

WELL INFORMATION SHEET

Well number MF-31 Logging date _____

County MARTIN

Location T _____ R _____ Sec. _____ 1/4 1/4 1/4 Lat. _____ Long. _____

Direction to well site Miles Grant Country Club. I95 N to PGA BLVD
PGA Blvd EAST to US1 N. US1 N to Cove Road. Take
Right on Cove Rd, Proceed East toward Ocean. Country Club
is on N side of Cove Rd. Follow signs.

Special considerations Blind Flange on top of well. Well is near
C.C. office. Manager wants water sample (composite) taken.

Surveys (circle each requested)

Caliper
Flowmeter
16-inch normal resistivity
64-inch normal resistivity
Neutron porosity

Natural gamma
Fluid resistivity
Gamma gamma density
Casing collar locator
Fluid sampler

Temperature gradient
Delta temperature
Spontaneous potential
Point resistance
6-foot lateral resistivity

Intervals to be logged; from ___ ft to ___ ft; from ___ ft to ___ ft; from ___ ft to ___ ft

Bed resolution ___ ft

Hole diameter, interval; dia ___ in from ___ ft to ___ ft; dia ___ in from ___ ft to ___ ft

Casing record, type ; dia ___ in from ___ ft to ___ ft; dia ___ in from ___ ft to ___ ft

Well owner Miles Grant Country Club Office 286-2220

Name of driller Dick Hayes 283-7683 home
Bert Dickerson 287-0365 home

phone number Driller - Doug Arnold

Drilling method 1 1/2" OLD.

Datum elevation ~15' topo

Borehole fluid _____

No. of dist. copies _____

Depth scale _____ in/100 ft

10 IN. - 330'
8 IN. 406

6" P.V.C.

WELL STATION IDENTIFICATION

FORM RP-37 - Rev. 10/78

PAGE 1 OF 2

(COMPLETE THIS FORM ONLY FOR THE INITIAL SURVEY OF EACH WELL)

WELL LOCATION CARD ONE

1	10	16	20	37	54	57	59	63	66	68	71
STATION I. D.	SURVEY DATE	CARD C	WELL NO.	COUNTY	LAT DEG	LAT MIN	LAT SEC	LON DEG	LON MIN	LON SEC	
085000054	110381	W11	ME-31	MARTIN	027	084	700	080	10	3800	

WELL LOCATION CARD TWO

1	17	20	37	39	42	45	61
STATION I. D.	SURVEY DATE	CARD C	QUARTERSECTIONS	SEC	TOWN-SHIP	RANGE	WATER MANAGEMENT DISTRICT PLANNING AREA
		W12	SE1/4; SW1/4; SE1/4	19	38S	41E	UPPER EAST COAST

WELL DATUM CARD

1	17	20	26	32	38	44	59
STATION I. D.	SURVEY DATE	CARD C	KELLY BUSH-ING (FEET)	LAND SUR-FACE (FT)	TOP OF CASING (FT)	OTHER (FT) (SEE NOTES)	DATUM (CHECK ONE)
		W21					MSL- ; LS- 0 ; TOC-3

WELL OWNERSHIP CARD

1	17	20	37	54	57	64	80
STATION I. D.	SURVEY DATE	CARD C	NAME OF OWNER	GROVE/PROPERTY NAME	AREA CODE	TELEPHONE	WELL USE
		W31	DICK HAYES	MILES GRANT, C. C.	305	2837683	WATER SUPPLY

WELL ORIGIN CARD

1	17	20	37	54	71	76
STATION I. D.	SURVEY DATE	CARD C	DRILLER/ DRILLING COMPANY	OFFICE OF DRILLER (CITY)	DRILLING METHOD	DATE COMPLETED
		W41	DOUG ARNOLD	PALM CITY	ROTARY	100181

NOTES: COLUMNS 1-16 ARE DUPLICATED IN EACH CARD.
 COLUMN 16 IS AN ACTION CODE WITH THE FOLLOWING PERMISSABLE STATES - 1 (CREATE NEW RECORD),
 2 (CHANGE ALL VALUES), OR 9 (DELETE OLD RECORD).

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WELL STATION IDENTIFICATION

FORM RP-38 - Rev. 10/78

PAGE 2 OF 2

(COMPLETE THIS FORM ONLY FOR THE INITIAL SURVEY OF EACH WELL)

WELL DESCRIPTION - CONSTRUCTION CARD ONE

1	10	16	20	27	34	41	48	54	59	68
STATION I. D.	SURVEY DATE	CARD C	TOTAL DEPTH -DRILLER (FT)	TOTAL DEPTH -LOGGER (FT)	CASING DEPTH -DRILLER (FT)	CASING DEPTH -LOGGER (FT)	CASING I.D. (INCHES)	BIT SIZE (INCHES)	DRILLER LOG AVAIL.	
085000054	11.03.81	W5.1		109.1		844	589		YES-X;NO-	

