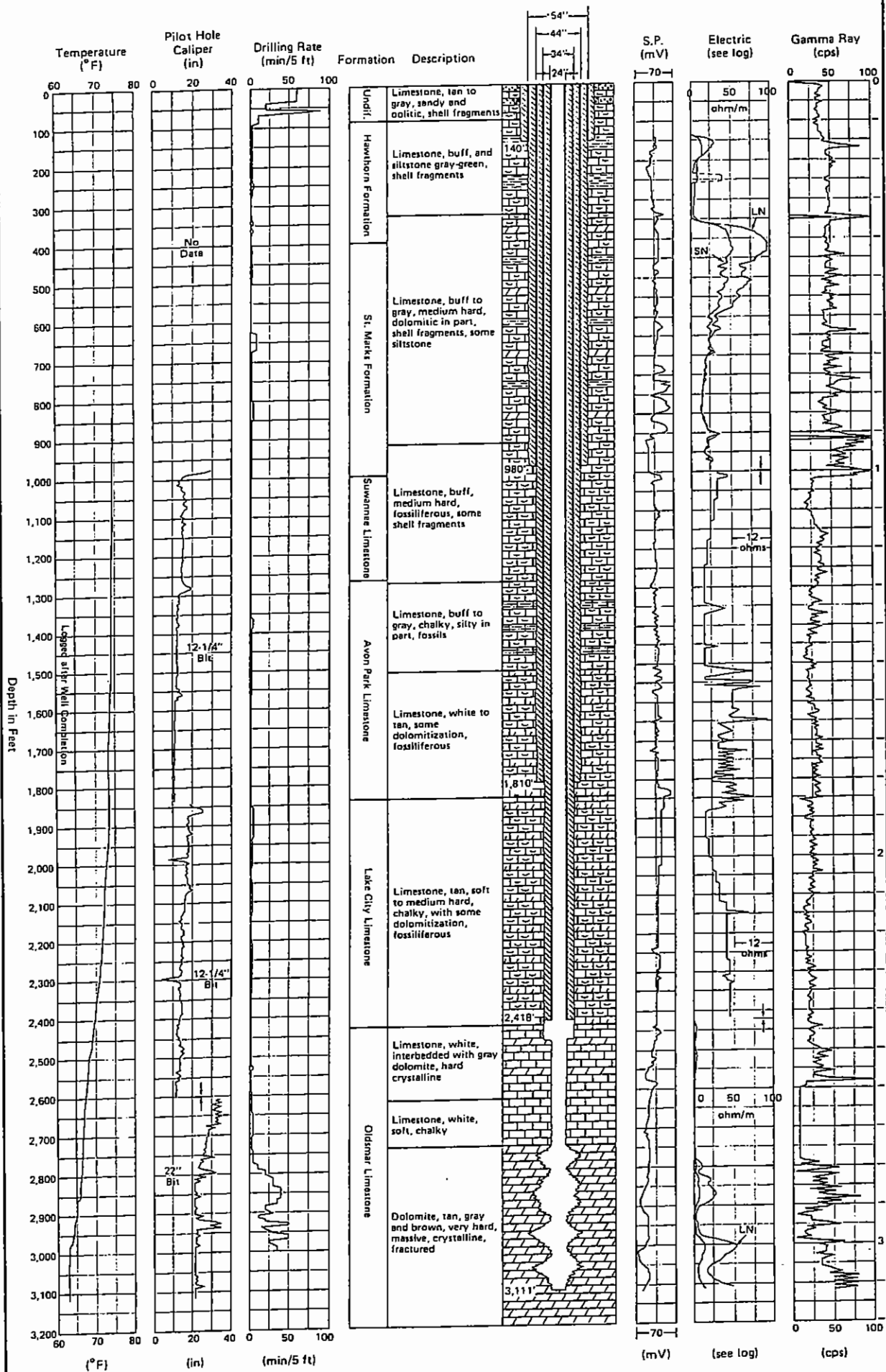
WELL DIAGRAM 1-9
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-9 AS-BUILT DIAGRAM	
DATE: 12/17/98	SCALE:

DRAWN: R.A.
 CHECKED: E.V.

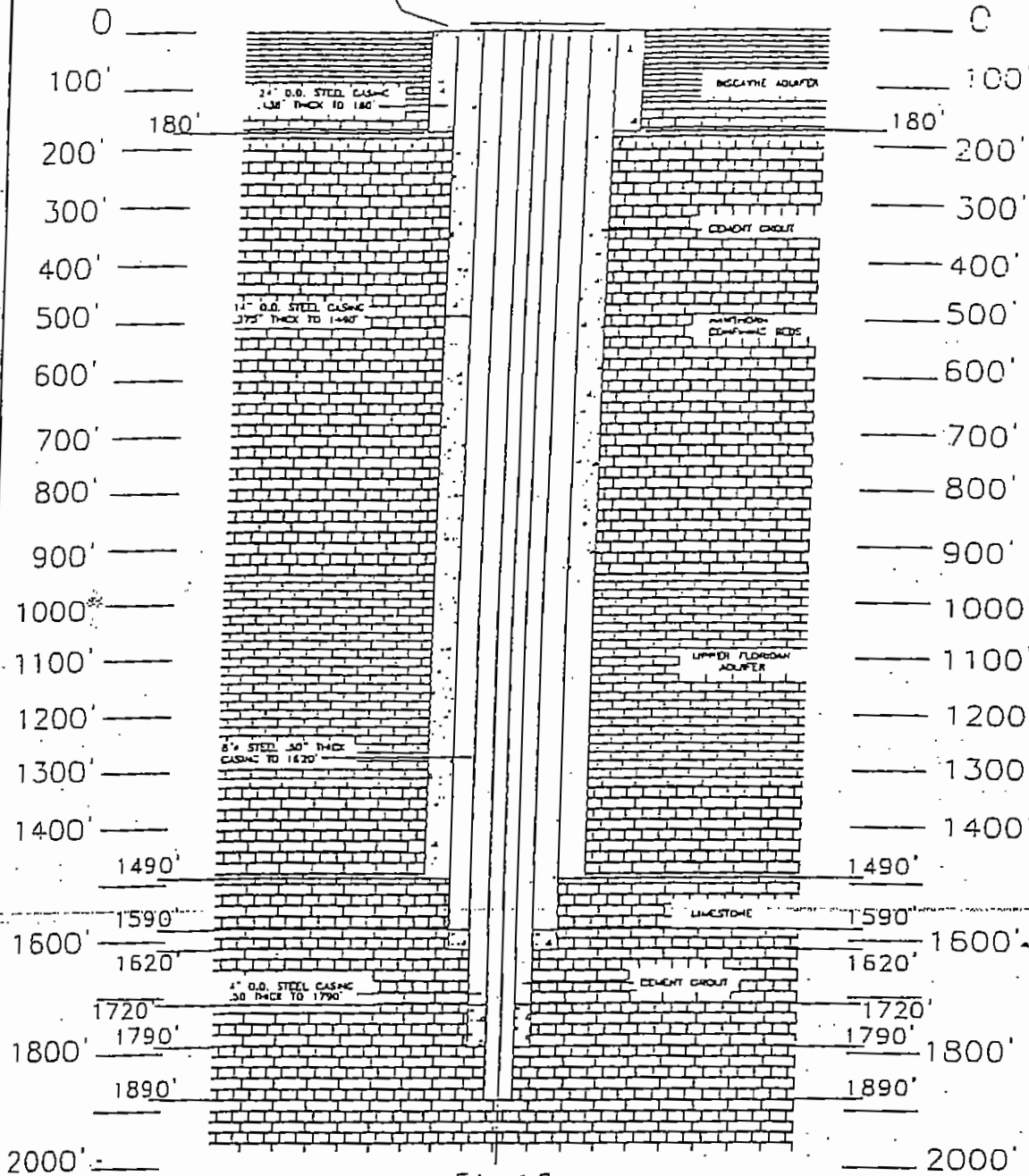
LITHOLOGY AND WELL CONSTRUCTION OF WELL I-9



Summary of drilling and logging data--Well I-9.

FIGURE 2.9-1.

28 1/4" Ø HOLE



FA-16

FLORIDAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL

3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP MONITOR WELL FA-16
AS-BUILT DIAGRAM

DATE: 10/18/95

SCALE:

