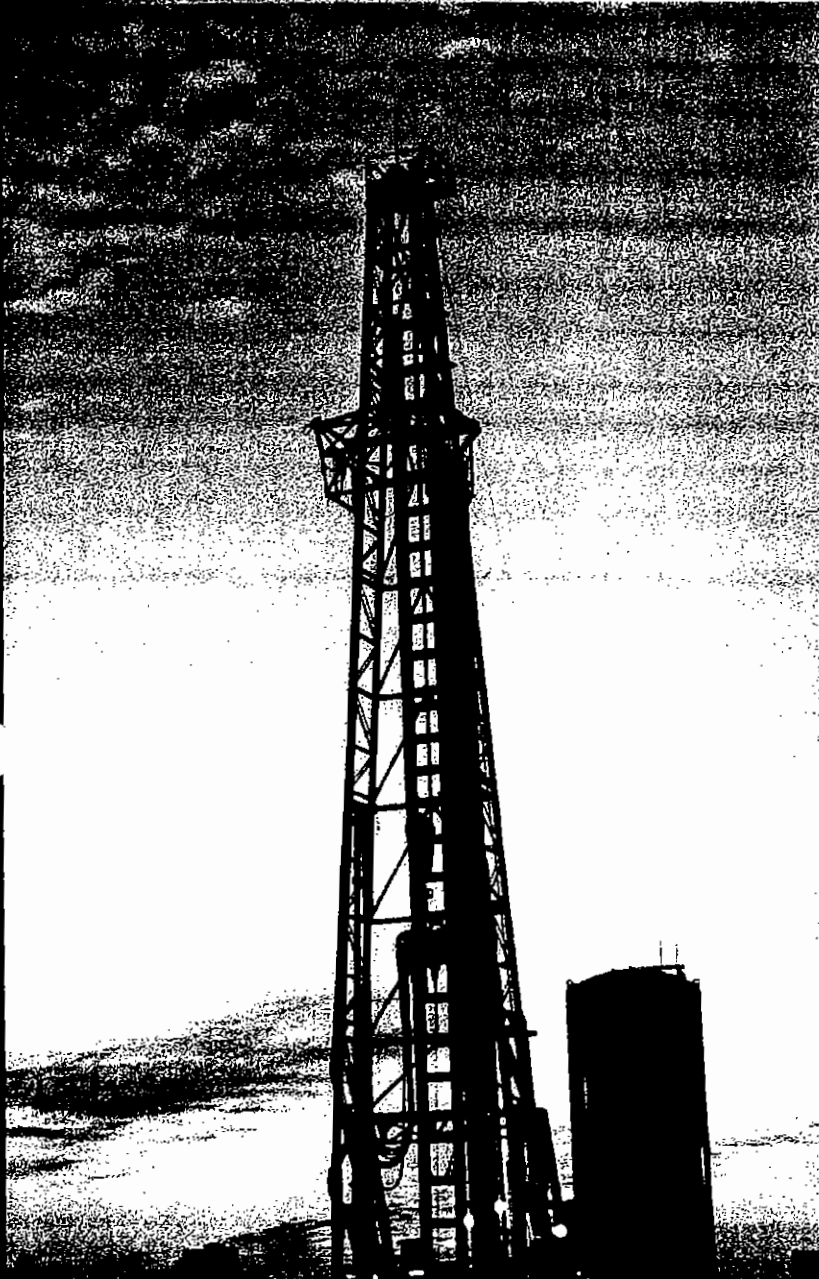


Broward County North District Regional

Class I Injection Facility No. 51

# Completion Report

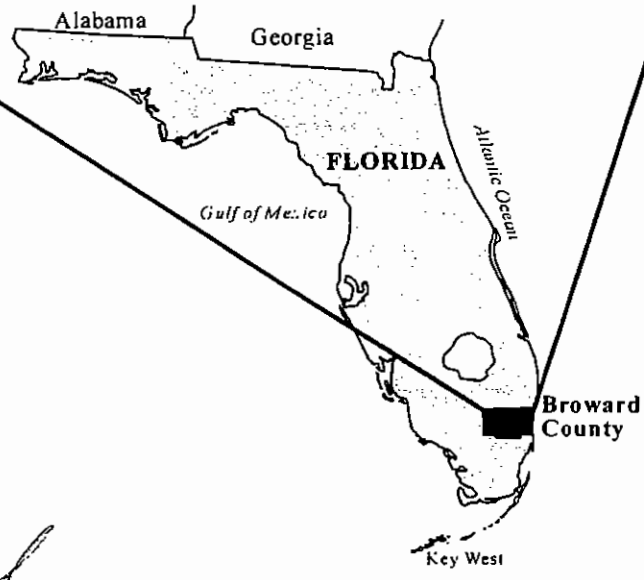
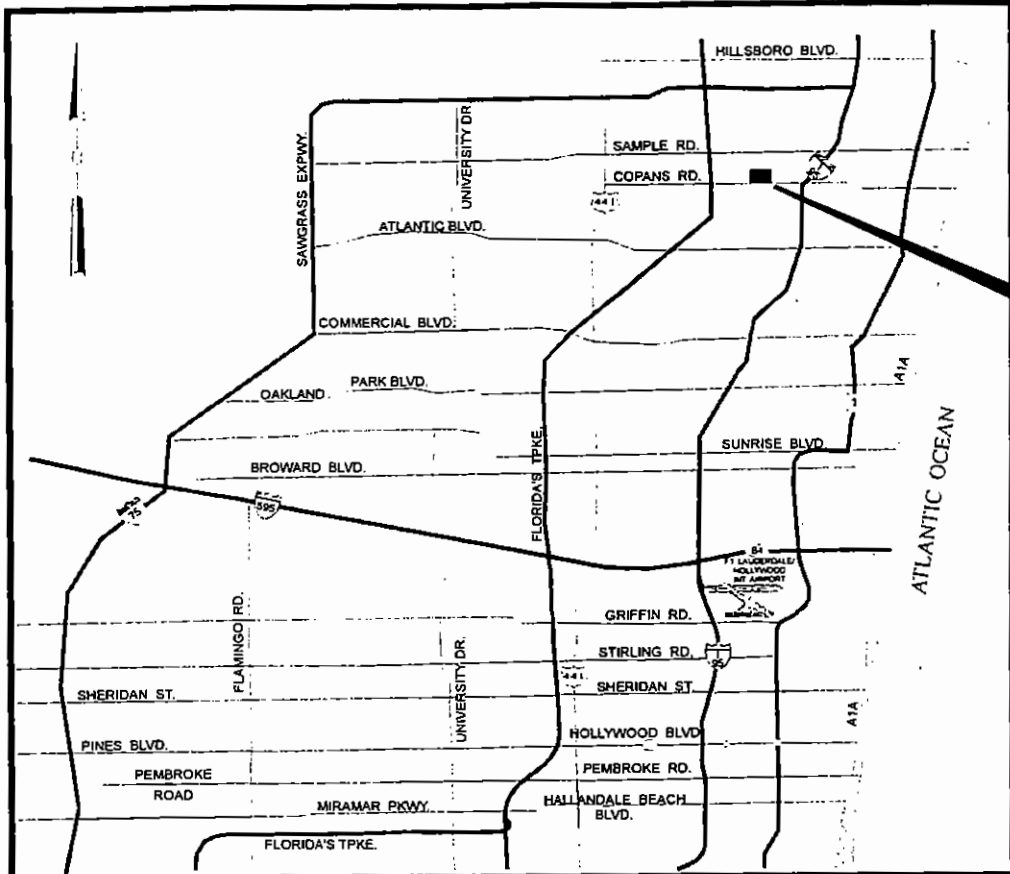


## Injection Wells 5 and 6 Construction Completion Report North Regional Wastewater Treatment Plant

July 2000

**HAZEN AND SAWYER**  
Environmental Engineers & Scientists

**Broward County**  
Office of Environmental Services



*Michael W. Wengrenovich*  
**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939 *02/20*

**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists  
 4000 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
 (854) 987-0066