WELL DESCRIPTION - CONSTRUCTION CARD TWO

1	17	20	37	54	59	64	69	73
STATION I. D.	SURVEY DATE	CARD C	TYPE OF SCREEN	TYPE OF PACKING	DIA. OF SCREEN	SLOT SIZE (INCHES)	SCREEN BEGINS	SCREEN ENDS (FT)
		W5.2	OPEN HOLE					

WELL DESCRIPTION - CONFIGURATION CARD, SECTION ONE (TOP)

1	17	20	22	39	44	49	54	59	75
STATION I. D.	SURVEY DATE	CARD C	SEC	TYPE OF CASING	NOM. DIA. (INCHES)	BEGIN DEPTH	END DEPTH (FEET)	THICKNESS (INCHES)	TYPE OF ANNULUS FILL
		W6.1	0	P.V.C.	6.0	0	844	0.2	CEMENT

WELL DESCRIPTION - CONFIGURATION CARD, SECTION TWO

1	17	20	22	39	44	49	54	59	75
STATION I. D.	SURVEY DATE	CARD C	SEC	TYPE OF CASING	NOM. DIA. (INCHES)	BEGIN DEPTH	END DEPTH (FEET)	THICKNESS (INCHES)	TYPE OF ANNULUS FILL
		W6.2	0.2	STEEL	10.00	0	300	0.2	CEMENT

WELL DESCRIPTION - CONFIGURATION CARD, SECTION THREE

1	17	20	22	39	44	49	54	59	75
STATION I. D.	SURVEY DATE	CARD C	SEC	TYPE OF CASING	NOM. DIA. (INCHES)	BEGIN DEPTH	END DEPTH (FEET)	THICKNESS (INCHES)	TYPE OF ANNULUS FILL
		W6.3	0.3						

NOTES: COLUMNS 1-16 ARE DUPLICATED IN EACH CARD.
 COLUMN 16 IS AN ACTION CODE WITH THE FOLLOWING PERMISSABLE STATES - 1 (CREATE NEW RECORD),
 2 (CHANGE ALL VALUES), OR 9 (DELETE OLD RECORD).
 CARD TYPES <W64>, <W65>, <W69> MAY ALSO BE USED TO PROVIDE DATA FOR A TOTAL OF NINE SECTIONS.

WELL SURVEY REPORT

FORM RP-39 -- Rev. 10/78

(USE ONE FORM/DAY/WELL)

SURVEY CARD

1	10	16	20	37	54	56	58	60	62	64	66	68	70	72
STATION I. D.	SURVEY DATE	CARD C	LOGGED BY	WITNESSED BY	*****									
085000054	11.03.81	W71	S. ANDERSON	P. DAUENHAUER	X	X	X	X	X		X	X	X	

*INSERT AN <X> IN EACH COLUMN FOR WHICH A SURVEY WAS CONDUCTED. SURVEY CODES ARE LISTED BELOW:

A = CALIPER	F = NATURAL GAMMA	K = TEMPERATURE GRADIENT
B = FLOWMETER	G = FLUID RESISTIVITY	L = DELTA TEMPERATURE
C = 16-INCH NORMAL RESISTIVITY	H = GAMMA GAMMA DENSITY	M = SPONTANEOUS POTENTIAL
D = 64-INCH NORMAL RESISTIVITY	I = CASING COLLAR LOCATOR	N = POINT RESISTANCE
E = NEUTRON POROSITY	J = FLUID SAMPLER	O = 6-FOOT LATERAL RESISTIVITY

FLUID QUALITY CARD ONE

1	17	20	37	54	60	63
STATION I. D.	SURVEY DATE	CARD C	SAMPLE SOURCE (WELLHEAD, ETC.)	TYPE FLUID	DATE SAMPLED	TIME SAMPLED
		W81	WELLHEAD	FORMATION WATER	11.03.81	1400

FLUID QUALITY CARD TWO

1	17	20	25	32	35	41	47	53	60	64	70	75
STATION I. D.	SURVEY DATE	CARD C	TEMP. OF SAMPLE	FIELD SP. GRAVITY	FIELD PH	CHLORIDE (MG/L)	DISSOLVED SOLIDS	SPEC. COND. (U-MHO/CM)	STATIC WATER LEVEL (FEET)	W/L REF FROM	FLOW RATE (GAL/MIN)	PUMP RATE (GAL/MIN)
		W82	74.9	PF				304.20				

