

GLO1400

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
BRIAN J. BOYLE, Commissioner of Public Lands
JAMES A. STEARNS, Department Supervisor

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SUBJ
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DIVISION OF GEOLOGY AND EARTH RESOURCES
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GEOPHYSICAL LOGS OF SELECTED WELLS IN EASTERN WASHINGTON

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Open-File Report 83-14

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Introduction

This open-file report consists of geophysical well logs compiled during studies of the geohydrology and low temperature geothermal resources of eastern Washington. The work was carried out by personnel of the Geological Engineering Section, Department of Civil and Environmental Engineering, Washington State University and the Division of Geology and Earth Resources, Department of Natural Resources, with funding provided by the U.S. Department of Energy.

The geophysical logs are divided into two groups. Part A consists of wells which were studied by Scott Widness, Washington State University, and are concentrated in the Moses Lake-Ritzville-Connell area. Results of the geohydrologic study are discussed in Widness (1983, 1984). Part B consists of wells outside of the Moses Lake-Ritzville-Connell study area.

A previous study of eastern Washington geohydrology by John Biggane, Washington State University, examined well logs for the Yakima area. Fluid temperature and other geophysical logs for these wells are presented and discussed in Biggane (1982a, 1982b, 1983).

Part A:

Geophysical Well Logs for portions of Adams, Franklin, Grant, southern Douglas, and southern Lincoln Counties. These logs were collected as part of a geohydrologic-geothermal study of the Moses Lake-Ritzville-Connell area (see figure 1). They are listed in table 2 and organized by ascending township, range, and section. For additional information about the study see Widness (1983 and 1984).

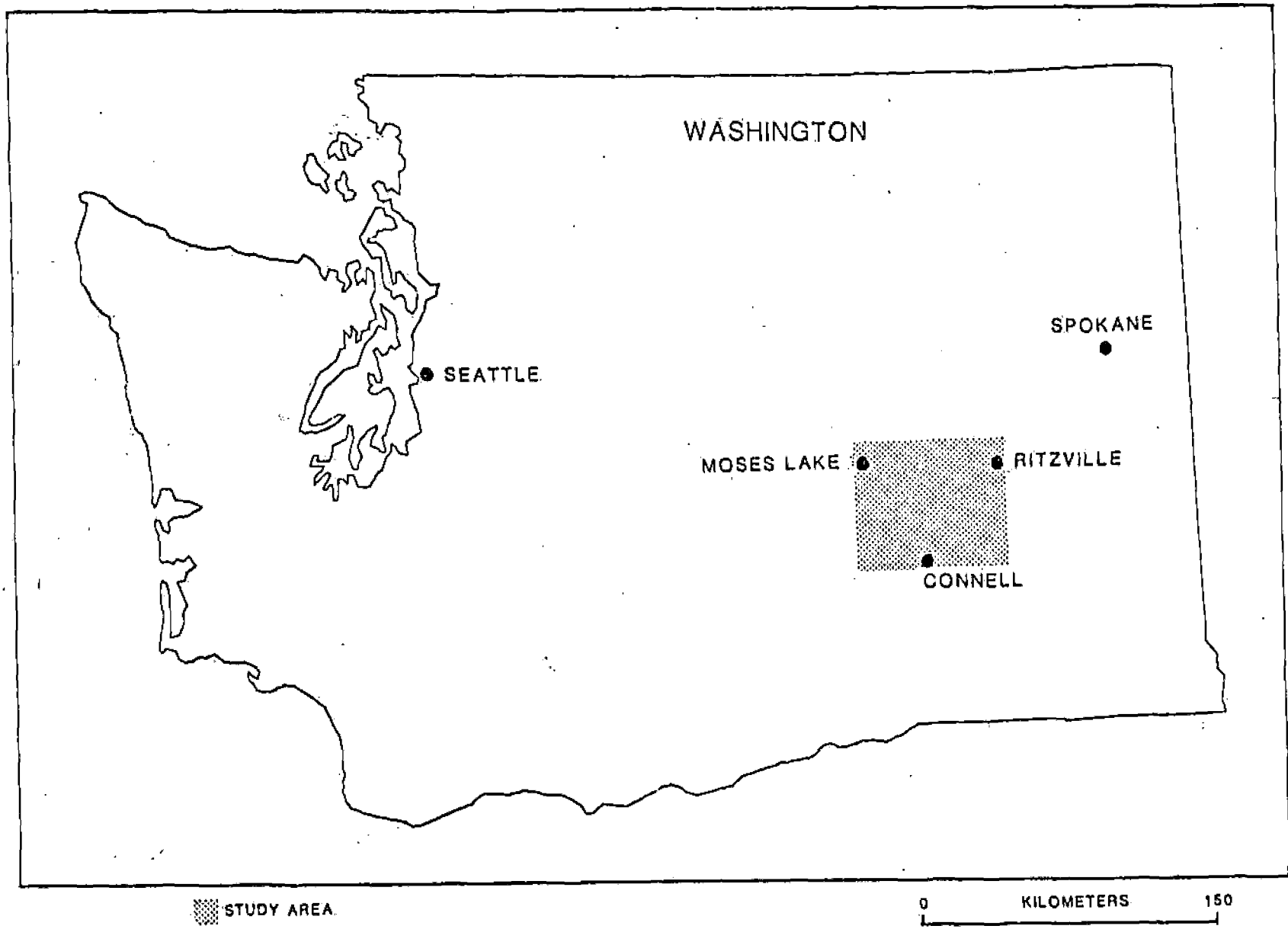


FIGURE 1 LOCATION OF THE STUDY AREA

Table 1. List of Wells with a full suite of geophysical logs for Part A, the Moses Lake-Ritzville-Connell Study area.

<u>Location T./R.-Sec.</u>	<u>Well Name</u>	<u>Elevation (meters)</u>	<u>Depth^{1/} (meters)</u>	<u>BHT^{2/} (°C)</u>
14N/31E-08M1	Rathbun, Corrin	347.5	758.0	43.1
14N/31E-09J1	Rathbun, Corrin, #3	342.9	332.2	22.2
14N/31E-15C1	Kummer Farms	339.9	413.3	20.3
14N/32E-30P1	Connell City #7	265.2	252.4	17.8
14N/33E-21N1	Heider, Walter	423.7	351.1	28.2
14N/36E-19N1	Vernon Gillis	412.1	265.2	-
15N/29E-03P1	Othello City #5	320.7	298.4	29.4
15N/29E-04A1	Othello City #6	321.6	367.3	24.7
15N/30E-12K1	Meldrin, Ted	382.5	408.7	17.8
15N/31E-05L1	McKay, Ed	379.5	404.4	26.8
15N/31E-19A1	Johnson, Arthur	378.6	341.7	27.6
15N/32E-20D1	Hatton City #2	365.8	214.9	18.2
15N/34E-27R1	Watson, Leroy	455.7	242.6	19.9
16N/31E-15Q1	Lyle, Rex (South)	429.2	409.9	27.5
16N/32E-15D1	Phillips, D. E., #17	455.7	439.5	34.0
16N/32E-25N1	Phillips, D. E., #16	402.3	381.9	31.4
16N/32E-34E1	Phillips, D. E., C-34	424.6	772.6	41.4
16N/33E-20A1	Phillips, J. Boyd	484.6	444.4	19.8
16N/35E-31Q1	Baumann Farms	484.6	599.5	22.4
17N/30E-10P1	Warden City #6	390.1	253.3	14.8
17N/31E-12D1	Phillips, D. E., C-12	384.0	591.9	27.5
17N/36E-07N1	Kautz, William B.	527.3	274.3	13.3
18N/29E-06Q1	American Potato #2	355.1	204.8	21.7
18N/31E-33D1	Phillips, D. E., C-33	432.8	727.5	30.2

^{1/}Depth logged.

^{2/}Bottom Hole Temperature, temperature at maximum depth logged, or highest measured temperature.

Table 1. (Cont'd)

<u>Location T./R.-Sec.</u>	<u>Well Name</u>	<u>Elevation (meters)</u>	<u>Depth ^{1/} (meters)</u>	<u>BHT ^{2/} (°C)</u>
18N/36E-04A1	Heinemann, Don	539.2	281.0	16.3
19N/28E-28K1	Moses Lake City #4	327.7	293.5	16.2
19N/29E-15A1	Masto Farms	416.1	288.6	21.1
19N/30E-15L1	Radach, Jerry	439.5	359.6	16.6
19N/32E-24N1	J & M Farms	510.2	694.9	32.5
19N/33E-08Q2	Hoefel, Paul, #2	556.3	745.2	42.3
19N/36E-09K1	Gering, Gale	566.9	229.2	21.1
19N/36E-15A1	Gering, Gale	580.6	380.4	19.7
20N/29E-07H1	Cole, E. B.	94.7	214.9	21.0
20N/29E-25C1	Reinke Farms	433.4	405.7	26.3
20N/30E-21G1	Claasen, Clint	475.5	469.7	28.7
20N/30E-32K1	Neibaur/West	445.0	382.5	21.1
20N/35E-27A1	Kagele, Richard	611.1	364.8	15.6
21N/31E-10M1	Basalt Explorer #1	490.7	1340.1	64.5
21N/31E-32D2	Kissler, Bob	509.0	365.7	18.9
21N/33E-09E1	Odessa City	490.7	201.2	14.5

^{1/}Depth logged.

^{2/}Bottom Hole Temperature, temperature at maximum depth logged, or highest measured temperature.

Part B:

Geophysical Well Logs for wells throughout the rest of eastern Washington (i.e., areas outside the study area of Part A). The wells are listed in table 2 and arranged by county and ascending township, range, and section.

Table 2. List of wells with a full suite of geophysical logs for Part B, (areas outside the Moses Lake-Ritzville-Connell study area).

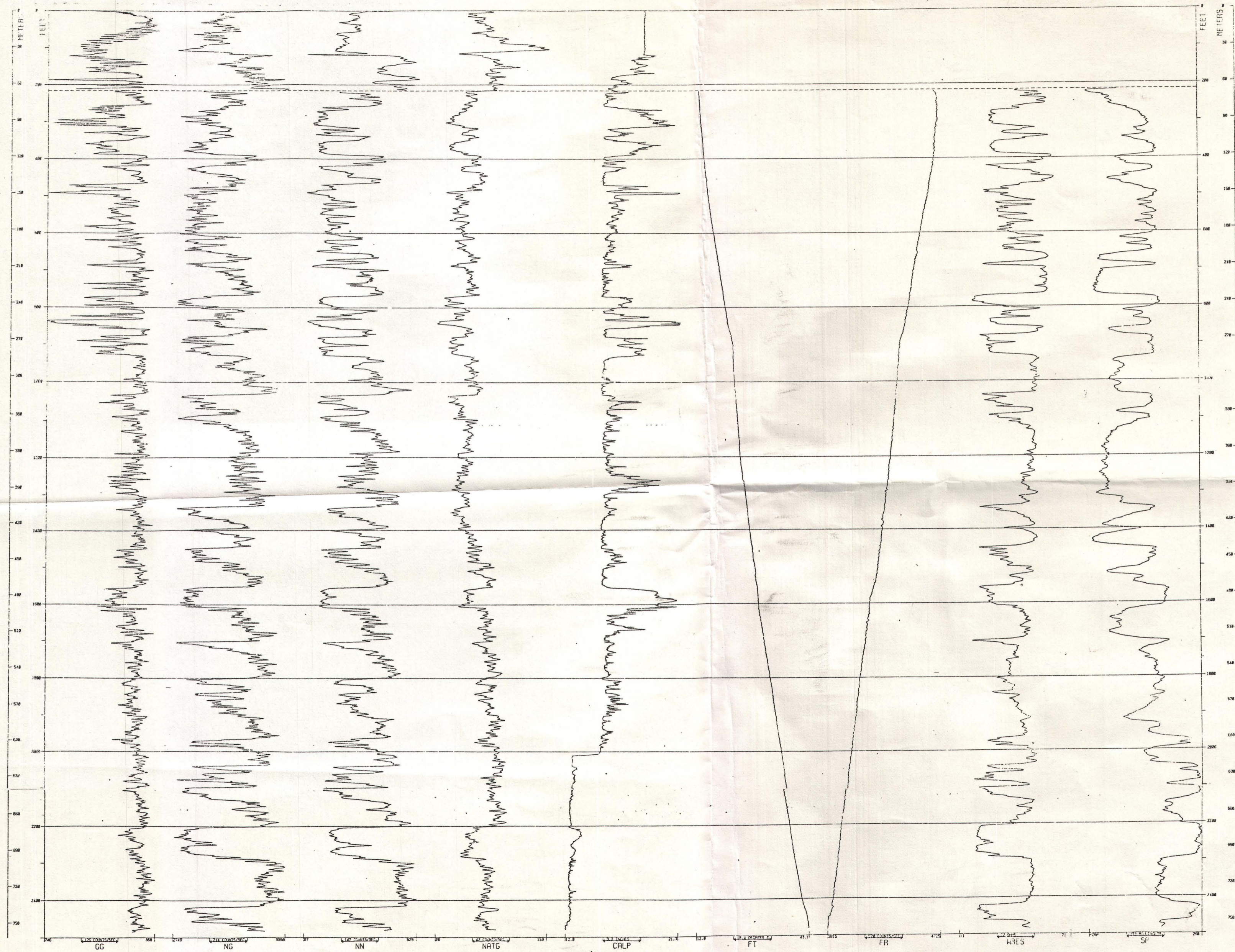
<u>County</u>	<u>Name</u>	<u>Location T./R.-Sec.</u>	<u>Bottom Hole Temperature</u>	<u>Total Depth Logged feet (meters)</u>
Adams	FRED BLAUERT	15N/36E-34F1	25.3	699 (213.1)
	CONNELL	17N/37E-27D1	21.7	554 (168.9)
Asotin	WWP	11N/46E-32E1	24.1	1288 (392.6)
Benton	TOM POWERS	05N/26E-05D1	26.7	1002 (305.4)
	HORRIGAN FARMS	07N/24E-08D1	23.4	1108 (337.7)
	DR. PALMER #2	07N/25E-23F1	19.4	1249 (380.7)
	HORSE HEAVEN TEST	07N/27E-36A1	29.4	1209 (368.5)
	PROSSER EXPT. STN.	09N/25E-06B1	26.2	1202 (366.4)
	DNR-79-07	09N/27E-25M1	23.8	1057 (322.2)
	Douglas	PIXLEE TEST WELL	23N/26E-20D1	17.9
Franklin	H. NAKAMURA	11N/31E-21H1	24.8	1168 (356.0)
	LLOYD COCKRANE	13N/34E-30M1	33.3	1179 (359.4)
Grant	GEORGE TEST WELL	18N/25E-15E1	30.3	1604 (488.9)
	EPHRATA CITY #10	21N/26E-15H1	20.9	1856 (565.7)
	BUD KING	22N/30E-26G1	23.7	1565 (477.0)
	JERRY SCHAFER	23N/28E-27E1	22.5	643 (196.0)
Kittitas	LARSON FRUIT WELL	15N/19E-22P1	31.3	1289 (392.9)
	UMTANUM CREEK	16N/19E-28C1	28.6	1018 (310.3)
	ELLENSBURG CITY	18N/18E-35E1	20.9	899 (274.0)
Klickitat	LEROY VAN BELLE	04N/14E-21C1	15.9	957 (291.7)
	GOLDENDALE CITY #1	04N/16E-16Q1	24.6	889 (271.0)
	TOM POWERS	05N/23E-13J1	27.2	1083 (330.1)
	C. MCBRIDE	05N/23E-29D1	25.2	876 (267.0)
	ROBERT ANDREWS	06N/23E-22J1	22.3	1046 (318.8)

Table 2. (Cont'd)

<u>County</u>	<u>Name</u>	<u>Location T./R.-Sec.</u>	<u>Bottom Hole Temperature</u>	<u>Total Depth Logged feet (meters)</u>
Lincoln	W. WEISHAAR #1	23N/32E-04J1	16.1	697 (212.4)
	ALVIN SCHMIERER	24N/33E-23P1	27.0	1017 (310.0)
Spokane	CHENEY CITY #5	23N/41E-23B2	33.1	2135 (650.7)
Walla Walla	E. CHVATEL	06N/34E-06B1	36.0	1588 (484.0)
	WALLA WALLA WELL	06N/35E-18A1	28.7	1305 (397.8)
Whitman	PULLMAN TEST WELL	14N/45E-01F1	16.7	977 (297.8)

References

- Biggane, John, 1982a, The low-temperature geothermal resource and stratigraphy of portions of Yakima County, Washington: Washington Division of Geology and Earth Resources Open-File Report 82-6, 136 p., 58 figures, 4 plates, 11 tables.
- Biggane, John, 1982b, The low-temperature geothermal resource and stratigraphy of portions of Yakima County, Washington: Washington State University Master of Science thesis, 126 p., 4 plates.
- Biggane, John, 1983, Geophysical logs from water wells in the Yakima area, Washington: Washington Division of Geology and Earth Resources Open-File Report 83-2, 53 p.
- Korosec, Michael A.; Phillips, William M.; Schuster, J. E., 1982, The low temperature geothermal resources of eastern Washington: Washington Division of Geology and Earth Resources Open-File Report 82-1, 20 pages, 2 figures, 1 table, 1 appendix.
- Stoffel, Keith L., 1983, Fluid-Temperature Logs for Selected Wells in eastern Washington: Washington Division of Geology and Earth Resources Open-File Report 83-15.
- Widness, Scott, 1983, Low temperature geothermal resource evaluation of the Moses Lake-Ritzville-Connell area, Washington: Washington Division of Geology and Earth Resources Open-File Report 83-11, 28 p.
- Widness, Scott, 1984, Low temperature geothermal resource evaluation of the Moses Lake-Ritzville-Connell area, Washington: Washington State University thesis [in preparation]



WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: CARRIN ARTHUN
 DATE LOGGED: 03/18/68
 STATE: WASHINGTON
 COUNTY: FRANKLIN
 LOCATION: 14N/31E-28M1
 SURFACE ELEVATION: 1140
 TOTAL DEPTH LOGGED: 2457
 DEPTH TO WATER LEVEL: 216
 CASING & LINERS: 8" 115-28

LEGEND
 LOG TITLES
 NG - NEUTRON LOG
 NN - NEUTRON-NEUTRON LOG
 NATG - NEUTRON ATTENUATION LOG
 CALP - CALIPER LOG
 FT - FORMATION THICKNESS LOG
 FR - FORMATION RESISTIVITY LOG
 WRES - WATER RESISTIVITY LOG
 SP - SPONTANEOUS POTENTIAL LOG
 DENS - DENSITY LOG
 PORS - POROSITY LOG
 WTL - WATER LEVEL LOG
 WLS - LOG SCALE
 WLS - LOG SCALE

