

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		SURVEY		CARD		WELL NO.		COUNTY		LAT		LAT		LAT		LON		LON		LON			
I. D.		DATE		C						DEG		MIN		SEC		DEG		MIN		SEC			
0550000		12040782		W11		HIF-38		HIGHLANDS		0270		0745		081		28		33					

WELL LOCATION CARD TWO

1		17		20		37		39		42		45		61	
STATION		SURVEY		CARD		QUARTERSECTIONS		SEC		TOWN-SHIP		RANGE		WATER MANAGEMENT DISTRICT PLANNING AREA	
I. D.		DATE		C											
				W12		SW1/4; NE1/4; NW1/4		36		39S		28E		K. P. A.	

WELL DATUM CARD

1		17		20		26		32		38		44		59	
STATION		SURVEY		CARD		KELLY BUSH-ING (FEET)		LAND SUR-FACE (FT)		TOP OF CASING (FT)		OTHER (FT) (SEE NOTES)		DATUM (CHECK ONE)	
I. D.		DATE		C											
				W21		0.7								MSL- ; LS- ; TOC-X	

WELL OWNERSHIP CARD

1		17		20		37		54		57		64		80	
STATION		SURVEY		CARD		NAME OF OWNER		AREA CODE		PROPERTY NAME		TELEPHONE		WELL USE	
I. D.		DATE		C											
				W31		GARDNER									

WELL ORIGIN CARD

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

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.	
05500000	12040782	W51		1430		356			YES- ; 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)
		W52	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
		W610		STEEL	120				

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
		W6202							

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
		W6303							

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	A CARD C	LOGGED BY	WITNESSED BY	*****																			
					A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
055000012040782	W71	S. ANDERSON		P. DAVENHAVER	X	X	X	X	X	X	X	X	X	X	X	X	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	A CARD C	SAMPLE SOURCE (WELLHEAD, ETC.)	TYPE FLUID	DATE SAMPLED	TIME SAMPLED
			W81 WELLHEAD	FORMATION WATER	04.07.82	1400

FLUID QUALITY CARD TWO

1	17	20	25	32	35	41	47	53	60	64	70	75
STATION I. D.	SURVEY DATE	A 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 72.4 F					99.50				

COMMENT CARDS

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

1	17	20	40	60	76
STATION I. D.	SURVEY DATE	A 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.

1151



WELL LOG

WELL LOCATION

County HIGHLANDS
 Station I.D. 055000012
 Date 04-07-82 Well No. HIF-38
 Latitude 027-02-45 Longitude 081-28-33
 NW 1/4 NE 1/4 SW 1/4 Section 36 Township 39S Range 28E
 Owner _____ Phone _____
 Driller GARDIER Date Drilled _____

WELL CONSTRUCTION

Drilling Method: Rot. Air Auger Other _____
 T. Depth - Driller _____ T. Depth - Logger 1430'
 Casing Depth Driller _____ Casing Depth Logger _____
 Bit Size _____ Casing Dia. I.D. 12"
 Hole Dia. _____ From _____ To _____ Dia. _____ From _____ To _____

Type of Casing STEEL Casing Thickness 0.5"
 Type of Screen DREN HOLE Screen Int. From _____ To _____
 Type of Packing _____ Well Use _____
 Static Water Level _____ Date _____
 Yield Flow _____ Pump _____

DATUM

K.B. _____ L.S. _____ T.O.C. 7'

FLUID QUALITY

Date 04-07-82 Time 1400 Source of Sample WELL HEAD
 Cl _____ mg/l Type of Fluid FORMATION WATER
 Temp. 77.4°F Field Density _____ @ _____ °C
 T.D.S. _____ mg/l Spec. Cond. 995.0 μ mhos/cm
 Logged By: S. ANDERSON Witnessed By: P. DAWENHAUER
 Comments: _____