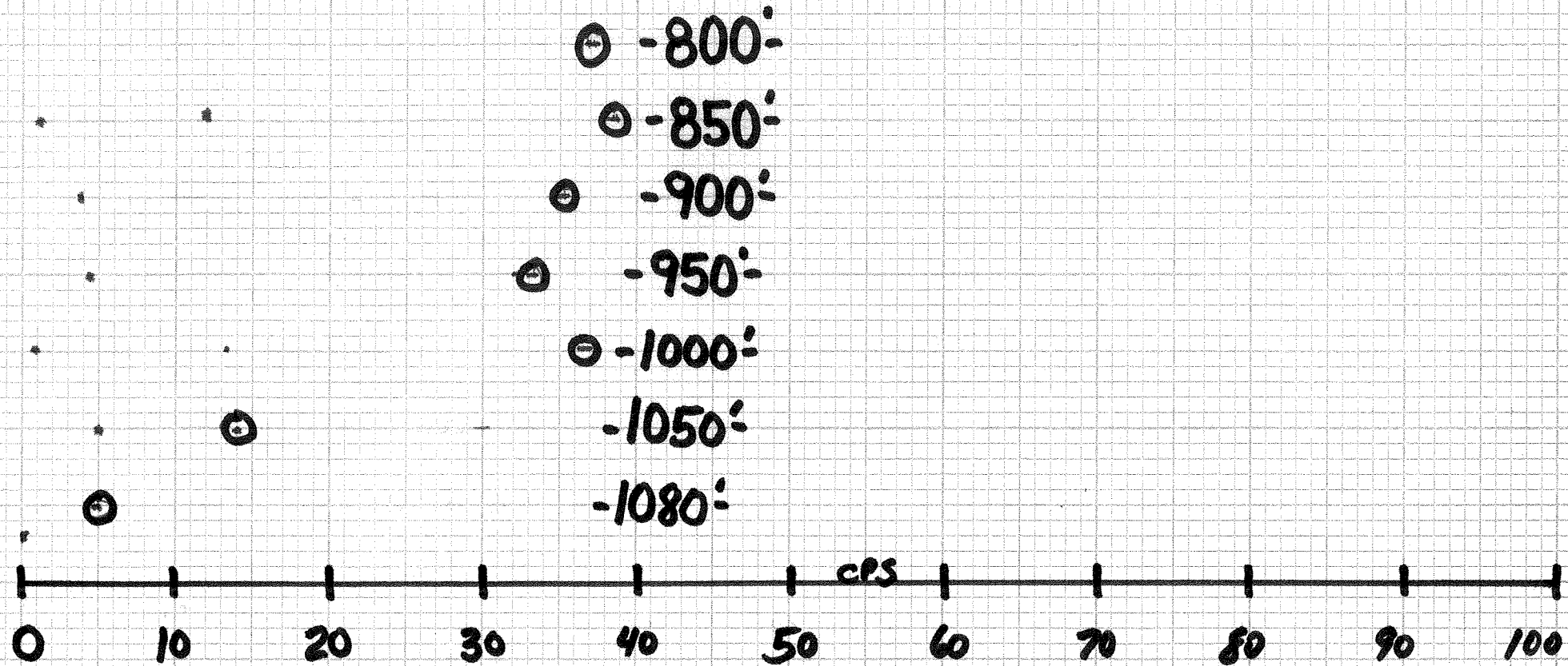
COMMENT CARDS

1	17	20	40	60	76
STATION I. D.	SURVEY DATE	CARD C	COMMENTS - LINE 1	COMMENTS - LINE 2	COMMENTS - LINE 3
		W91			

1	17	20	40	60	76
STATION I. D.	SURVEY DATE	CARD C	COMMENTS - LINE 4	COMMENTS - LINE 5	COMMENTS - LINE 6
		W92			

NOTES: COLUMNS 1-16 ARE DUPLICATED IN EACH CARD.
 COLUMN 16 IS AN ACTION CODE WITH THE FOLLOWING PERMISSABLE STATES - 1 (CREATE NEW RECORD),
 2 (CHANGE ALL VALUES), OR 9 (DELETE OLD RECORD).
 CARD TYPES <W93>, <W94>, ..., <W99> MAY ALSO BE USED TO PROVIDE UP TO A TOTAL OF TWENTY-SEVEN COMMENT LINES.

TISH



FLOWMETER

MF-31



WELL LOG

WELL LOCATION

County MARTIN
 Station I. D. Q85000054
 Date 11-03-81 Well No. MF-31
 Latitude 027°08'47" Longitude 080°10'38"
 SE 1/4 SW 1/4 Section 19 Township 39S Range 41E
 Owner MILE GRANT G.C. Phone 305-293-7683
 Driller DOUG ARNO-D Date Drilled 10/01/81