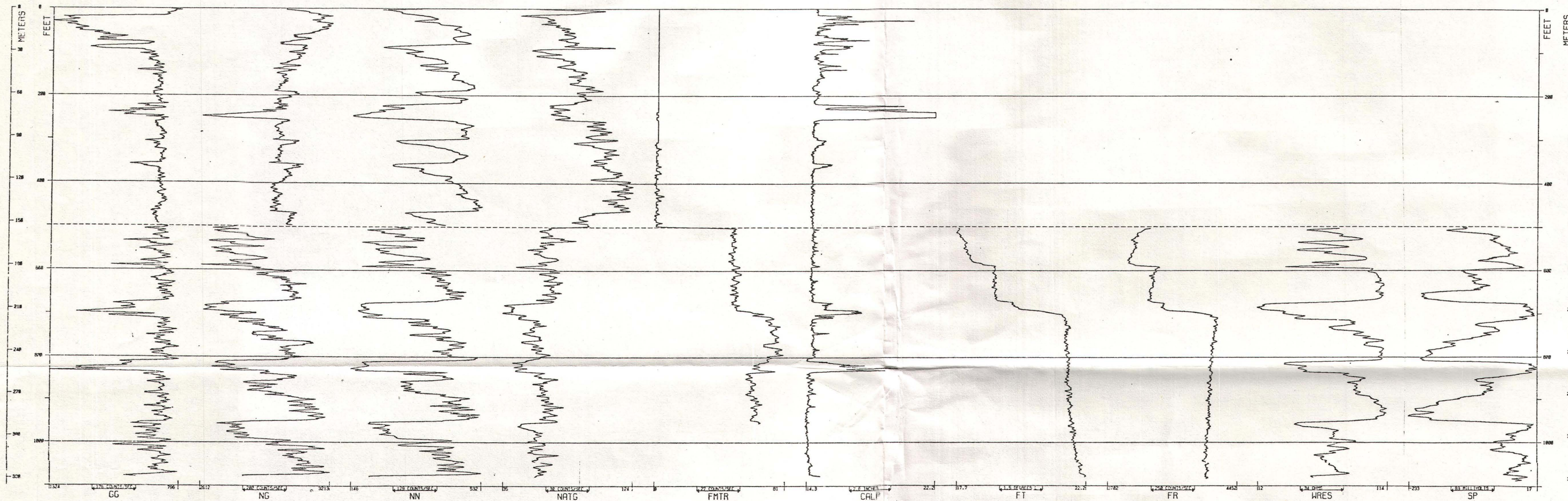
DENSITY LOG (LOG) INCREASES →
 POROSITY (NW-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

14N/31E-28M1

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GLO1400 DOE10-



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 WELL LOG PROCESSING SYSTEM

NAME OF WELL BATHUN #3
 DATE LOGGED 07/11/79
 STATE WASHINGTON
 COUNTY FRANKLIN
 LOCATION 14N/31E-09J1
 SURFACE ELEVATION 1125
 TOTAL DEPTH LOGGED 1050
 DEPTH TO WATER LEVEL 520
 CASING & LINERS 8" 10-10

LEGEND
 LOG TITLES
 CG - GRADIENT LOG
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 FMTR - FLOW METER
 CALP - CALIBRATION LOG
 FT - FLOW TEST
 FR - FLOW TEST
 WRES - WATER RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 DEN - DENSITY LOG
 POR - POROSITY LOG
 WTL - WATER LEVEL
 W - WATER LEVEL

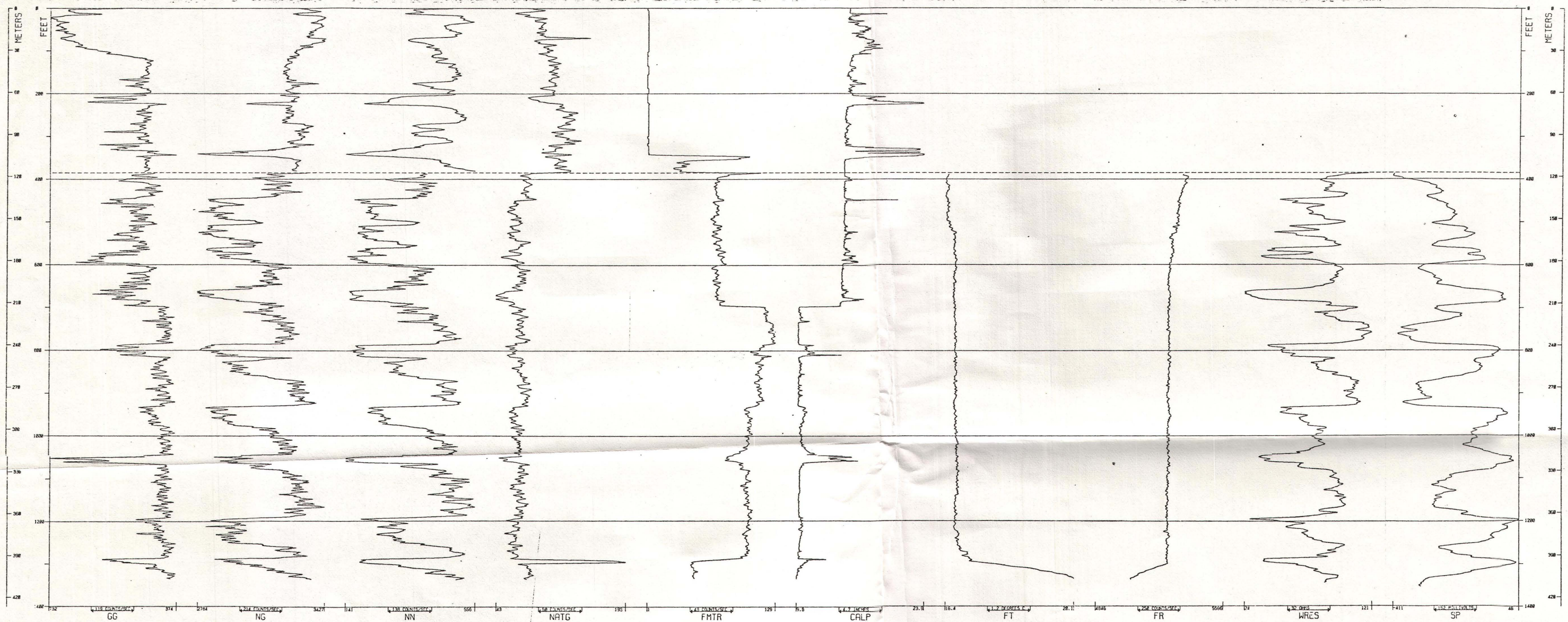
DENSITY (LOG LOG) INCREASES →
 POROSITY (LN LOG) INCREASES ←
 WATER LEVEL - - - - -
 W - WATER LEVEL

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

14N/31E-09J1

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: KUMMER FARMS
 DATE LOGGED: 11/13/79
 STATE: WASHINGTON
 COUNTY: FRANKLIN
 LOCATION: 14N/31E-15C1
 SURFACE ELEVATION: 1115
 TOTAL DEPTH LOGGED: 1355
 DEPTH TO WATER LEVEL: 305
 CASING & LINERS: 8" 10-16

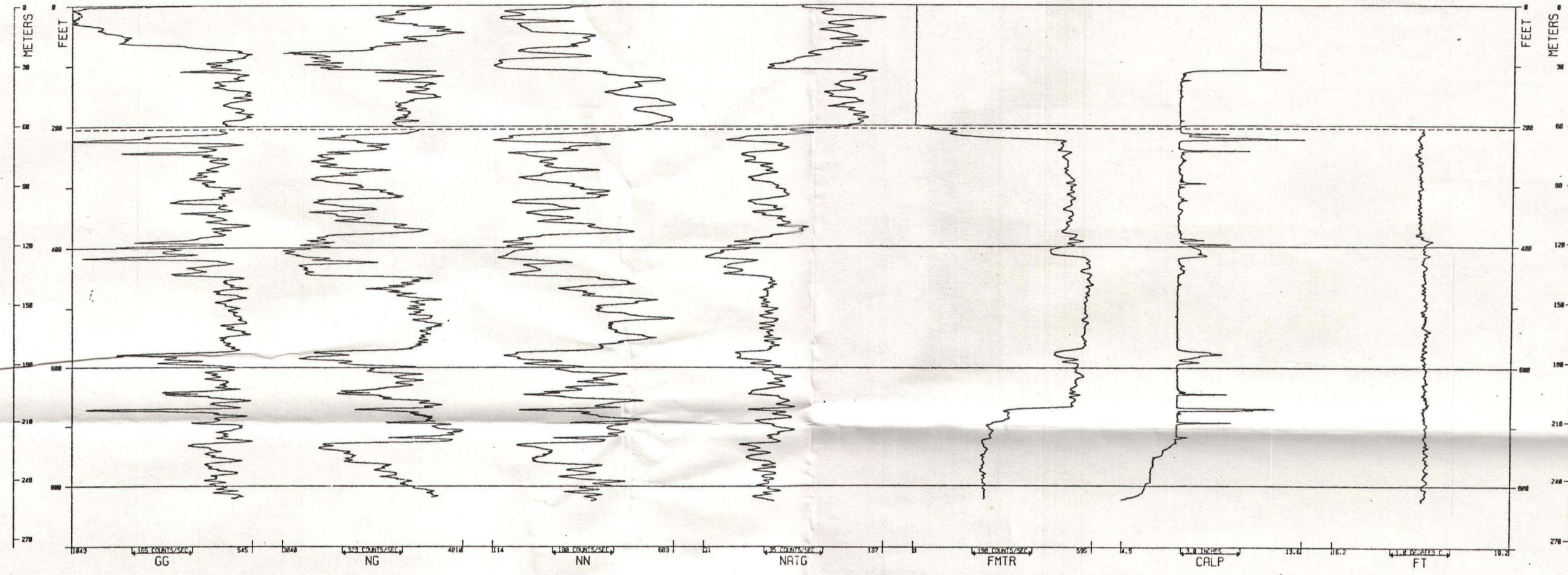
LEGEND
 LOG TITLES
 GR - GRADIENT LOG
 AC - APPARENT RESISTIVITY
 NI - NEUTRON LOG
 DT - DENSITY LOG
 RI - RESISTIVITY LOG
 SP - SELF-POTENTIAL LOG
 CAL - CALIBRATION LOG
 FM - FORMATION MICROPHYSICS LOG
 LN - LOG LOG LOG
 SW - SHORT NOISE LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/22/83 SEW

14N/31E-15C1

GLO400 DOE12-



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 WELL LOG PROCESSING SYSTEM

NAME OF WELL: CONNELL CITY #7
 DATE LOGGED: 05/18/76
 STATE: WASHINGTON
 COUNTY: FRANKLIN
 LOCATION: 14N/32E-38P1
 SURFACE ELEVATION: 548
 TOTAL DEPTH LOGGED: 828
 DEPTH TO WATER LEVEL: 205
 CASING & LINERS: 8-105-12

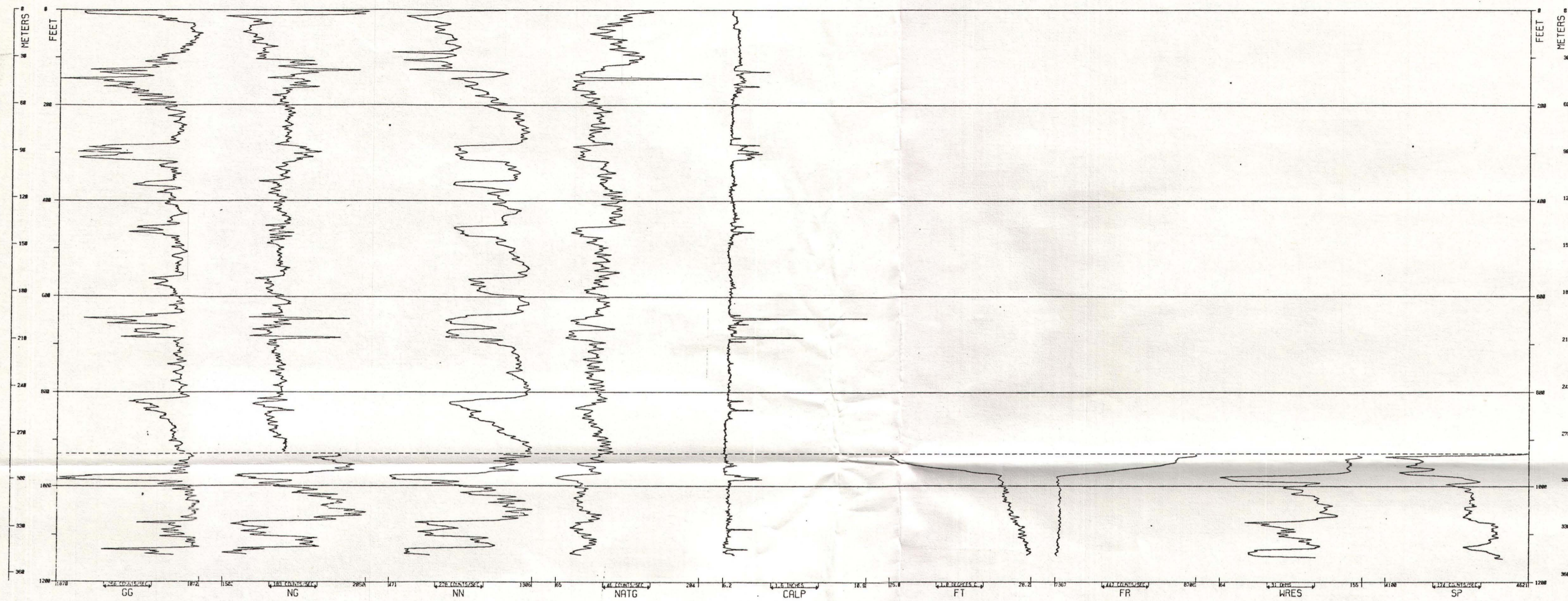
LEGEND
 LOG TITLES
 NATG - NATURAL GAMMA
 GG - GAMMA RAY
 NN - NEUTRON NEUTRON
 NG - NEUTRON LOG
 FT - FLUID TEMPERATURE
 CALP - CASING LOG
 SP - SPONTANEOUS POTENTIAL
 RES - WELL RESISTIVITY
 FMTR - FORMATION MICRORESISTIVITY
 SNT - SLOTTED NEUTRON
 SNT - SLOTTED NEUTRON
 SNT - SLOTTED NEUTRON

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

84/26/85 SCL

GL01400 Doc 13-



WASHINGTON STATE UNIVERSITY
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 WELL LOG PROCESSING SYSTEM

NAME OF WELL: WALTER HEIDER
 DATE LOGGED: 02/15/75
 STATE: WASHINGTON
 COUNTY: FRANKLIN
 LOCATION: 14N/33E-21N1
 SURFACE ELEVATION: 1330
 TOTAL DEPTH LOGGED: 1152
 DEPTH TO WATER LEVEL: 929
 CASING & LINERS: 8" 130-5

LEGEND
 LOG TITLES
 RES - RESISTIVITY
 DEN - DENSITY LOG
 POR - POROSITY LOG
 NG - NEUTRON LOG
 GR - GRADIENT TEMPERATURE
 PR - FLUID RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 WRES - WELL RESISTIVITY
 FT - FLUID TEMPERATURE
 SNTC - SNTC
 LN - LOG NUMBER
 SM - SHORT NUMBER

DENSITY (CG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

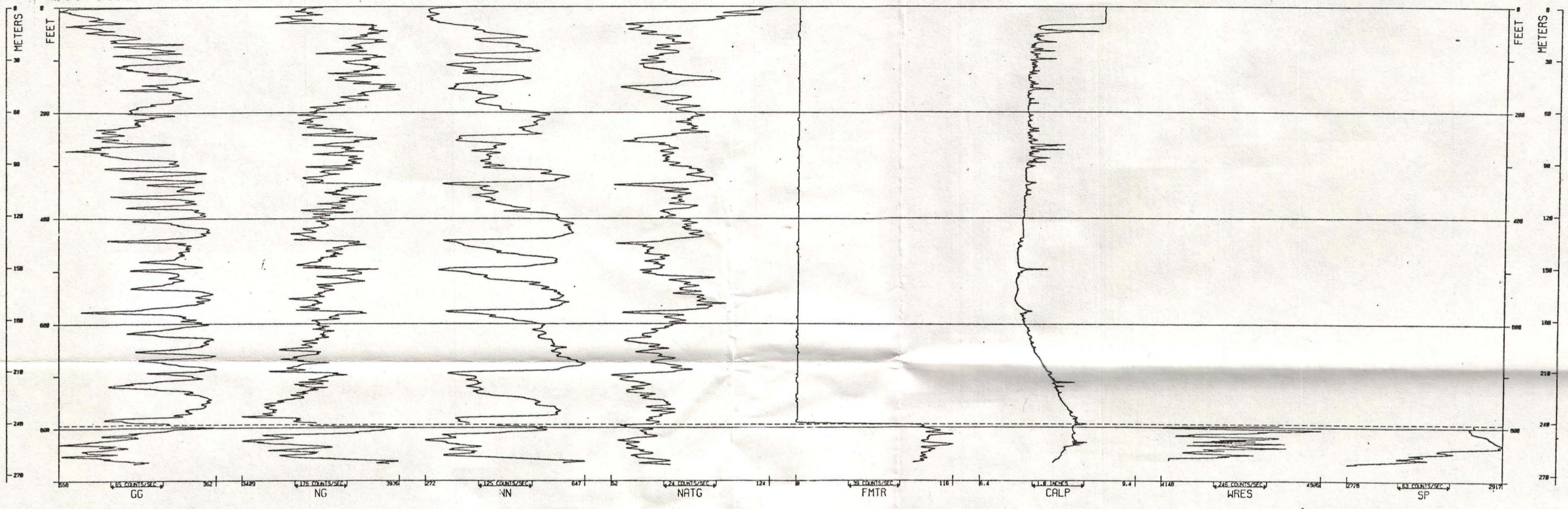
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

03/12/83 SEW

14N/33E-21N1

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 WELL LOG PROCESSING SYSTEM

NAME OF WELL: VERNON GILLIS
 DATE LOGGED: 12/14/73
 STATE: WASHINGTON
 COUNTY: FRANKLIN
 LOCATION: 14N/26E-19N1
 SURFACE ELEVATION: 1352
 TOTAL DEPTH LOGGED: 872
 DEPTH TO WATER LEVEL: 794
 CASING & LINERS:

