

CORE ANALYSIS REPORT
FOR
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
VARIOUS WELLS
FLORIDA



CORE LABORATORIES

CORE ANALYSIS REPORT
FOR
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
VARIOUS WELLS
FLORIDA

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom; and for whose exclusive and confidential use; this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories (all errors and omissions excepted); but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitableness of any oil, gas or other mineral well or formation in connection with which such report is used or relied upon.



PETROLEUM SERVICES

September 3, 1999

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
3301 Gun Club Road
West Palm Beach, Florida 33406

File No.: 57181-18054
Subject: Core Analysis
Various Wells
Florida

Gentlemen:

The subject well was cored using diamond coring equipment and drilling mud to obtain 2.4 inch diameter cores from 5 to 130 feet from the Tertiary Limestone formation.

Core analysis data is presented in tabular and graphical form for your convenience. A porosity vs. permeability plot was prepared for statistical evaluation. Core analysis data is contained on a 3 1/2 inch computer diskette. Digital core photographs are contained on a CD.

We trust these data will be useful in the evaluation of your property and thank you for the opportunity of serving you.

Very truly yours,

CORE LABORATORIES, INC.

A handwritten signature in cursive script that reads "John Sebian".

John Sebian
Laboratory Supervisor

JS/ym

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Various Wells
File No. 57181-18054
Procedural Page

The cores were transported to Midland by South Florida Water Management.

A Core Spectral Gamma Log was recorded for downhole E-log correlation.

Core analysis was made from selected intervals requested on full diameter samples.

Fluid removal was achieved using convection oven drying method.

Direct grain volume measurement was made using Boyle's law helium expansion. Bulk volume was measured by Archimedes Principle and caliper bulk volume on samples after cleaning. Porosity was calculated using bulk volume and grain volume measurements.

$$\text{Porosity} = \frac{\text{Bulk Vol.} - \text{Grain Vol.}}{\text{Bulk Vol.}} \times 100$$

Steady State Air Permeability was measured in two horizontal directions and vertically while the core was confined in a Hassler rubber sleeve at approximately 400 psig hydrostatic stress.

The core was slabbed after analysis.

The slabs were photographed under natural light and ultraviolet light.

Thin section billets were removed from slab and shipped to Core Laboratories in Carrollton, Texas for thin section making. Thin sections are to contain blue epoxy and a carbonate stain.

The core will remain at our Midland facility (thirty days free of charge) as we await further disposition instructions.

HYDRAULIC CONDUCTIVITY CONVERSIONS

DISCUSSION OF ANALYSIS THEORY

The micropermeameter device uses steady state air cross flow methodology to determine an air permeability. A full diameter cylinder is face from existing core fragments. The sample is placed in a rubber hassler sleeve under 400 psig confining pressure during testing. Upstream and downstream pressures are taken from mercury, water manometers or H-C gauge. Flow rates are measured using ceramic plates.

CONVERSION PERMEABILITY TO HYDRAULIC CONDUCTIVITY

$$k = (V*L)/(A*T*P)$$

k = Hydraulic Conductivity(m/sec)
V = Incremental produced volume, (m³)
L = Length, (m)
P = Differential pressure, (m of H₂O)
A = Cross-sectional area, (m²)
T = Incremental time, (sec)

Volume, (V)

Ceramic plate orifice value@200mmH₂O*orifice water/200=cc/sec
(cc/sec)/(1,000,000)=m/sec

Area, (A)

19.64 cm²/100/100=0.001964 m²

Length, (L)

length in cm/100=m

Differential Pressure, (P)

P₁ = -P_a+sqrt of (2000*0.01787*760/760)/C value of 60+760/760
P₁ = 0.2632atm

0.2632 atm*1033.26=271.95 cmH₂O

271.95 cmH₂O/100=2.7195 mH₂O

Time, (T)

sec

Conversion (m/sec)to(ft/sec)

(m/sec)*3.2808399 ft/m=ft/sec

Conversion (ft/sec)to(ft/day)

(ft/sec)*86,400 sec/day=ft/day

CORE LABORATORIES

Company : SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 Well : VARIOUS WELLS
 Location :
 Co, State : FLORIDA