DATUM

K.B. _____ L.S. 2.0' T.O.C. X

FLUID QUALITY

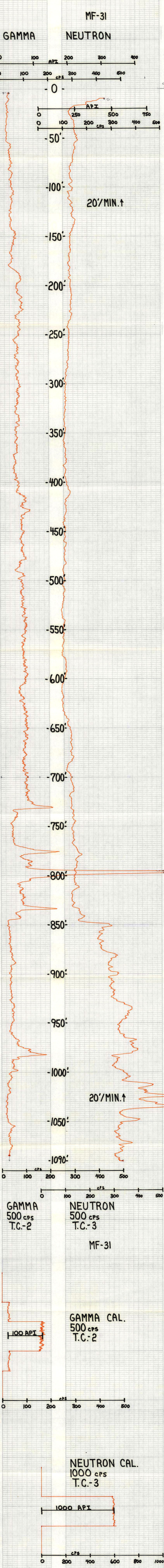
Date 11-03-81 Time 1400 Source of Sample WEIHPAD
 Cl _____ mg/l Type of Fluid FORMATION WATER
 Temp. 74.9°F % Field Density _____ @ _____ °C
 T.D.S. _____ mg/l Spec. Cond. 3,042 μmhos/cm
 Logged By: S. ANDERSON Witnessed By: P. DAVENHAUER
 Comments: 10" STEEL CASING DOWN TO 300'
WITH 6" PVC INSIDE.

WELL CONSTRUCTION

Drilling Method: Rot X Air CT Auger _____ Other _____
 T. Depth - Driller 1120 T. Depth - Logger 1091
 Casing Depth Driller _____ Casing Depth Logger 844'
 Bit Size _____ Casing Dia. I.D. 5.80"
 Hole Dia. 6.0 From 0 To 844 Dia. From _____ To _____
 Type of Casing P.V.C. Casing Thickness 0.3"
 Type of Screen OPEN HOLE Screen Int. From _____ To _____
 Type of Packing _____ Well Use WATER SUPPLY
 Static Water Level _____ Date 11-03-81
 Yield Flow ≈ 200 G.P.M. Pump _____

TYPE OF SURVEYS RUN

Lateral 6" Caliper (X) Density ()
 Flow meter (X) Fluid Sampler ()
 Neutron (X) Temperature (X)
 Natural Gamma (X) Delta Temp. (X)
 Fluid Resistivity (X) SP (X)





WELL LOG

WELL LOCATION

County MARTIN
Station I. D. 085000054
Date 11-03-81 Well No. MF-31
Latitude 027°08'47" Longitude 080°10'38"
SE 1/4 SW 1/4 SE 1/4 Section 19 Township 38S Range 41E
Owner MILE GRANT C.C. Phone 305-283-7683
Driller DOUG ARNOLD Date Drilled 10/01/81

WELL CONSTRUCTION

Drilling Method: Rot. Air CT Auger Other
T. Depth - Driller 1120 T. Depth - Logger 1091
Casing Depth Driller _____ Casing Depth Logger 844'
Bit Size _____ Casing Dia. I.D. 5.80"
Hole Dia. 6.0 From 0 To 844' Dia. _____ From _____ To _____
Type of Casing P.V.C. Casing Thickness 0.3"
Type of Screen OPEN HOLE Screen Int. From _____ To _____
Type of Packing _____ Well Use WATER SUPPLY
Static Water Level _____ Date 11-03-81
Yield Flow ≈ 200 G.P.M. Pump _____

DATUM

K.B. _____ L.S. 3.0' T.O.C.