LEGEND

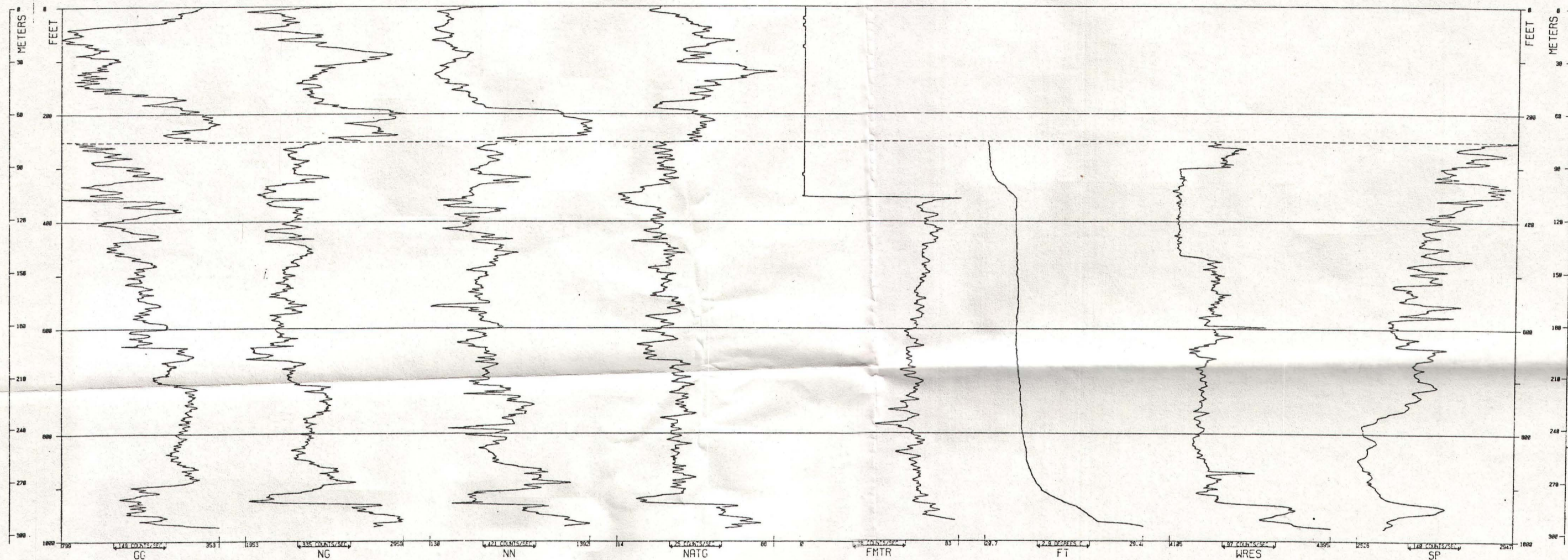
LOG TITLES
 NGTG --- NATURAL GAMMA
 SG --- GAMMA GAMMA
 NI --- NEUTRON NEUTRON
 NS --- NEUTRON SLOTTON
 FL --- FLUID TEMPERATURE
 RE --- FLUID RESISTIVITY
 CALP --- CALIPER
 SP --- SPONTANEOUS POTENTIAL
 WRES --- WELL RESISTIVITY
 FMS --- FLOW METER - F-DECK
 SWIC --- SONIC
 LH --- LONG MORNEL
 SH --- SHORT MORNEL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/22/83 SW

6601400 D&15-



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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL OTHELLO CITY #5
 DATE LOGGED 85/05/74
 STATE WASHINGTON
 COUNTY ADAMS
 LOCATION 15N/29E-23P1
 SURFACE ELEVATION 1058
 TOTAL DEPTH LOGGED 979
 DEPTH TO WATER LEVEL 252
 CASING & LINERS
 0- 81-38 0- 192-24 0- 372-28
 0- 666-18

LEGEND
 LOG TITLES
 NG - NEUTRON LOG
 GG - GAMMA RAY
 NN - NEUTRON POROSITY
 NRTG - NATURAL RADIOACTIVITY
 FMTR - FORMATION MICRORESISTIVITY
 FT - FORMATION TIME
 SP - SPONTANEOUS POTENTIAL
 WRES - WELL RESISTIVITY
 GR - GRADIENT
 LN - LOG NORMAL
 SW - SLOPE

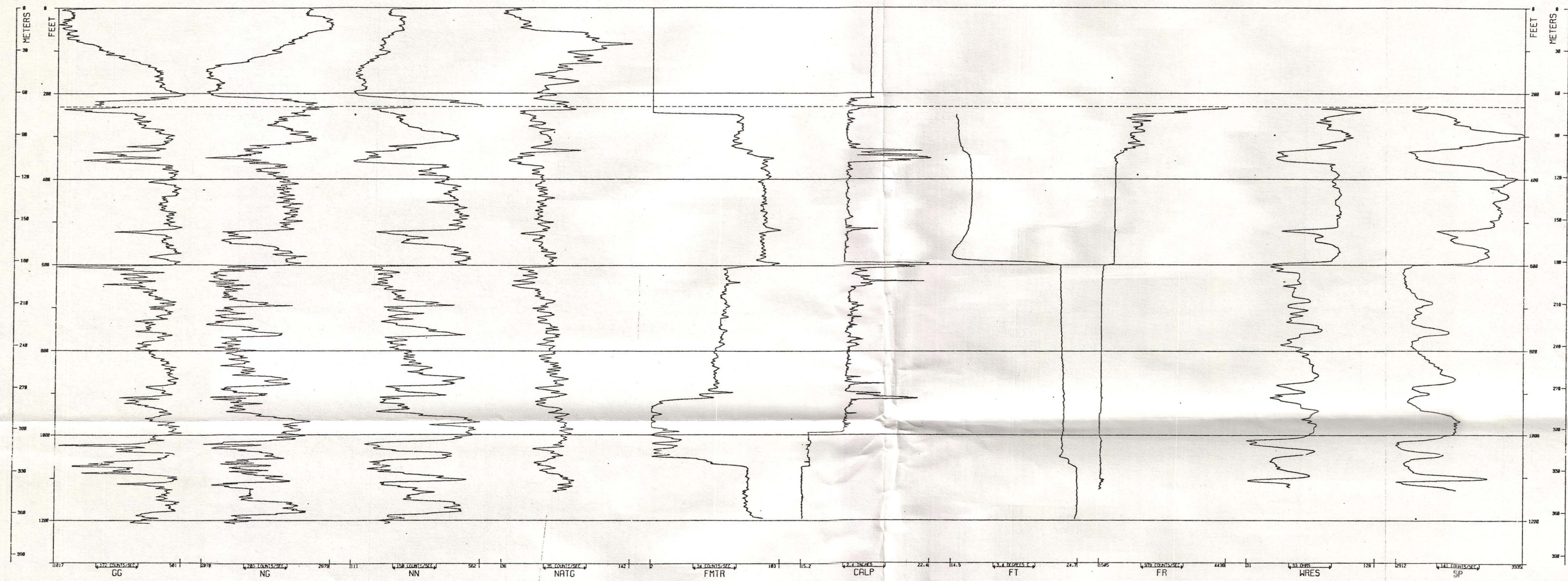
DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

82/29/80 SLW

GL01400 DOC-16-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL OTHELLO LITY #6
 DATE LOGGED 10/13/77
 STATE WASHINGTON
 COUNTY FORDS
 LOCATION 15N/29E-04R1
 SURFACE ELEVATION 1055
 TOTAL DEPTH LOGGED 1211
 DEPTH TO WATER LEVEL 231
 CASING & LINERS
 0- 228-28
 CALP, FT, AND FMTR LOGGED 02/15/79
 ISAL 6 247 FT.

LEGEND
 LOG TITLES
 GC - Gamma Ray
 NG - Neutron Log
 NN - Neutron Porosity
 NATC - Neutron Attenuation Coefficient
 FMTR - Formation Microresistivity
 CALP - CALIPER
 FT - Fluid Temperature
 FR - Fluid Resistivity
 WRES - Water Resistivity
 SP - Spontaneous Potential
 SN - SHORT NOISE

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

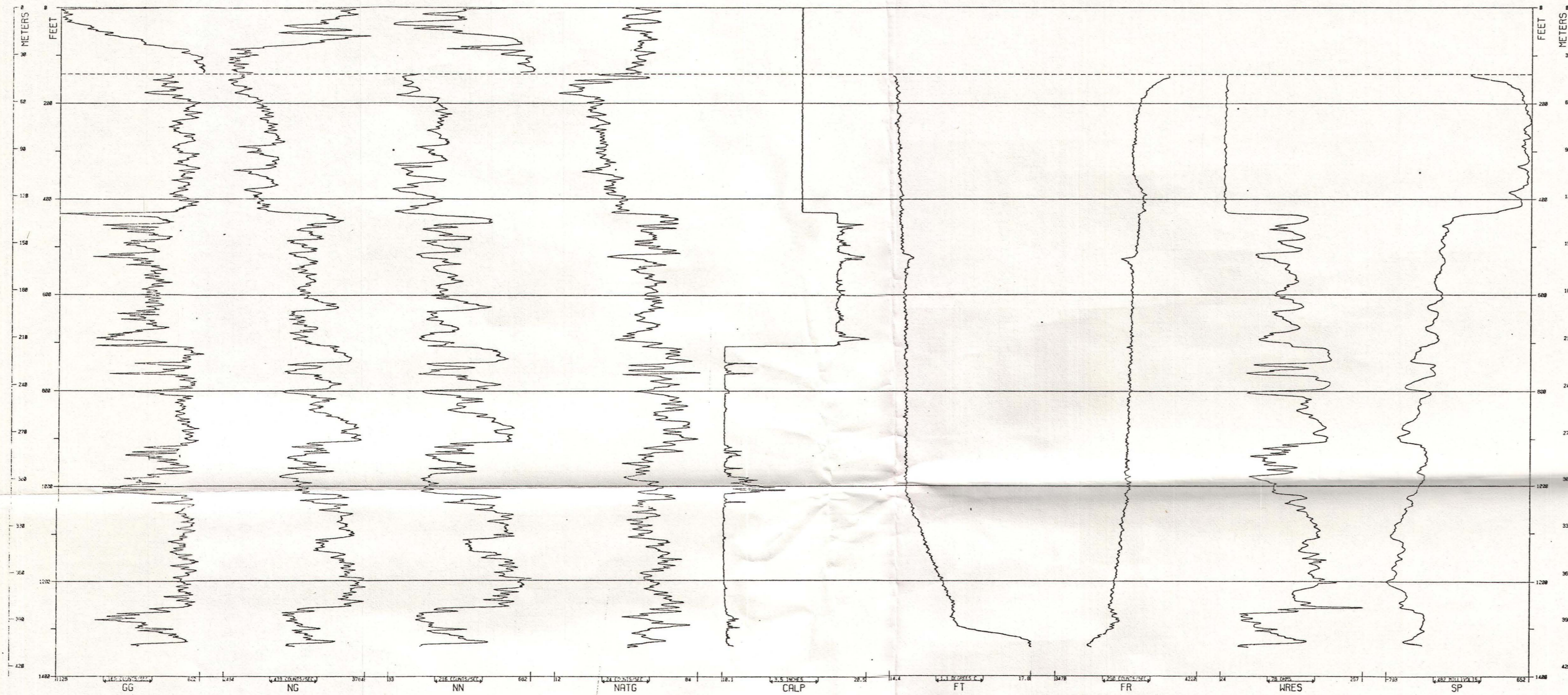
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

27/28/83 SEM

15N/29E-04R1

GLO1400 DOE17-

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: TED MELDRIN
 DATE LOGGED: 02/12/76
 STATE: WASHINGTON
 COUNTY: F3085
 LOCATION: 15N/30E-12K1
 SURFACE ELEVATION: 1255
 TOTAL DEPTH LOGGED: 1341
 DEPTH TO WATER LEVEL: 139
 CASING & LINERS: Ø- 425-16

LEGEND

LOG TITLES

- GR - GRAMMA RAY LOG
- RES - RESISTIVITY LOG
- PT - PORE THINNESS LOG
- SP - SLOPE LOG
- STR - STRATIGRAPHY LOG
- SNC - SONIC LOG
- SN - SLOPE LOG

DENSITY (G/CC) INCREASES →
 RESISTIVITY (Ω-M) INCREASES ←
 WATER LEVEL - - - - -

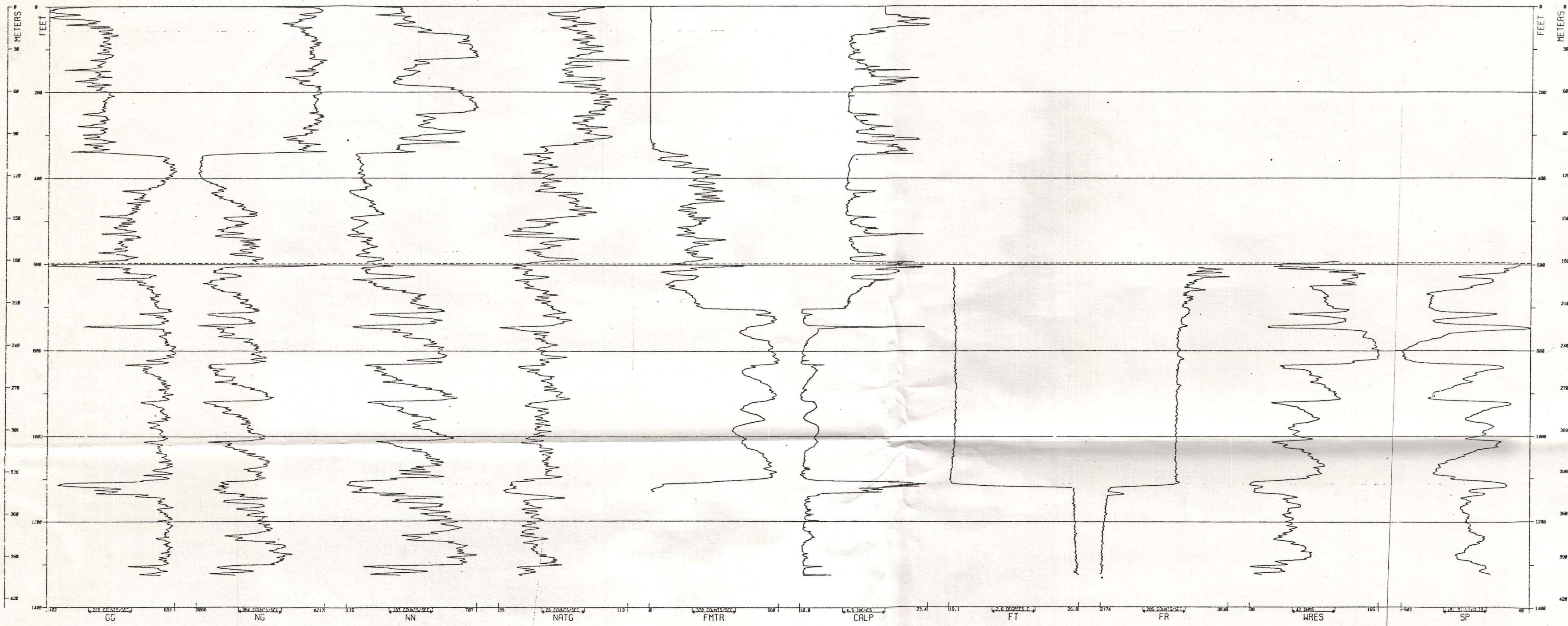
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

02/12/76 SEM

15N/30E-12K1

GL01400 DOC -18-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: ED MCKAY
 DATE LOGGED: 05/19/76
 STATE: WASHINGTON
 COUNTY: PUYALLUP
 LOCATION: 15N/31E-05L1
 SURFACE ELEVATION: 1245
 TOTAL DEPTH LOGGED: 1327
 DEPTH TO WATER LEVEL: 597
 CASING & LINERS:

LEGEND
 LOG TITLES
 MDI - MUD INFLUX
 GR - GRAIN RESISTANCE
 NI - NEUTRON LOG
 SI - SLOPE INDICATOR
 PA - PORE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 FMT - FORMATION TEMPERATURE
 PDC - PORE DENSITY CORRECTION
 SA - SLOPE ANGLE
 SN - SLOPE NUMBER

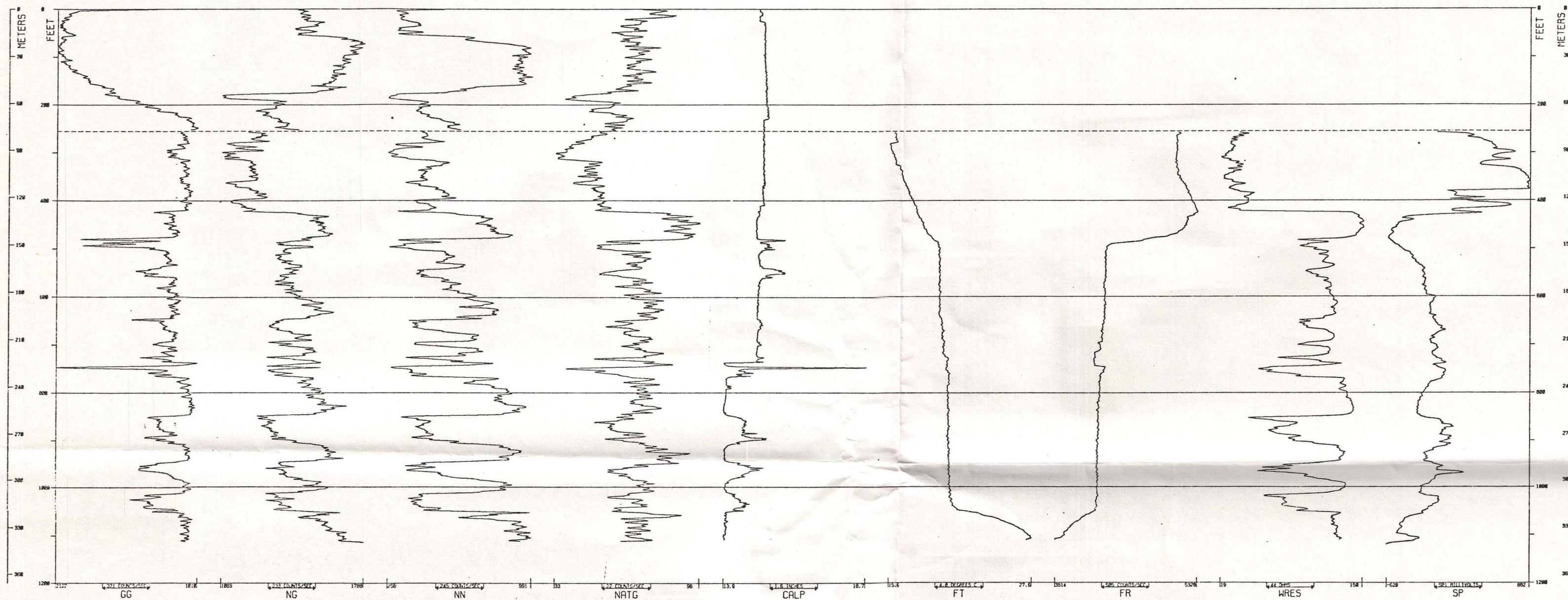
DENSITY (LOG-LOG) INCREASES →
 POROSITY (LN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE PIV CHANGE ABOVE WATER LEVEL.