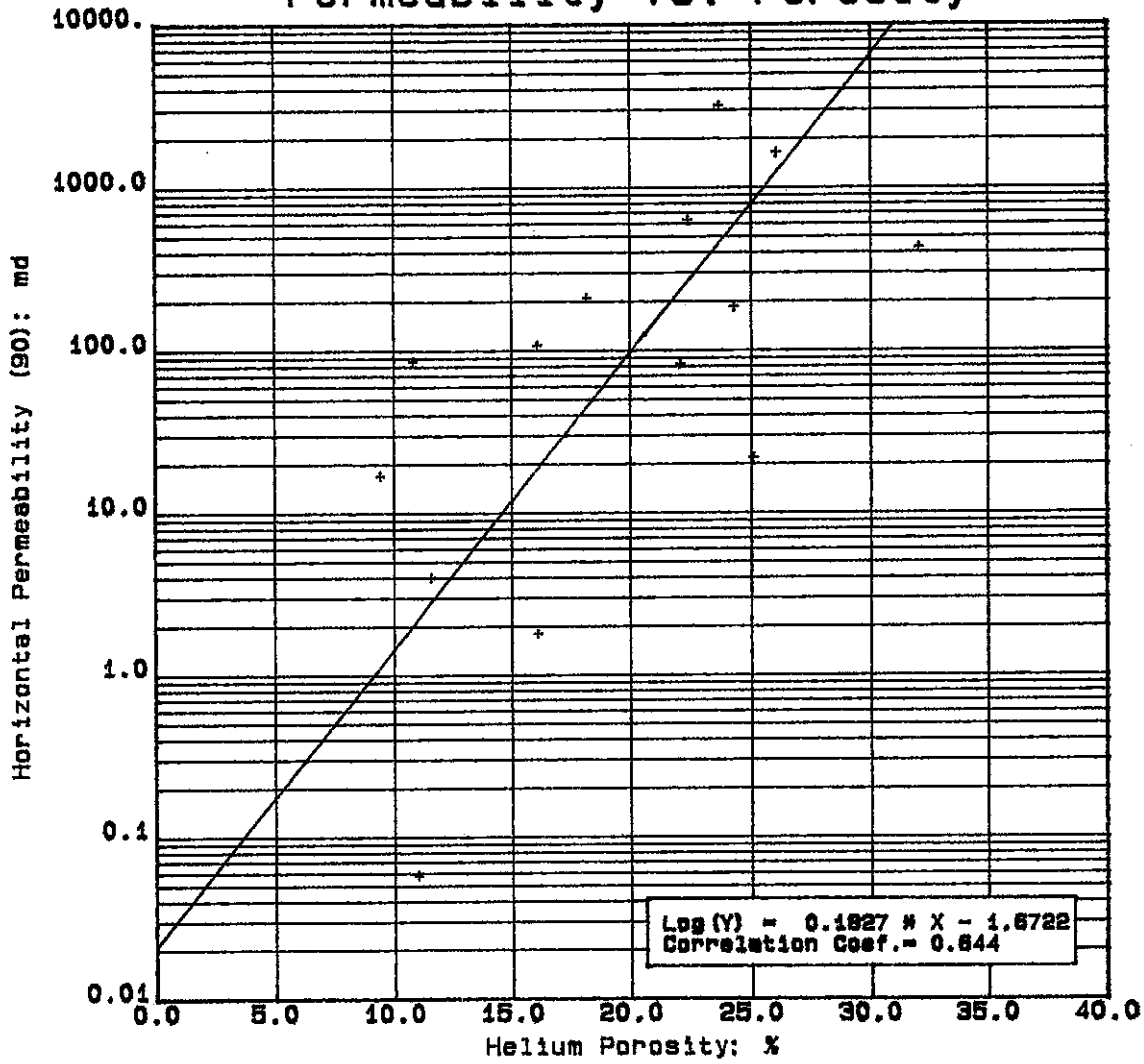
Field :
 Formation : TERTIARY
 Coring Fluid :
 Elevation :