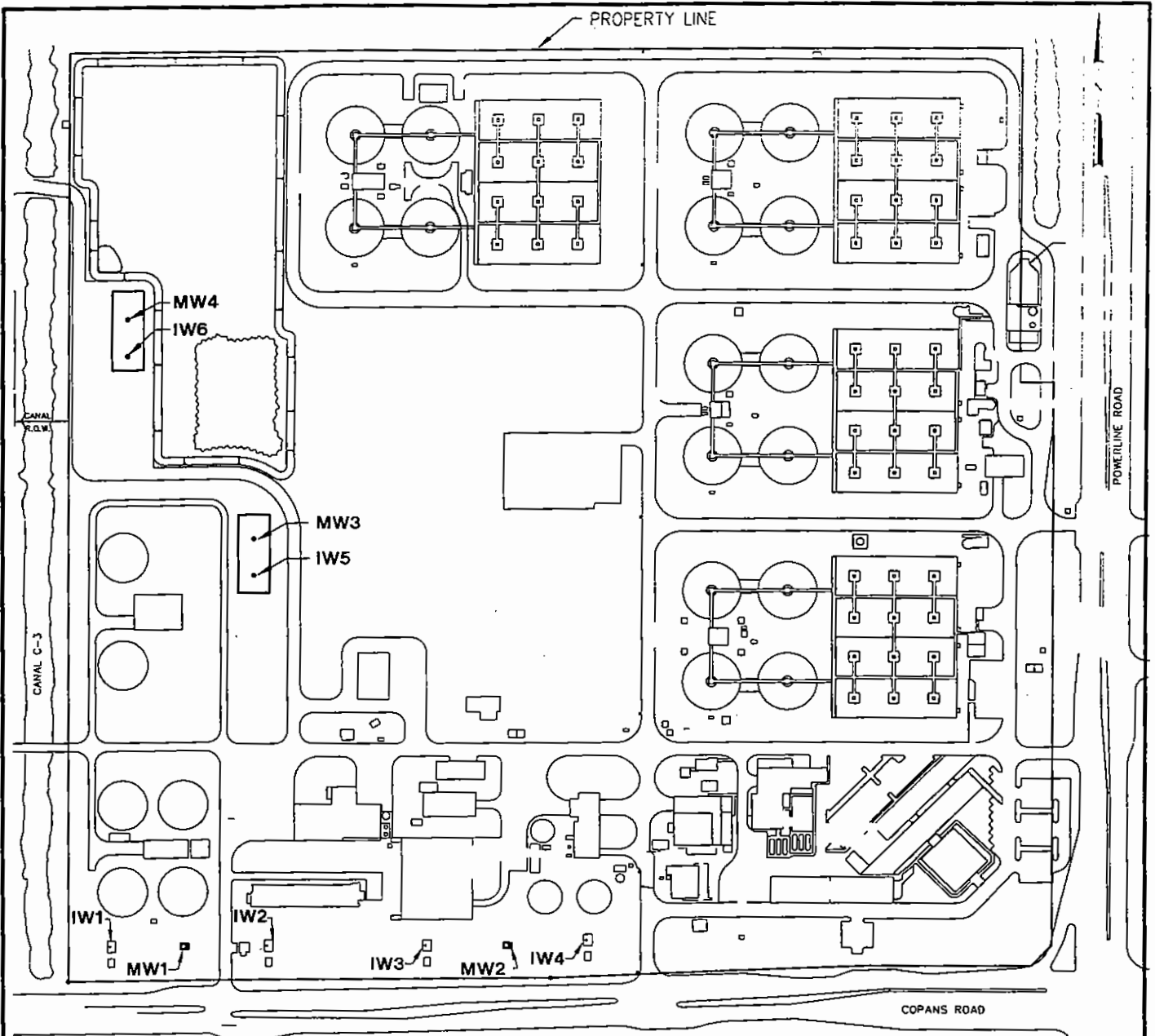
INJECTIONS WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

LOCATION MAP

FIGURE

1

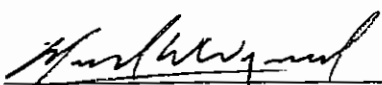
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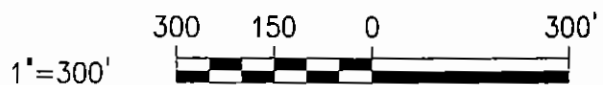


**BROWARD COUNTY NORTH REGIONAL WWTP**

**WELL LOCATION**

WELL	LATITUDE	LONGITUDE
IW5	N 26° 15' 45"	W 80° 09' 24"
IW6	N 26° 15' 49"	W 80° 09' 27"
MW3	N 26° 15' 46"	W 80° 09' 24"
MW4	N 26° 15' 49"	W 80° 09' 27"

  
**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939 *B/r/a*



**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists  
 4000 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
 (954) 987-0066

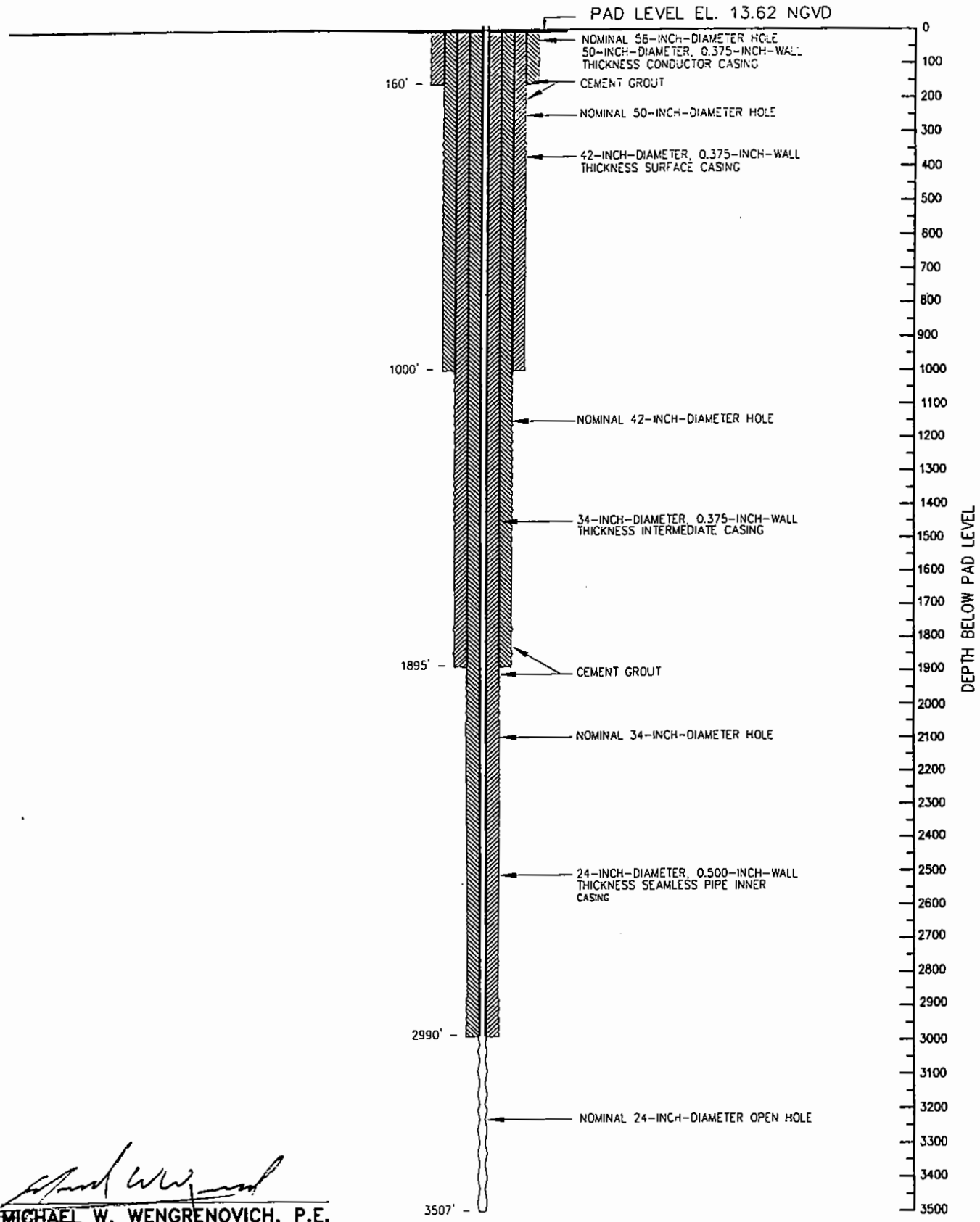


INJECTION WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

**WELL LOCATION  
AS-BUILT SITE PLAN**

FIGURE  
**2**

\\4599\EX-113\we15-6\4598x3.dwg - XREFS: - PS 1=1



*Michael W. Wengrenovich*  
**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939 *8/2/00*