11/23/83 SW

15N/31E-05L1

GL01400 DOE19-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL ARTHUR JOHNSON
 DATE LOGGED 05/11/75
 STATE WASHINGTON
 COUNTY ADAMS
 LOCATION 15N/31E-19A1
 SURFACE ELEVATION 1242
 TOTAL DEPTH LOGGED 1121
 DEPTH TO WATER LEVEL 255
 CASING & LINERS*
 # 57-19 # 425-15

LEGEND
 LOG TITLES
 WTG - WATER LOG
 GG - GAMMA LOG
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NATURAL GAMMA LOG
 CALP - CALIPER
 FT - TRUE STRIKE
 FR - RESISTIVITY
 WRES - SPAN RESISTIVITY
 SP - SPAN RESISTIVITY
 SRES - SPAN RESISTIVITY
 SRES - SPAN RESISTIVITY
 SRES - SPAN RESISTIVITY
 SRES - SPAN RESISTIVITY
 SRES - SPAN RESISTIVITY

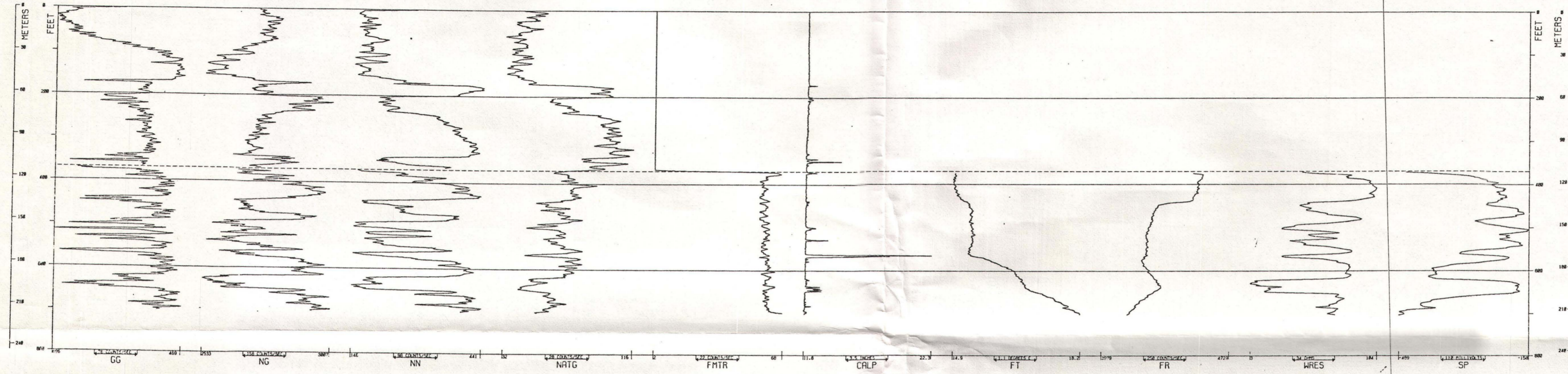
DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -
 *NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

02/28/75 SGA

15N/31E-19A1

GLO1400 DOEZO-

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RESEARCH INSTITUTE
EARTH SCIENCE LAB.



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: HATTON CITY #2
 DATE LOGGED: 84/03/79
 STATE: WASHINGTON
 COUNTY: ADAMS
 LOCATION: 15N/22E-2801
 SURFACE ELEVATION: 1200
 TOTAL DEPTH LOGGED: 725
 DEPTH TO WATER LEVEL: 378
 CASING & LINERS: 8-10S-12

LEGEND

LOG TITLES

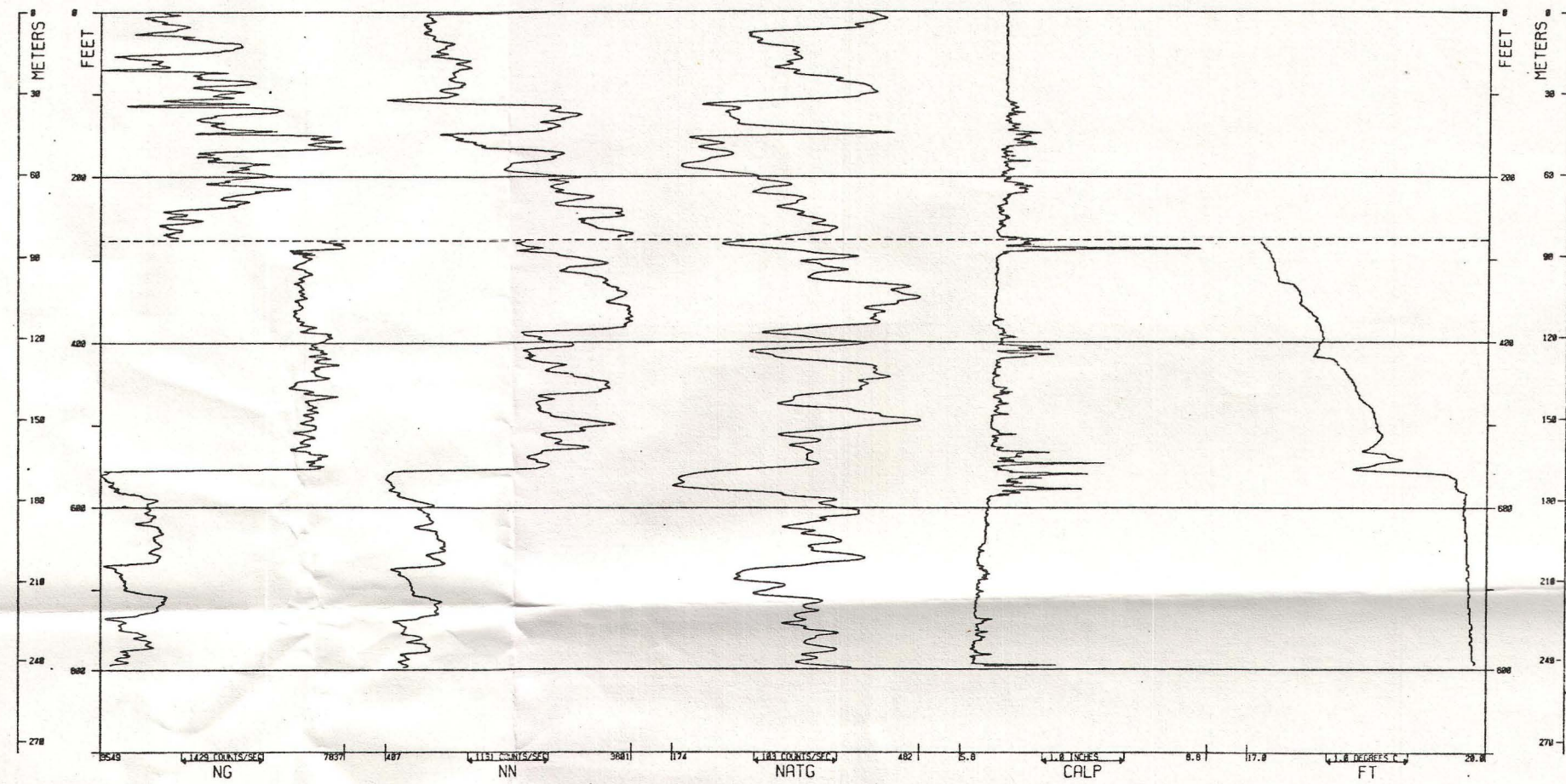
- NG - NEUTRON LOG
- GG - GAMMA LOG
- NO - NEUTRON LOG
- NR - NEUTRON LOG
- FR - FLUORESCENCE LOG
- GR - GRADIENT LOG
- SP - SELF POTENTIAL LOG
- WRES - WELL RESISTIVITY LOG
- FMTR - FORMATION LOSS LOG
- CALP - CALIBRATION LOG
- FT - FLUORESCENCE LOG
- FR - FLUORESCENCE LOG
- WRES - WELL RESISTIVITY LOG
- SP - SELF POTENTIAL LOG
- SM - SHORT NORMAL LOG
- SN - SHORT NORMAL LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL: - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

85/10/83 SW

GLO1400DOC21-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: LEROY WATSON
 DATE LOGGED: 11/30/72
 STATE: WASHINGTON
 COUNTY: ADAMS
 LOCATION: 15N/24E-27W1
 SURFACE ELEVATION: 1425
 TOTAL DEPTH LOGGED: 589
 DEPTH TO WATER LEVEL: 276
 CASING & LINERS:

LEGEND

LOG TITLES
 NG - NEUTRON LOG
 NN - NEUTRON NEUTRON
 NATG - NATURAL GAMMA
 CALP - CALIPER
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 GR - GRAVITY
 SP - SPONTANEOUS POTENTIAL
 SS - SLOPE
 PPS - PULSED PHASE SHIFT
 SW - SONIC
 LA - LOG AVERAGE
 SA - SHORT AVERAGE

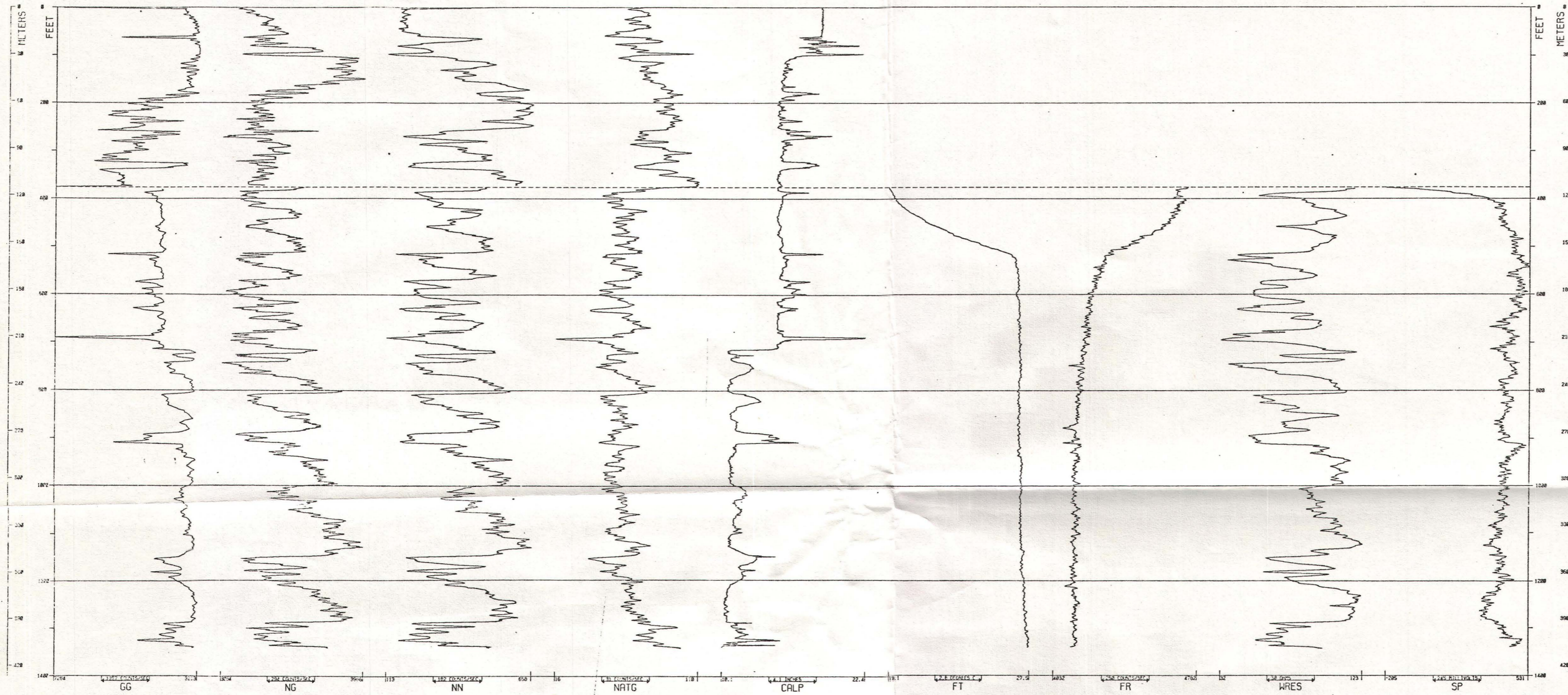
DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

11/28/73 39

GL01400 DOC-22-

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: REX LYLE (SOUTH)
 DATE LOGGED: 07/09/75
 STATE: WASHINGTON
 COUNTY: ADAMS
 LOCATION: 16N/31E-1501
 SURFACE ELEVATION: 1498
 TOTAL DEPTH LOGGED: 1345
 DEPTH TO WATER LEVEL: 376
 CASING & LINERS: 8" 62-19

LEGEND
 LOG TITLES
 RES - RESISTIVITY
 DEN - DENSITY LOG
 POS - POSITIVITY LOG
 GRA - GRAVITY LOG
 CALP - CALIPER LOG
 FT - FLUID TEMPERATURE
 FR - FLOW RATE
 WRES - WIRE RESISTANCE
 SP - SPONTANEOUS POTENTIAL

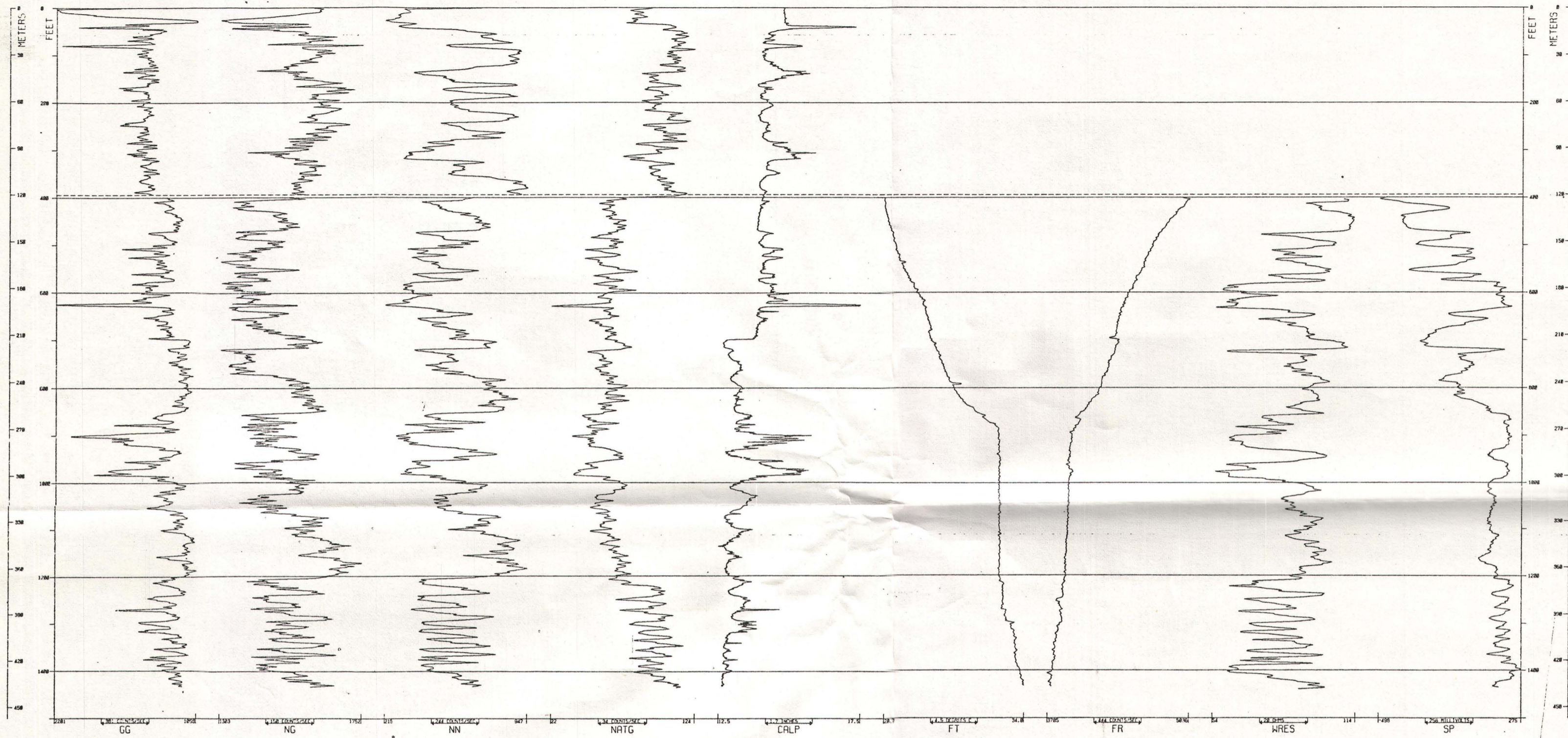
DENSITY LOG INCREASES →
 POSITIVITY LOG INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