Revision 7, 10/24/96

DRAWN: ASB.
CHECKED: CVH



Engineering Report for South District

Wastewater
Treatment Plant

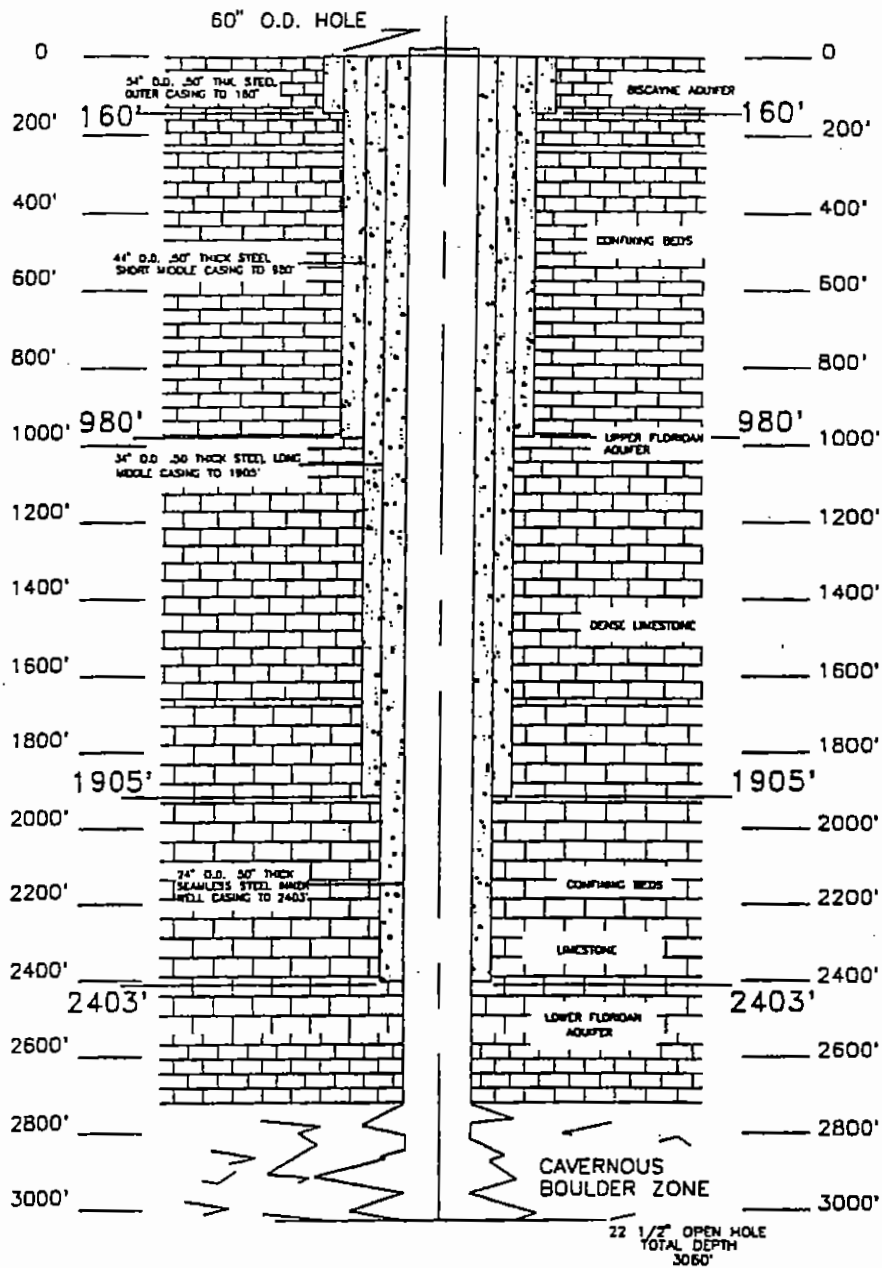
Investigation
of the
Influent

IW-14, IW-15

IW-16, IW-17



Prepared by Miami-Dade Water
and Sewer Department



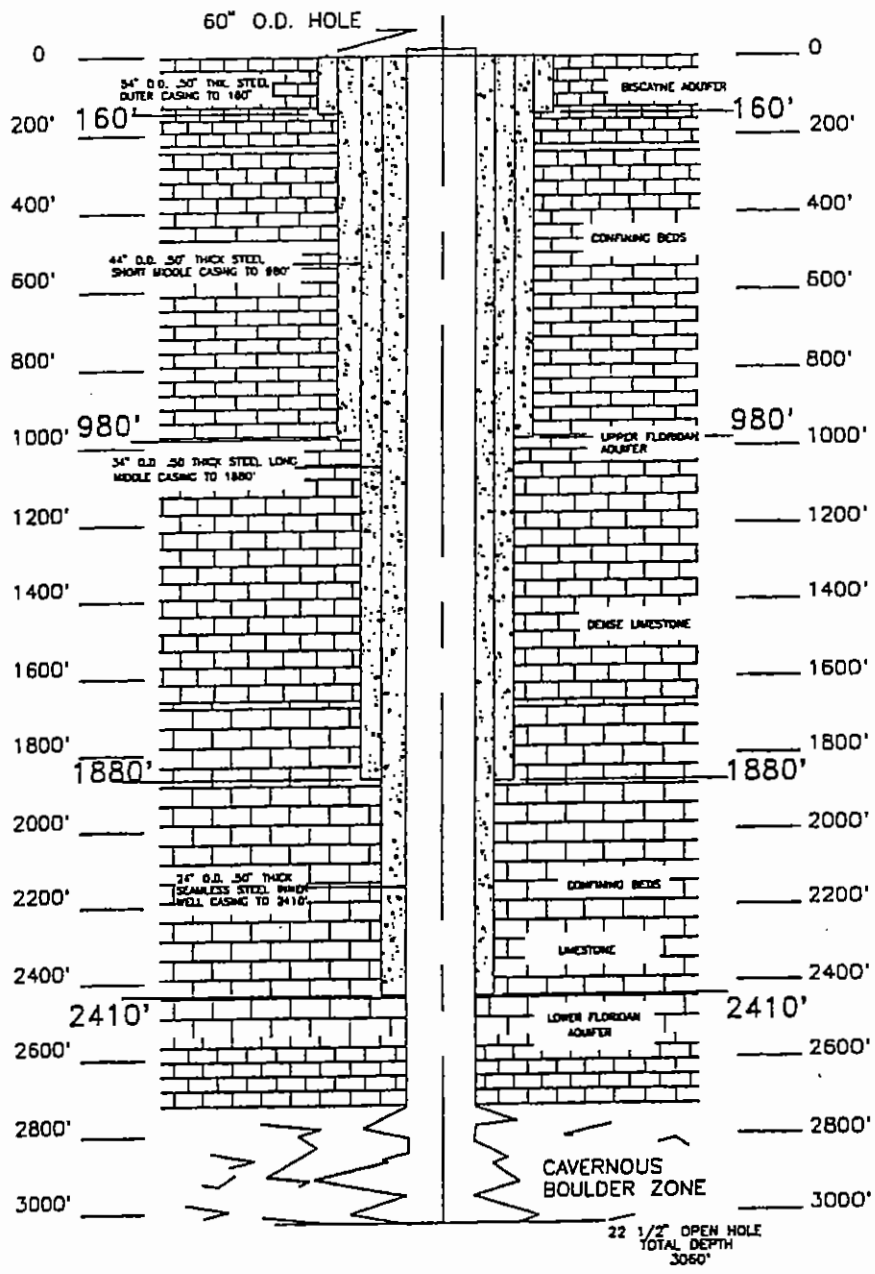
WELL DIAGRAM 1-14
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

DRAWN: ASB.
CHECKED: E.V.H.

E.S. [Signature]
8/25/94

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-14 AS-BUILT DIAGRAM	
DATE: 08/23/94	SCALE: AS SHOWN



WELL DIAGRAM I-15
(AS BUILT)

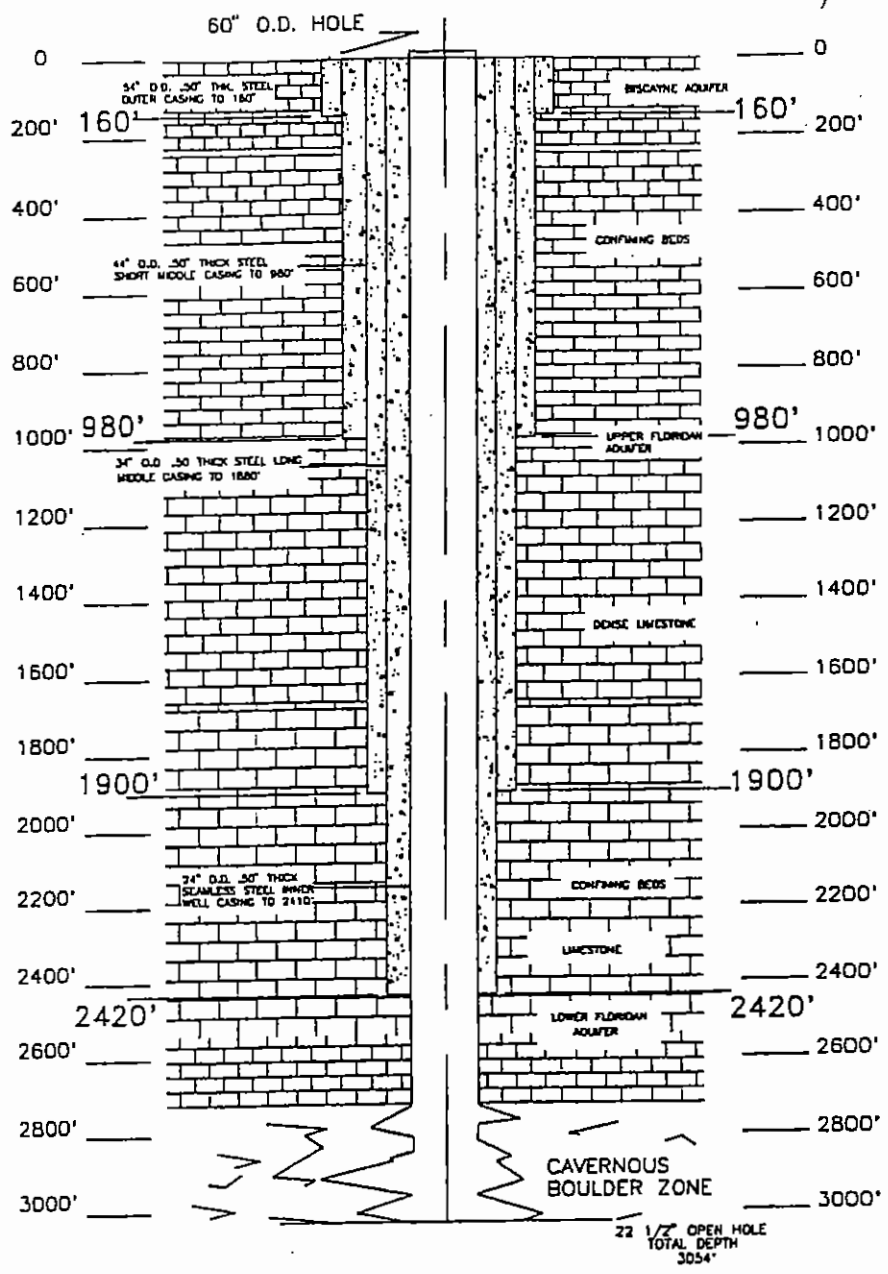
3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

*Includes
MIT
data*

[Handwritten signature]
1/10/99

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWTP INJECTION WELL I-15 AS-BUILT DIAGRAM	
DATE: 10/28/94	SCALE: AS SHOWN

RAVN: ASB.
CHECKED: E.V.H.



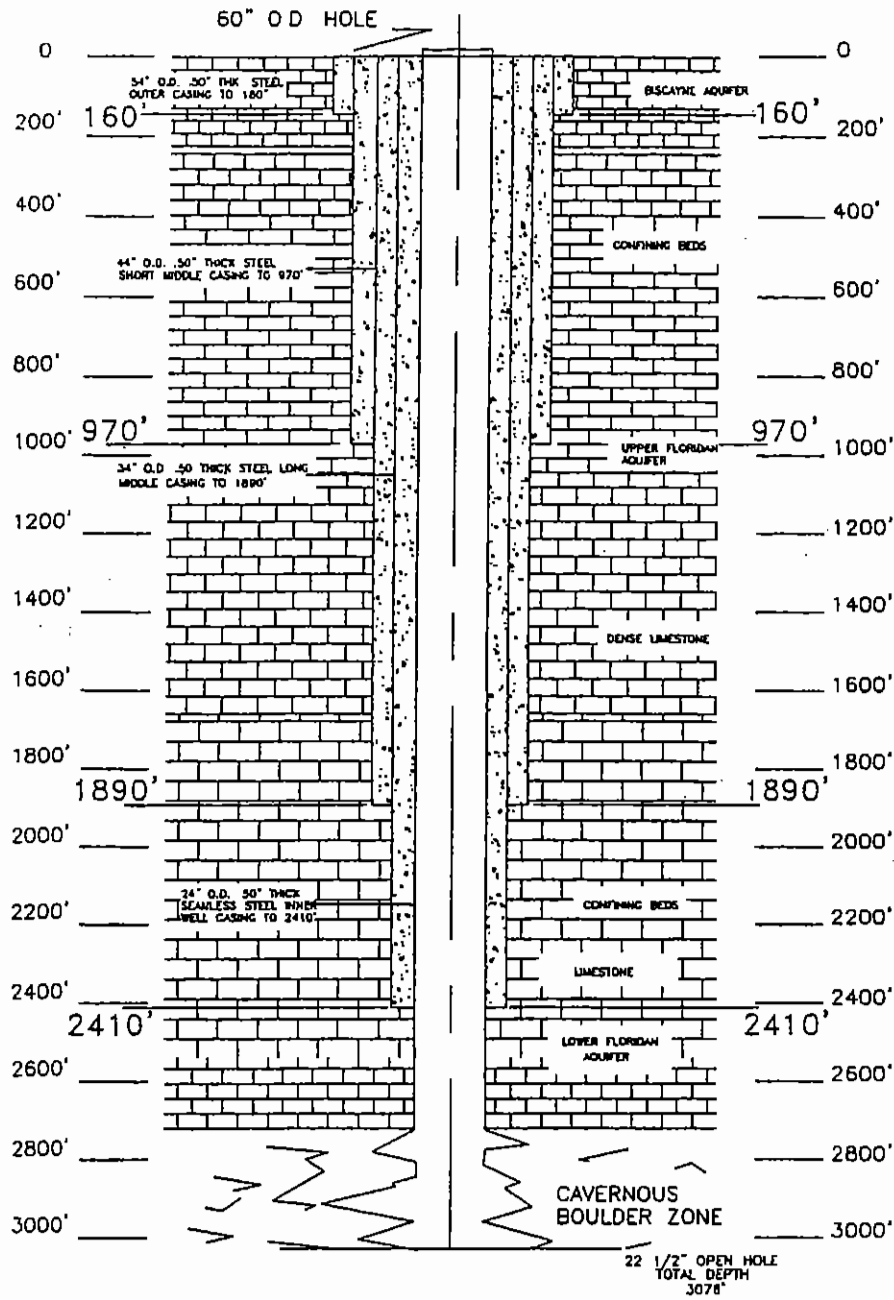
WELL DIAGRAM I-16
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

[Handwritten signature]
1/30/95

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTW INJECTION WELL I-16 AS-BUILT DIAGRAM	
DATE: 01/10/95	SCALE:

DRAWN: ASB.
 CHECKED: E.V.M.