**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists  
 4000 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021



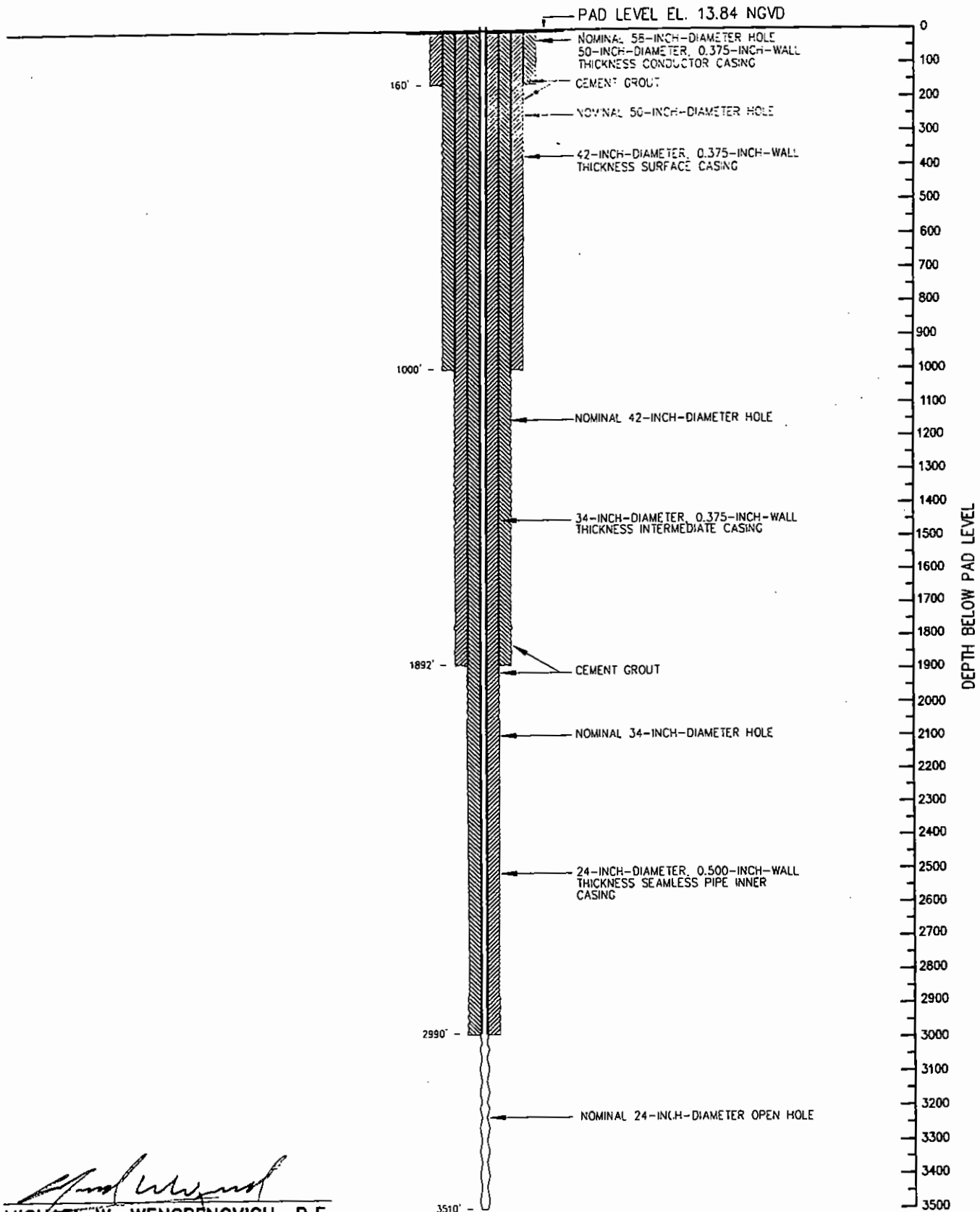
INJECTION WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

**IW5 AS-BUILT WELL PROFILE**

FIGURE

**3**

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*Michael W. Wengrenovich*  
**MICHAEL W. WENGRENOVICH, P.E.**  
Registration No. 34939  
9/2/00

**HAZENAND SAWYER**  
Environmental Engineers & Scientists  
4000 Hollywood Boulevard, Suite 750N  
Hollywood, Florida 33021  
(954) 987-0066

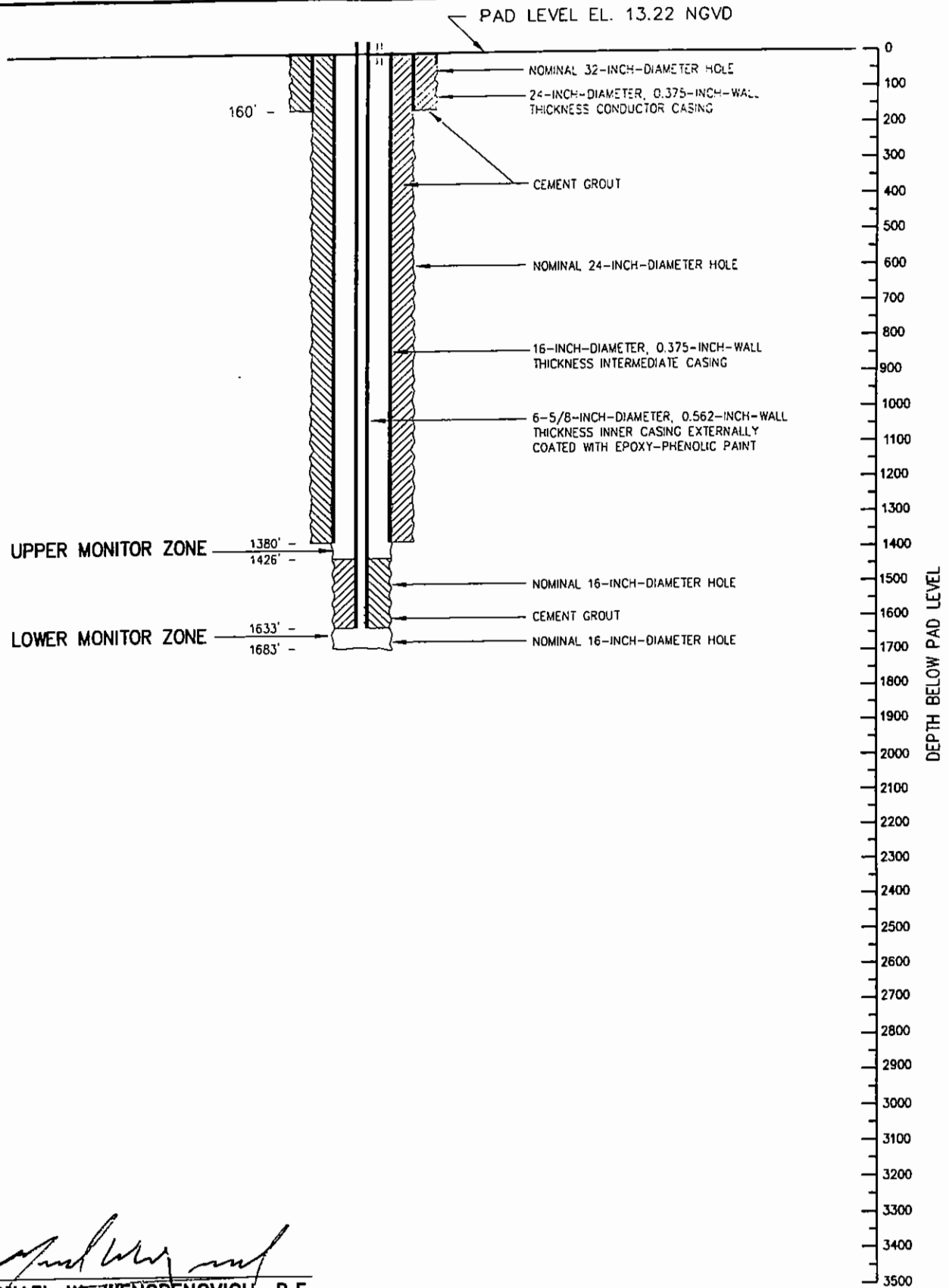


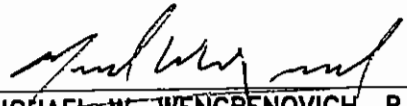
INJECTION WELLS IW5 AND IW6 COMPLETION  
BROWARD COUNTY NORTH REGIONAL WWTP

**IW6 AS-BUILT WELL PROFILE**

FIGURE  
**4**

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**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939 8/2/00