07/09/75

16N/31E-1501

GL01400D0E23-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

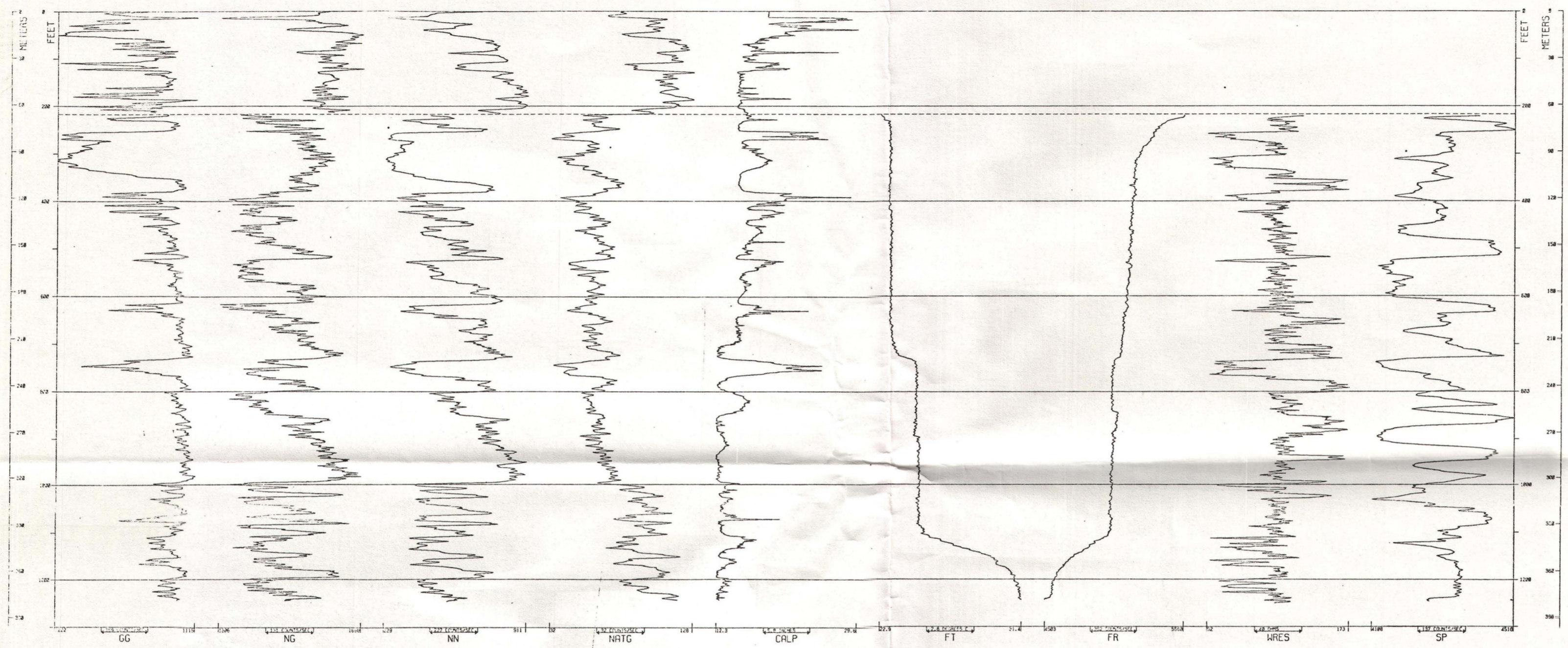
NAME OF WELL D.E. PHILLIPS #17
 DATE LOGGED 03/10/75
 STATE WASHINGTON
 COUNTY RCAPS
 LOCATION 16N/32E-1501
 SURFACE ELEVATION 1495
 TOTAL DEPTH LOGGED 1442
 DEPTH TO WATER LEVEL 354
 CASING & LINERS
 0- 36=28

- LEGEND
- LOG TITLES
- MG - MAGNETIC GRAMM
 - CG - CASING LOG
 - NG - NEUTRON LOG
 - RG - RESISTIVITY LOG
 - PA - PULSED AMPLITUDE
 - CA - CALIPER LOG
 - SP - SPONTANEOUS POTENTIAL
 - MS - MASS SPECTROMETRY
 - FR - FLUORESCENCE LOG
 - WRES - WIRE LOG
 - SP - SONIC LOG
 - LM - LOG MOUNTING
 - SN - SONIC LOG
- DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -
- NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

11/23/83 954

16N/32E-1501

GL01400 DOC 24-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: D.E. PHILLIPS #16
 DATE LOGGED: 03/08/75
 STATE: WASHINGTON
 COUNTY: KODIAK
 LOCATION: 16N/32E-25N1
 SURFACE ELEVATION: 1320
 TOTAL DEPTH LOGGED: 1253
 DEPTH TO WATER LEVEL: 217
 CASING & LINERS: 8" 19-20

LEGEND
 LOG TITLES
 GG - GRAIN GRAIN
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NATURAL GAMMA
 CALP - CALIPER LOG
 FT - FLOW TEMPERATURE
 FR - FLOW RATE
 WRES - WATER RESISTIVITY
 SP - SELF POTENTIAL
 IN - IONIC CURRENT
 SN - SLOTTED NEUTRON

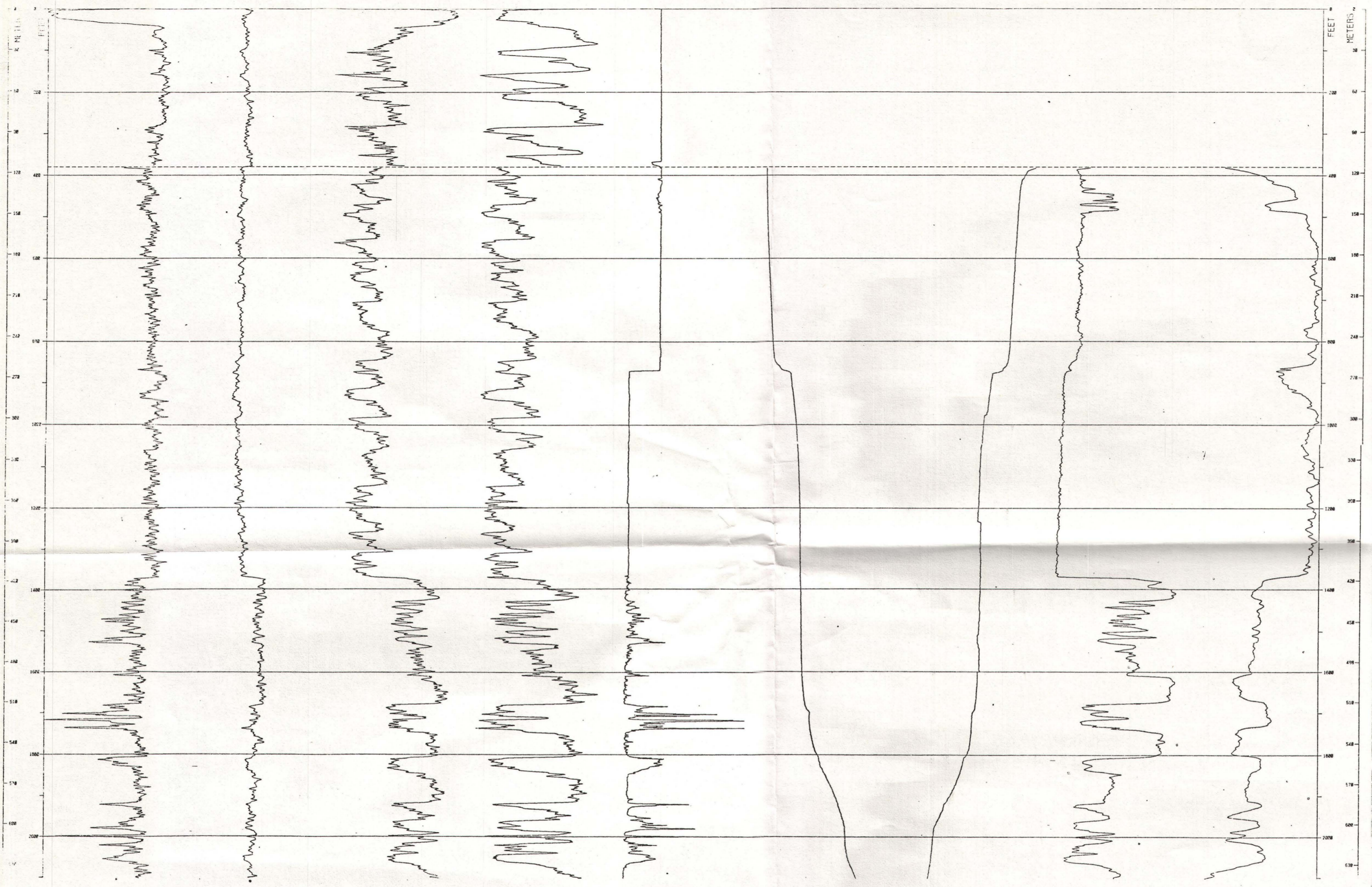
DENSITY (LOG) INCREASES →
 POROSITY (FAN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

02/22/83 SK

16N/32E-25N1

GLO 1400 DOC-25-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL PHILLIPS, C-34
 DATE LOGGED 29/13/78
 STATE WASHINGTON
 COUNTY SPONG
 LOCATION 16N/32E-34E1
 SURFACE ELEVATION 1393
 TOTAL DEPTH LOGGED 2535
 DEPTH TO WATER LEVEL 368
 CASING & LINERS 8 868-15 868-1568-13

LEGEND
 LOG TITLES
 RG - RESISTIVITY
 PG - POROSITY
 GR - GAMMA RAY
 NL - NEUTRON LOG
 SP - SPECTROSCOPIC
 ST - STRATIGRAPHY
 SW - SURFACE WELL
 TW - TOTAL WELL
 EW - ELECTRIC WELL
 SW - SURFACE WELL
 TW - TOTAL WELL
 EW - ELECTRIC WELL
 SW - SURFACE WELL
 TW - TOTAL WELL
 EW - ELECTRIC WELL

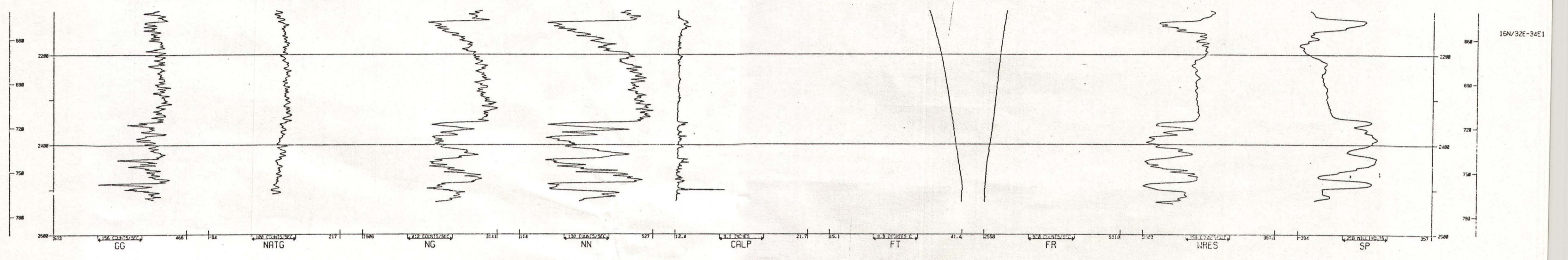
DENSITY LOG LOG1 INCREASES →
 POROSITY LOG LOG1 INCREASES ←
 WATER LEVEL ---

NOTE: SCALE FOR CHANG ABOVE WATER LEVEL

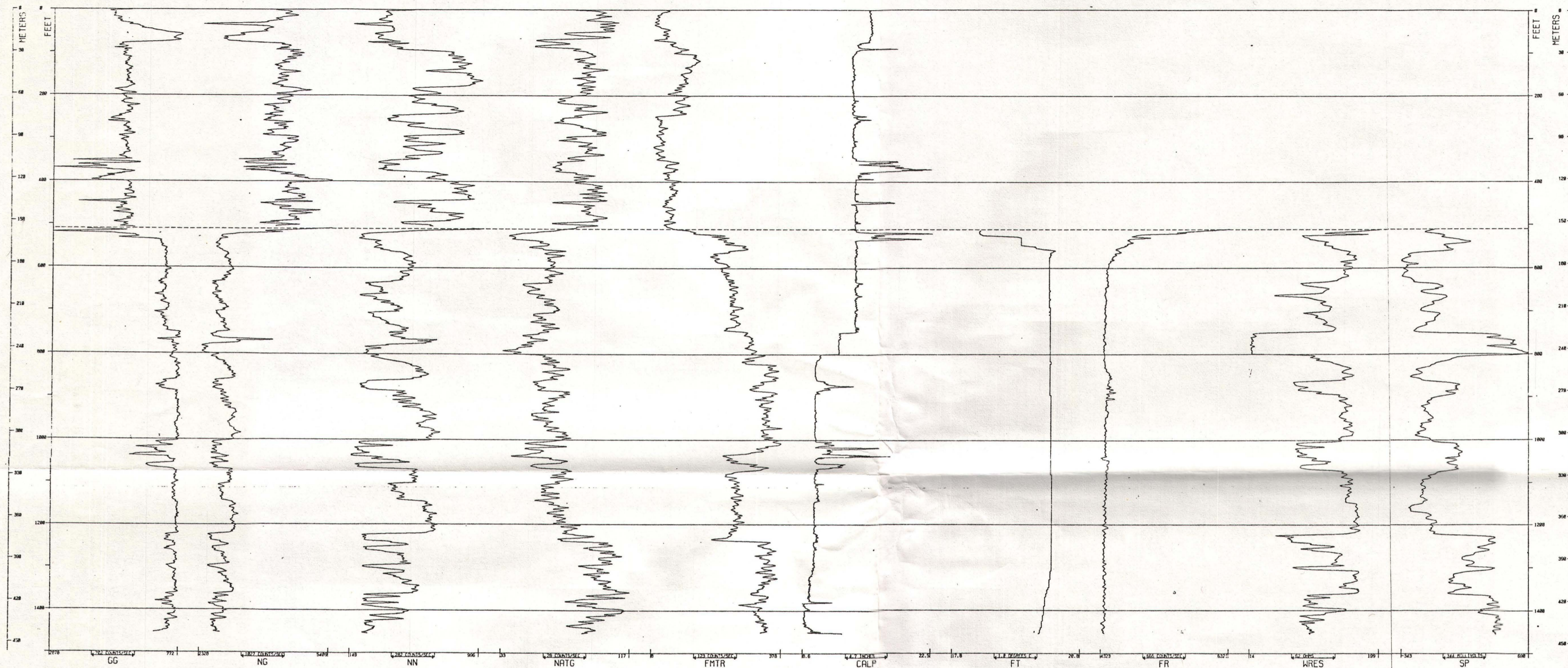
16N/32E-34E1

GLO1400 DOC-26-

Phillips C-34



GLO1400 DOC-27-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: BOYD PHILLIPS
 DATE LOGGED: 04/18/78
 STATE: WASHINGTON
 COUNTY: SPANIA
 LOCATION: 16N/33E-20R1
 SURFACE ELEVATION: 1590
 TOTAL DEPTH LOGGED: 1450
 DEPTH TO WATER LEVEL: 510
 CASING & LINERS:
 0" 75#16

LEGEND
 LOG TITLES
 GC - GRAIN COUNT
 NG - NEUTRON GAMMA
 NN - NEUTRON NEUTRON
 NATC - NEUTRON ATTENUATION TOTAL COUNT
 FMTR - FORMATION MICRORESISTIVITY
 CALP - CASING LOG
 FT - FORMATION TEMPERATURE
 FR - FORMATION RESISTIVITY
 WRES - WELL RESISTIVITY
 SP - SPONTANEOUS POTENTIAL

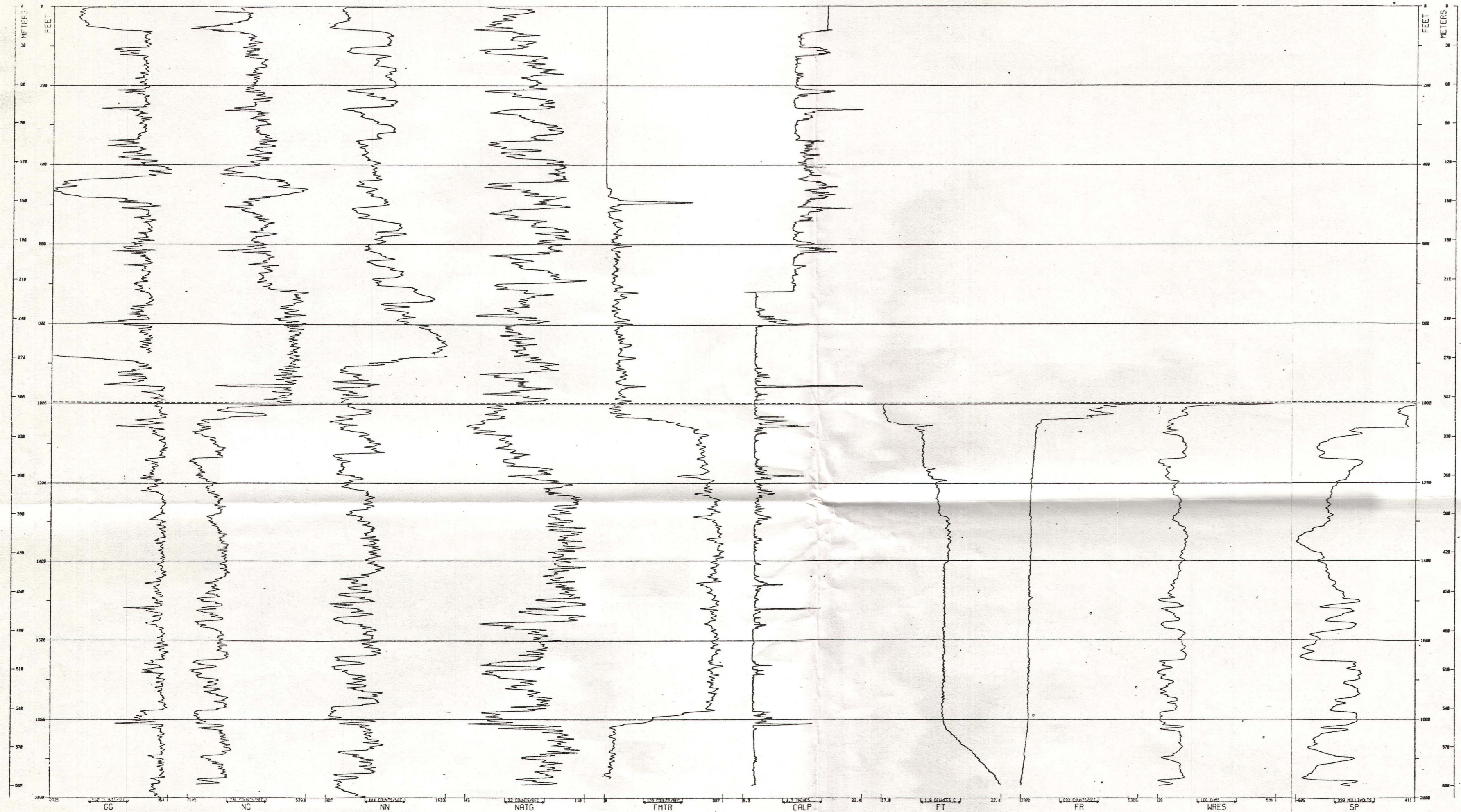
DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/25/83 504

GLO1400 DOC 28-

29



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: BULPHAM FARMS
 DATE LOGGED: 02/19/75
 STATE: WASHINGTON
 COUNTY: ADAMS
 LOCATION: 16N/35E-3101
 SURFACE ELEVATION: 1550
 TOTAL DEPTH LOGGED: 1971
 DEPTH TO WATER LEVEL: 997
 CASING & LINERS: 8- 63-28
 NN AND GG LOGGED 02/21/75 (SAL. @ 877 FT)

LEGEND
 LOG TITLES
 GG - GRAVITY GRADIENT
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 FMTR - FLOW METER
 CALP - CALIBRATION LOG
 FT - FLOW TEST
 FR - FLOW RATE
 WRES - WATER RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 PORE - PORE PRESSURE
 DENS - DENSITY
 SN - SLOTTED NEURAL