WELL DIAGRAM I-17
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

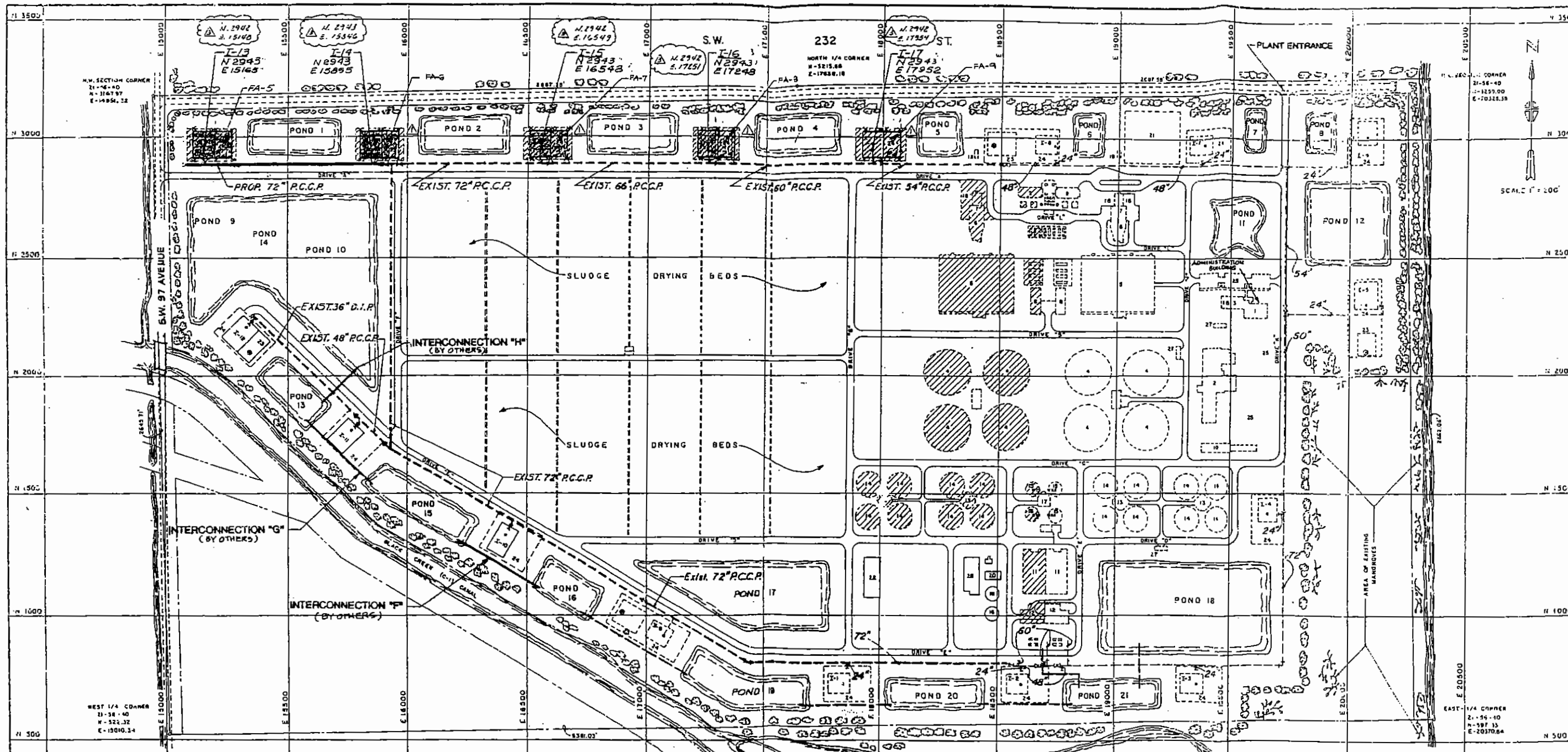
MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP INJECTION WELL I-17
AS-BUILT DIAGRAM

DATE: 12/18/98

SCALE:

DRAWN: R.A.
CHECKED: E.V.H.



LEGEND

- | | |
|--|-------------------------------------|
| 1. ADMINISTRATION BUILDING | • I INJECTION WELL |
| 2. MAINTENANCE BUILDING | ⊙ BZ BOULDER ZONE MONITOR WELL |
| 3. MAIN CONTROL BUILDING | ⊙ FA FLORIDIAN AQUIFER MONITOR WELL |
| 4. CLARIFIERS | ⊙ BA BISCAYNE AQUIFER MONITOR WELL |
| 5. OXYGENATION TANKS | ⊙ WT WATER TABLE MONITOR WELL |
| 6. GRIT CHAMBERS | --- EXISTING PIPE LINE |
| 7. GRIT CHAMBER BUILDING | --- PROPOSED PIPE LINE |
| 8. ELECTRICAL DISTRIBUTION BUILDING | --- FUTURE PIPE LINE |
| 9. OXYGEN GENERATION BUILDING | --- FUTURE PIPE LINE |
| 10. CHLORINATION BUILDING | --- PROPOSED VALVE |
| 11. CHLORINE CONTACT TANK | |
| 12. EFFLUENT PUMP BUILDING | |
| 13. DIGESTION BUILDING | |
| 14. DIGESTER TANKS | |
| 15. CONCENTRATION TANKS | |
| 16. GAS STORAGE SPHERES | |
| 17. CONCENTRATOR BUILDING | |
| 18. WASTE RECEIVING STATION | |
| 19. INFLUENT METERING VAULT | |
| 20. GAS COMPRESSOR BUILDING | |
| 21. F. P. & L. CASEMENT | |
| 22. SLUDGE STORAGE BUILDING | |
| 23. MONITORING WELL SITES | |
| 24. INJECTION WELL SITES | |
| 25. PARKING AREAS | |
| 26. FILTRATE PUMP STATION | |
| 27. ELECTRICAL SUBSTATION | |
| 28. DIGESTER GAS ENGINE GENERATOR BUILDING | |

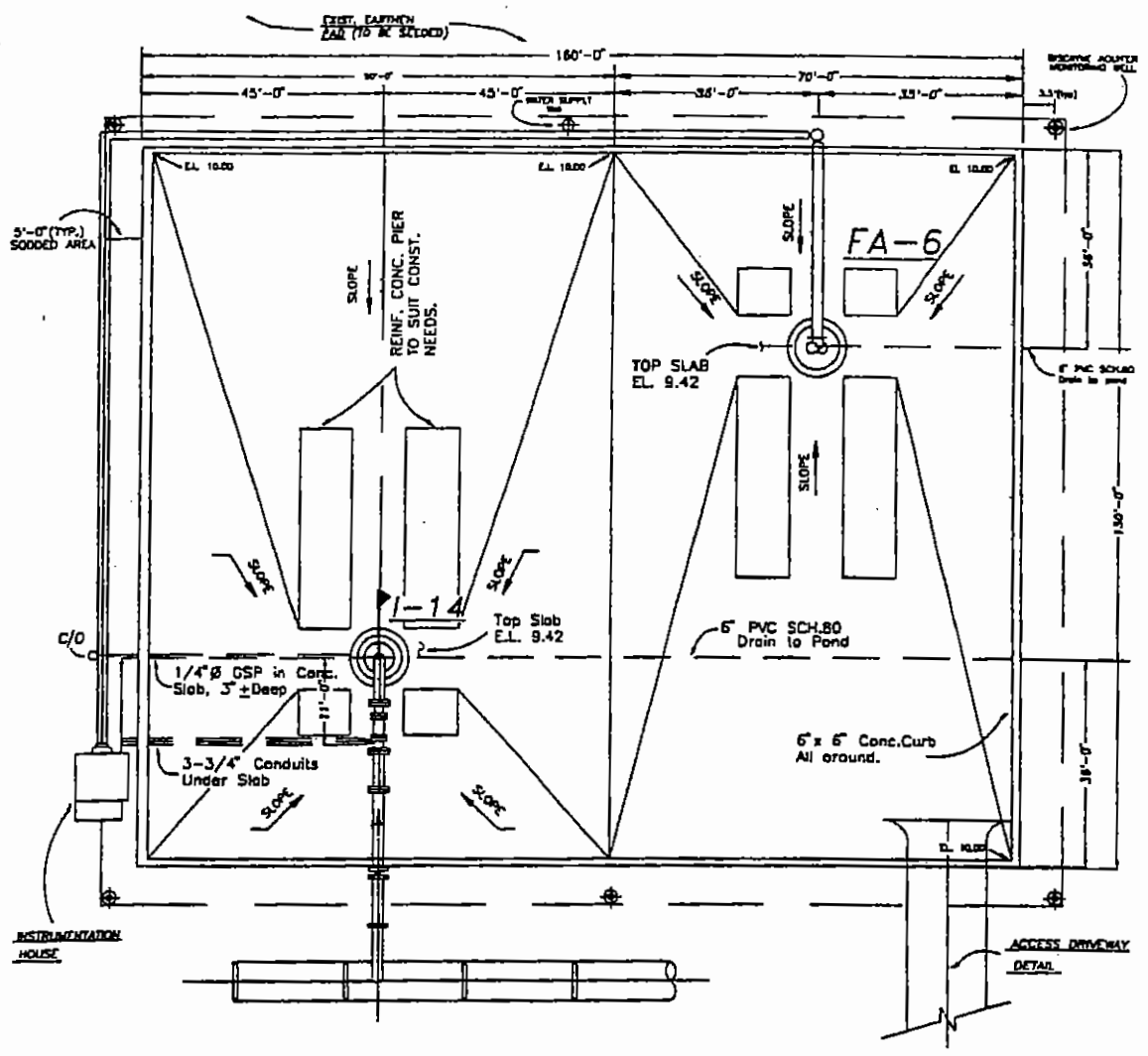
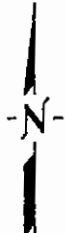
REV. NO.	DATE	DESCRIPTION	BY
1	4-10-90	ADDITION OF 'AS-BUILT' LOCATIONS (SEE P. 2)	DM
2	7-30-92	ADDITION OF INTERCONNECTIONS 'G', 'H' & 'I' (BY OTHERS)	SLP
3	7-11-91	ADDITION OF 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z'	AS

MIAMI DADE WATER AND SEWER AUTHORITY DEPARTMENT
 ENGINEERING DIVISION
 SOUTH DISTRICT WASTEWATER TREATMENT PLANT
 INJECTION WELLS NO. 1-13 THROUGH 1-17 AND 72-INCH EFFLUENT PIPING EXTENSION CONTRACT S-408

GENERAL PLAN			
APPROVED BY	DESIGNED BY	CHECKED BY	DATE
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	7-11-91
SHEET 2 OF 12 SHEETS		DRAWING NO. S-10053-A	
SCALE: 1" = 200'		DATE: 7-11-90	

☁ DENOTES TYPICAL 'AS-BUILT' INFORMATION. SEE ENG. INC.