File No.: 57181-18054
 Date : 9-2-99
 API No. :
 Analysts: SEBIAN

CORE ANALYSIS RESULTS

| SAMPLE NUMBER | DEPTH <i>Layer</i> ft | PERMEABILITY | | | POROSITY (HELIUM) % | GRAIN DENSITY gm/cc | DESCRIPTION | |
|---------------|--------------------------|-------------------------|------------------------|--------------------------|---------------------------|------------------------|-------------|--|
| | | (MAXIMUM) Kair md | (90 DEG) Kair md | (VERTICAL) Kair md | | | | |
| K | 1-3 | 19.0-20.0 | 504. | 1.80 | 0.70 | 16.1 | 2.69 | MOP1A - Lim, foss, sndy, sl moldic |
| K | 2-3 | 20.0-25.0 | TBFA | TBFA | 22695. | 28.8 | 2.70 | MOP1A - Lim, foss, v/sndy, moldic |
| K | 3-3 | 25.0-30.0 | 330. | 212. | 85.6 | 18.2 | 2.69 | MOP1A - Sd, tn, vfgr, v/lmy, pp |
| K | 4-2 | 10.0-15.0 | 127. | 108. | 0.25 | 16.1 | 2.70 | MOP2A - Lim, foss, sndy, pp, tr moldic |
| K | 5-3 | 20.5-25.5 | 3664. | 3207. | 6587. | 23.7 | 2.71 | MOP2A - Lim, foss, sndy, moldic |
| K | 6-3 | 17.0-22.0 | 0.17 | 0.06 | 0.01 | 11.0 | 2.69 | MP1A - Lim, foss, v/sndy, pp, tr moldic |
| <i>MP2</i> K | 7-3 | 27.0-32.0 | 1696. | 1649. | 2609. | 26.1 | 2.69 | MP1A - Lim, foss, v/sndy, pp, sl moldic |
| K | 8-3 | 20.0-25.0 | 13.8 | 4.01 | 6.04 | 11.6 | 2.70 | MP2A - Lim, foss, sndy, sl pp, sl moldic |
| K | 9-3 | 5.0-10.0 | 176. | 86.5 | 3.90 | 10.8 | 2.69 | MP2A - Lim, foss, v/sndy, pp |
| K | 10-4 | 31.0-35.0 | 214. | 82.9 | 1.63 | 22.1 | 2.68 | MP2A - Lim, foss, v/sndy, chlky, pp |
| <i>MP3</i> K | 11-4 | 125.0-30.0 | 981. | 430. | 26.9 | 32.1 | 2.78 | MP3A - Dol, foss, v/sndy, moldic |
| <i>10-C</i> K | 12-3 | 15.0-20.0 | 19.5 | 17.0 | 37.6 | 9.4 | 2.71 | MP3A - Lim, foss, sndy, pp |
| K | 13 | 36.0-41.0 | 25.7 | 21.8 | 47.8 | 25.1 | 2.70 | S10CA - Lim, chlky, sl sndy, pp |
| K | 14 | 30.0-35.0 | 917. | 186. | 90.6 | 24.3 | 2.68 | S10CA - Lim, foss, v/sndy, pp |
| <i>MOP3</i> K | 15-3 | 15.5-20.5 | 4660. | 636. | 23469. | 22.4 | 2.69 | MOP2A - Lim, foss, sndy, sl pp, moldic |

Permeability vs. Porosity



| | |
|---|---|
| <p style="text-align: center;">SOUTH FLORIDA WATER MANAGEMENT DISTRICT VARIOUS WELLS</p> <p style="text-align: center;">TERTIARY (5-130 feet)</p> <p style="font-size: small;">Core Laboratories 9-2-99</p> | <p style="text-align: center;">- LEGEND -</p> <p style="text-align: center;">TERTIARY</p> |
|---|---|

CORE LABORATORIES

Company : SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 Well : VARIOUS WELLS