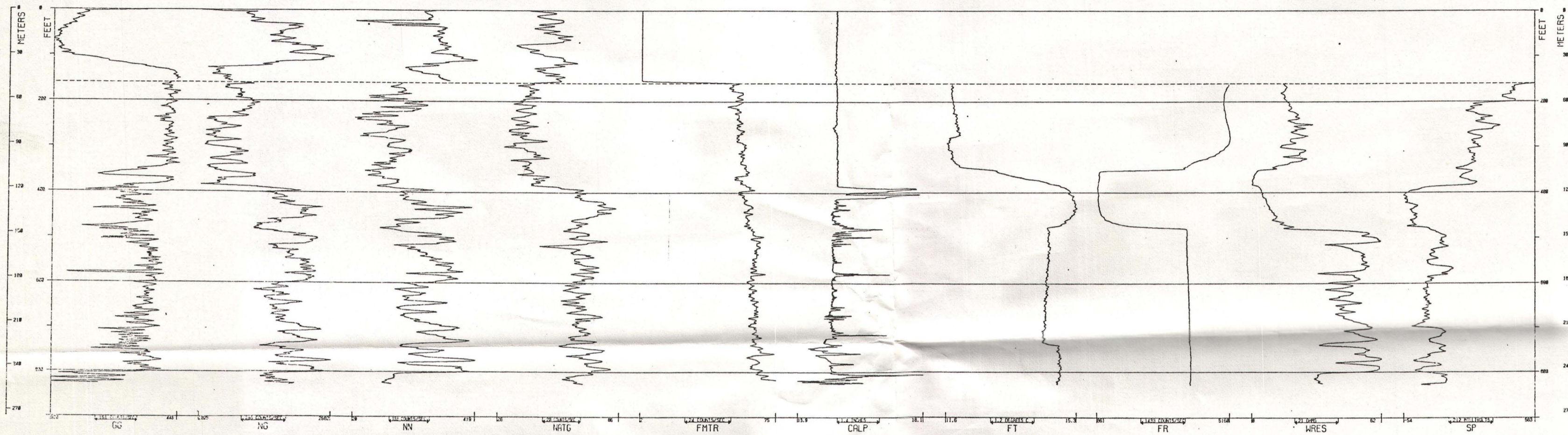
DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL: - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

84/27/75 RCM

16N/35E-3101

GLO1400 DOC-29-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: HARLEN #6
 DATE LOGGED: 04/05/79
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 17N/30E-10P1
 SURFACE ELEVATION: 1298
 TOTAL DEPTH LOGGED: 931
 DEPTH TO WATER LEVEL: 100
 CASING & LINERS: 8- 97-19 8- 306-15

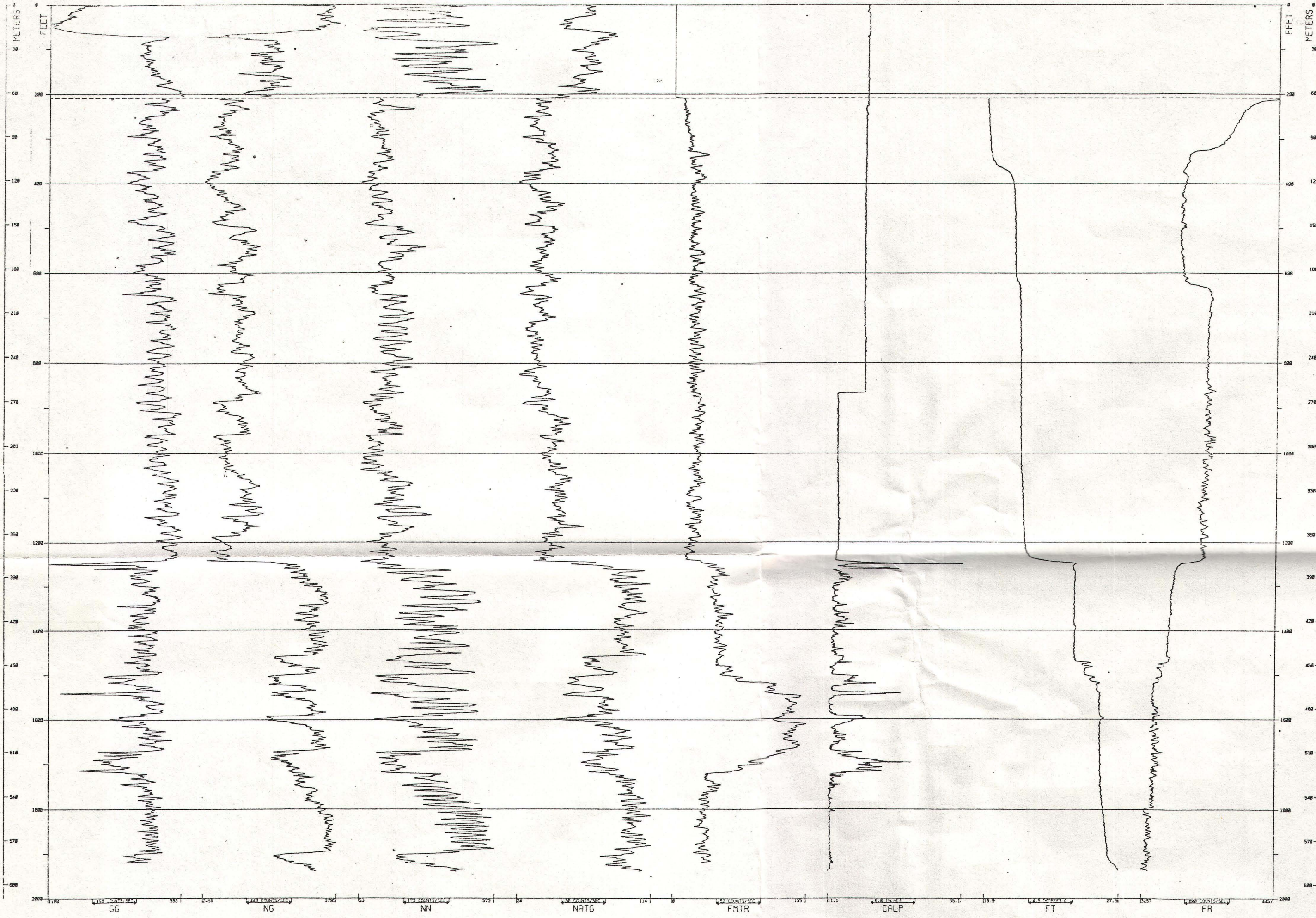
LEGEND
 LOG TITLES
 NG - NEUTRON CAPTURE
 GG - GAMMA RAY
 NN - NEUTRON SLOPE
 NATC - NEUTRON ATTENUATION COEFFICIENT
 FMTR - FLUID TEMPERATURE
 CALP - CALIPER
 FT - FLUID TEMPERATURE
 FR - FORMATION RESISTIVITY
 WRES - WIRELINE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 NATC - NEUTRON ATTENUATION COEFFICIENT
 FMTR - FLUID TEMPERATURE
 FT - FLUID TEMPERATURE
 FR - FORMATION RESISTIVITY
 WRES - WIRELINE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL: - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

20/13/79 SW

GL01400 DOC-30-



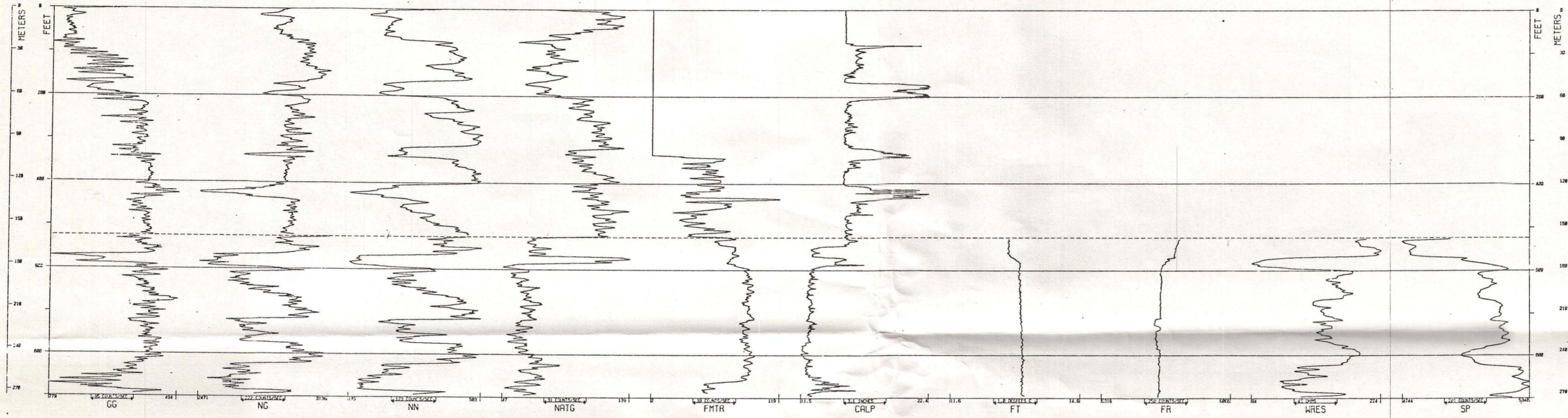
WASHINGTON STATE
UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL PHILLIPS, C-12
DATE LOGGED 06/25/76
STATE WASHINGTON
COUNTY FARMERS
LOCATION 17N/31E-1201
SURFACE ELEVATION 1268
TOTAL DEPTH LOGGED 1942
DEPTH TO WATER LEVEL 209
CASING & LINERS
0-50+28 0-869-16 869-1245-18

LEGEND
LOG TITLES
NATG - NATURAL GAMMA RAY
NG - NEUTRON LOG
NN - NEUTRON CAPTURE LOG
FMTR - FORMATION TRANSMISSION RATE
CALP - CALIBRATION LOG
FT - FORMATION THICKNESS
FR - FORMATION RESISTIVITY
RES - RESISTIVITY
POR - POROSITY
DENS - DENSITY
GR - GRAVITY
SP - SPONTANEOUS POTENTIAL
WATER LEVEL
NOTE - SCALE FOR CHANGE TO DEEPER WATER LEVEL

17N/31E-1201

GLO1400 Doc-31-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: KRUTZ, WILLIAM B.
 DATE LOGGED: 09/19/78
 STATE: WASHINGTON
 COUNTY: POKAN
 LOCATION: 17N/35E-07N1
 SURFACE ELEVATION: 1730
 TOTAL DEPTH LOGGED: 924
 DEPTH TO WATER LEVEL: 524
 CASING & LINERS: 8" 77-15

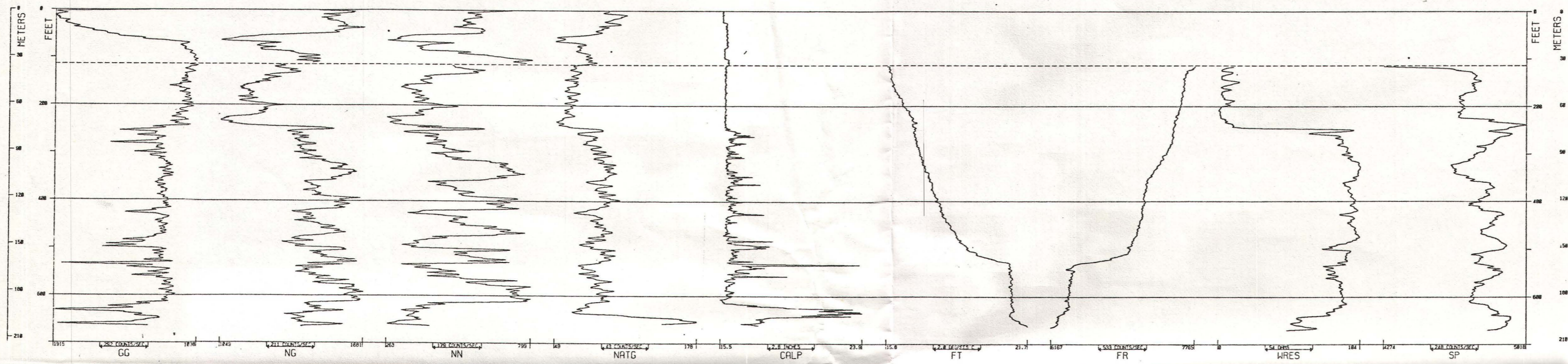
LEGEND
 LOG TITLES
 GG - GRAIN SIZE
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 FMTR - FLOW METER
 CALP - CALIBRATION LOG
 FT - FLOW TEST
 FR - FLOW RATE
 WRES - WATER RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 GR - GRAVITY
 SN - SLOPE
 SA - SHORT NOISE

DENSITY (LOG-LOG) INCREASES →
 POROSITY (LOG-LOG) INCREASES - - -
 WATER LEVEL —●—
 WATER LEVEL - - -●- - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

82/02/03 904

GLO1400 DOC -32-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL AMERICAN POTATO #2
 DATE LOGGED 01/23/75
 STATE WASHINGTON
 COUNTY SPURIT
 LOCATION 18N/29E-0801
 SURFACE ELEVATION 1165
 TOTAL DEPTH LOGGED 672
 DEPTH TO WATER LEVEL 114
 CASING & LINERS
 @ 250-15
 MUD BELOW 662 FT.

LEGEND
 LOG TITLES
 NATG - NATURAL GAMMA
 GG - GRAM GRAM
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WIRE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 CALP - CALIPER LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WIRE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 CALP - CALIPER LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL -----

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11-23/83 SM

GLD400 DC 33-

WASHINGTON STATE UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL PHILLIPS, C-33
DATE LOGGED 08/12/76
STATE WASHINGTON
COUNTY POKAN
LOCATION 18N/31E-3301
SURFACE ELEVATION 1420
TOTAL DEPTH LOGGED 2534
DEPTH TO WATER LEVEL 376
CASING & LINERS
Ø 23=28 Ø 845=16 845-1368=13

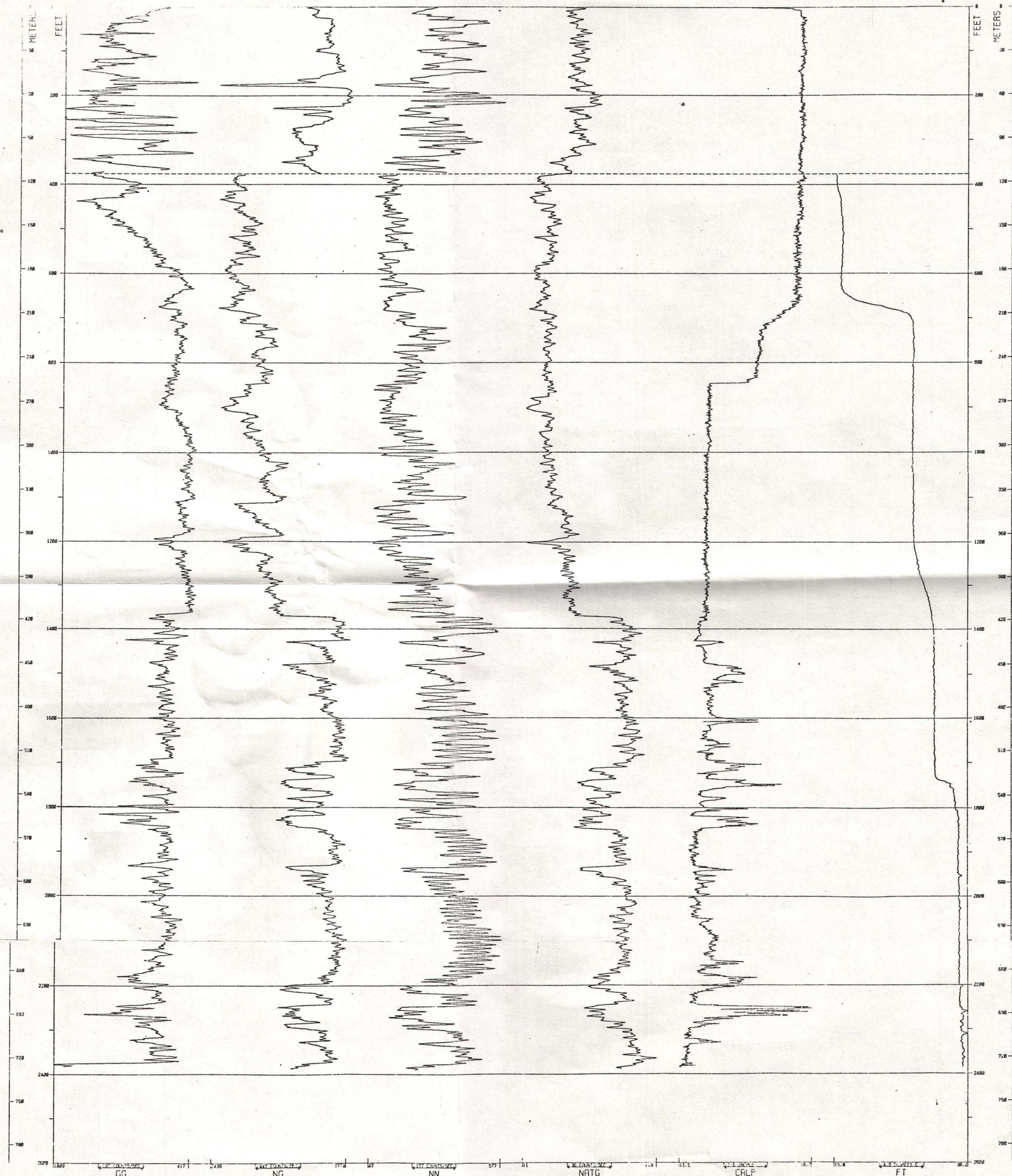
LEGEND
LOG TITLES
NATG - NATURAL GAMMA
CG - CEMENT GRAPHS
NG - NEUTRON LOG
FT - FLUID TEMPERATURE
FR - FLUID RESISTIVITY
CALP - CALIPER
SP - SPONTANEOUS POTENTIAL
LRES - LOG RESISTIVITY
PDR - PULSED DEGREE
SALC - SALINITY
LW - LOG WHEEL
SA - SHORT TAPPEL
DENSITY LOG INCREASES →
POROSITY (INV-LOG) INCREASES ←
WATER LEVEL - - - - -
NOTE: SCALE 1/11 CHANGE ABOVE WATER LEVEL