**WELLS IW-14 and FA-6
As Built**



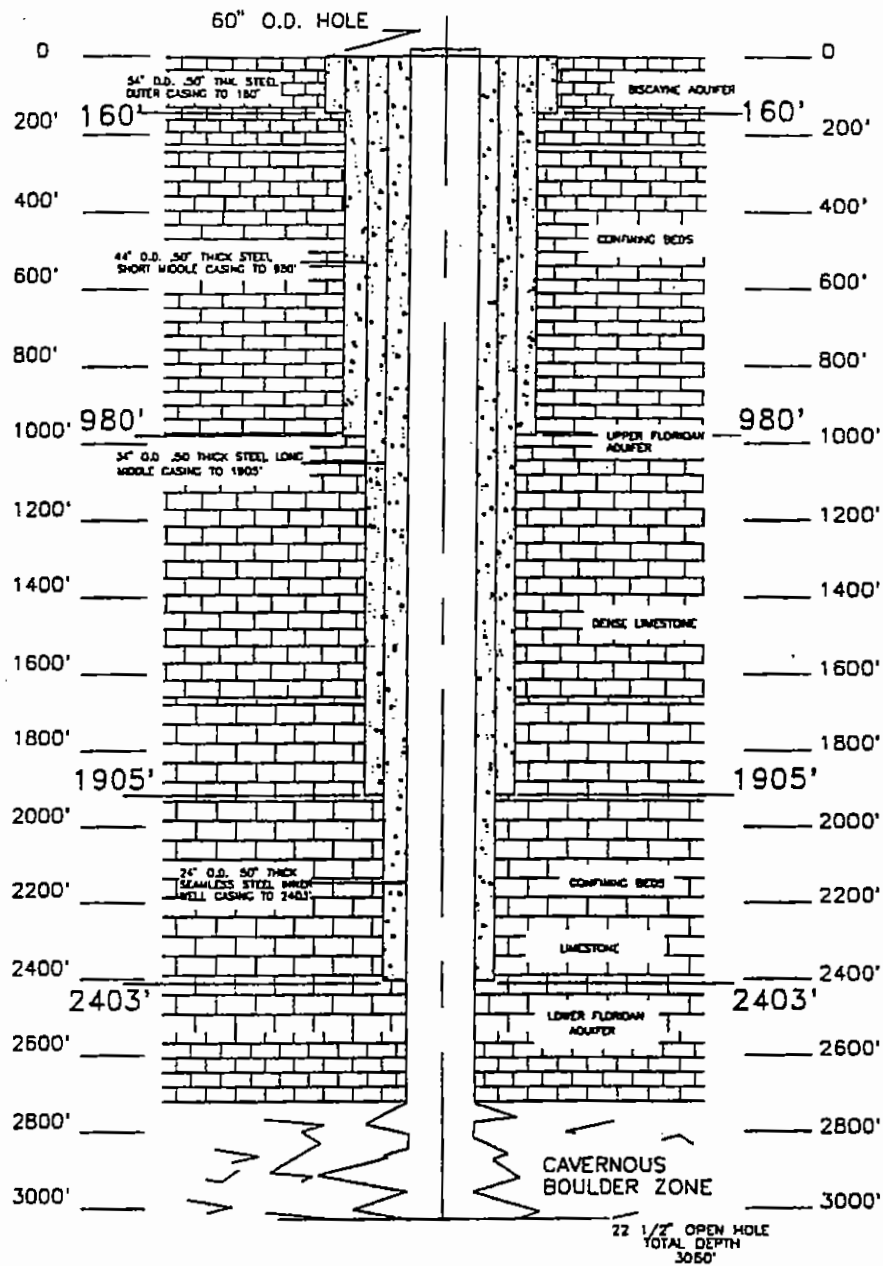
INJECTION (IW-14) AND FLORIDIAN AQUIFER MONITORING (FA-6) WELL

SCALE : 1" = 20'

DRAWN: ASB.
CHECKED: E.V.H.

[Handwritten signature]
D. L. K. L. A. N.

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP SITE PLAN FOR INJECTION WELL I-14 AND MONITOR WELL FA-6	
DATE: 08/23/94	SCALE: 1" = 20'



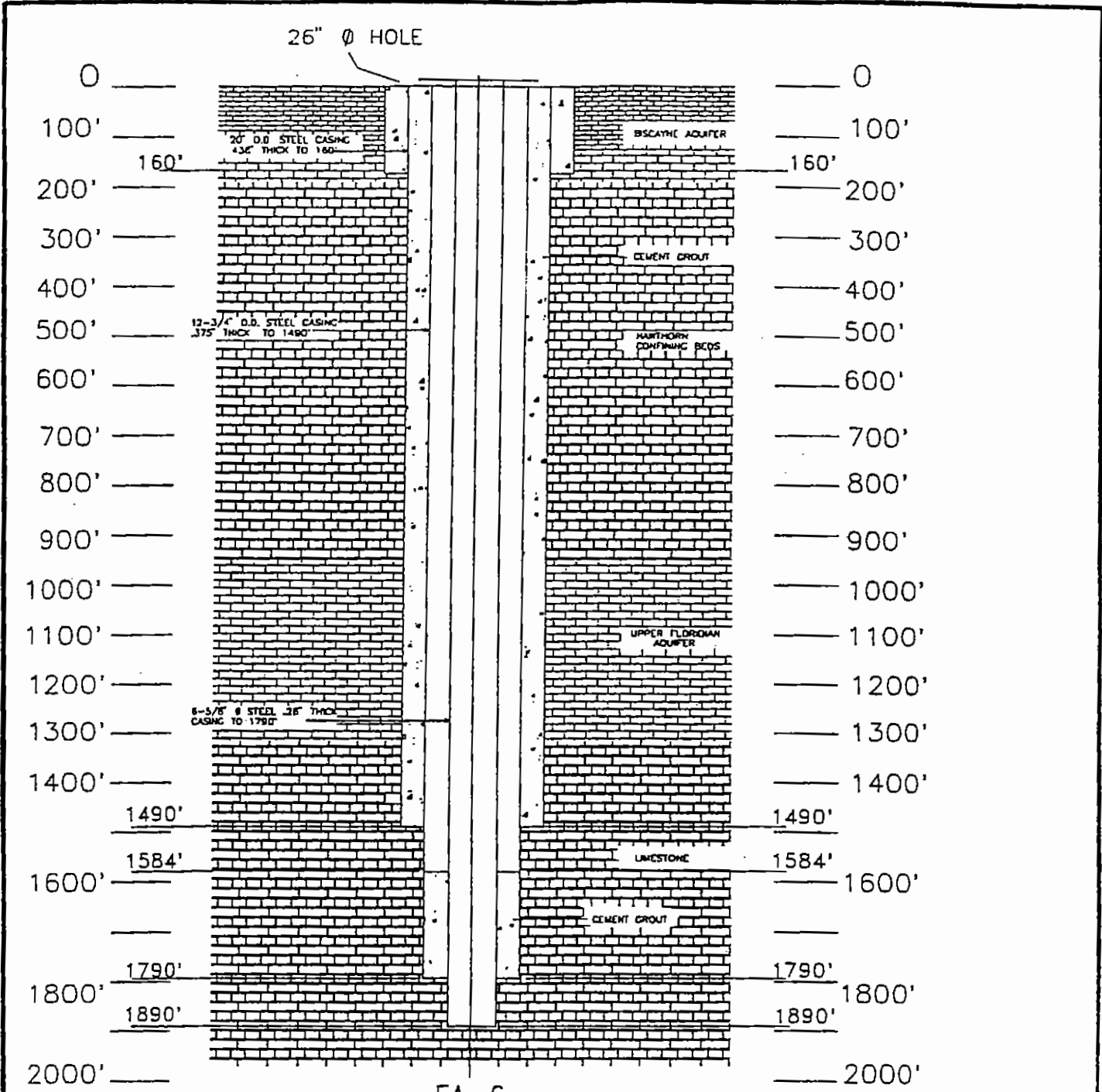
WELL DIAGRAM 1-14
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

S. J. [Signature]
8/25/94

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL 1-14 AS-BUILT DIAGRAM	
DATE: 08/23/94	SCALE: AS SHOWN

DRAWN: ASB.
CHECKED: E.V.H.



FA-6
FLORIDIAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM

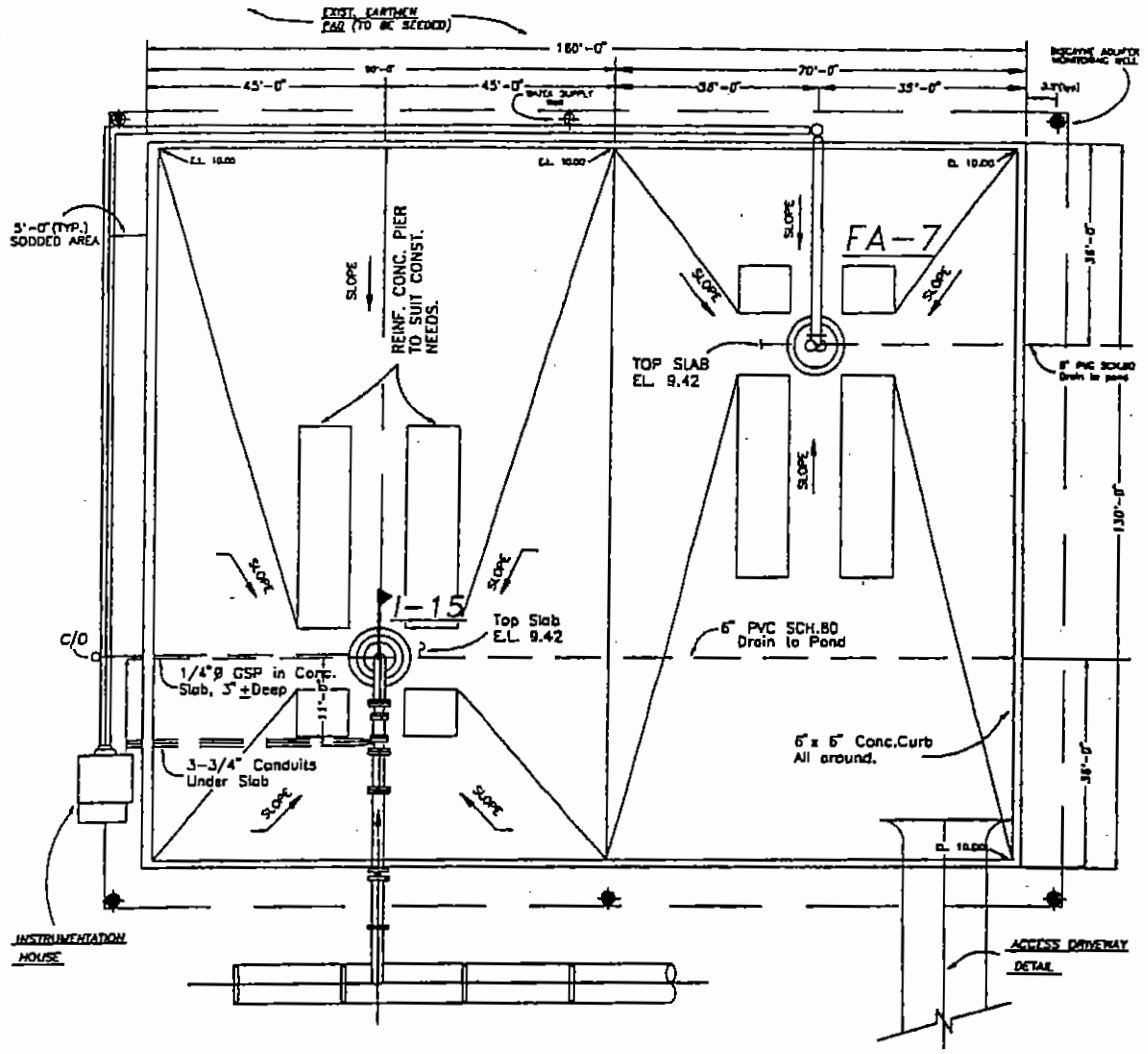
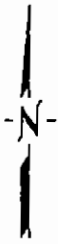
3/4" = 100' VERTICAL
 3/4" = 1' HORIZONTAL

DRAWN: ASH
 CHECKED: E.V.H.