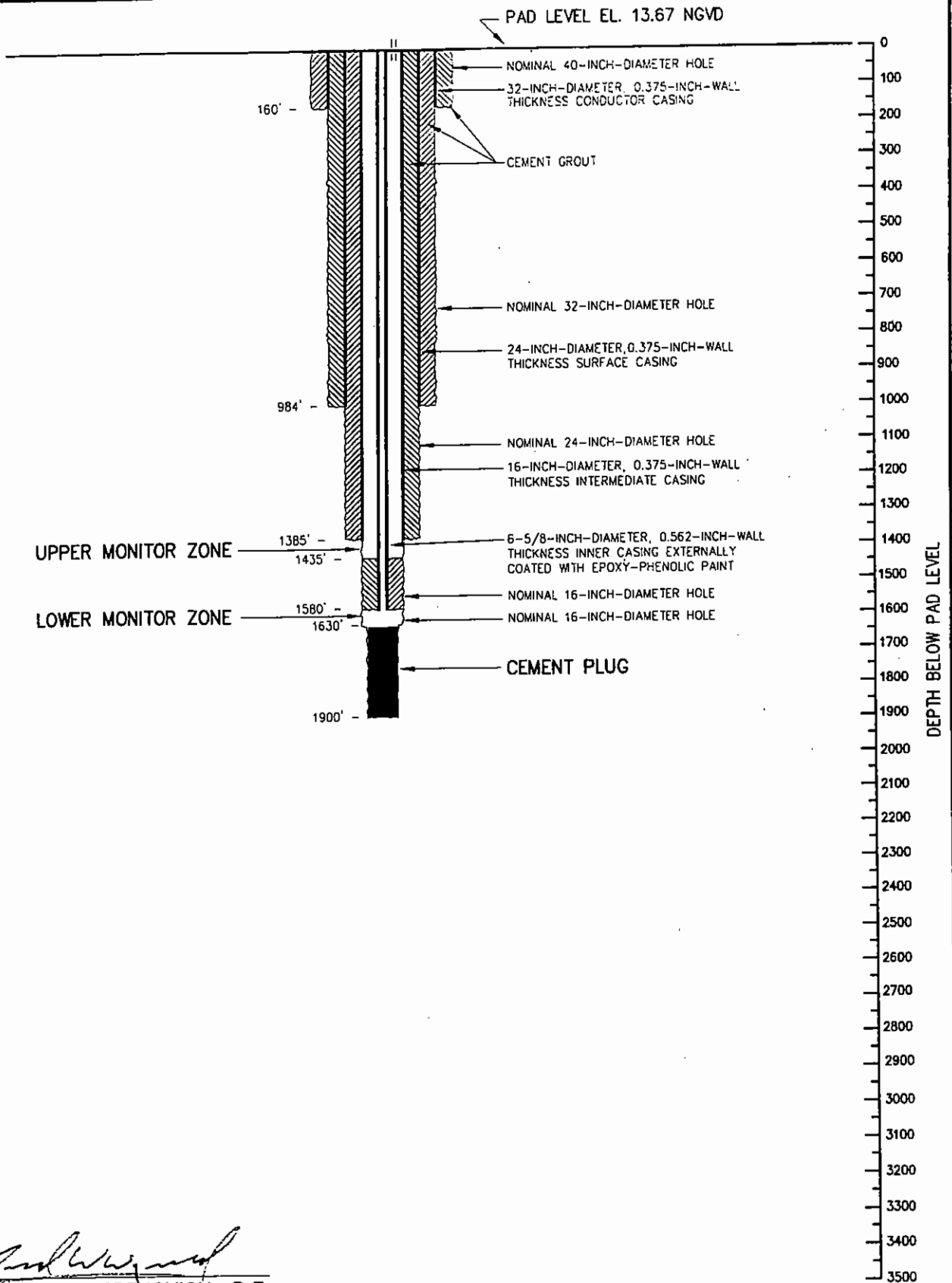
**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists  
 4000 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
 (954) 987-0066



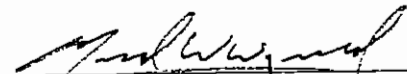
INJECTION WELLS IW5 AND IW6 COMPLETION  
BROWARD COUNTY NORTH REGIONAL WWTP

**MW3 AS-BUILT WELL PROFILE**

FIGURE  
**5**



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**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939      8/2/00

**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists

4000 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
 (954) 987-0066



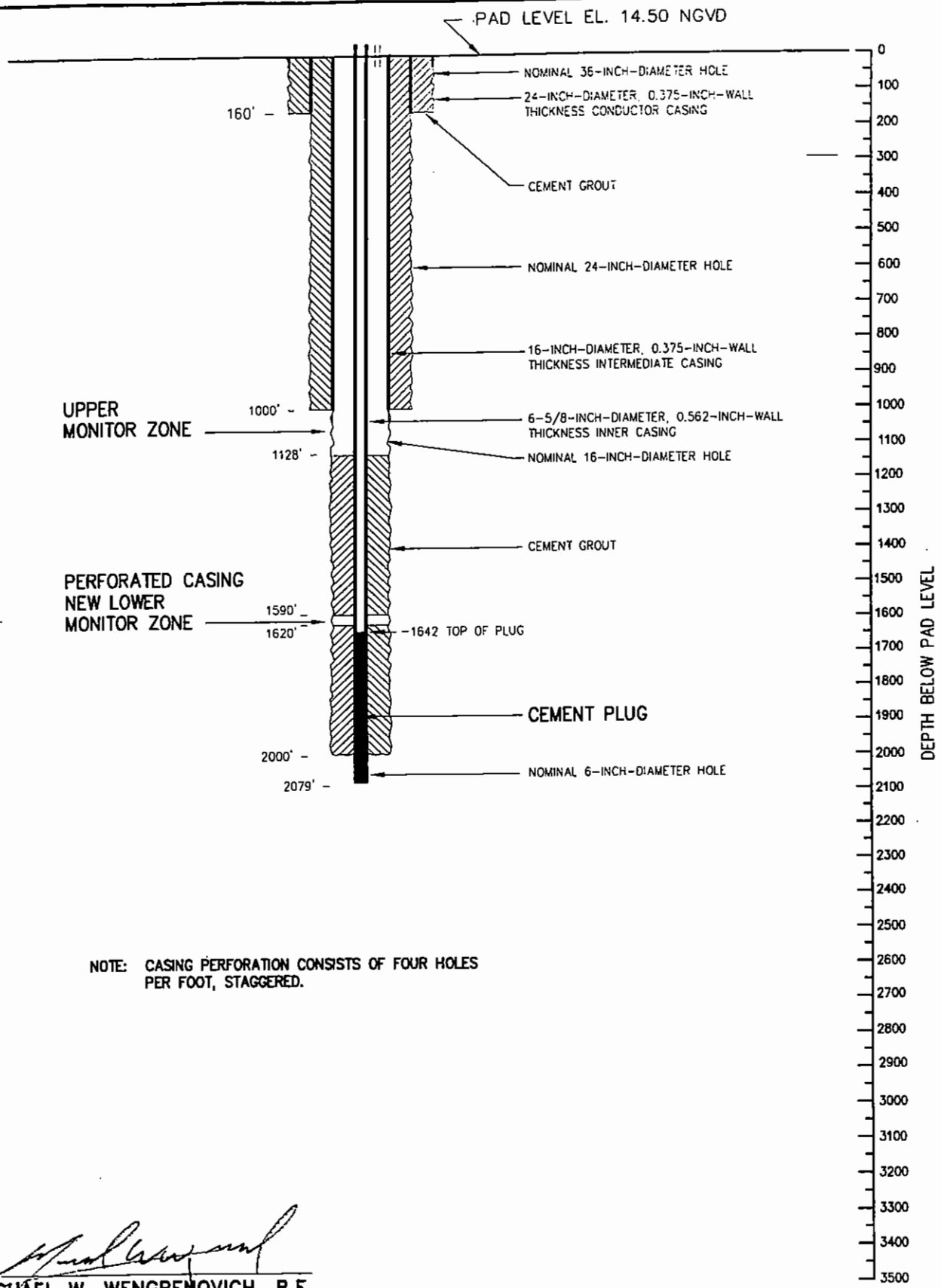
INJECTION WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

**MW4 AS-BUILT WELL PROFILE**

FIGURE

**6**





NOTE: CASING PERFORATION CONSISTS OF FOUR HOLES PER FOOT, STAGGERED.