02/12/83 954

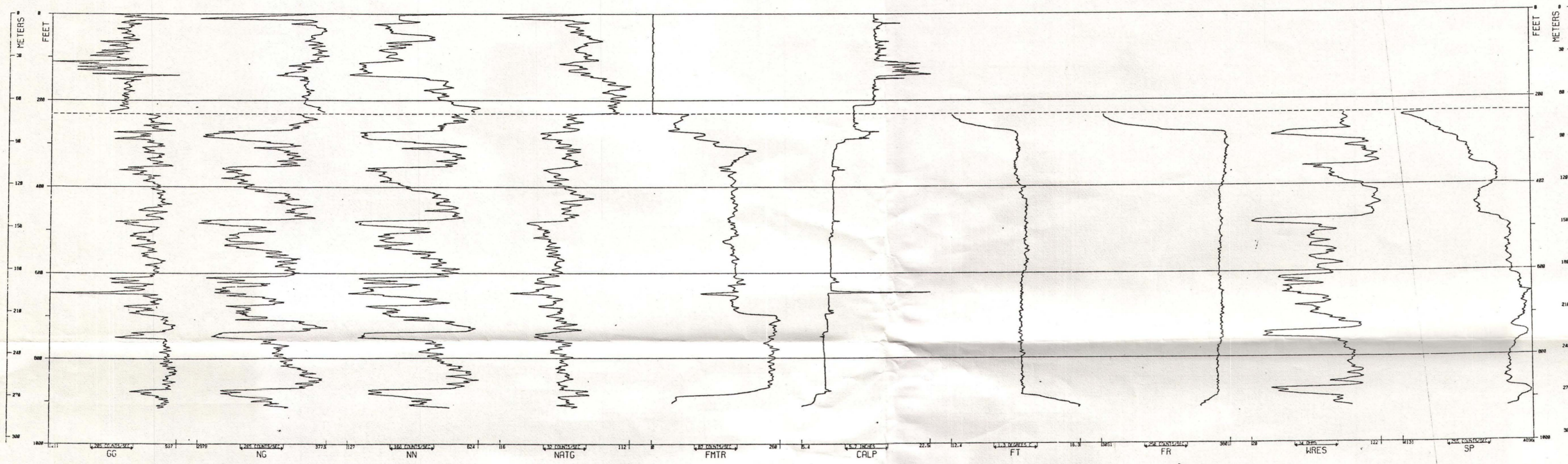
18N/31E-3301

18N/31E-3301

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GLD1400 IVK-34-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL DON HEINEMANN
 DATE LOGGED 02/19/76
 STATE WASHINGTON
 COUNTY POKES
 LOCATION 18N/36E-04R1
 SURFACE ELEVATION 1769
 TOTAL DEPTH LOGGED 922
 DEPTH TO WATER LEVEL 231
 CASING & LINERS
 0- 18" 15

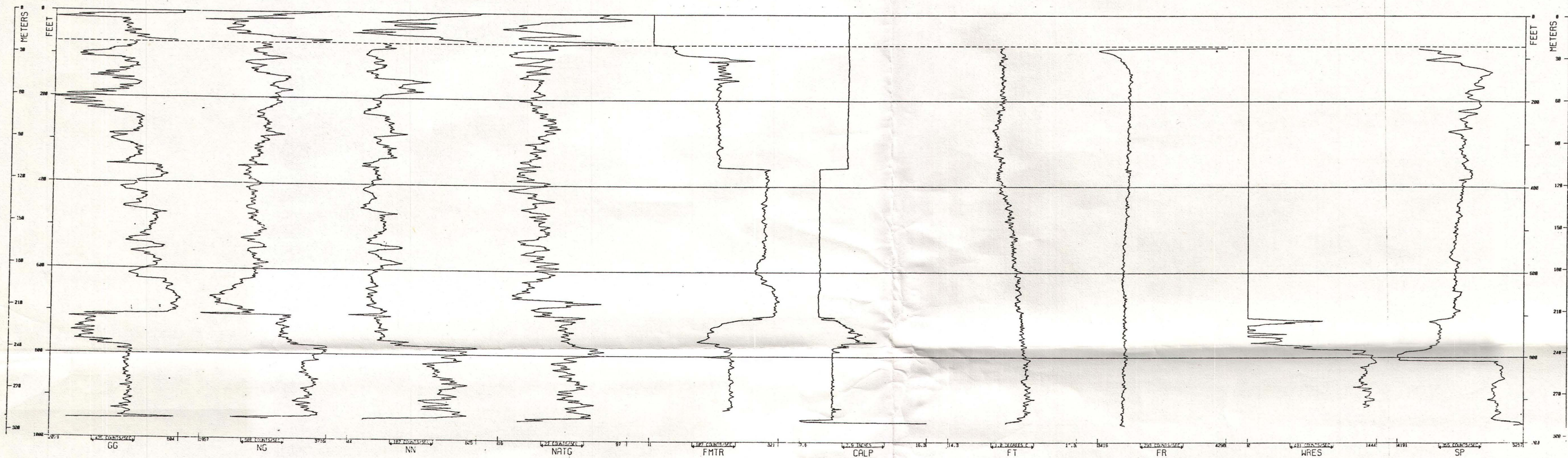
LEGEND
 LOG TITLES
 NATG - NET APP. CAPAC.
 NG - NET APP. CONDUCT.
 NN - NET APP. RESIST.
 NATG - NET APP. RESIST.
 FMTR - FORMATION TEMPERATURE
 CALP - CALIBRATION PLUS POTENTIAL
 FT - FORMATION TEMPERATURE
 FR - FORMATION RESISTIVITY
 WRES - WELL RESISTIVITY
 SP - SELF POTENTIAL
 SW - SLOPE METER
 LW - LOG WIRELINE

DENSITY LOG (LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

02/25/80 SEA

GLO1400 DOE35-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: MOSES LAKE #4
 DATE LOGGED: 09/26/74
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 19N/28E-28K1
 SURFACE ELEVATION: 1075
 TOTAL DEPTH LOGGED: 953
 DEPTH TO WATER LEVEL: 72
 CASING & LINERS: 0- 395-12 362- 711= 8

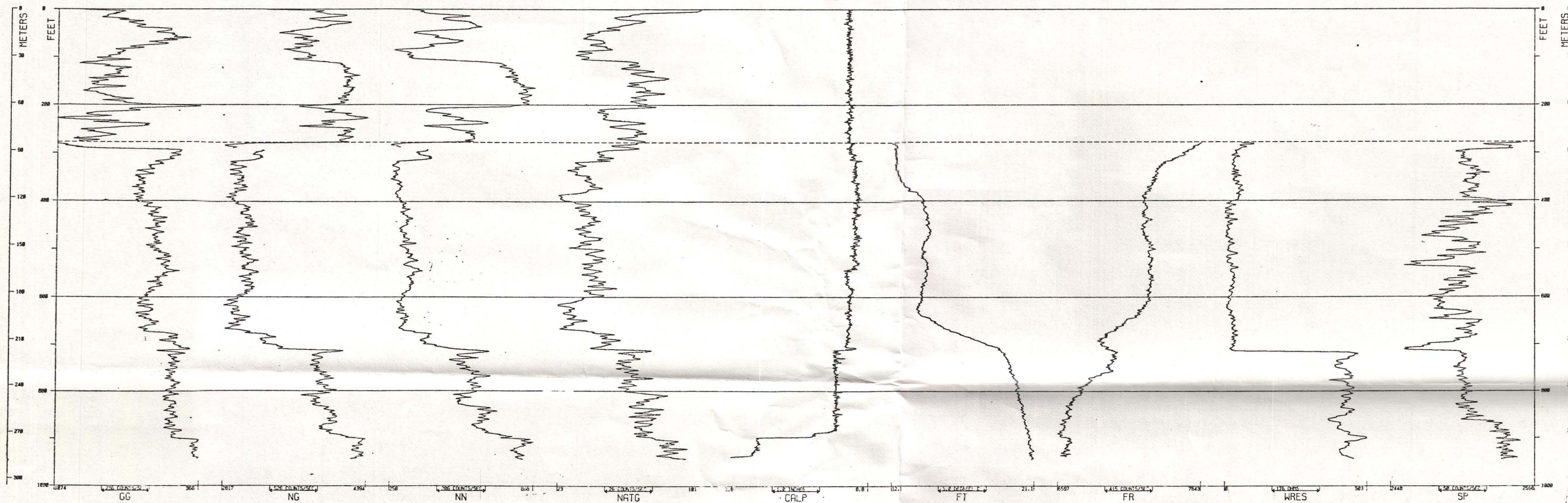
LEGEND
 LOG TITLES
 GG - GEOPHYSICAL
 NG - NEUTRON LOG
 NV - NEUTRON VOL
 NATG - NATURAL GAMMA
 FMTR - FORMATION RESISTIVITY
 CALP - CALIBRATION LOG
 FT - FORMATION TEMPERATURE
 FR - FORMATION RESISTIVITY
 WRES - WATER RESISTIVITY
 SP - SLOPE

DENSITY (GG-LOG) INCREASES →
 POROSITY (NV-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE RE: WATER LEVEL

1/22/83 BEM

GLD1400 Doc 36-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

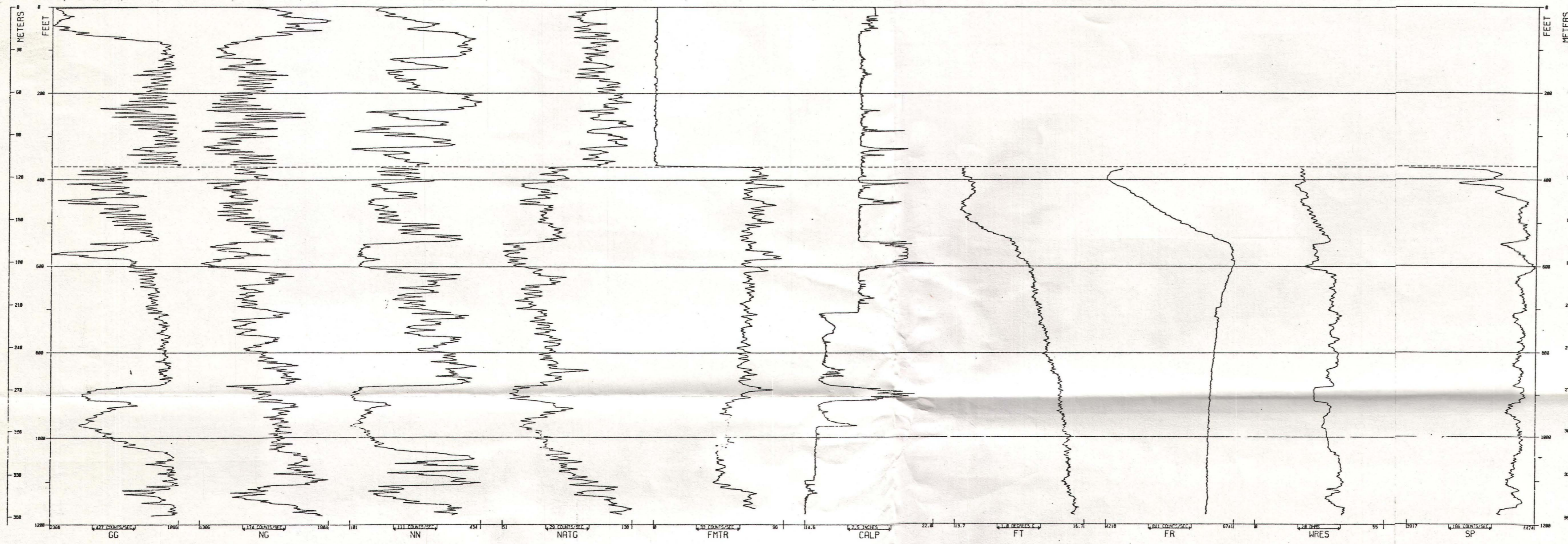
NAME OF WELL: MASTO FARMS
 DATE LOGGED: 11/26/74
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 15W/29E-15N1
 SURFACE ELEVATION: 1365
 TOTAL DEPTH LOGGED: 947
 DEPTH TO WATER LEVEL: 277
 CASING & LINERS: 8-785-8

LEGEND
 LOG TITLES
 R - RESISTIVITY
 P - POROSITY
 D - DENSITY
 W - WATER LEVEL
 CALP - CALCIUM SILICATE
 FT - FOSSILIFEROUS TUFFACEOUS SANDSTONE
 FR - FOSSILIFEROUS SANDSTONE
 WRES - WEDGE SANDSTONE
 SP - SANDSTONE
 NN - NORMAL SANDSTONE
 NG - NORMAL SANDSTONE
 NATG - NORMAL SANDSTONE
 GG - GRAVELLY SAND

DEENSITY LOG-LOG1 INCREASES →
 POROSITY (FN-LOG1) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/27/75 904

GL01400 DOC-37-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL JERRY ARACH
 DATE LOGGED 12/28/74
 STATE WASHINGTON
 COUNTY GRANT
 LOCATION 19N/38E-15L1
 SURFACE ELEVATION 1422
 TOTAL DEPTH LOGGED 1190
 DEPTH TO WATER LEVEL 378
 CASING & LINERS # 28-19

LEGEND
 LOG TITLES
 GR - GRAPHS
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 WRES - WELL RESISTIVITY
 FMTR - FLUID METER * DOWN
 CALP - CALIPER
 LN - LOG NUMBER
 SP - SPENT METER

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL -----

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11/22/83 SEM

19N/38E-15L1

GLO1400 DCE 38-

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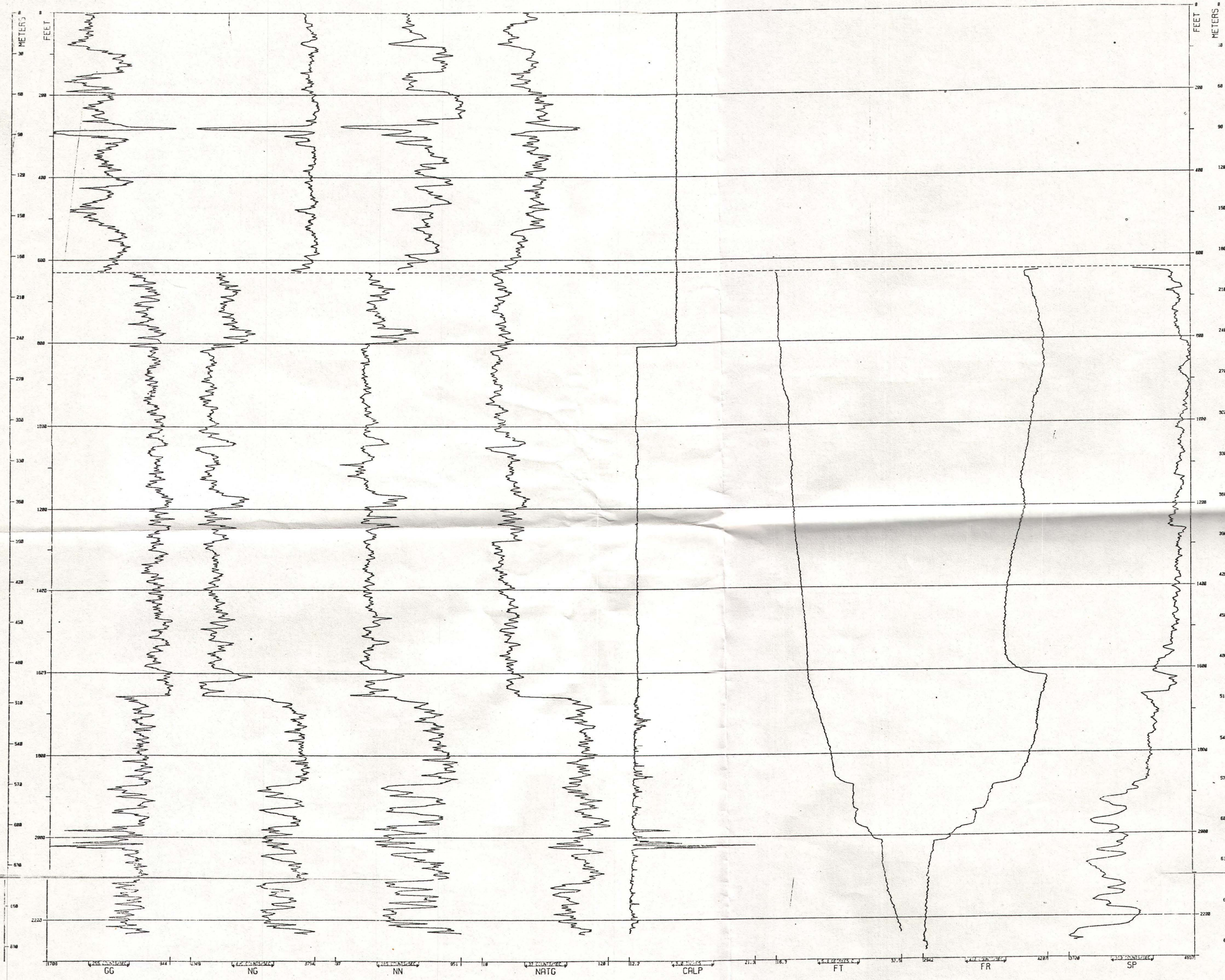
WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL J & M FARMS
 DATE LOGGED 08/07/75
 STATE WASHINGTON
 COUNTY ADAMS
 LOCATION 19N/32E-24N1
 SURFACE ELEVATION 1674
 TOTAL DEPTH LOGGED 2280
 DEPTH TO WATER LEVEL 630
 CASING & LINERS
 0- 30'-20 0- 848-16 848-1648-19

LEGEND
 LOG TITLES
 NATG - NATURAL GAMMA
 CG - CATHODIC CORROSION
 NN - NEUTRON NO-CORR
 NG - NEUTRON GAMMA
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 SP - SLOPE
 SPN - SPONTANEOUS POTENTIAL
 PFR - PORE FLUID RESISTIVITY
 SNIC - SLOPE INDEX
 SN - SLOPE INDEX
 SN - SLOPE INDEX