Field :
 Formation : TERTIARY

File No.: 57181-18054
 Date : 9-2-99

TABLE I

SUMMARY OF CORE DATA

| ZONE AND CUTOFF DATA | | CHARACTERISTICS REMAINING AFTER CUTOFFS | | | |
|----------------------------|---------------|---|-------------------|---|--|
| ZONE: | | ZONE: | | PERMEABILITY: | |
| Identification ----- | TERTIARY | Number of Samples ----- | 15 | Flow Capacity ----- | 33116.9 md-ft |
| Top Depth ----- | 5.0 ft | Thickness Represented - | 70.0 ft | Arithmetic Average ---- | 509. md |
| Bottom Depth ----- | 130.0 ft | | | Geometric Average ----- | 73.3 md |
| Number of Samples ----- | 15 | | | Harmonic Average ----- | 0.73 md |
| | | POROSITY: | | Minimum ----- | 0.06 md |
| DATA TYPE: | | Storage Capacity ----- | 1402.5 ϕ -ft | Maximum ----- | 3207. md |
| Porosity ----- | (HELIUM) | Arithmetic Average ---- | 20.0 % | Median ----- | 97.2 md |
| Permeability ----- | (90 DEG) Kair | Minimum ----- | 9.4 % | Standard Dev. (Geom) -- | K \cdot 10 ^{\pm1.268} md |
| | | Maximum ----- | 32.1 % | | |
| CUTOFFS: | | Median ----- | 22.1 % | HETEROGENEITY (Permeability): | |
| Porosity (Minimum) ----- | 0.0 % | Standard Deviation ---- | \pm 7.1 % | Dykstra-Parsons Var. -- | 0.889 |
| Porosity (Maximum) ----- | 100.0 % | | | Lorenz Coefficient ---- | 0.690 |
| Permeability (Minimum) --- | 0.0100 md | GRAIN DENSITY: | | | |
| Permeability (Maximum) --- | 10000. md | Arithmetic Average ---- | 2.70 gm/cc | AVERAGE SATURATIONS (Pore Volume): | |
| Water Saturation (Maximum) | TBFA | Minimum ----- | 2.68 gm/cc | Oil ----- | TBFA |
| Oil Saturation (Minimum) - | TBFA | Maximum ----- | 2.78 gm/cc | Water ----- | TBFA |
| Grain Density (Minimum) -- | 2.00 gm/cc | Median ----- | 2.69 gm/cc | | |
| Grain Density (Maximum) -- | 3.00 gm/cc | Standard Deviation ---- | \pm 0.02 gm/cc | | |
| Lithology Excluded ----- | NONE | | | | |