*Michael W. Wengrenovich*  
**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939

8/2/00

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 Environmental Engineers & Scientists

4100 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
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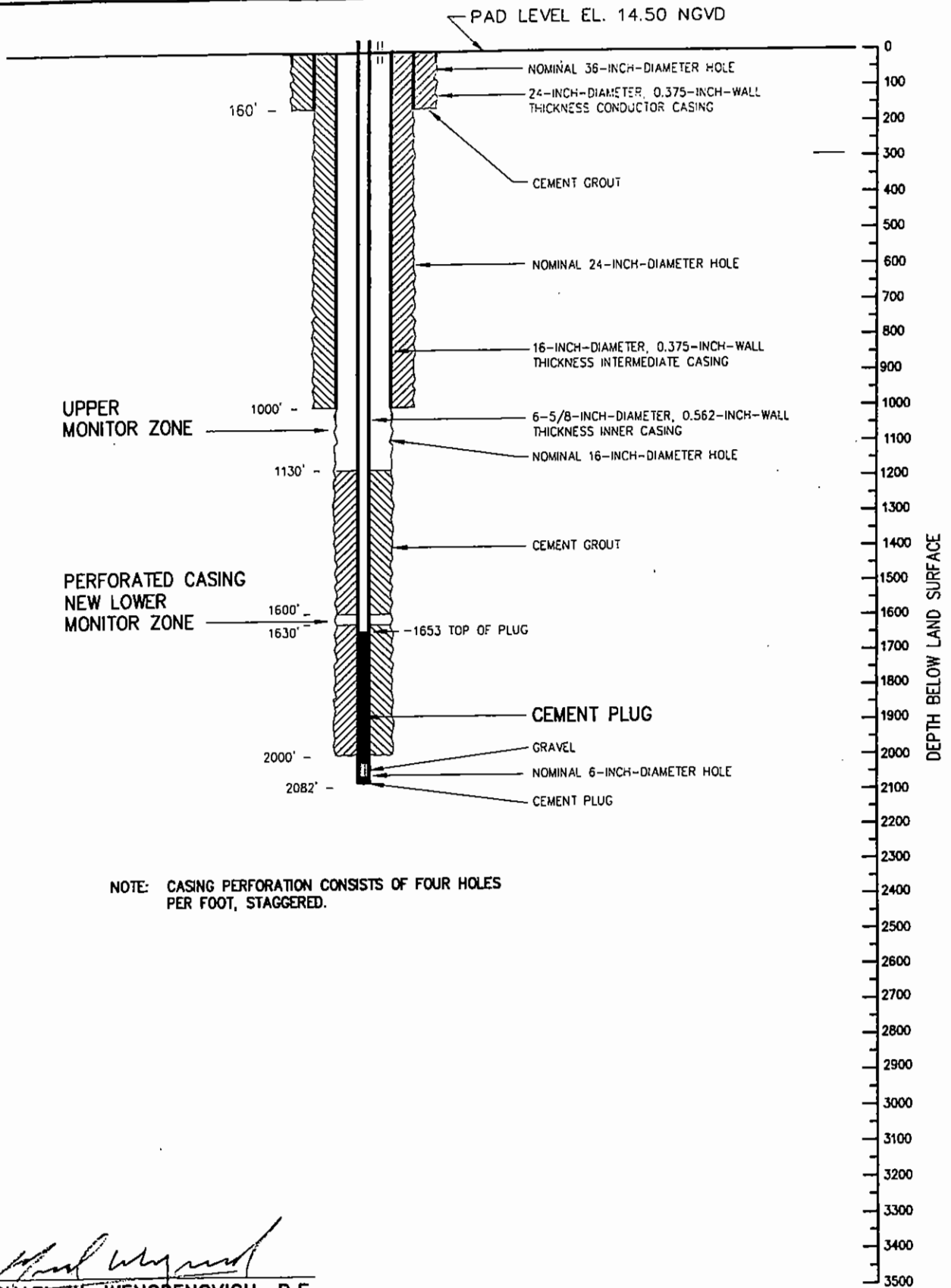
INJECTION WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

**MW1 AS-BUILT WELL PROFILE**

FIGURE

**7**

H:\4529\X-REFS\Well5-6\4598x7.dwg -- XREFS: -- PS 1=1



*Michael W. Wengrenovich*  
**MICHAEL W. WENGRENOVICH, P.E.**  
 Registration No. 34939  
 8/2/02