[Signature]
 8/25/94

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP MONITOR WELL FA-6 AS-BUILT DIAGRAM	
DATE: 08/23/94	SCALE: AS SHOWN
UPDATE	

**WELLS IW-15 and FA-7
As Built**

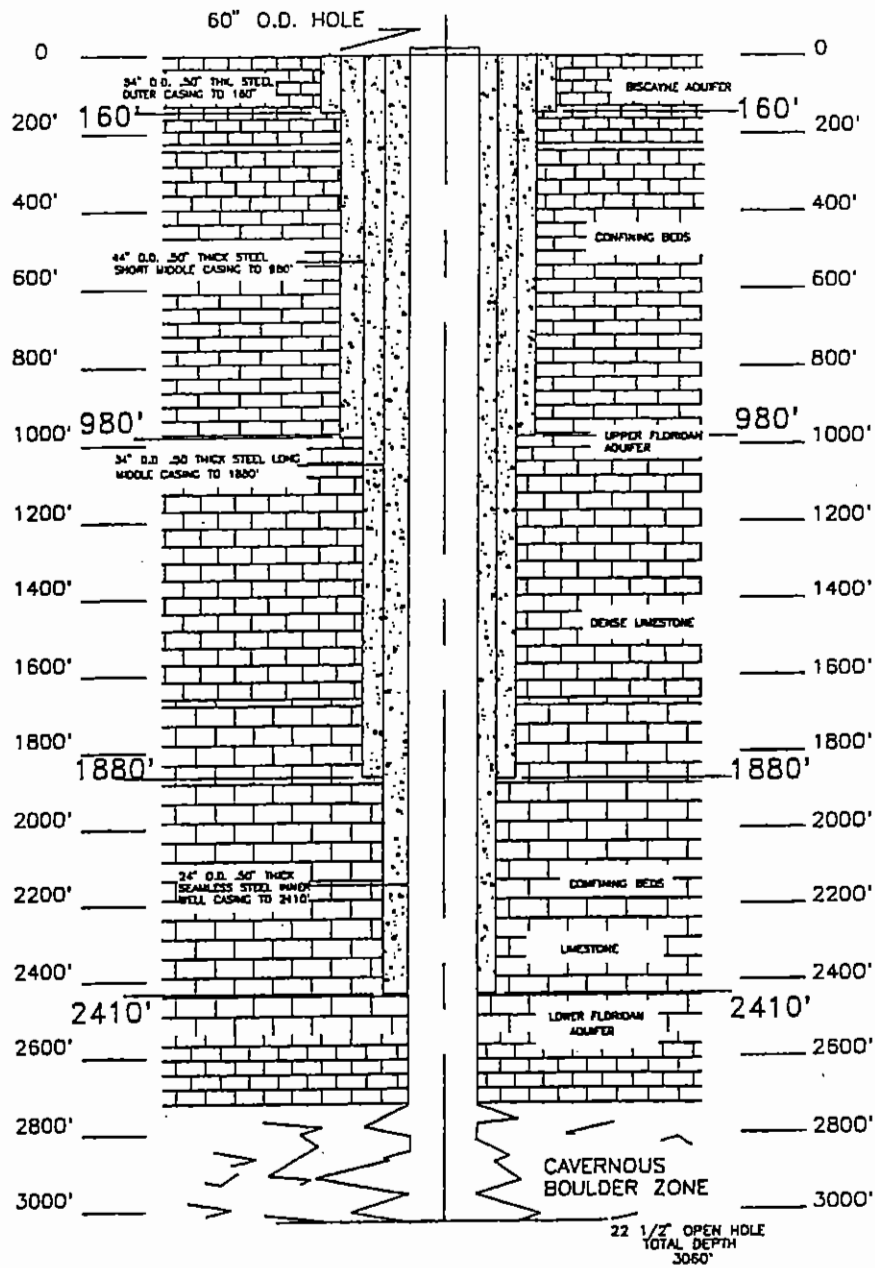


INJECTION (IW-15) AND FLORIDIAN AQUIFER MONITORING (FA-7) WELL
 SCALE : 1" = 20'

DRAWN: ASB
 CHECKED: E.V.H.

[Handwritten Signature]
 11/8/94

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP SITE PLAN FOR INJECTION WELL I-15 AND MONITOR WELL FA-7	
DATE: 10/28/94	SCALE: 1" = 20'



WELL DIAGRAM 1-15
(AS BUILT)

3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

*Includes
MIT
data*

DRAWN: ASB
CHECKED: E.V.M.

Handwritten signature and date: 11/6/94

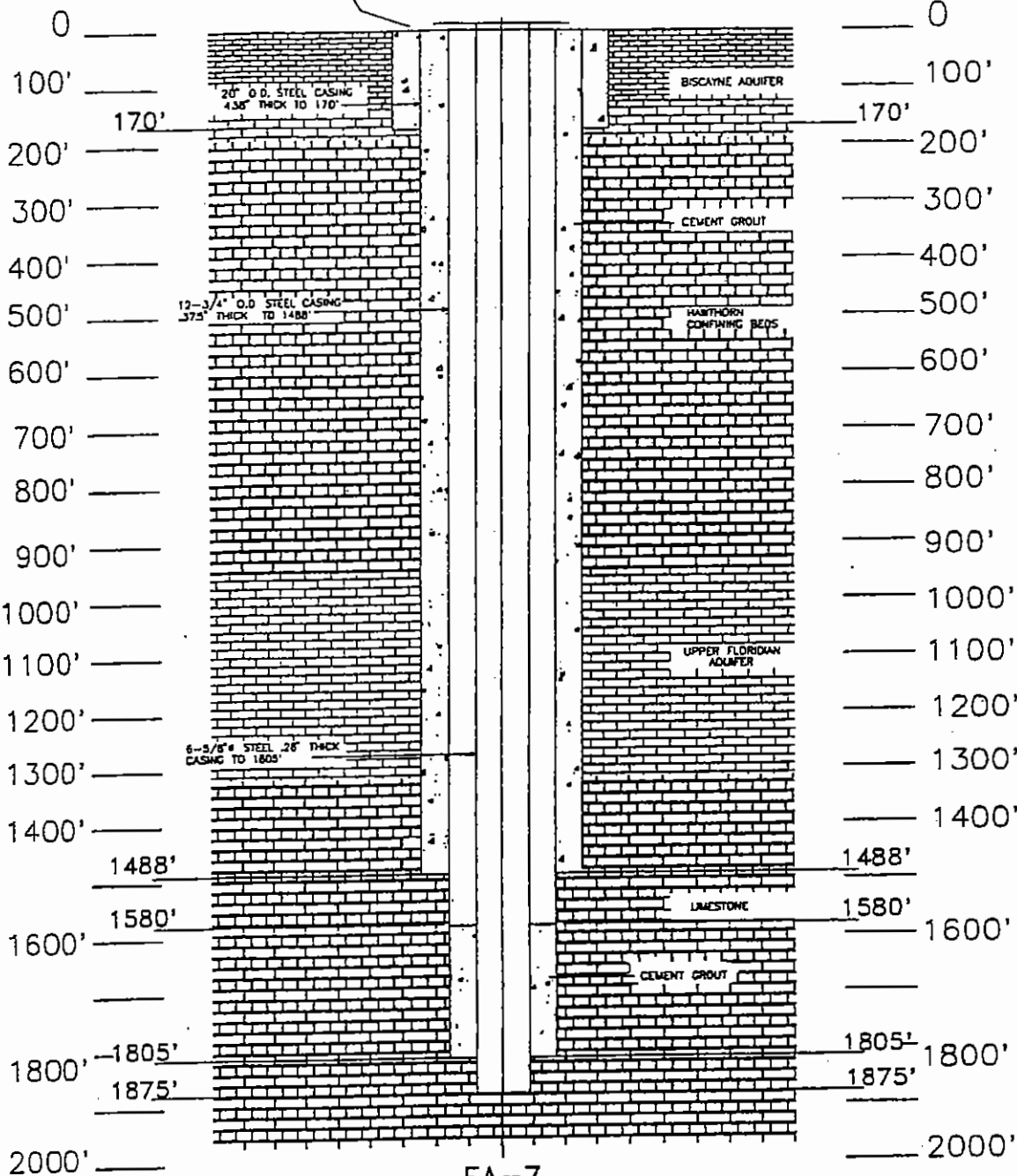
MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP INJECTION WELL 1-15
AS-BUILT DIAGRAM

DATE: 10/28/94

SCALE: AS SHOWN

26" Ø HOLE



**FA-7
FLORIDIAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM**

3/4" = 100' VERTICAL

3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP MONITOR WELL FA-7
AS-BUILT DIAGRAM

DATE: 10/28/94
UPDATE

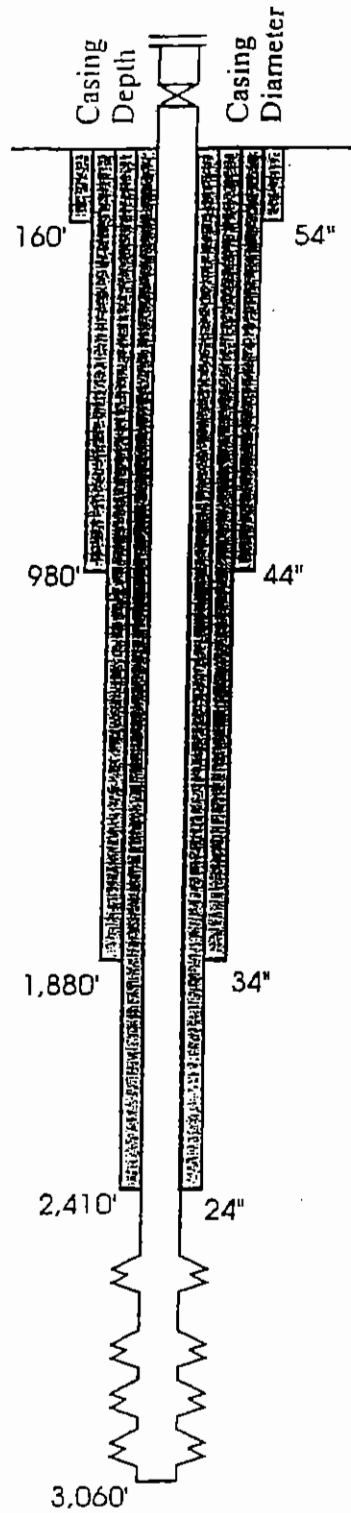
SCALE: AS SHOWN

DRAWN: ASB.
CHECKED: E.V.M.

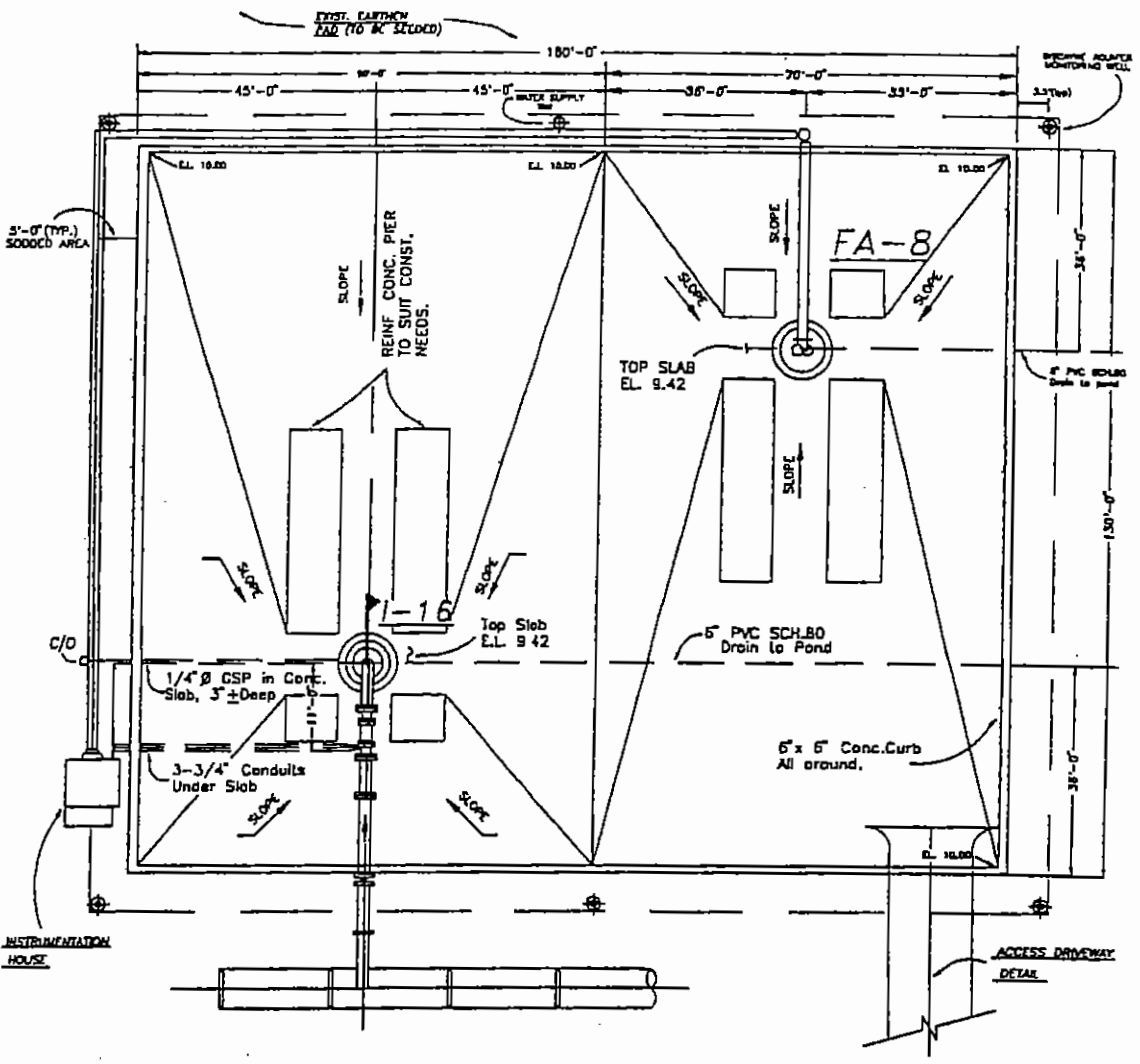
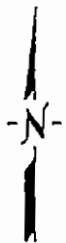
[Handwritten signature]
11/8/94