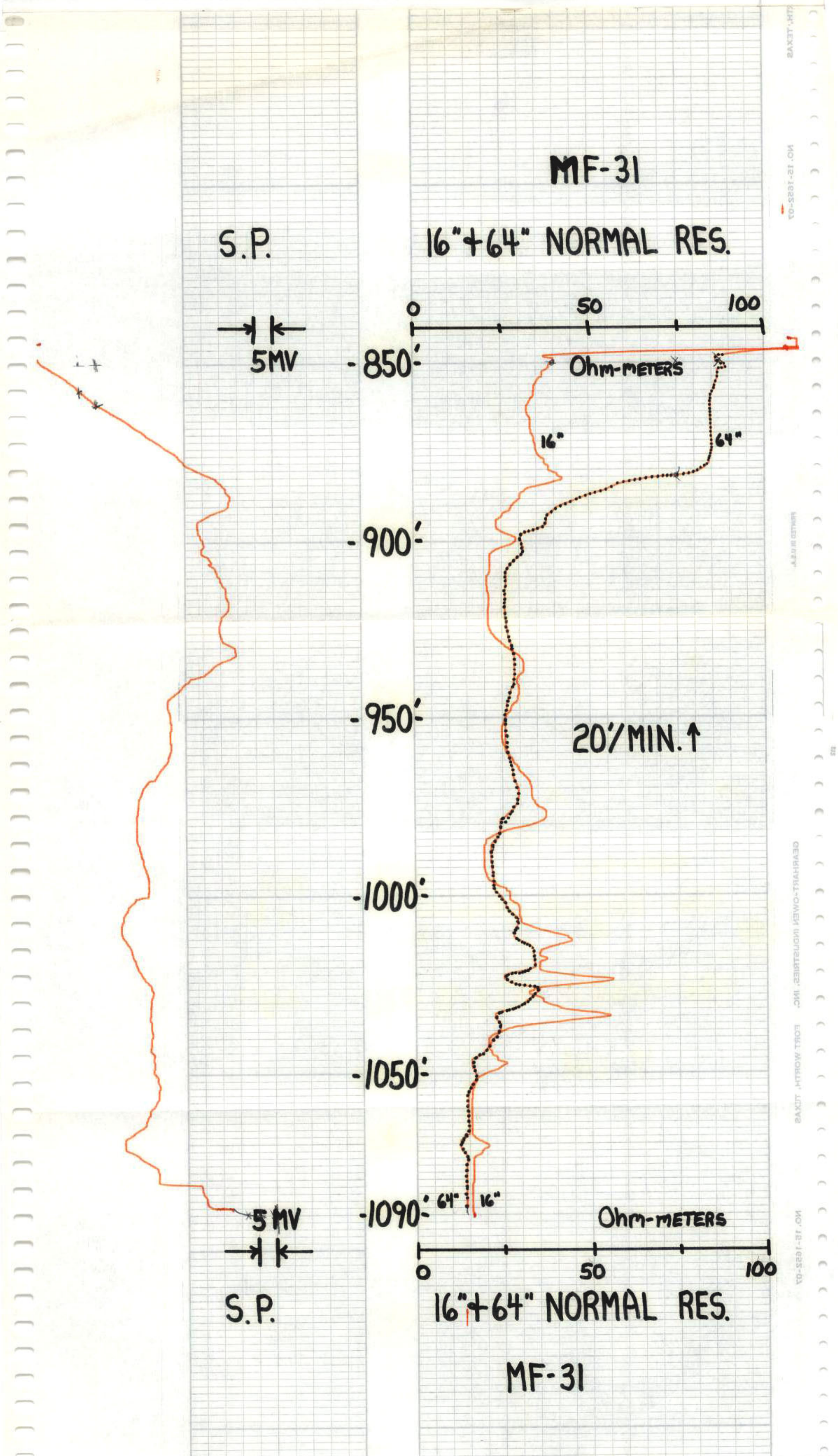
FLUID QUALITY

Date 11-03-81 Time 1400 Source of Sample WELLHEAD
Cl _____ mg/l Type of Fluid FORMATION WATER
Temp. 74.9°F % Field Density _____ @ _____ °C
T.D.S. _____ mg/l Spec. Cond. 3,042 umhos/cm
Logged By: S. ANDERSON Witnessed By: P. DAVENHAUER

Comments: 10" STEEL CASING DOWN TO 300'
WITH 6" PVC INSIDE.

TYPE OF SURVEYS RUN

- | | | | |
|-------------------|-------------------------------------|---------------|-------------------------------------|
| Lateral 6' | <input checked="" type="checkbox"/> | Density | <input type="checkbox"/> |
| Caliper | <input checked="" type="checkbox"/> | ccf | <input type="checkbox"/> |
| Flow meter | <input checked="" type="checkbox"/> | Fluid Sampler | <input type="checkbox"/> |
| 16", 64" normals | <input checked="" type="checkbox"/> | Temperature | <input checked="" type="checkbox"/> |
| Neutron | <input checked="" type="checkbox"/> | Delta Temp. | <input checked="" type="checkbox"/> |
| Natural Gamma | <input checked="" type="checkbox"/> | SP | <input checked="" type="checkbox"/> |
| Fluid Resistivity | <input checked="" type="checkbox"/> | | |





WELL LOG

WELL LOCATION

County MARTIN
 Station I. D. 085000054
 Date 11-03-81 Well No. MF-31
 Latitude 027°-08'-47" Longitude 080°-10'-38"
 SE 1/4 SW 1/4 Section 19 Township 36S Range 42E
 Owner MILE GRANT C.C. Phone 305-283-7683
 Driller DOUG ARNOLD Date Drilled 10/01/81

WELL CONSTRUCTION

Drilling Method: Rot. Air CT Auger Other
 T. Depth - Driller 1120 T. Depth - Logger 1091
 Casing Depth Driller _____ Casing Depth Logger 844'
 Bit Size _____ Casing Dia. I.D. 5.80"
 Hole Dia. 6.0 From 0 To 844 Dia. From _____ To _____
 Type of Casing P.V.C. Casing Thickness 0.3"
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 Type of Packing _____ Well Use WATER SUPPLY
 Static Water Level _____ Date 11-03-81
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K.B. _____ L.S. 3.0' T.O.C.