**HAZEN AND SAWYER**  
 Environmental Engineers & Scientists

4010 Hollywood Boulevard, Suite 750N  
 Hollywood, Florida 33021  
 (954) 987-0066



INJECTION WELLS IW5 AND IW6 COMPLETION  
 BROWARD COUNTY NORTH REGIONAL WWTP

**MW2 AS-BUILT WELL PROFILE**

FIGURE

**8**

I:\Projects\Broward\Broward\Wells\6\4598x8.dwg - XREFS: - PS 1=1

# **CONSTRUCTION AND TESTING OF INJECTION WELLS AND ASSOCIATED DEEP MONITOR WELLS**

## **BROWARD COUNTY NORTH REGIONAL WASTEWATER TREATMENT PLANT**

### **POMPANO BEACH, FLORIDA**

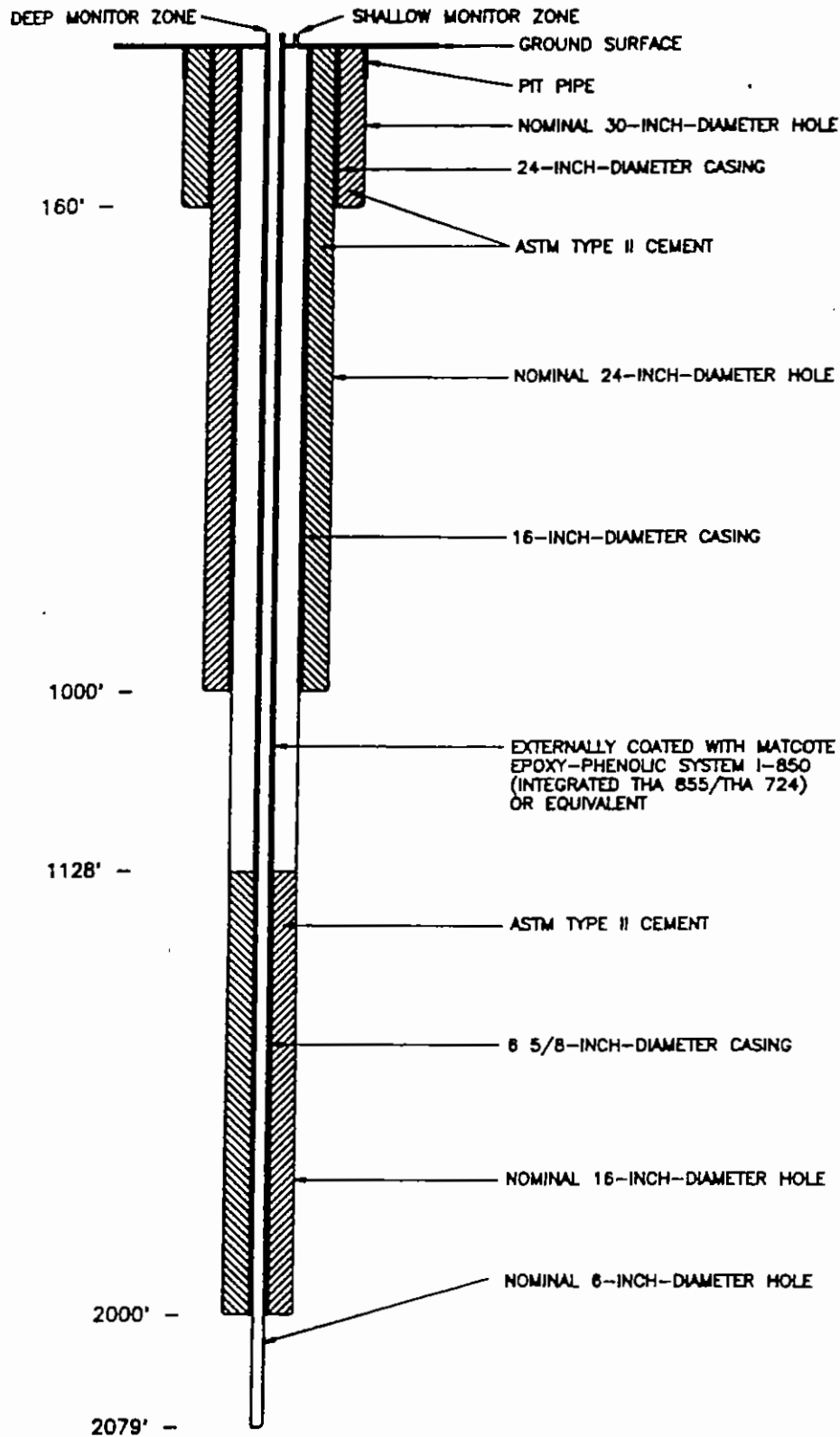
<b>INJECTION WELLS 1 AND 2</b>	<b>JUNE 1990</b>
<b>MONITOR WELL 1</b>	<b>JUNE 1990</b>
<b>INJECTION WELL 4</b>	<b>APRIL 1991</b>
<b>INJECTION WELLS 3 AND 4</b>	<b>JUNE 1991</b>
<b>MONITOR WELL 2</b>	<b>JUNE 1991</b>

CONSTRUCTION AND TESTING  
OF INJECTION WELLS #1 and #2  
WITH ASSOCIATED DEEP MONITOR WELL #1  
BROWARD COUNTY NORTH DISTRICT REGIONAL  
WASTEWATER TREATMENT PLANT  
POMPANO BEACH, FLORIDA

June 1990

Prepared for:  
James M. Montgomery, Consulting Engineers, Inc.  
in association with  
Hazen and Sawyer, P.C. Engineers

Prepared by:  
Geraghty & Miller, Inc.  
Environmental Services  
11382 Prosperity Farms Road, Suite 125  
Palm Beach Gardens, Florida 33410



SUBJECT:

**COMPLETED DEEP MONITOR WELL CONSTRUCTION DETAILS**

FIGURE

**8**

IW-1

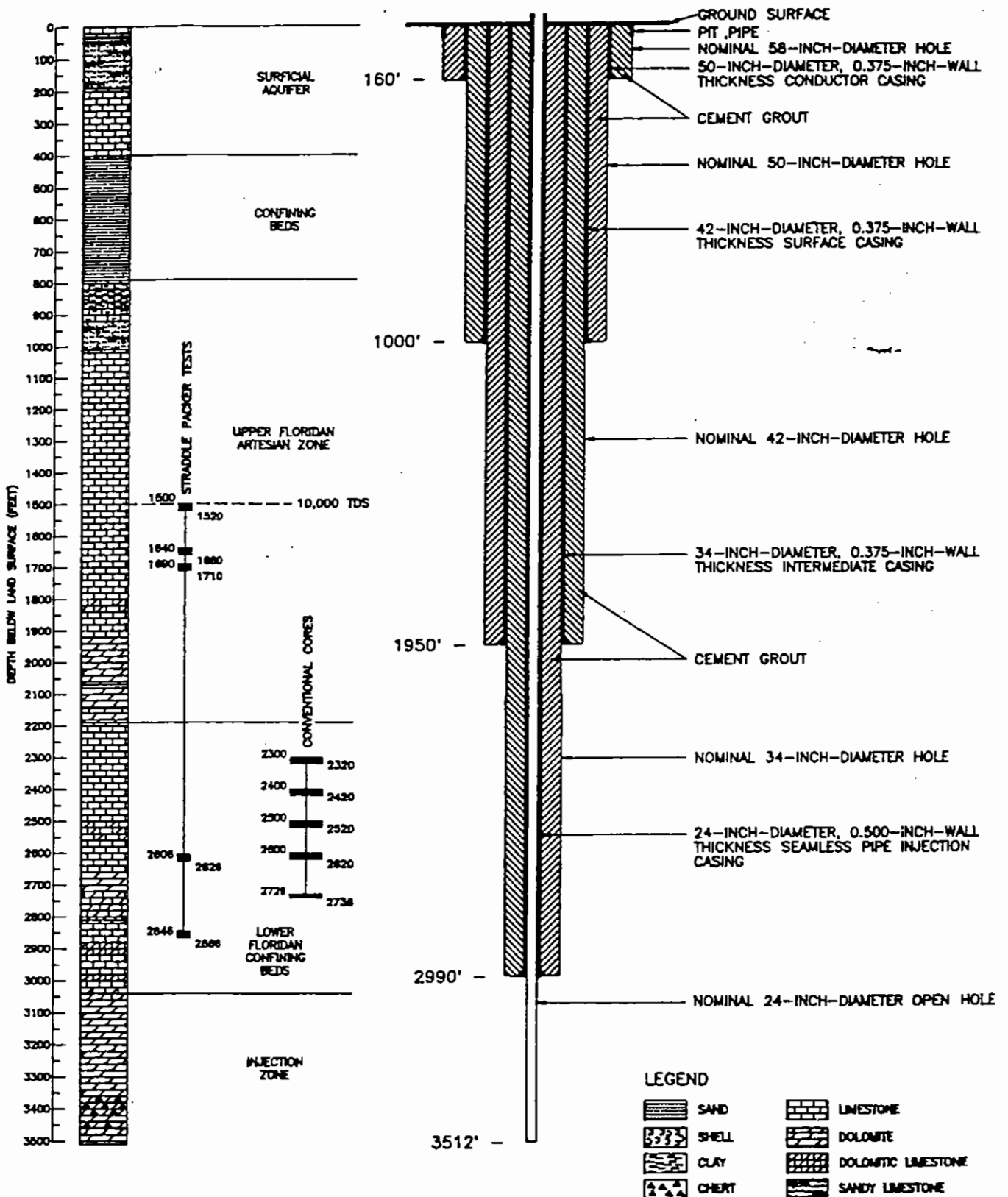


COMPILED BY: M. WALDRON  
 PREPARED BY: B. OLIVA  
 PROJECT MGR.: J. WHEATLEY

DATE: JUN 90  
 SCALE: NONE  
 FILE NO.: PF07803

PREPARED FOR:

JAMES M. MONTGOMERY  
 CONSULTING ENGINEERS, INC.