TYPE OF SURVEYS RUN

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

HIF-38

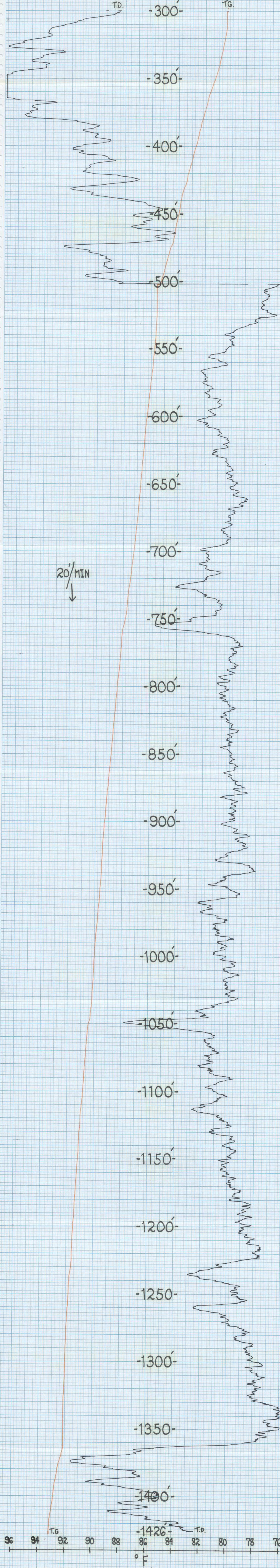
TEMPERATURE DIFFERENTIAL

TEMPERATURE GRADIENT

82 80 78 76 °F

T.D.

T.G.



96 94 92 90 88 86 84 82 80 78 76 °F



WELL LOG

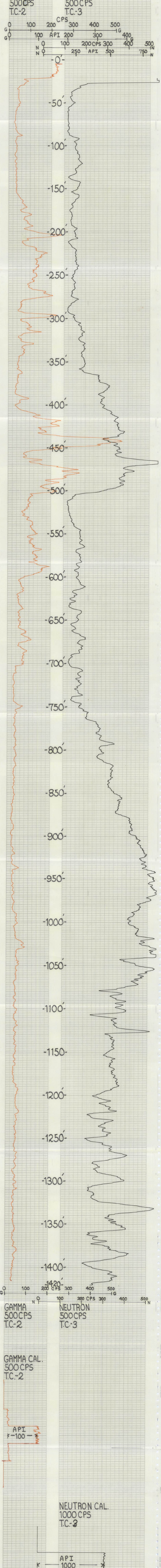
WELL LOCATION
County HIGHLANDS
Station I.D. 055000012
Date 04-07-82 Well No. HIF-38
Latitude 027-02-45 Longitude 081-22-33
NW 1/4 NE 1/4 SW 1/4 Section 36 Township 39S Range 28E
Owner _____ Phone _____
Driller GARDNER Date Drilled _____

WELL CONSTRUCTION
Drilling Method: Rot. Air Auger _____ Other _____
T. Depth - Driller _____ T. Depth - Logger 1430'
Casing Depth Driller _____ Casing Depth Logger _____
Bit Size _____ Casing Dia. I.D. 12"
Hole Dia. _____ From _____ To _____ Dia. _____ From _____ To _____
Type of Casing STEEL Casing Thickness 0.5"
Type of Screen OPENHOLE Screen Int. From _____ To _____
Type of Packing _____ Well Use _____
Static Water Level _____ Date _____
Yield Flow _____ Pump _____

DATUM
K.B. _____ L.S. _____ T.O.C. .7'

FLUID QUALITY
Date 04-07-82 Time 1400 Source of Sample WELL HEAD
Cl _____ mg/l Type of Fluid FORMATION WATER
Temp. 77.4° Field Density _____ @ _____ °C
T.D.S. _____ mg/l Spec. Cond. 995.0 umhos/cm
Logged By: S. ANDERSON Witnessed By: P. DAVENHAUER
Comments: _____

TYPE OF SURVEYS RUN
Lateral 6" Caliper Density
Flow meter Fluid Sampler
16" 64" normals Temperature
Neutron Delta Temp.
Natural Gamma SR
Fluid Resistivity





WELL LOG

WELL LOCATION

County HIGHLANDS
 Station I. D. Q55000012
 Date 09-07-82 Well No. HIF-38
 Latitude 027-02-45 Longitude 081-28-33
NW 1/4 NE 1/4 SW 1/4 Section 36 Township 39S Range 28E
 Owner _____ Phone _____
 Driller GARDNER Date Drilled _____
 Well Construction
 Drilling Method: Rot. Air Auger Other _____
 T. Depth - Driller _____ T. Depth - Logger 1430'
 Casing Depth Driller _____ Casing Depth Logger _____
 Bit Size _____ Casing Dia. I.D. 12"
 Hole Dia. _____ From _____ To _____ Dia. _____ From _____ To _____
 Type of Casing STEEL Casing Thickness 0.5"
 Type of Packing OPENHOLE Screen Int. From _____ To _____
 Type of Packing _____ Well Use _____
 Static Water Level _____ Date _____
 Yield Flow _____ Pump _____

DATUM

K.B. _____ L.S. _____ T.O.C. 7'

FLUID QUALITY

Date 09-07-82 Time 1406 Source of Sample WELL HEAD
 Cl _____ mg/l Type of Fluid FORMATION WATER
 Temp. 77.4°F Field Density _____ @ _____ °C
 T.D.S. _____ mg/l Spec. Cond. 995.0 umhos/cm
 Logged By: S. ANDERSON Witnessed By: P. DAWENHAUER
 Comments: _____