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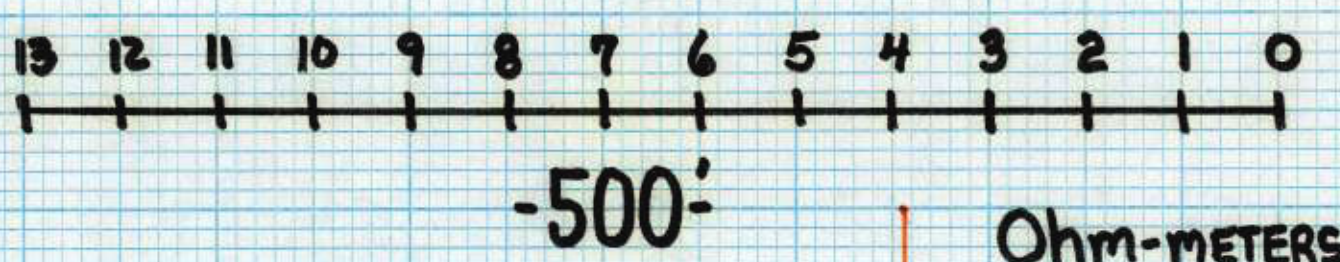
Date 11-03-81 Time 1400 Source of Sample WELLHEAD
 Cl _____ mg/l Type of Fluid FORMATION WATER
 Temp. 74.9° F % Field Density _____ @ _____ °C
 T.D.S. _____ mg/l Spec. Cond. 3,042 umhos/cm
 Logged By: S. ANDERSON Witnessed By: P. DAUENHAUER
 Comments: 10" STEEL CASING DOWN TO 300'
WITH 6" PVC INSIDE.

TYPE OF SURVEYS RUN

Lateral 6'	(X)	Density	()
Caliper	(X)	cci	()
Flow meter	(X)	Fluid Sampler	()
16", 64" normals	(X)	Temperature	(X)
Neutron	(X)	Delta Temp.	(X)
Natural Gamma	(X)	SP	(X)
Fluid Resistivity	<input checked="" type="checkbox"/>		

MF-31

FLUID RESISTIVITY



-550'

-600'

-650'

-700'

-750'

-800'

-850'

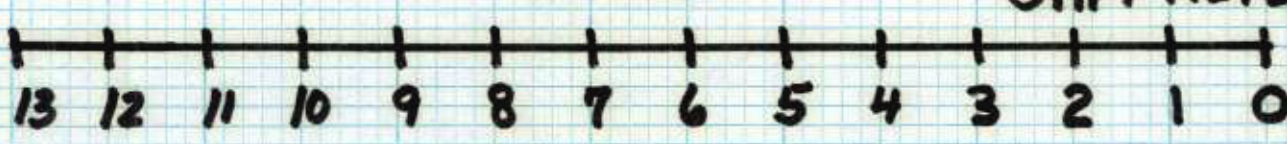
-900'

-950'

-1000'

-1050'

-1090'



FLUID RESISTIVITY

MF-31

NEW YORK 6339 RICHMOND CHARTER GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK



WELL LOG

WELL LOCATION

County MARTIN
Station I. D. 085000054
Date 11-03-81 Well No. MF-31
Latitude 027°-08'-47" Longitude 080°-10'-38"
SE 1/4 SW 1/4 SE 1/4 Section 19 Township 38S Range 41E
Owner MILE GRANT C.C. Phone 305-283-7683
Driller DOUG ARNOLD Date Drilled 10/01/81

WELL CONSTRUCTION

Drilling Method: Rot. Air CT Auger Other
T. Depth - Driller 1120 T. Depth - Logger 1091
Casing Depth Driller Casing Depth Logger 844'
Bit Size Casing Dia. I.D. 5.80"
Hole Dia. 6.0 From 0 To 844' Dia. From To
Type of Casing P.V.C. Casing Thickness 0.3"
Type of Screen OPEN HOLE Screen Int. From To
Type of Packing Well Use WATER SUPPLY
Static Water Level Date 11-03-81
Yield Flow ≅ 200 G.P.M. Pump

DATUM

K.B. L.S. 3.0' T.O.C.