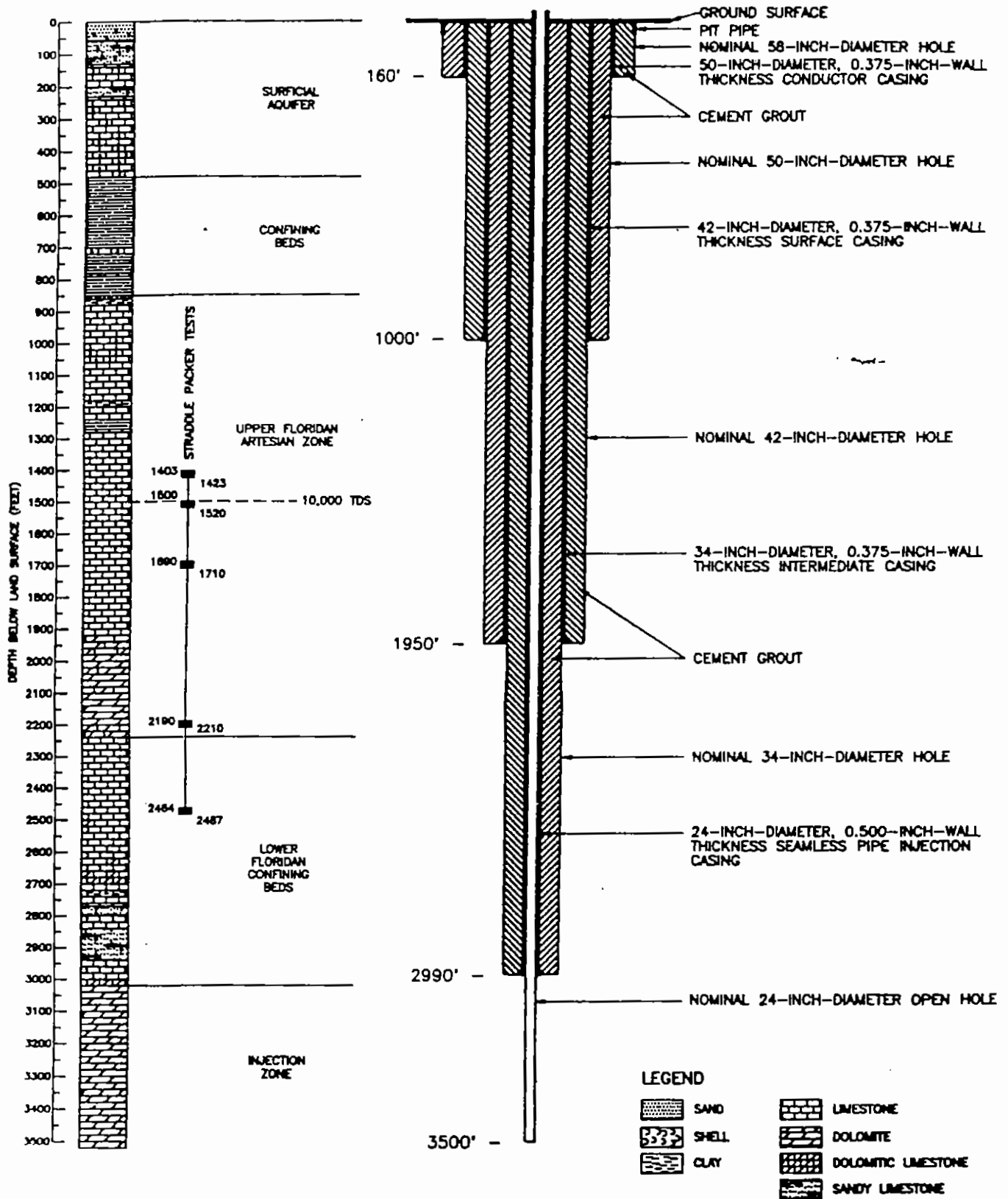
SUBJECT:

DETAILS OF CORING AND TESTING PROGRAM

FIGURE

6

IW-2



**DETAILS OF TESTING PROGRAM**

**FIGURE 7**

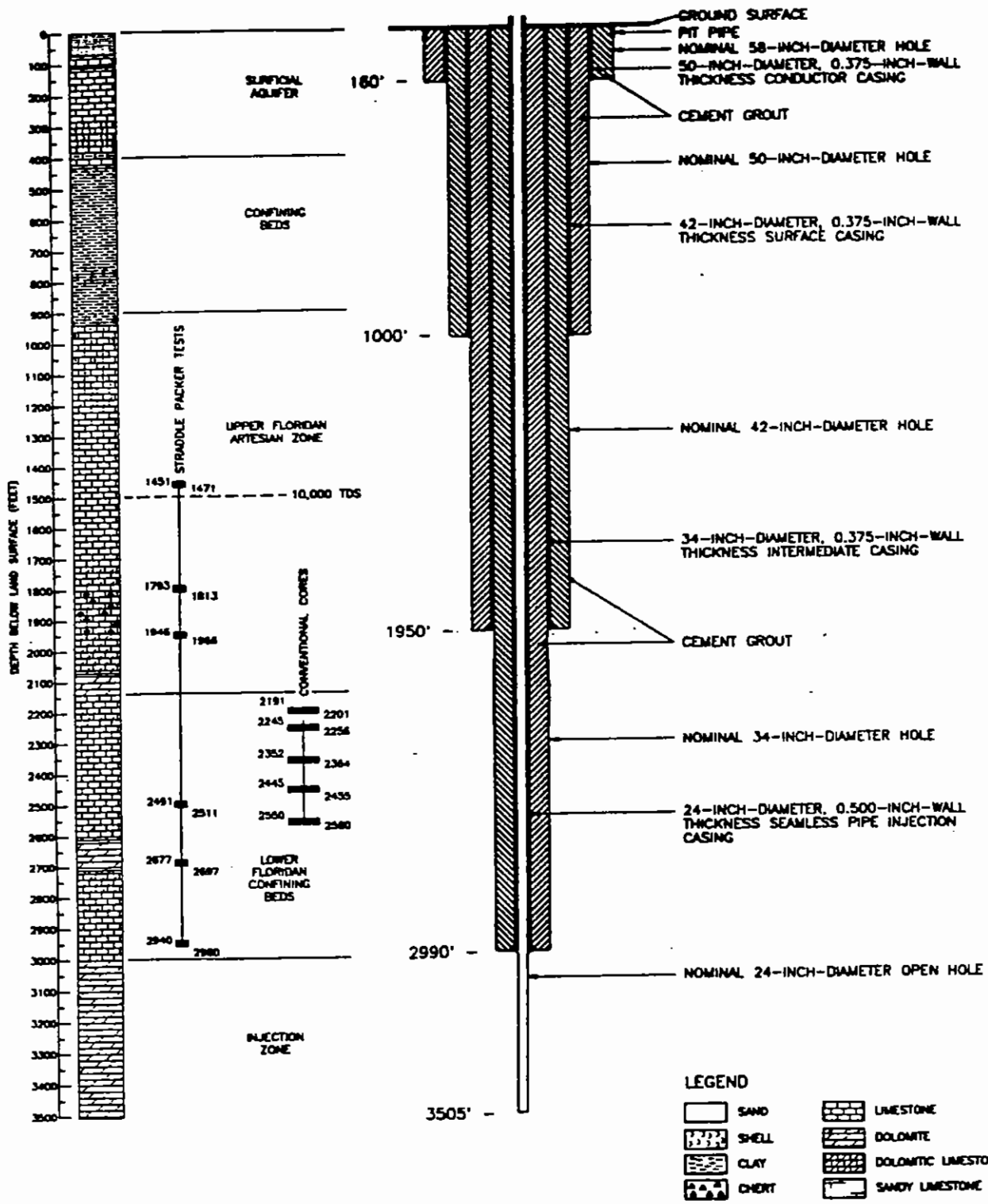
**CONSTRUCTION AND TESTING  
OF INJECTION WELL #3 AND #4  
WITH ASSOCIATED DEEP MONITOR WELL #2  
BROWARD COUNTY NORTH DISTRICT  
REGIONAL WASTEWATER TREATMENT PLANT  
POMPANO BEACH, FLORIDA**