South Florida Water Management District
 Various Wells
 Hydraulic Conductivity

File: 57181-18054
 September 3, 1999
 Tertiary Limestone

| Sample Number | Project Number | Depth Top feet | Depth Bottom feet | Hydraulic Conductivity (m/sec) | Hydraulic Conductivity (ft/day) | K(air) md | K(direction) | Description |
|---------------|----------------|----------------|-------------------|--------------------------------|---------------------------------|-----------|--------------|-----------------------------------|
| K1 | MOP1A | 19.0 | 20.0 | 0.00000043 | 0.1225 | 0.705 | K(vertical) | Lim, foss, sndy, sl moldic |
| | | | | 0.00027234 | 77.1978 | 504.055 | K(horiz,max) | |
| | | | | 0.00000111 | 0.3137 | 1.804 | K(horiz,min) | |
| K2 | MOP1A | 20.0 | 25.0 | 0.01200692 | 3403.5350 | 22694.671 | K(vertical) | Lim, foss, v/sndy, moldic |
| | | | | -999 | -999 | -999 | K(horiz,max) | |
| | | | | -999 | -999 | -999 | K(horiz,min) | |
| K3 | MOP1A | 25.0 | 30.0 | 0.00005249 | 14.8783 | 85.580 | K(vertical) | Sd, tn, vfgr, v/lmy, pp |
| | | | | 0.00017905 | 50.7550 | 330.021 | K(horiz,max) | |
| | | | | 0.00011472 | 32.5191 | 212.015 | K(horiz,min) | |
| K4 | MOP2A | 10.0 | 15.0 | 0.00000015 | 0.0435 | 0.250 | K(vertical) | Lim, foss, sndy, pp, tr moldic |
| | | | | 0.00006872 | 19.4807 | 127.014 | K(horiz,max) | |
| | | | | 0.00005850 | 16.5838 | 108.068 | K(horiz,min) | |
| K5 | MOP2A | 20.5 | 25.5 | 0.00355660 | 1008.1688 | 6586.781 | K(vertical) | Lim, foss, sndy, moldic |
| | | | | 0.00194169 | 550.3997 | 3664.172 | K(horiz,max) | |
| | | | | 0.00166447 | 471.8192 | 3207.207 | K(horiz,min) | |
| K6 | MP1A | 17.0 | 22.0 | 0.00000001 | 0.0023 | 0.013 | K(vertical) | Lim, foss, v/sndy, pp, tr moldic |
| | | | | 0.00000011 | 0.0303 | 0.174 | K(horiz,max) | |
| | | | | 0.00000004 | 0.0101 | 0.058 | K(horiz,min) | |
| K7 | MP1A | 27.0 | 32.0 | 0.00141513 | 401.1406 | 2609.459 | K(vertical) | Lim, foss, v/sndy, pp, sl moldic |
| | | | | 0.00091593 | 259.6325 | 1695.933 | K(horiz,max) | |
| | | | | 0.00089080 | 252.5089 | 1649.061 | K(horiz,min) | |
| K8 | MP2A | 20.0 | 25.0 | 0.00000370 | 1.0494 | 6.036 | K(vertical) | Lim, foss, sndy, sl pp, sl moldic |
| | | | | 0.00000849 | 2.4067 | 13.843 | K(horiz,max) | |
| | | | | 0.00000245 | 0.6958 | 4.002 | K(horiz,min) | |
| K9 | MP2A | 5.0 | 10.0 | 0.00000240 | 0.6790 | 3.905 | K(vertical) | Lim, foss, v/sndy, pp |
| | | | | 0.00007055 | 19.9979 | 130.014 | K(horiz,max) | |
| | | | | 0.00004689 | 13.2924 | 86.479 | K(horiz,min) | |
| K10 | MP2A | 31.0 | 35.0 | 0.00000100 | 0.2837 | 1.632 | K(vertical) | Lim, foss, v/sndy, chlky, pp |
| | | | | 0.00011577 | 32.8173 | 213.853 | K(horiz,max) | |
| | | | | 0.00004494 | 12.7384 | 82.924 | K(horiz,min) | |

South Florida Water Management District
 Various Wells
 Hydraulic Conductivity

File: 57181-18054
 September 3, 1999
 Tertiary Limestone

| Sample Number | Project Number | Depth Top feet | Depth Bottom feet | Hydraulic Conductivity (m/sec) | Hydraulic Conductivity (ft/day) | K(air) md | K(direction) | Description |
|---------------|----------------|----------------|-------------------|--------------------------------|---------------------------------|-----------|--------------|--------------------------------|
| K11 | MP3A | 125.0 | 130.0 | 0.00001651 | 4.6795 | 26.916 | K(vertical) | Dol, foss, v/sndy, moldic |
| | | | | 0.00053161 | 150.6921 | 980.680 | K(horiz,max) | |
| | | | | 0.00023336 | 66.1489 | 430.096 | K(horiz,min) | |
| K12 | MP3A | 15.0 | 20.0 | 0.00002304 | 6.5314 | 37.569 | K(vertical) | Lim, foss, sndy, pp |
| | | | | 0.00001195 | 3.3881 | 19.488 | K(horiz,max) | |
| | | | | 0.00001040 | 2.9491 | 16.963 | K(horiz,min) | |
| K13 | S10CA | 36.0 | 41.0 | 0.00002932 | 8.3109 | 47.804 | K(vertical) | Lim, chlky, sl sndy, pp |
| | | | | 0.00001578 | 4.4718 | 25.722 | K(horiz,max) | |
| | | | | 0.00001338 | 3.7930 | 21.817 | K(horiz,min) | |
| K14 | S10CA | 30.0 | 35.0 | 0.00005558 | 15.7556 | 90.626 | K(vertical) | Lim, foss, v/sndy, pp |
| | | | | 0.00049830 | 141.2517 | 916.946 | K(horiz,max) | |
| | | | | 0.00010086 | 28.5906 | 186.274 | K(horiz,min) | |
| K15 | MOP2A | 15.5 | 20.5 | 0.01104494 | 3130.8493 | 23469.098 | K(vertical) | Lim, foss, sndy, sl pp, moldic |
| | | | | 0.00241849 | 685.5559 | 4660.090 | K(horiz,max) | |
| | | | | 0.00034481 | 97.7416 | 636.004 | K(horiz,min) | |