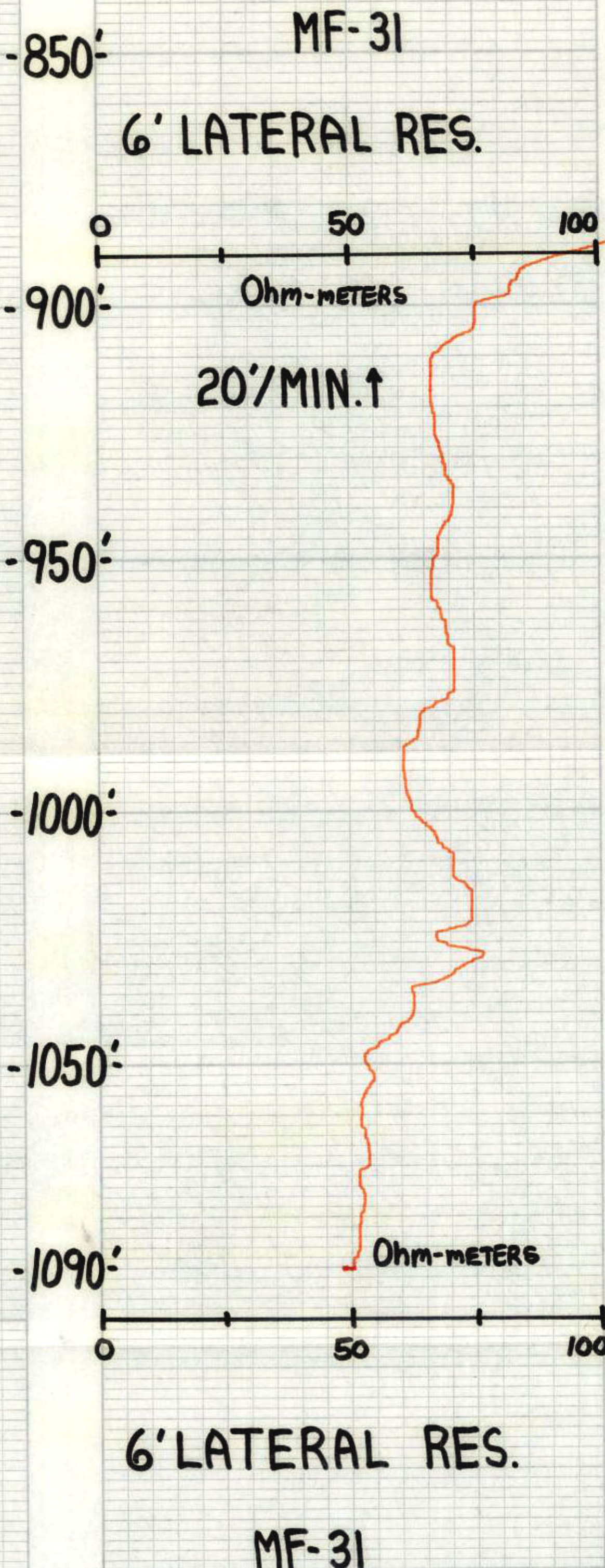
FLUID QUALITY

Date 11-03-81 Time 1400 Source of Sample WELLHEAD
Cl mg/l Type of Fluid FORMATION WATER
Temp. 74.9°F % Field Density @ °C
T.D.S. mg/l Spec. Cond. 3,042 umhos/cm
Logged By: S. ANDERSON Witnessed By: P. DAVENHAUER

Comments: 10" STEEL CASING DOWN TO 300'
WITH 6" PVC INSIDE.

TYPE OF SURVEYS RUN

- | | | | |
|-------------------|-----|---------------|-----|
| Lateral 6' | (X) | Density | () |
| Caliper | (X) | ocl | () |
| Flow meter | (X) | Fluid Sampler | () |
| 16", 64" normals | (X) | Temperature | (X) |
| Neutron | (X) | Delta Temp. | (X) |
| Natural Gamma | (X) | SP | (X) |
| Fluid Resistivity | (X) | | |





WELL LOG

WELL LOCATION

County MARTIN
 Station I. D. 085000054
 Date 11-03-81 Well No. MF-31
 Latitude 027°08'47" Longitude 080°10'38"
 SE SW SE SE Section 19 Township 38S Range 41E
 Owner MILE GRANT C.C. Phone 305-293-7683
 Driller DOUG ARNOLD Date Drilled 10/01/81
 WELL CONSTRUCTION
 Drilling Method: Rot. Air CT Auger Other
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 Type of Screen OPEN HOLE Screen Int. From _____ To _____
 Type of Packing _____ Well Use WATER SUPPLY
 Static Water Level _____ Date 11-03-81
 Yield Flow ≈ 200 G.P.M. Pump _____

DATUM

K.B. _____ L.S. 3.0' T.O.C.

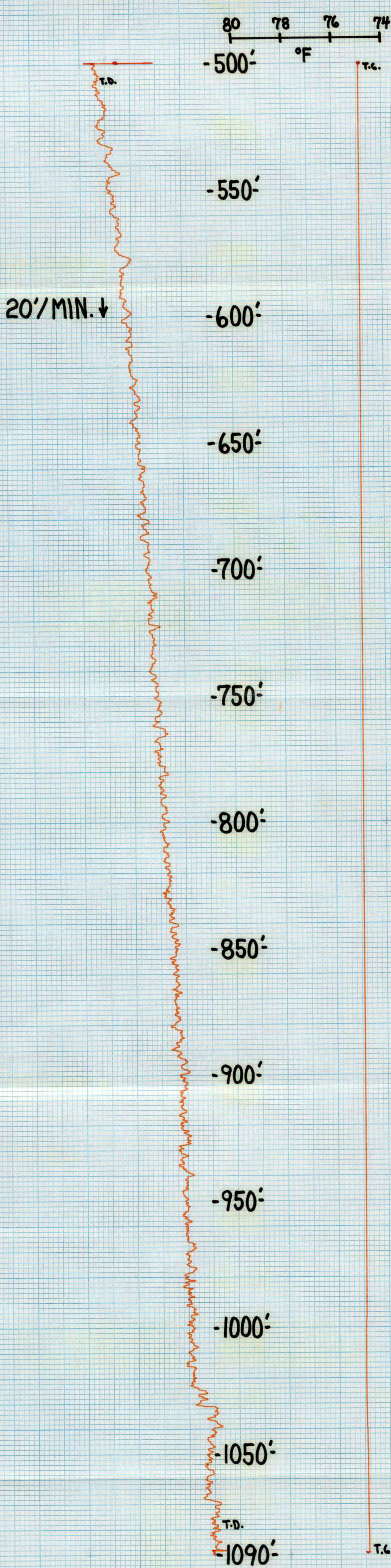
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TYPE OF SURVEYS RUN