TYPE OF SURVEYS RUN

- | | | | |
|-------------------|-----|---------------|-----|
| Lateral 6' | () | 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) | | |

HIF-38
FLUID
RESISTIVITY

OHM-METERS

0 1 2 3 4 5 6 7 8 9 10 11 12 13

-300'

-350'

-400'

-450'

-500'

-550'

-600'

-650'

-700'

↑
20'/MIN

-750'

-800'

-850'

-900'

-950'

-1000'

-1050'

-1100'

-1150'

-1200'

-1250'

-1300'

-1350'

-1400'

0 1 2 3 4 5 6 7 8 9 10 11 12 13

OHM-METERS

RECORDED (CHECKED) GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK 6339



WELL LOG

WELL LOCATION

County HIGHLANDS
 Station I. D. 055000012
 Date 04-07-82 Well No. HIF-38
 Latitude 027-02-45 Longitude 081-28-33
NW 1/4 NE 1/4 SW 1/4 Section 36 Township 39S Range 28E
 Owner _____ Phone _____
 Driller GARDIER Date Drilled _____

DATUM

K.B. _____ L.S. _____ T.O.C. .7'

FLUID QUALITY

Date 04-07-82 Time 1406 Source of Sample WELL HEAD
 Cl _____ mg/l Type of Fluid FORMATION WATER
 Temp. 77.4°F Field Density @ _____ °C
 T.D.S. _____ mg/l Spec. Cond. 995.0 μmhos/cm
 Logged By: S. ANDERSON Witnessed By: P. DAUENHAUER
 Comments: _____

WELL CONSTRUCTION

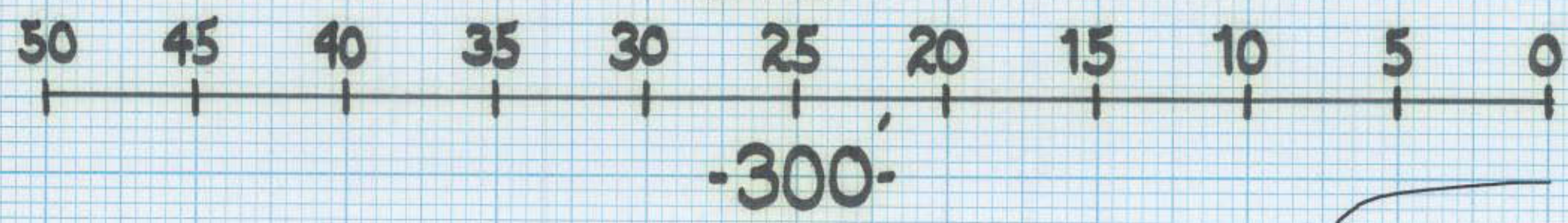
Drilling Method: Rot. Air Auger Other _____
 T. Depth - Driller _____ T. Depth - Logger 1430'
 Casing Depth Driller _____ Casing Depth Logger _____
 Bit Size _____ Casing Dia. I.D. 12"
 Hole Dia. _____ From _____ To _____ Dia. _____ From _____ To _____
 Type of Casing STEEL Casing Thickness 0.5"
 Type of Screen OPEN HOLE Screen Int. From _____ To _____
 Type of Packing _____ Well Use _____
 Static Water Level _____ Date _____
 Yield Flow _____ Pump _____

TYPE OF SURVEYS RUN

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

HIF-38
FLOWMETER

CPS



-300'

-350'

-400'

-450'

-500'

STUCK
PROBE

-550'

-600'

-650'

50' ● / MIN
↓

-700'

-750'

-800'

-850'

-900'

-950'

-1000'

-1050'

-1100'

-1150'

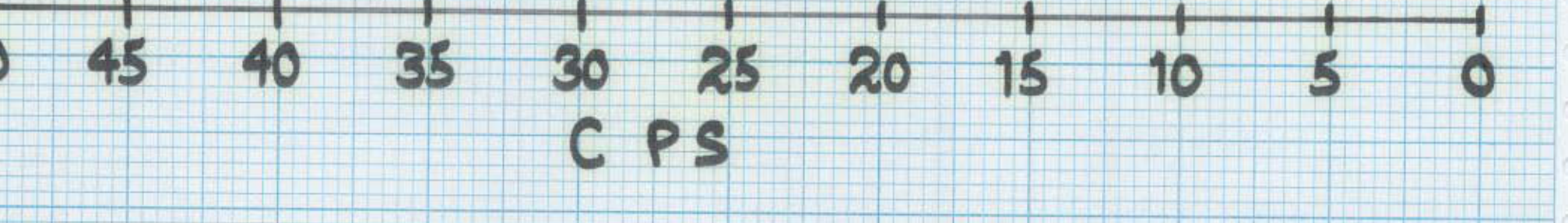
-1200'