I - 15

Depth in
 Feet Below
 Land Surface



**WELLS IW-16 and FA-8
As Built**

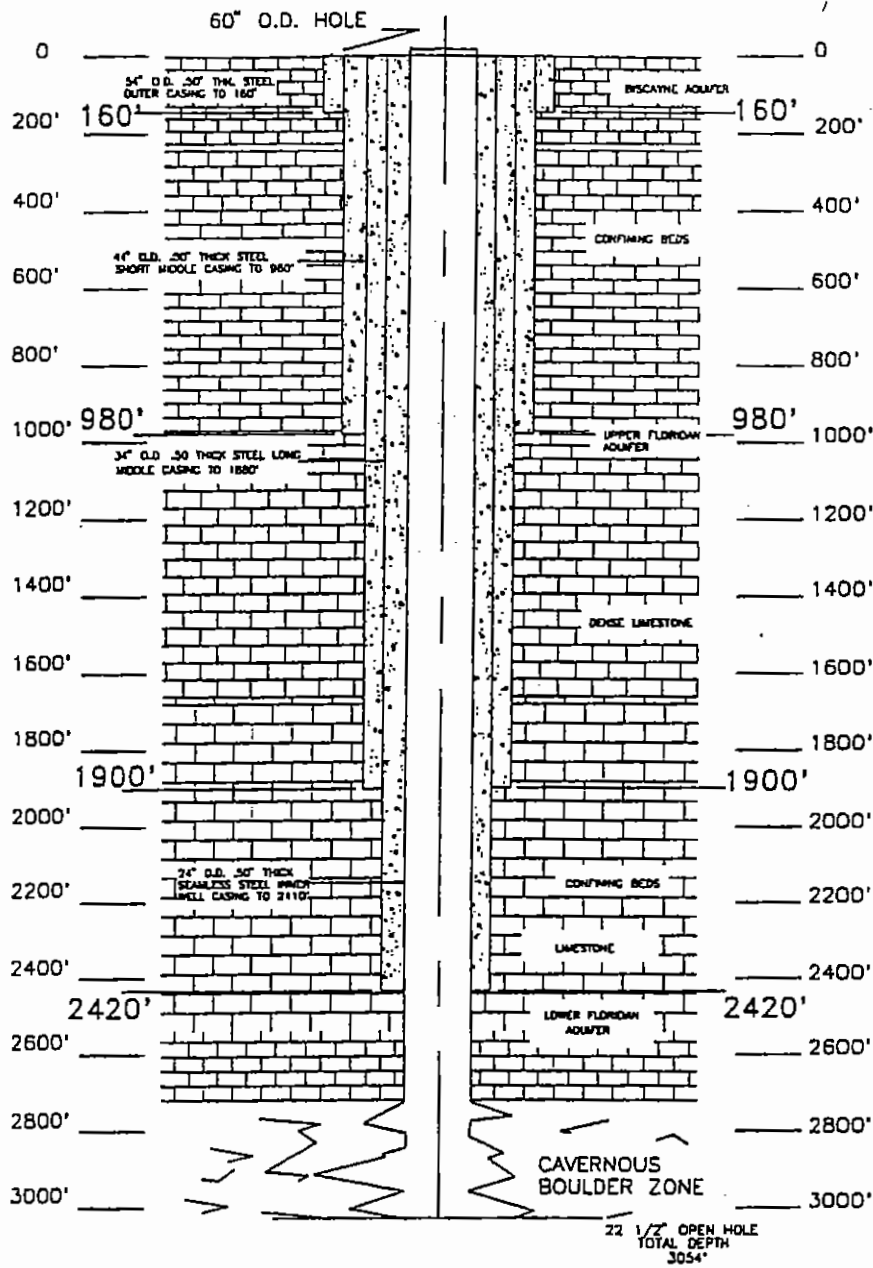


INJECTION (IW-16) AND FLORIDAN AQUIFER MONITORING (FA-8) WELL
 SCALE : 1" = 20'

DRAWN: ASB.
 CHECKED: E.V.H.

[Handwritten Signature]
 11/30/95

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP SITE PLAN FOR INJECTION WELL I-16 AND MONITOR WELL FA-8	
DATE: 01/30/95	SCALE:



WELL DIAGRAM I-16
(AS BUILT)

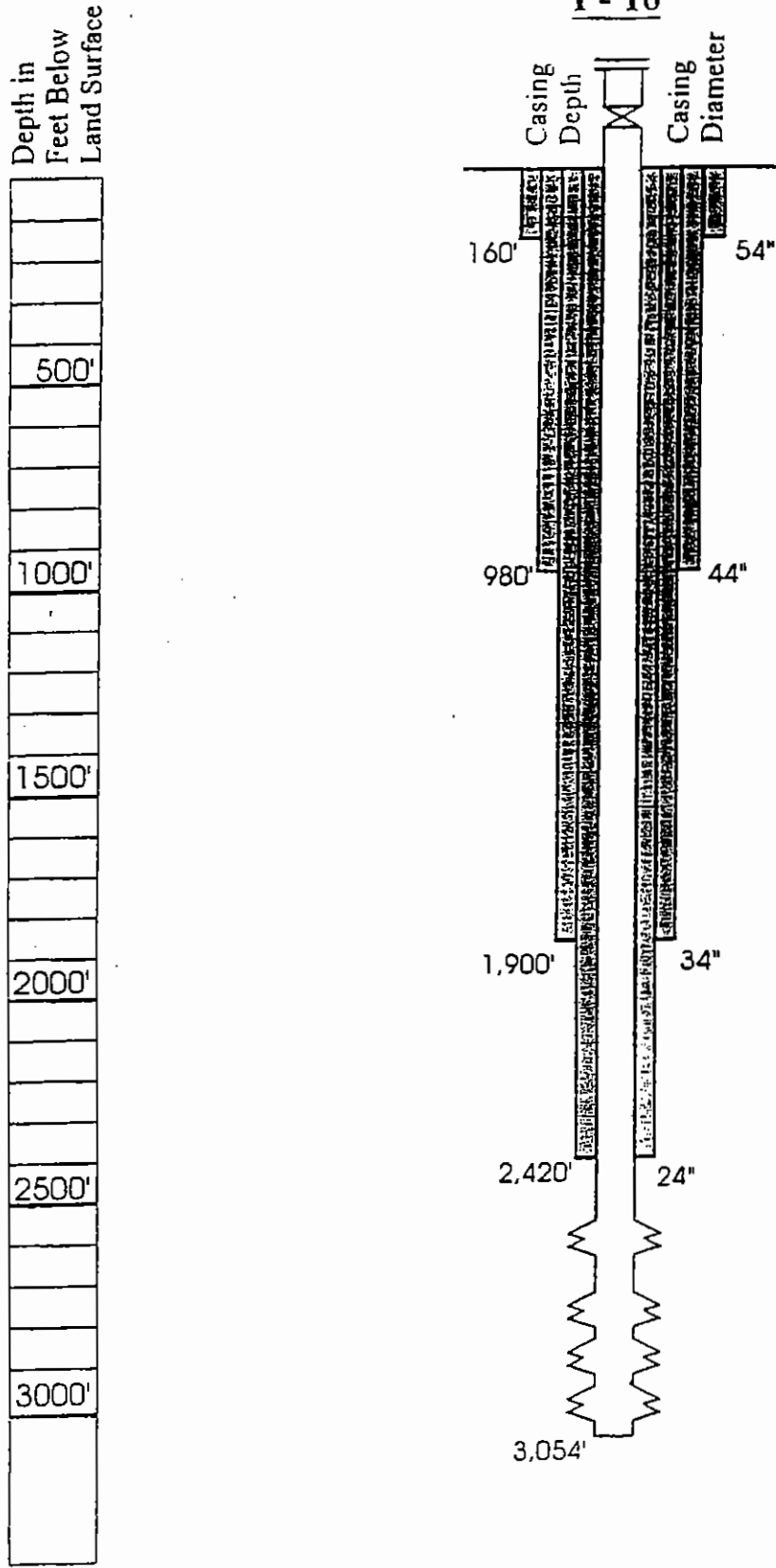
3/4" = 100' VERTICAL
3/4" = 1'-0" HORIZONTAL

[Handwritten signature]
1/30/95

DRAWN: ASB.
CHECKED: E.V.H.