South Florida Water Management District
 Various Wells
 Spectral Gamma Log Data

August 31, 1999
 File Number: 57181-18054

Sample Identification: K1

K1, 19.0 ft to 20.0 ft., MOP1A, Ground Surface Elevation 12.46 ft, Sample Elevation -6.54ft to -7.54 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 19 | 0.0022 | 0.59 | 0 | 4 | 0 |
| 19.25 | 0.0018 | 0.73 | 0 | 4 | 0 |
| 19.5 | 0.0006 | 1.03 | 0 | 3.7 | 0 |
| 19.75 | 0.001 | 0.91 | 0 | 3.7 | 0 |
| 20 | 0.0014 | 0.76 | 0 | 3.7 | 0 |

Sample Identification: K2

K2, 20.0 ft to 25.0 ft., MOP1A, Ground Surface Elevation 12.46 ft, Sample Elevation -7.54 ft to -12.54 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 22 | 0.0035 | 0 | 0 | 3.5 | 3.5 |
| 22.25 | 0.0032 | 0 | 0.43 | 4.1 | 4.1 |
| 22.5 | 0.0013 | 0 | 1.19 | 3.7 | 3.7 |
| 22.75 | 0.002 | 0 | 0.53 | 3 | 3 |
| 23 | 0.0036 | 0 | 0 | 3.6 | 3.6 |

Sample Identification: K3

K3, 25.0 ft to 30.0 ft., MOP1A, Ground Surface Elevation 12.46 ft, Sample Elevation -12.54 ft to -17.54 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 27 | 0.0037 | 0 | 0 | 3.7 | 3.7 |
| 27.25 | 0.0023 | 0.01 | 0 | 2.3 | 2.2 |
| 27.5 | 0.0014 | 0.07 | 0.45 | 2.4 | 1.1 |
| 27.75 | 0.0035 | 0 | 0 | 3.5 | 3.5 |
| 28 | 0.0033 | 0.3 | 0 | 4.1 | 0 |

Sample Identification: K4

K4, 10.0 ft to 15.0 ft., MOP2A, Ground Surface Elevation 15.90 ft, Sample Elevation 14.90 ft to 10.90 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 12 | 0.0028 | 0 | 0.44 | 3.7 | 3.7 |
| 12.25 | 0.0011 | 0.34 | 0.57 | 3.2 | 0.5 |
| 12.5 | 0 | 0.6 | 0.54 | 2.6 | 0 |
| 12.75 | 0.0003 | 0.53 | 0.65 | 3.2 | 0 |
| 13 | 0.0012 | 0.27 | 0.71 | 3.4 | 1.2 |

South Florida Water Management District
 Various Wells
 Spectral Gamma Log Data

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Sample Identification: K5

K5, 20.5 ft to 25.5 ft., MOP2A, Ground Surface Elevation 15.90 ft, Sample Elevation -4.60 ft to -9.60 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 22 | 0.0024 | 0.34 | 0.15 | 3.1 | 0 |
| 22.25 | 0.0027 | 0 | 0.52 | 3.7 | 3.7 |
| 22.5 | 0.0013 | 0 | 1.35 | 4 | 4 |
| 22.75 | 0 | 0.64 | 1.03 | 4 | 0 |
| 23 | 0.0018 | 0.56 | 0 | 3.5 | 0 |

Sample Identification: K6

K6, 17.0 ft to 22.0 ft., MP1A, Ground Surface Elevation 16.10 ft, Sample Elevation -0.90 ft to -5.90 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 19 | 0.0033 | 0 | 0.37 | 4.1 | 4.1 |
| 19.25 | 0.003 | 0.01 | 0.35 | 3.7 | 3.6 |
| 19.5 | 0.0026 | 0.41 | 0.19 | 4.2 | 0 |
| 19.75 | 0.0046 | 0 | 0 | 4.6 | 4.6 |
| 20 | 0.0028 | 0 | 0.76 | 4.3 | 4.3 |