**September 1991**

 **GERAGHTY  
& MILLER, INC.**  
*Environmental Services*



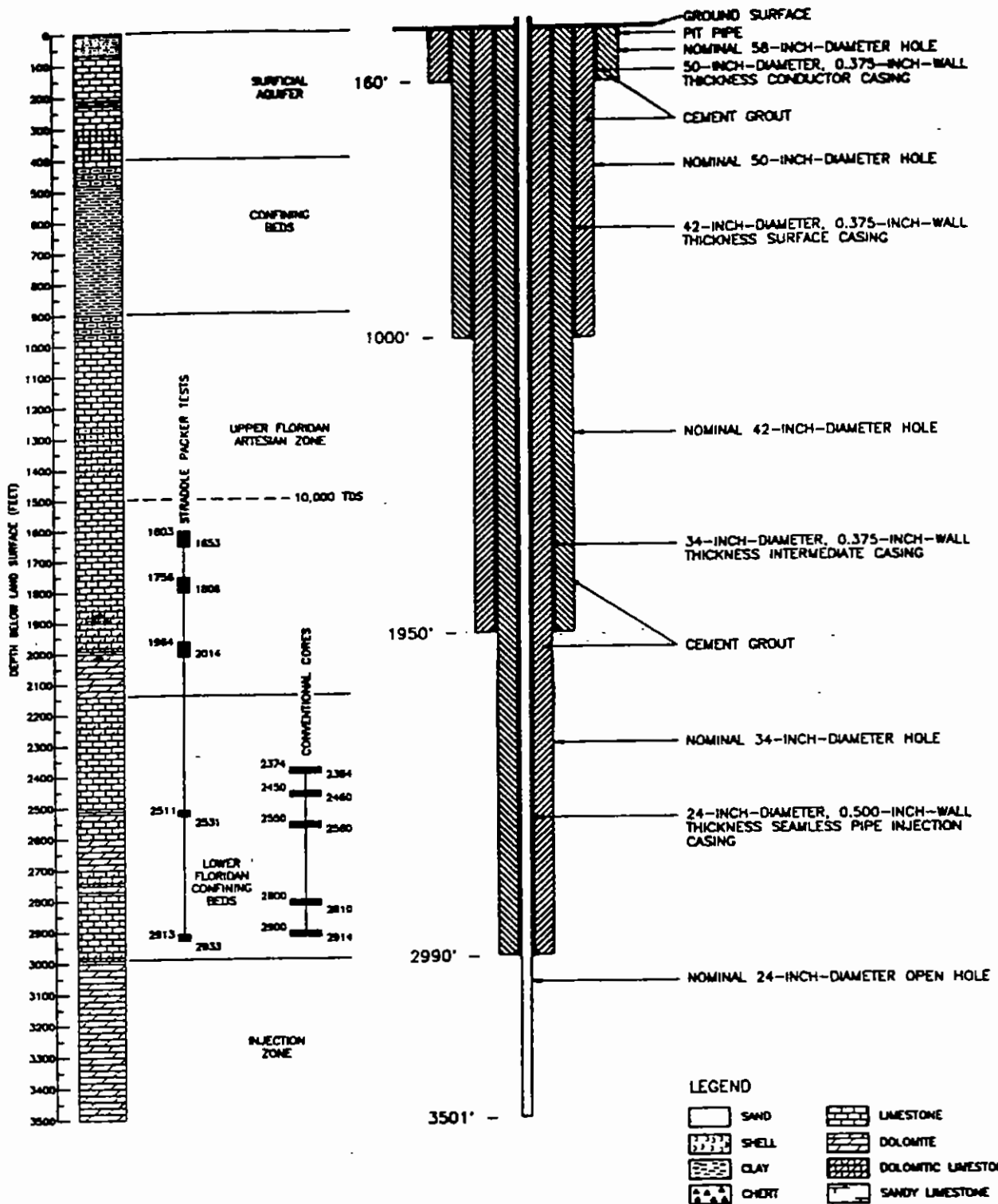
DWG DATE: 22AUG91 | PRCT NO.: PF07803 | FILE NO.: MONTGOMERY DRAWING: 7803-1m.3 | CHECKED: M. WALDRON | APPROVED: J. WHEATLEY | DRAFTER: B. WA



**DETAILS OF CORING AND TESTING PROGRAM  
 INJECTION WELL #3**

JAMES M. MONTGOMERY  
 CONSULTING ENGINEERS, INC.

FIGURE  
**6**



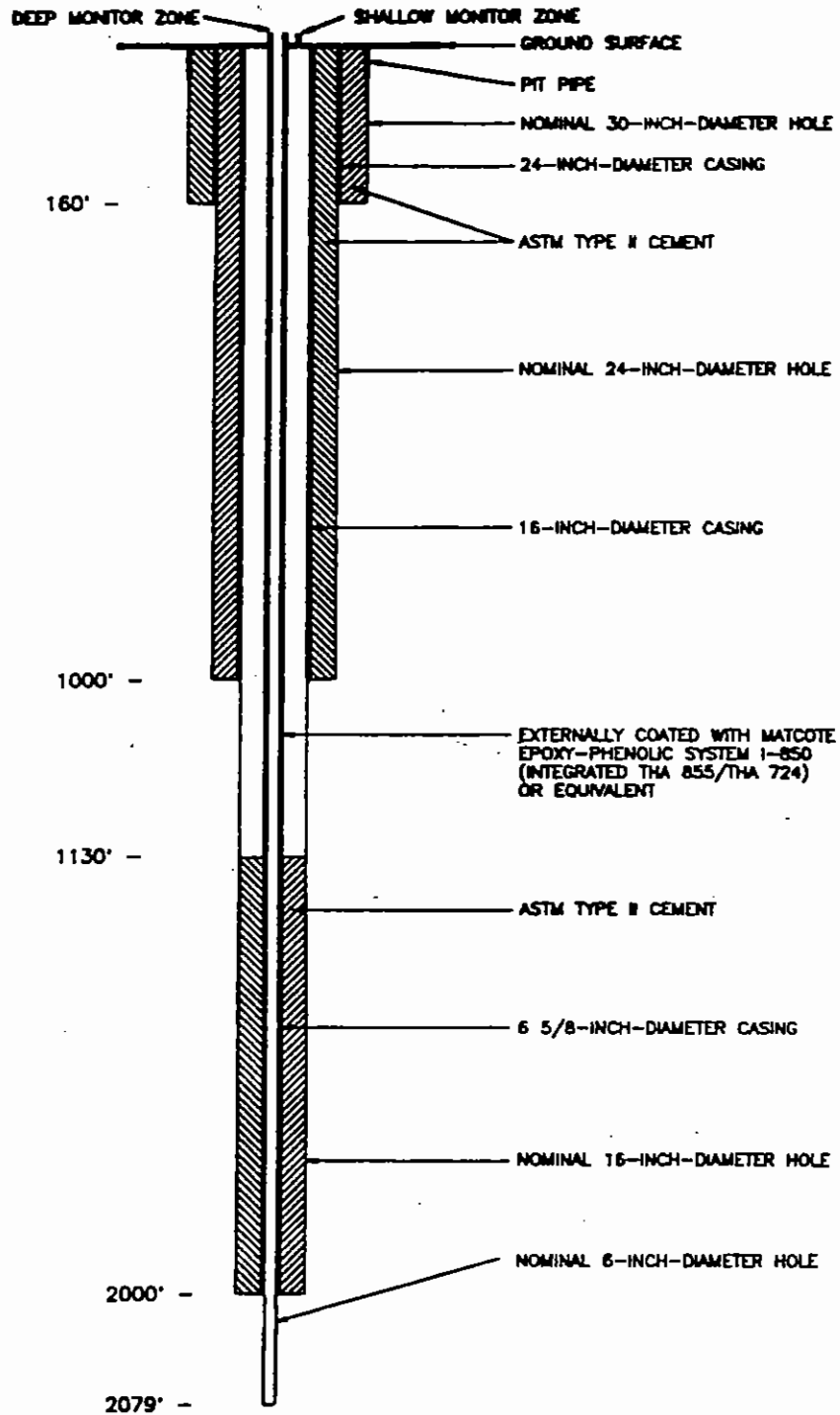
**DETAILS OF CORING AND TESTING PROGRAM  
INJECTION WELL #4**

**JAMES M. MONTGOMERY  
CONSULTING ENGINEERS, INC.**

**FIGURE**

**7**

FILE NO.: MONTGOMERY | DRAWING: 7803-DMW | CHECKED: M. WALDRON | APPROVED: J. WHEATLEY | DRAFTER: B. OLIVA  
 PROJECT NO.: PF07803  
 LONG DATE: 12SEP91



**COMPLETED DEEP MONITOR WELL  
 CONSTRUCTION DETAILS**

JAMES M. MONTGOMERY  
 CONSULTING ENGINEERS, INC.

FIGURE

8