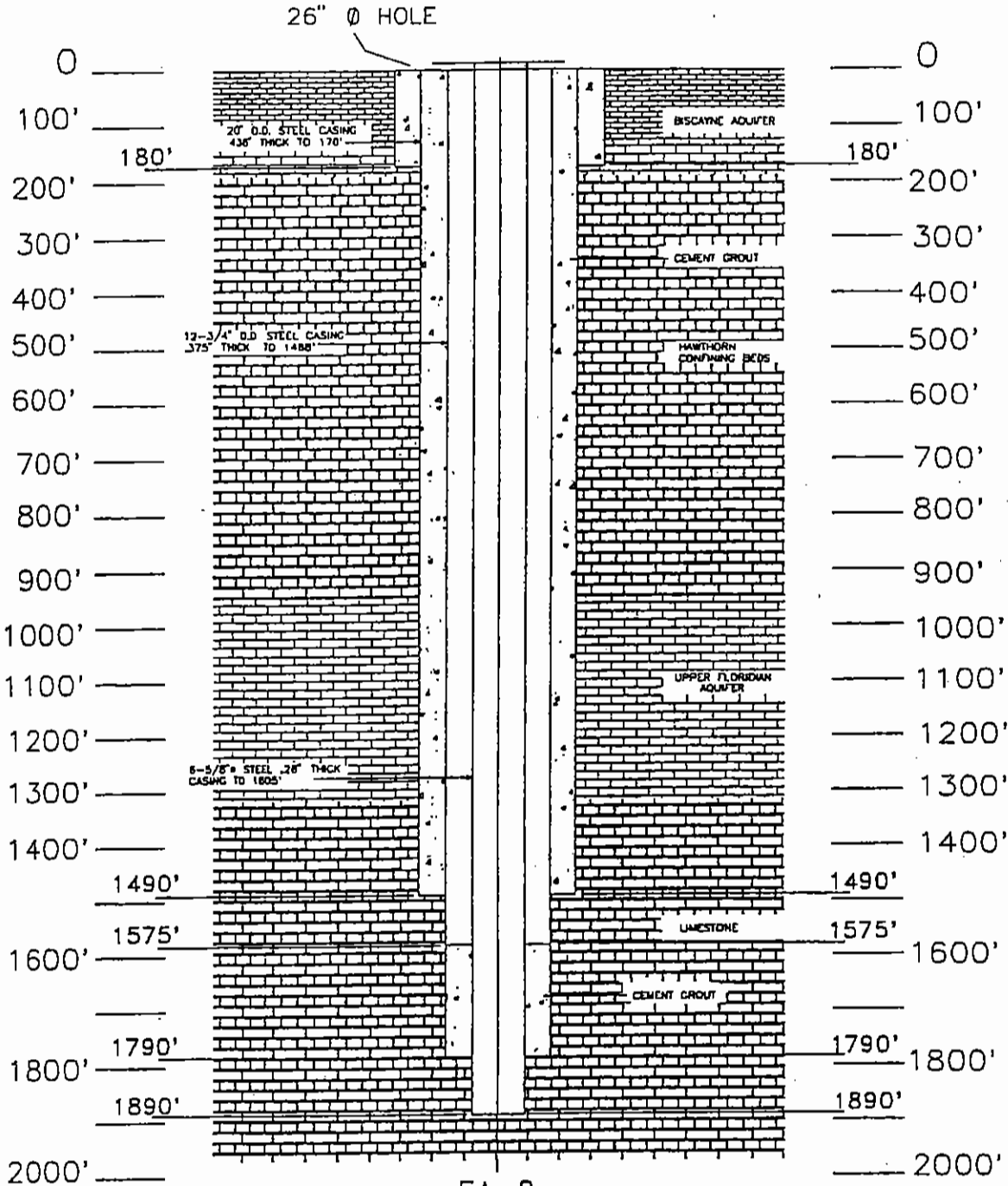
MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP INJECTION WELL I-16 AS-BUILT DIAGRAM	
DATE: 01/10/95	SCALE:

I - 16



4149X501 CDR

Revision 7
 10/24/96



**FA-8
FLORIDIAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM**

3/4" = 100' VERTICAL

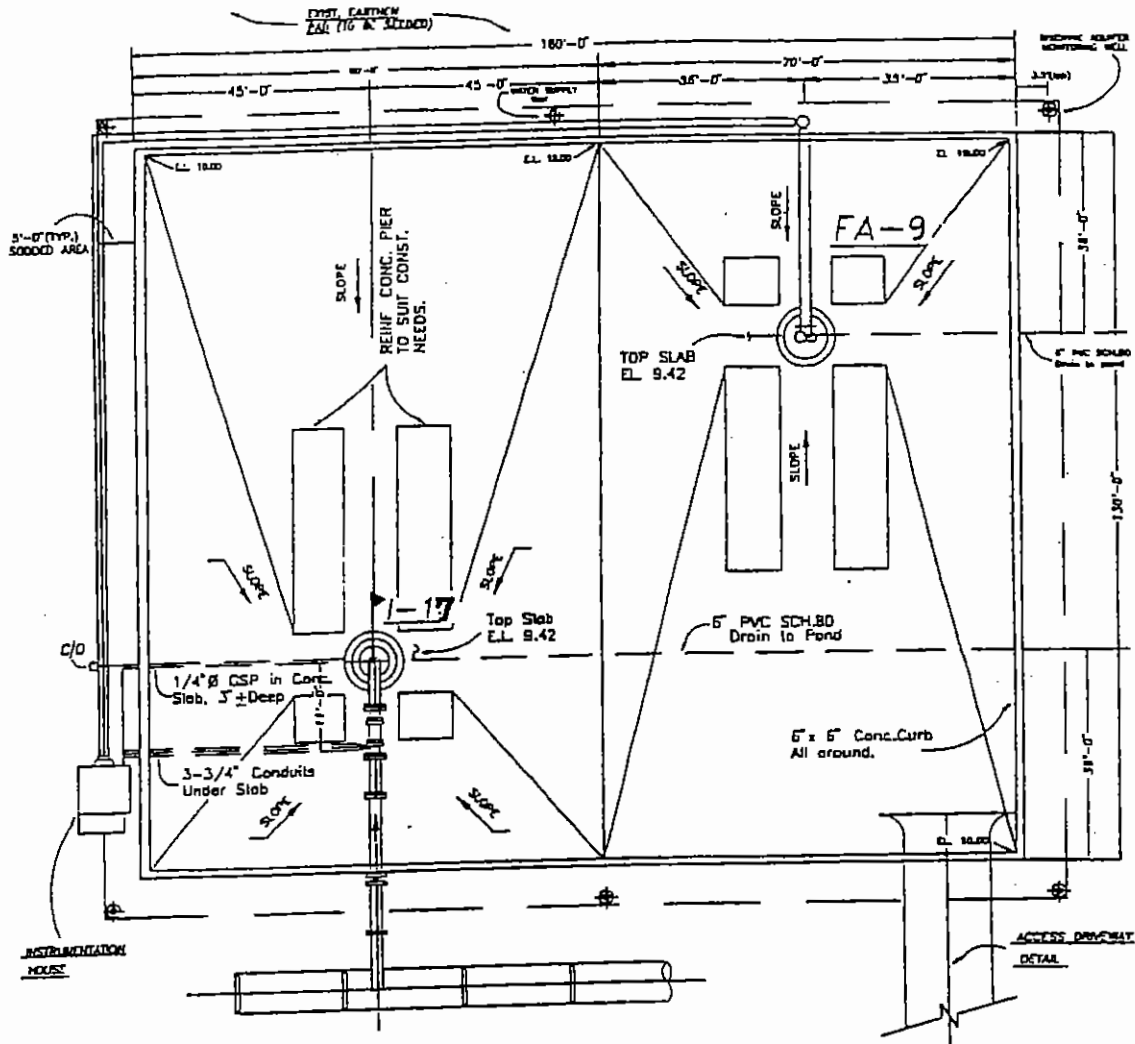
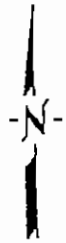
3/4" = 1' HORIZONTAL

[Handwritten Signature]
1/30/95

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP MONITOR WELL FA-8 AS-BUILT DIAGRAM	
DATE: 01/10/95	SCALE:
UPDATE	

DRAWN: ASB.
CHECKED: E.V.H.

**WELLS IW-17 and FA-9
As Built**

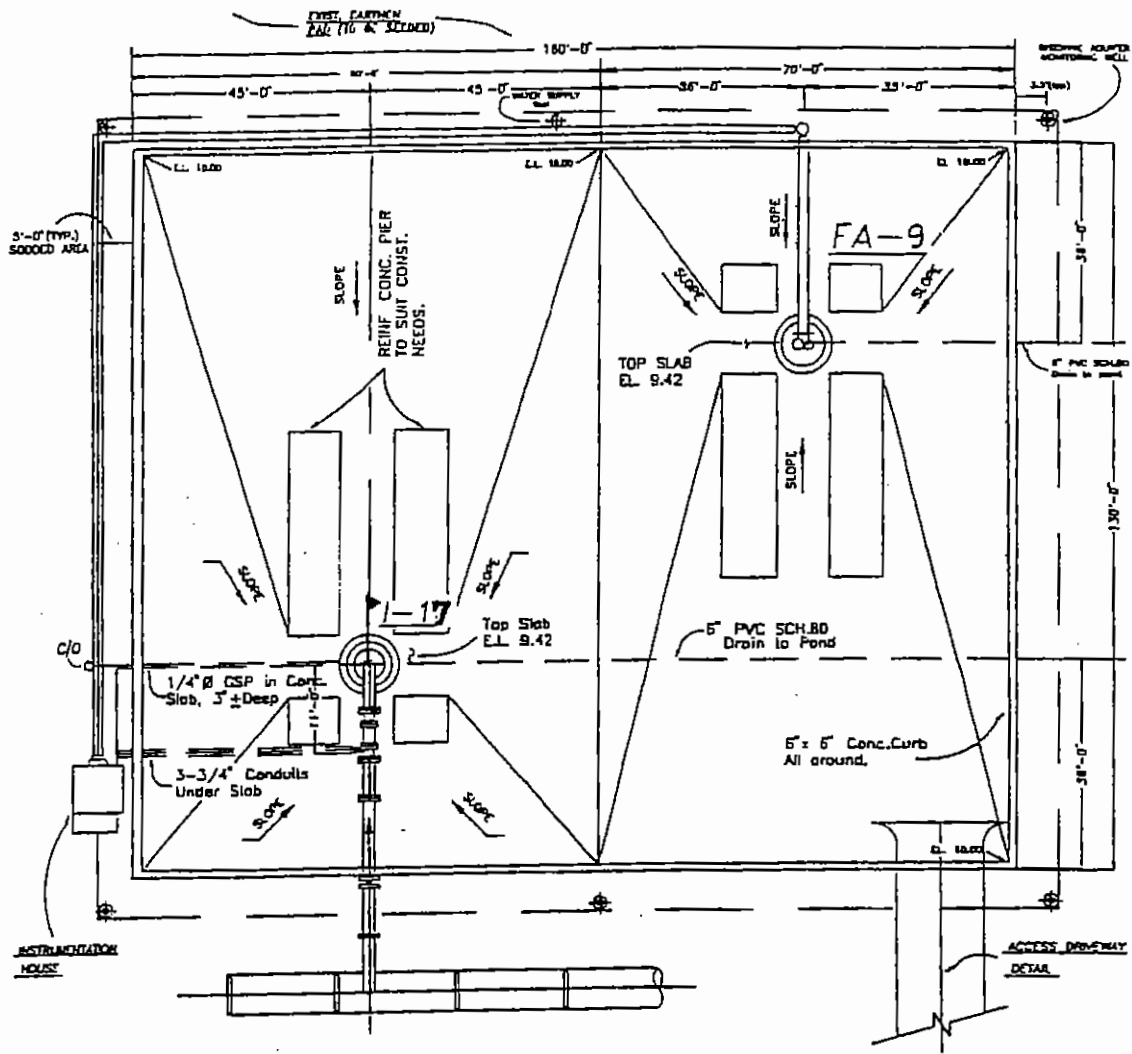
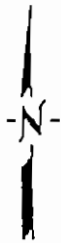


INJECTION (IW-17) AND FLORIDIAN AQUIFER MONITORING (FA-9) WELL
SCALE : 1" = 20'

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWWTP SITE PLAN FOR INJECTION WELL I-1.7 AND MONITOR WELL FA-9	
DATE: 08/23/94	SCALE: 1"=20'

[Handwritten Signature]
8/28/94

DRAWN: ASB
CHECKED: E.V.H.