-1250'

-1300'

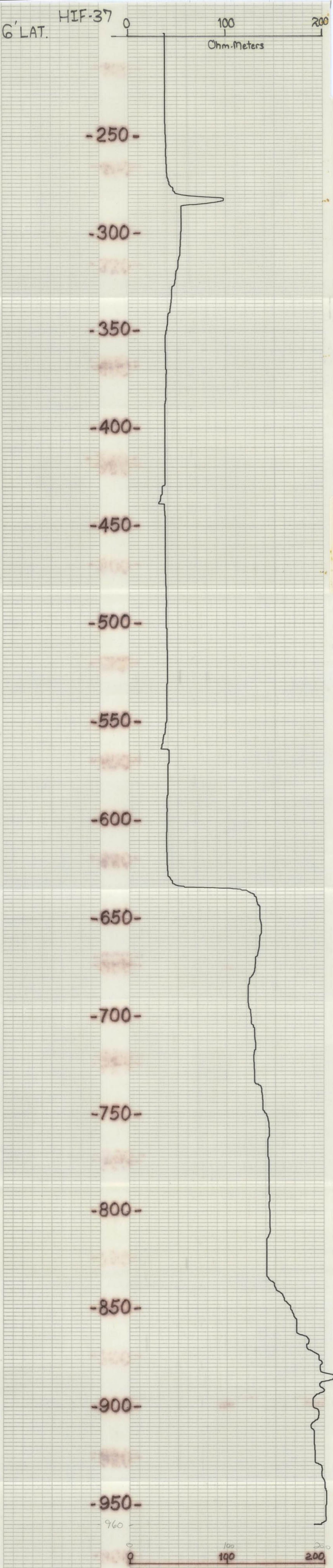
-1350'

-1400'



CPS

HIF-38



HIF-38
20/mm²
4-14-82

960
0 100 200
190 200



WELL LOG

WELL LOCATION

County HIGHLANDS
Station I. D. 055000012
Date 04-07-82 Well No. HIF-38
Latitude 027-02-45" Longitude 081-28-33"
NW¼NE¼SW¼ Section 36 Township 38S Range 28E
Owner _____ Phone _____
Driller GARDIER Date Drilled _____

DATUM

K.B. _____ L.S. _____ T.O.C. .7'

FLUID QUALITY

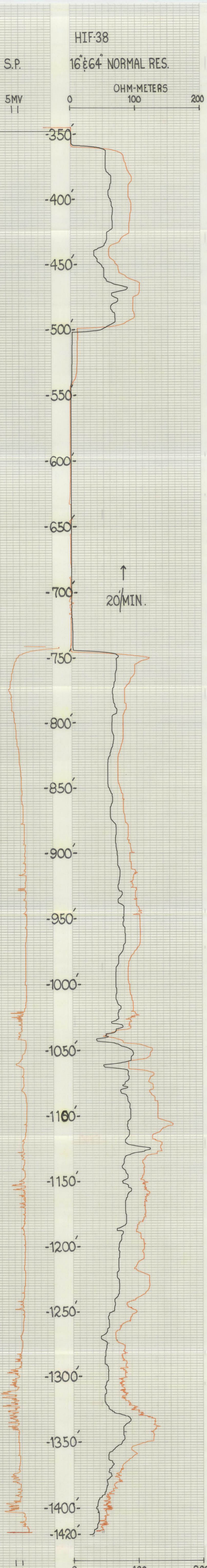
Date 04-07-82 Time 1400 Source of Sample WELL HEAD
Cl _____ mg/l Type of Fluid FORMATION WATER
Temp. 77.4°F Field Density _____ °C
T.D.S. _____ mg/l Spec. Cond. 995.0 μmhos/cm
Logged By: S. ANDERSON Witnessed By: P. DAWENHAUER
Comments: _____

WELL CONSTRUCTION

Drilling Method: Rot. Air Auger Other _____
T. Depth - Driller _____ T. Depth - Logger 1430'
Casing Depth Driller _____ Casing Depth Logger _____
Bit Size _____ Casing Dia. I.D. 12"
Hole Dia. _____ From _____ To _____ Dia. _____ From _____ To _____
Type of Casing STEEL Casing Thickness 0.5"
Type of Screen OPEN HOLE Screen Int. From _____ To _____
Type of Packing _____ Well Use _____
Static Water Level _____ Date _____
Yield Flow _____ Pump _____

TYPE OF SURVEYS RUN

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



HTF-38