Sample Identification: K7

K7, 27.0 ft to 32.0 ft., MP1A, Ground Surface Elevation 16.10 ft, Sample Elevation -10.90 ft to -15.90 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 16 | 0.0032 | 0.12 | 0 | 3.5 | 1.8 |
| 16.25 | 0.0018 | 0.5 | 0.05 | 3.4 | 0 |
| 16.5 | 0 | 1.23 | 0 | 3.7 | 0 |
| 16.75 | 0 | 0.92 | 0.26 | 3.3 | 0 |
| 17 | 0.0006 | 0.6 | 0.4 | 3.2 | 0 |

Sample Identification: K8

K8, 20.0 ft to 25.0 ft., MP2A, Ground Surface Elevation 15.61 ft, Sample Elevation -4.39 ft to -9.39 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 22 | 0 | 1.07 | 0.23 | 3.7 | 0 |
| 22.25 | 0.0011 | 0.5 | 0.22 | 2.7 | 0 |
| 22.5 | 0.0004 | 0.89 | 0.22 | 3.5 | 0 |
| 22.75 | 0.0017 | 0 | 1.13 | 4 | 4 |
| 23 | 0.0009 | 0 | 1.31 | 3.5 | 3.5 |

South Florida Water Management District
 Various Wells
 Spectral Gamma Log Data

August 31, 1999
 File Number: 57181-18054

Sample Identification: K9

K9, 5.0 ft to 10.0 ft., MP2A, Ground Surface Elevation 15.61 ft, Sample Elevation 10.61 ft to 5.61 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 6 | 0 | 0 | 0.8 | 4.2 | 4.2 |
| 6.25 | 0.0039 | 0 | 0 | 3.9 | 3.9 |
| 6.5 | 0.0034 | 0 | 0 | 3.4 | 3.4 |
| 6.75 | 0.003 | 0 | 0.14 | 3.3 | 3.3 |
| 7 | 0.0019 | 0 | 0.71 | 3.3 | 3.3 |

Sample Identification: K10

K10, 31.0 ft to 35.0 ft., MP2A, Ground Surface Elevation 15.61 ft, Sample Elevation -15.39 ft to -19.39 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 32 | 0 | 1.43 | 0 | 4.3 | 0 |
| 32.25 | 0 | 1.48 | 0 | 4.4 | 0 |
| 32.5 | 0.0031 | 0 | 0.37 | 3.8 | 3.8 |
| 32.75 | 0.0009 | 0.64 | 0.36 | 3.6 | 0 |
| 33 | 0.0006 | 0.91 | 0.04 | 3.4 | 0 |

Sample Identification: K11

K11, 125.0 ft to 130.0 ft., MP3A, Ground Surface Elevation 17.20 ft, Sample Elevation -107.80 ft to -112.00 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 126 | 0.0034 | 0 | 0 | 3.4 | 3.4 |
| 126.25 | 0.0005 | 0.72 | 0.32 | 3.3 | 0 |
| 126.5 | 0 | 0.94 | 0 | 2.8 | 0 |
| 126.75 | 0.0005 | 0.89 | 0 | 3.1 | 0 |
| 127 | 0.0032 | 0 | 0 | 3.2 | 3.2 |

Sample Identification: K12

K12, 15.0 ft to 20.0 ft., MP3A, Ground Surface Elevation 17.20 ft, Sample Elevation 2.80 ft to -2.80 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|------------|-------------------|---------------|---------------|-------------|--------------------------|
| 16 | 0.0013 | 0.93 | 0 | 4.1 | 0 |
| 16.25 | 0.0006 | 0.95 | 0 | 3.4 | 0 |
| 16.5 | 0 | 1.27 | 0 | 3.8 | 0 |
| 16.75 | 0.0015 | 0.83 | 0 | 4 | 0 |
| 17 | 0.0022 | 0 | 0.87 | 4 | 4 |

South Florida Water Management District
 Various Wells
 Spectral Gamma Log Data

August 31, 1999
 File Number: 57181-18054

Sample Identification: K13

K13, 36.0 ft to 41.0 ft., S10CA, Ground Surface Elevation 22.21 ft, Sample Elevation -13.59 ft to -23.80 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 37 | 0 | 0.94 | 0 | 3 | 0 |
| 37.25 | 0.0014 | 0.58 | 0 | 3.1 | 0 |
| 37.5 | 0.0021 | 0 | 0.4 | 2.5 | 2.5 |
| 37.75 | 0.0011 | 0 | 0.93 | 3 | 3 |
| 38 | 0 | 0 | 1.18 | 2.4 | 2.4 |