INJECTION (IW-17) AND FLORIDIAN AQUIFER MONITORING (FA-9) WELL

SCALE : 1" = 20'

MIAMI-DADE WATER AND SEWER DEPARTMENT

SDWWTP SITE PLAN
FOR INJECTION WELL I-1.7
AND MONITOR WELL FA-9

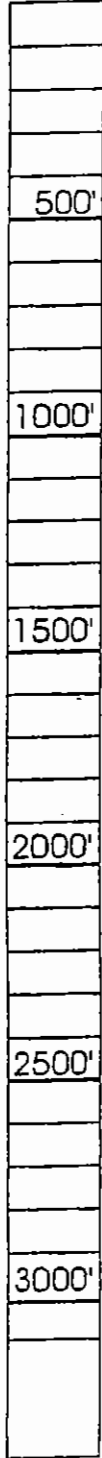
DATE: 08/23/94

SCALE: 1" = 20'

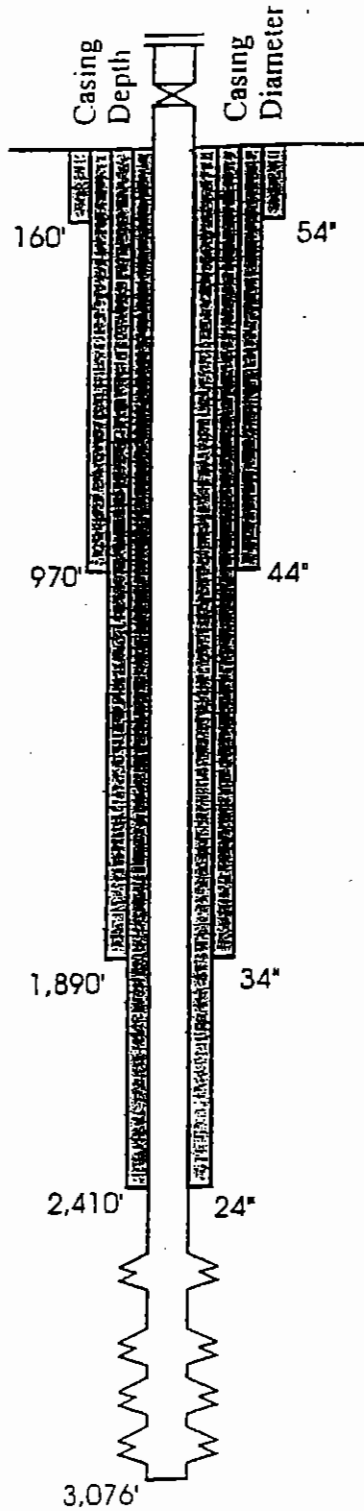
DRAWN: ASB.
CHECKED: E.V.H.

[Handwritten Signature]
8/28/94

Depth in
 Feet Below
 Land Surface



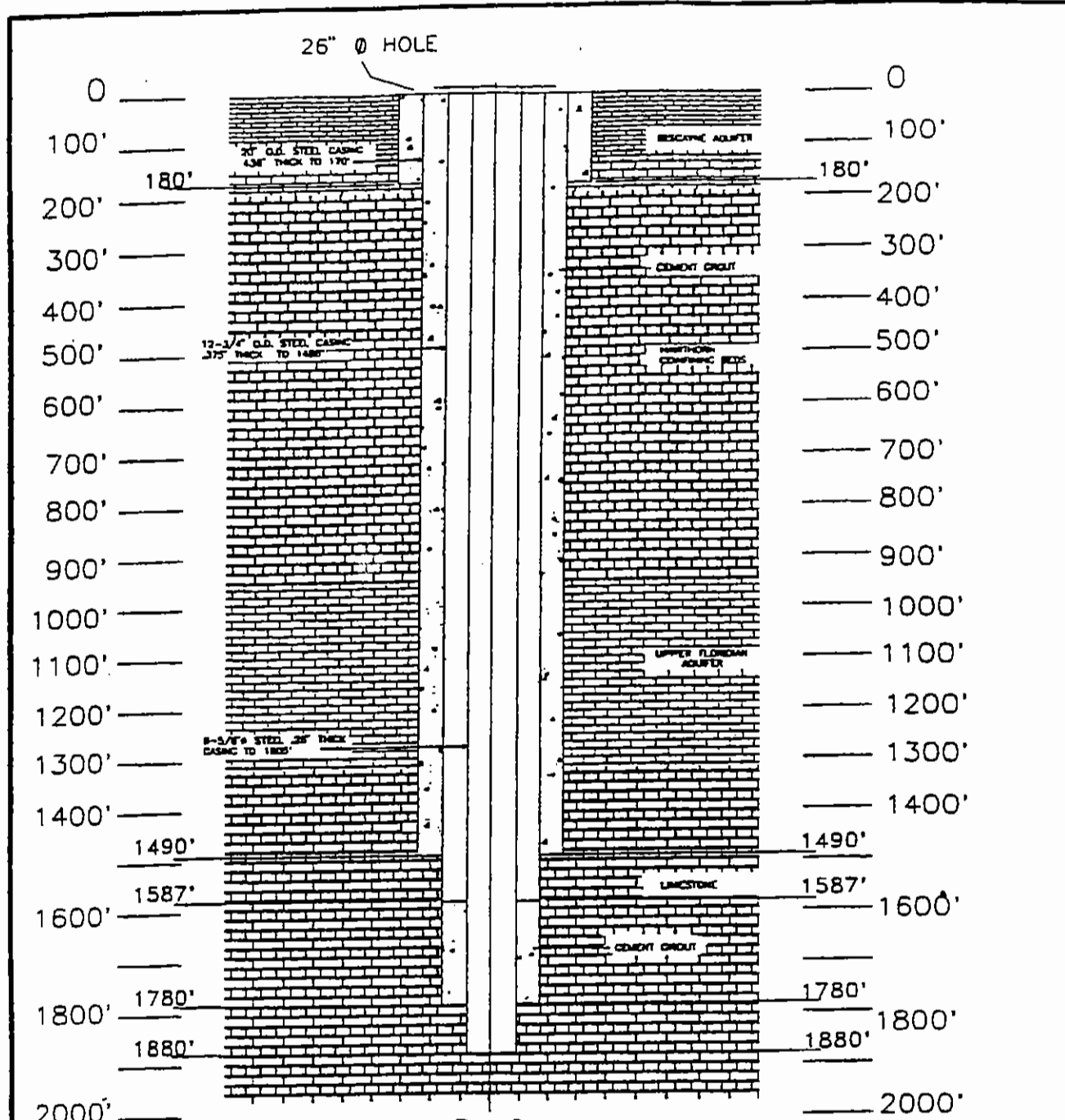
I-17



Revision 7
 10/24/96

South District WWTP

Summary of Well Design



FA-9
FLORIDAN AQUIFER MONITORING WELL
CONSTRUCTION DIAGRAM

3/4" = 100' VERTICAL
3/4" = 1' HORIZONTAL

MIAMI-DADE WATER AND SEWER DEPARTMENT	
SDWTP MONITOR WELL FA-9 AS-BUILT DIAGRAM	
DATE: 01/10/95	SCALE:
UPDATE	

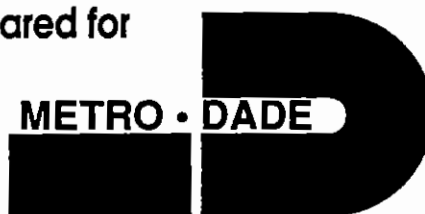
[Handwritten Signature]
3/30/95

Revision 7, 10/24/96

DRAWN: ASB.
CHECKED: E.V.H.

RE-RATING INJECTION WELL CAPACITY AT THE SOUTH DISTRICT WASTEWATER TREATMENT PLANT

Prepared for



**MIAMI - DADE WATER AND
SEWER DEPARTMENT**

Prepared by

CH2M HILL

FLW36668.B0.14

February 1994

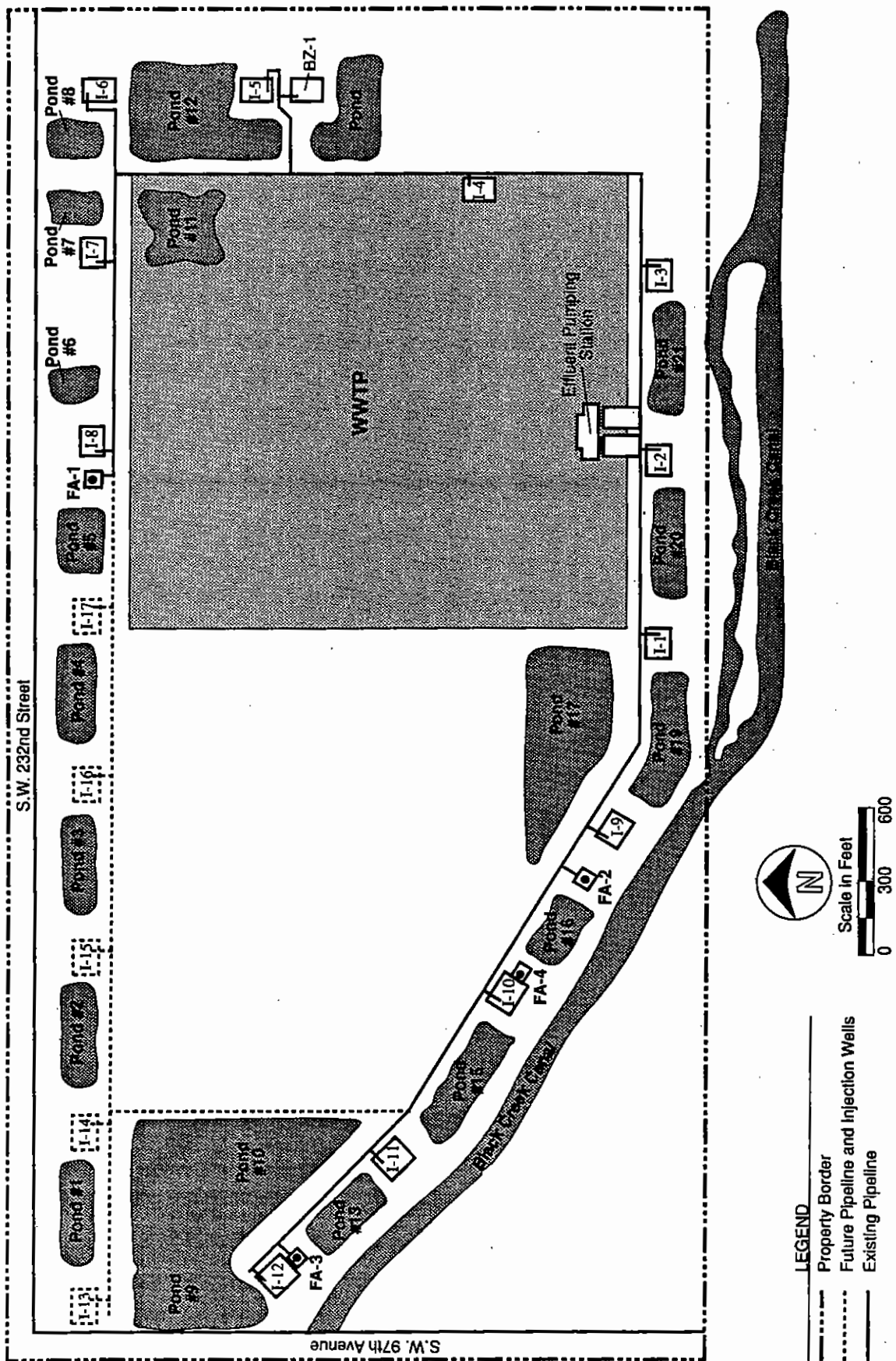


FIGURE 1. Miami-Dade South District Effluent Pumping Station and Injection Wells.

**Table 1
Injection Well System**

Injection Well	Permit No.	Test Pressure		Pressure (psi)	Permitted Capacity (mgd)
		Date	(psi)		
I-1	UO 13-160339	12/88	104.1	69	15
I-2	UO 13-160340	12/88	105.1	69	15
I-3	UO 13-160341	12/88	106.3	70	15
I-4	UO 13-160342	12/88	107.7	71	15
I-5	UO 13-160343	12/88	108.2	71	10.2
I-6	UO 13-160344	12/88	106.7	71	15
I-7	UO 13-160345	12/88	108.4	69	15
I-8	UO 13-160346	12/88	106.0	70	15
I-9	UO 13-160347	12/88	100.0	66	15
I-10	UC 13-146302	9/90	150.0	99	15
	UO 13-221264	(Operating Permit)			
I-11	UC 13-146303	7/90	100.0	66	15
	UO 13-221265	(Operating Permit)			
I-12	UC 13-146304	10/89	150.0	99	15
	UO 13-221266	(Operating Permit)			
I-13	UC 13-193526	Under Construction	15		
I-14	UC 13-193527	Under Construction	15		
I-15	UC 13-193528	Under Construction	15		
I-16	UC 13-193529	Under Construction	15		
I-17	UC 13-193530	Under Construction	15		

Notes:

psi = pounds per square inch
mgd = million gallons per day