Lateral 6'	<input checked="" type="checkbox"/>	Density	<input type="checkbox"/>
Caliper	<input checked="" type="checkbox"/>	cci	<input type="checkbox"/>
Flow meter	<input checked="" type="checkbox"/>	Fluid Sampler	<input type="checkbox"/>
16", 64" normals	<input checked="" type="checkbox"/>	Temperature	<input checked="" type="checkbox"/>
Neutron	<input checked="" type="checkbox"/>	Delta Temp.	<input checked="" type="checkbox"/>
Natural Gamma	<input checked="" type="checkbox"/>	SP	<input checked="" type="checkbox"/>
Fluid Resistivity	<input checked="" type="checkbox"/>		

MF-31
TEMPERATURE DIFFERENTIAL **TEMPERATURE GRADIENT**



TEMPERATURE DIFFERENTIAL **TEMPERATURE GRADIENT**
MF-31

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WELL LOG

WELL LOCATION

County MARTIN
 Station I. D. 085000054
 Date 11-03-81 Well No. MF-31
 Latitude 027°08'47" Longitude 080°10'38"
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 19 Township: 3FS Range 41E
 Owner MILE GRANT C.C. Phone 305-293-7683
 Driller DOUG ARNOLD Date Drilled 10/01/81

WELL CONSTRUCTION

Drilling Method: Rot. Air CT Auger Other
 T. Depth - Driller 1120 T. Depth - Logger 1091
 Casing Depth Driller _____ Casing Depth Logger 844'
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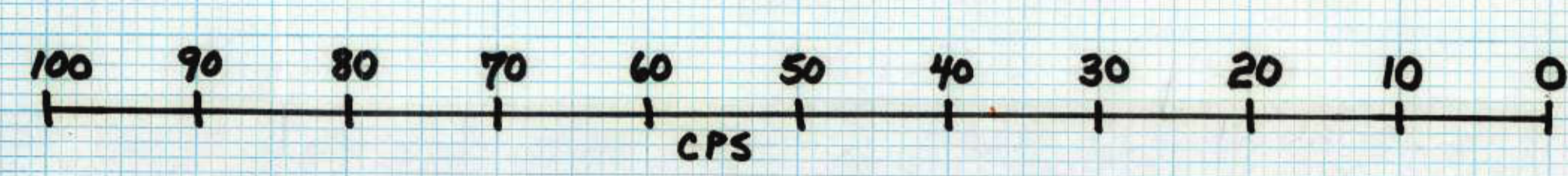
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TYPE OF SURVEYS RUN

Lateral 6'	(X)	Density	()
Caliper	(X)	ocl	()
Flow meter	(X)	Fluid Sampler	()
16", 64" normals	(X)	Temperature	(X)
Neutron	(X)	Delta Temp.	(X)
Natural Gamma	(X)	SP	(X)
Fluid Resistivity	(X)		

MF-31
FLOWMETER



-500'
 STEADY STATE FLOW

-550'
 -600'
 30'/MIN. ↓
 T.C.-2

-650'

-700'

-750'

-800'

-850'

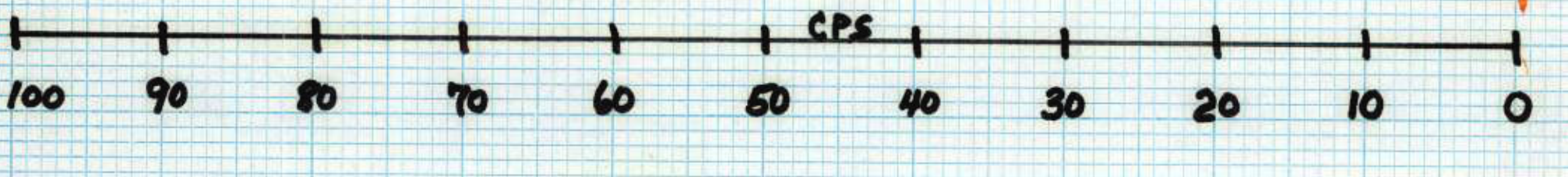
-900'

-950'

-1000'

-1050'

-1090'



FLOWMETER
MF-31

RECORDED IN GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK
 PRINTED IN U.S.A.
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