Sample Identification: K14

K14, 30.0 ft to 35.0 ft., S10CA, Ground Surface Elevation 22.21 ft, Sample Elevation -7.79 ft to -12.79 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 32 | 0.0035 | 0 | 0 | 3.5 | 3.5 |
| 32.25 | 0.0032 | 0 | 0.17 | 3.6 | 3.6 |
| 32.5 | 0.0017 | 0 | 0.82 | 3.3 | 3.3 |
| 32.75 | 0.0002 | 0.36 | 0.66 | 2.6 | 0 |
| 33 | 0.0004 | 0.45 | 0.53 | 2.8 | 0 |

Sample Identification: K15

K15, 15.5 ft to 20.5 ft., MOP2A, Ground Surface Elevation 15.90 ft, Sample Elevation 0.40 ft to -4.60 ft.

| DEPTH (ft) | POTASSIUM (%/100) | URANIUM (ppm) | THORIUM (ppm) | TOTAL (API) | TOTAL URANIUM FREE (API) |
|---------------|----------------------|------------------|------------------|----------------|-----------------------------------|
| 16 | 0.0033 | 0.44 | 0 | 4.6 | 0 |
| 16.25 | 0.0037 | 0.3 | 0 | 4.6 | 0 |
| 16.5 | 0 | 1.39 | 0.14 | 4.5 | 0 |
| 16.75 | 0 | 0.98 | 0.17 | 3.3 | 0 |
| 17 | 0.0008 | 0.21 | 0.98 | 3.4 | 0.1 |



LITHOLOGICAL ABBREVIATIONS

| | | | |
|--------------|--------------------------------------|--------------|------------------------------------|
| Anhy, anhy | Anhydrite (-ic) | Lim, lim | limestone |
| Ark, ark | arkos (-ic) | med gr | medium grain |
| bnd | band (-ed) | Mtrx | matrix |
| brec | breccia | NA | interval not analyzed |
| Calc, calc | calcite (-ic) | Nod, nod | nodules (-ar) |
| carb | carbonaceous | Ool, ool | oolite (-itic) |
| crs gr | course grained | Piso, piso | pisolite (-itic) |
| Chk, chky | chalk (-y) | pp | pin-point (porosity) |
| Cht, cht | chert (-y) | Pyr, pyr | pyrite (-itized, itic) |
| Cgl, cgl | conglomerate (-ic) | Sd, sdy | sand (-y) |
| crs xln | coarsely crystalline | Shr | solid hydrocarbon residue |
| dns | dense | sli/ | slightly |
| Dol, dol | dolomite (-ic) | Sltstn, slty | siltstone, silty |
| Frac | randomly oriented fractures | styl | stylolite (-itic) |
| frac | slightly fractured | suc | sucrosic |
| f gr | fine grained | Su, su | sulphur, sulphurous |
| foss | fossil (-iferous) | TBFA | TOO BROKEN FOR ANALYSIS |
| f xln | finely crystalline | Trip, trip | tripolitic |
| Gil, gil | gilsonite | v/ | very |
| Glauc, clauc | glauconite (-itic) | vert frac | perdominantly vertically fractured |
| Grt | granite | vug | vuggy |
| Gyp, gyp | gypsum (-iferous) | xbd | crossbedded |
| hor frac | perdominantly horizontally fractured | xln | medium crystalline |
| incl | inclusion (-ded) | xtl | crystal |
| intbd | interbedded | | |
| lam | lamina (-tions,-ated) | | |

THE FIRST WORD IN THE DESCRIPTION COLUMN OF THE CORE ANALYSIS REPORT DESCRIBES THE ROCK TYPE. FOLLOWING ARE ROCK MODIFIERS IN DECREASING ABUNDANCE AND MISCELLANEOUS DESCRIPTIVE TERMS.

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ATTN: STEVE KRUPA
3301 GUN CLUB ROAD
WEST PALM BEACH FL 33406