DENSITY LOG LOGS INCREASES →
 POROSITY LOGS INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL



19N/32E-24N1

19N/32E-24N1

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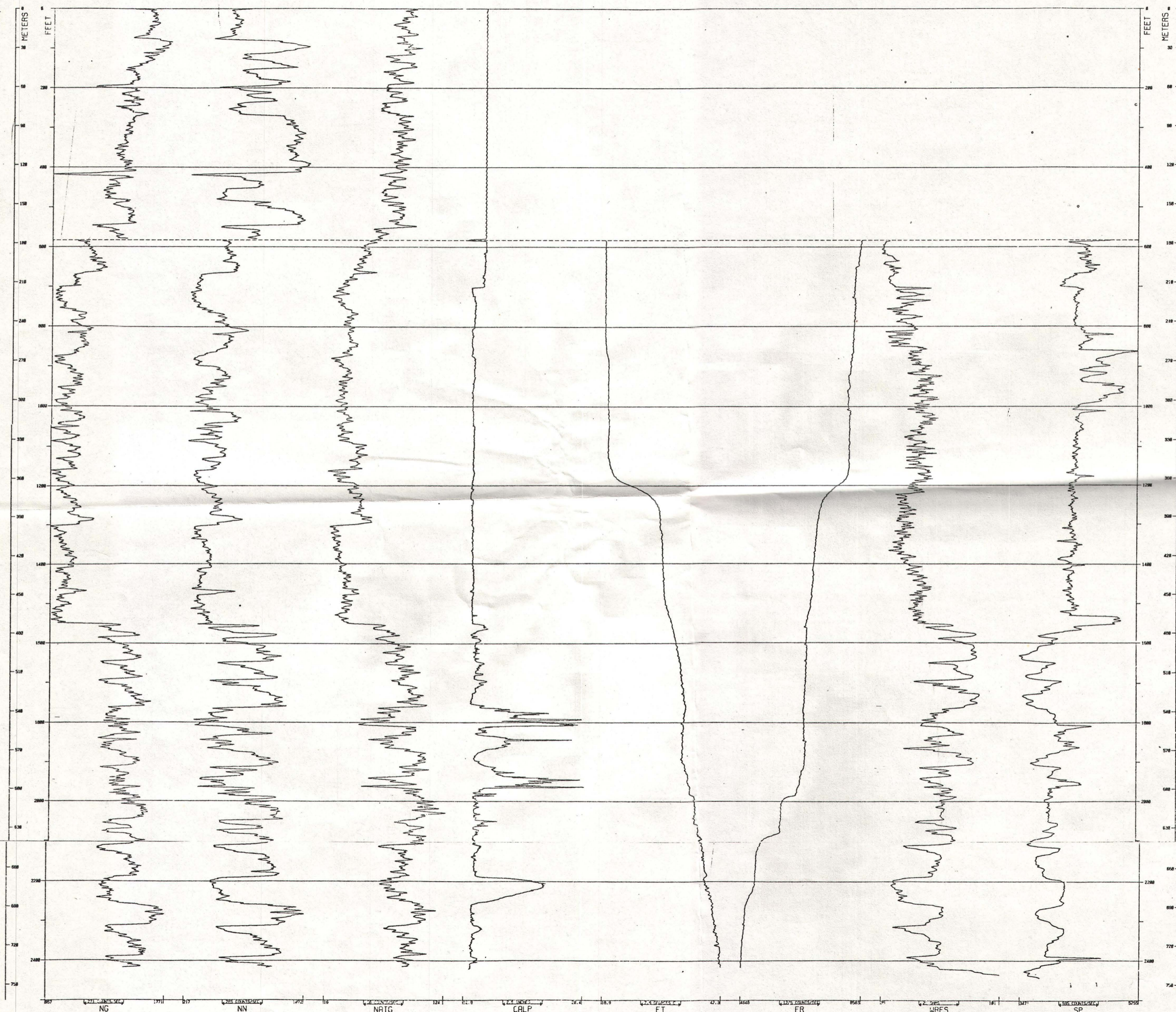
WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL HOEFEL #2
 DATE LOGGED 8/18/75
 STATE WASHINGTON
 COUNTY ADAMS
 LOCATION 19N/33E-8802
 SURFACE ELEVATION 1005
 TOTAL DEPTH LOGGED 2445
 DEPTH TO WATER LEVEL 583
 CASING & LINERS
 8" 78-19 8" 783-15 783-1552-13

LEGEND
 LOG TITLES
 NG - NEUTRON LOG
 CG - CALIPER LOG
 NC - NEUTRON CAPTURE LOG
 NT - NEUTRON TEMPERATURE LOG
 FT - FLUID TEMPERATURE LOG
 FR - FLUID RESISTIVITY LOG
 SP - SPONTANEOUS POTENTIAL LOG
 SR - SLOPE RESISTIVITY LOG
 SUC - SUDIC LOG
 LN - LOG NORMAL LOG
 SN - SPECTRUM LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (FN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

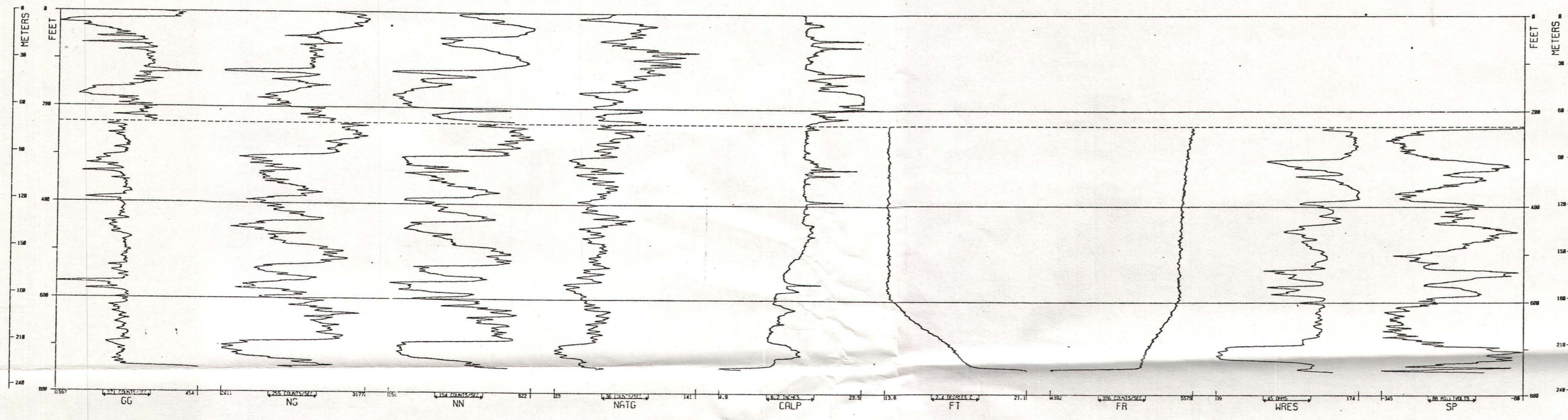


19N/33E-8802

19N/33E-8802

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GLONDA IV. -40-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: GAYLE GERING
 DATE LOGGED: 03/28/78
 STATE: WASHINGTON
 COUNTY: BENTON
 LOCATION: 19N/36E-29K1
 SURFACE ELEVATION: 1860
 TOTAL DEPTH LOGGED: 752
 DEPTH TO WATER LEVEL: 232
 CASING & LINERS: 8" 15-15

ASCENDING WATER FROM 208' TO 233'

LEGEND
 LOG TITLES
 NATG - NATURAL GRAB
 GG - GRAB GRAB
 NG - NATURAL GRAB
 NN - NATURAL GRAB
 NATG - NATURAL GRAB
 CALP - CALIPER
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WELL RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 LA - LOG LINEAR
 SA - SHORT NORMAL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

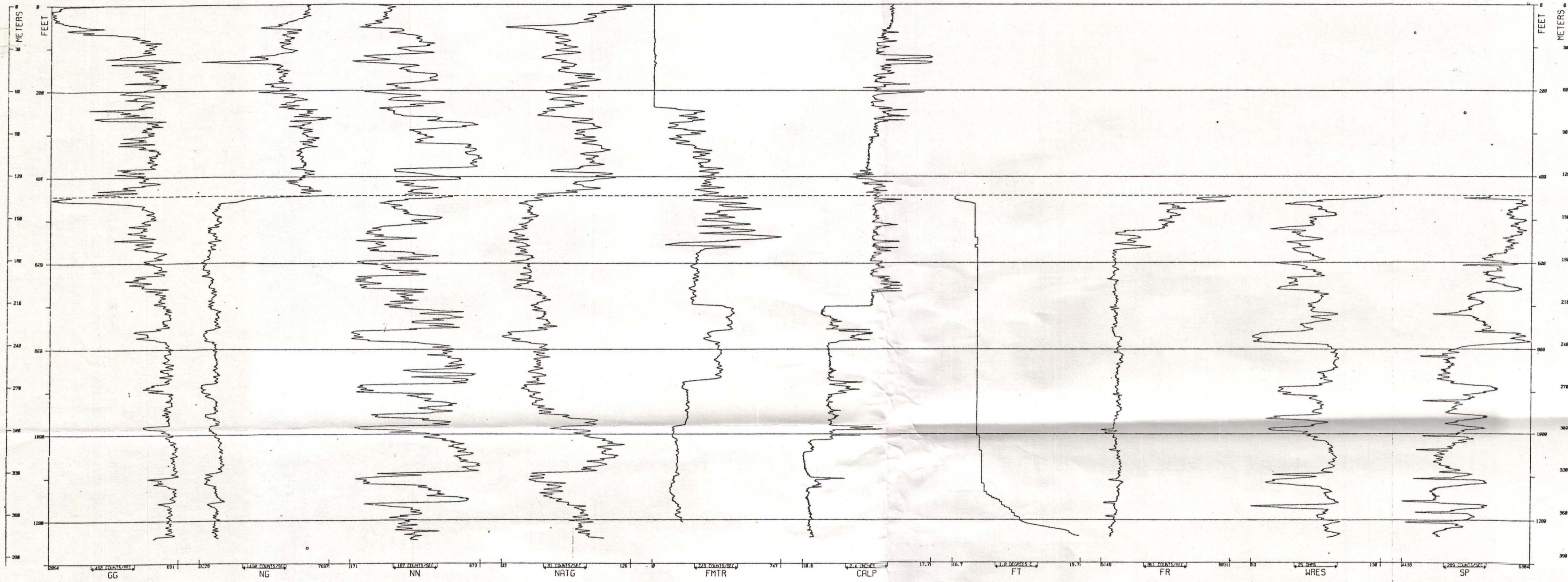
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

02/25/83 SLJ

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: GERING, GRAYLE
 DATE LOGGED: 11/28/75
 STATE: WASHINGTON
 COUNTY: ADAMS
 LOCATION: 19N/36E-15R1
 SURFACE ELEVATION: 1505
 TOTAL DEPTH LOGGED: 1248
 DEPTH TO WATER LEVEL: 444
 CASING & LINERS: 8" 56-19

LEGEND

LOG TITLES

- RTG - RESISTIVITY
- RST - RESISTIVITY
- RSTG - RESISTIVITY
- RSTL - RESISTIVITY
- RSTW - RESISTIVITY
- RSTX - RESISTIVITY
- RSTY - RESISTIVITY
- RSTZ - RESISTIVITY
- PPOR - POROSITY
- WL - WATER LEVEL
- WLT - WATER LEVEL
- WLS - WATER LEVEL
- WLD - WATER LEVEL
- WLE - WATER LEVEL
- WLF - WATER LEVEL
- WLG - WATER LEVEL
- WLH - WATER LEVEL
- WLI - WATER LEVEL
- WLS - WATER LEVEL
- WLD - WATER LEVEL
- WLE - WATER LEVEL
- WLF - WATER LEVEL
- WLG - WATER LEVEL
- WLH - WATER LEVEL
- WLI - WATER LEVEL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE 1% CHANGE ABOVE WATER LEVEL.

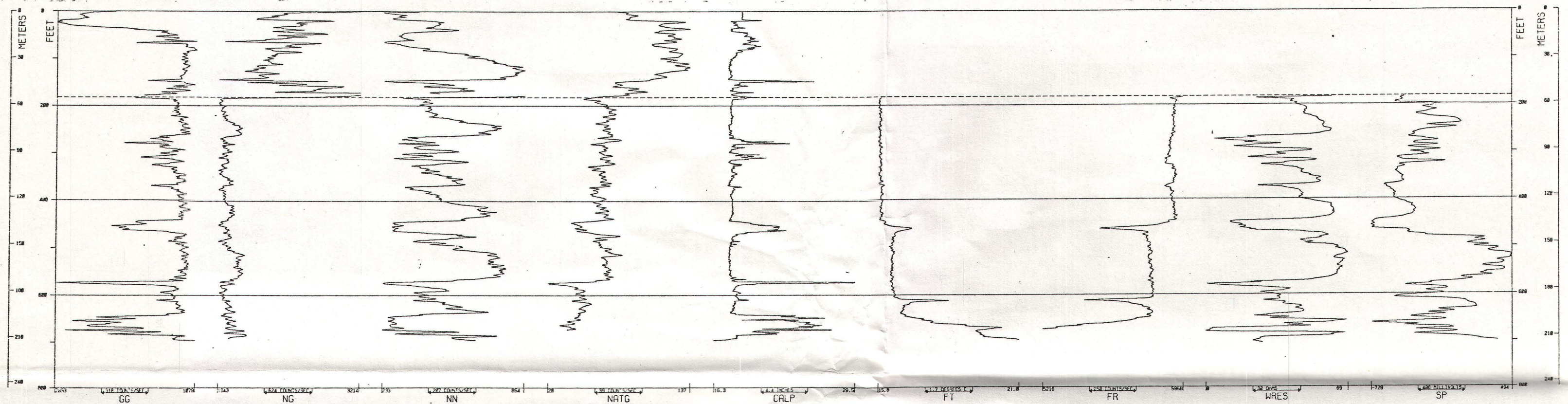
11/28/75 20

19N/36E-15R1

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: E. B. COLE
 DATE LOGGED: 05/13/75
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 20N-28E-07W1
 SURFACE ELEVATION: 1295
 TOTAL DEPTH LOGGED: 705
 DEPTH TO WATER LEVEL: 182
 CASING & LINERS: 8" 20#19

NOT LOGGED TO TOTAL DEPTH.
 REPORTED DEPTH 1225 FT.

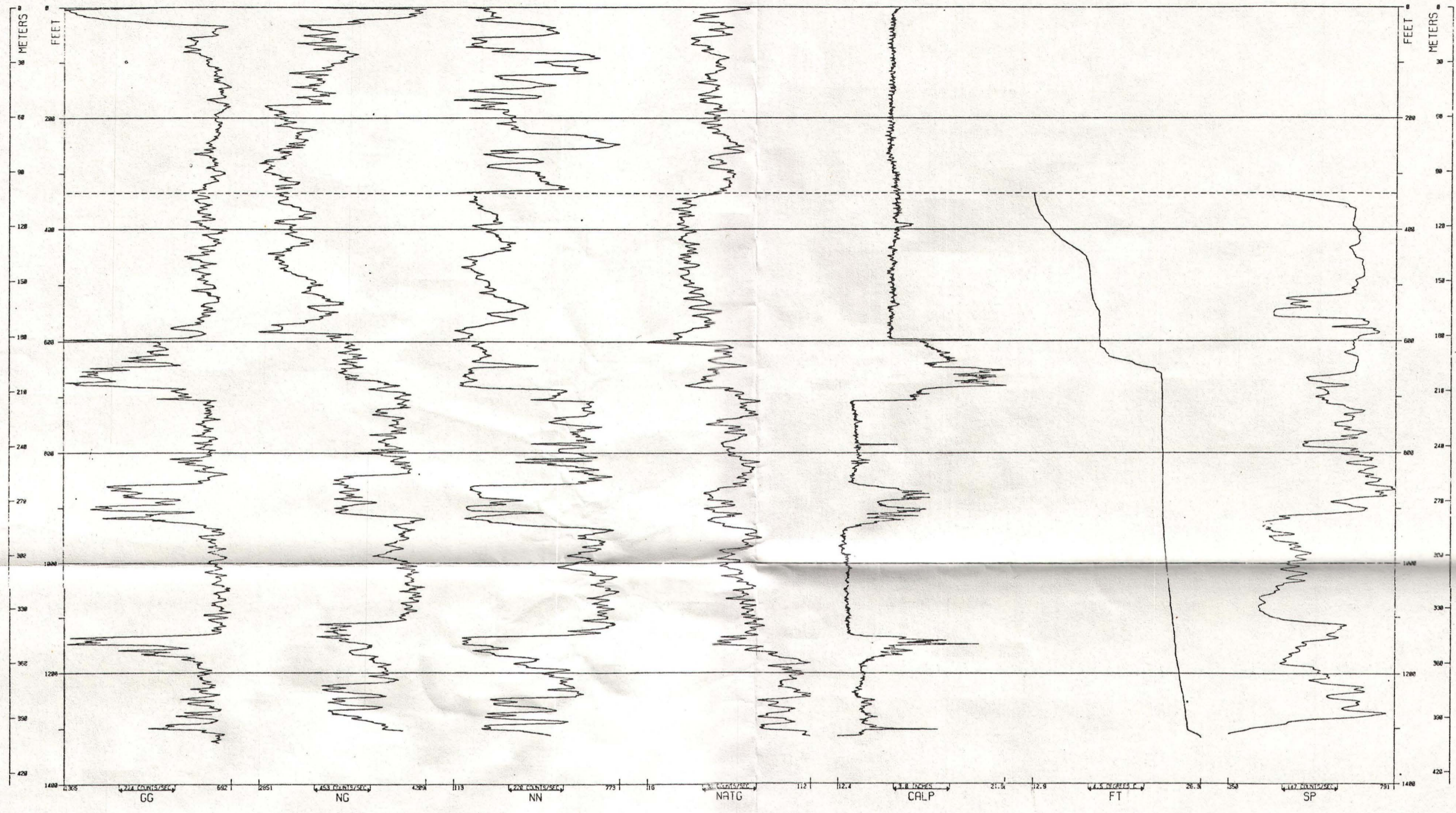
LEGEND
 LOG TITLES
 NRTG - NATURAL GAMMA
 GC - GRADIENT LOG
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NRTG - NATURAL GAMMA
 CALP - CALIPER LOG
 FT - FLOW TEMPERATURE
 FR - FLOW RESISTIVITY
 WRES - WIRE RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 GR - GRAVITY
 SW - SLOPE
 SN - SLOPE
 SK - SLOPE

DENSITY (CG-LOG) INCREASES →
 POROSITY (AN-LOG) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

11/22/83 504

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WASHINGTON STATE UNIVERSITY
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL REINKE FARM CO.
DATE LOGGED 01/21/76
STATE WASHINGTON
COUNTY GRANT
LOCATION 20N/29E-25C1
SURFACE ELEVATION 1422
TOTAL DEPTH LOGGED 1331
DEPTH TO WATER LEVEL 335
CASING & LINERS
599-16

LEGEND
LOG TITLES
GG - GRAIN GEOM
NG - NEUTRON LOG
NN - NEUTRON SLOPE
NATC - NEUTRON ATTENUATION COEFFICIENT
CALP - CALIBRATION LOG
FT - TRUE RESISTIVITY
SP - SELF-POTENTIAL
POT - POTENTIAL
DIP - DIP
DIP - DIP
DIP - DIP
DIP - DIP

DENSITY LOG LOG INCREASES →
POROSITY (NPHI) INCREASES ←
WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE AT THE WATER LEVEL

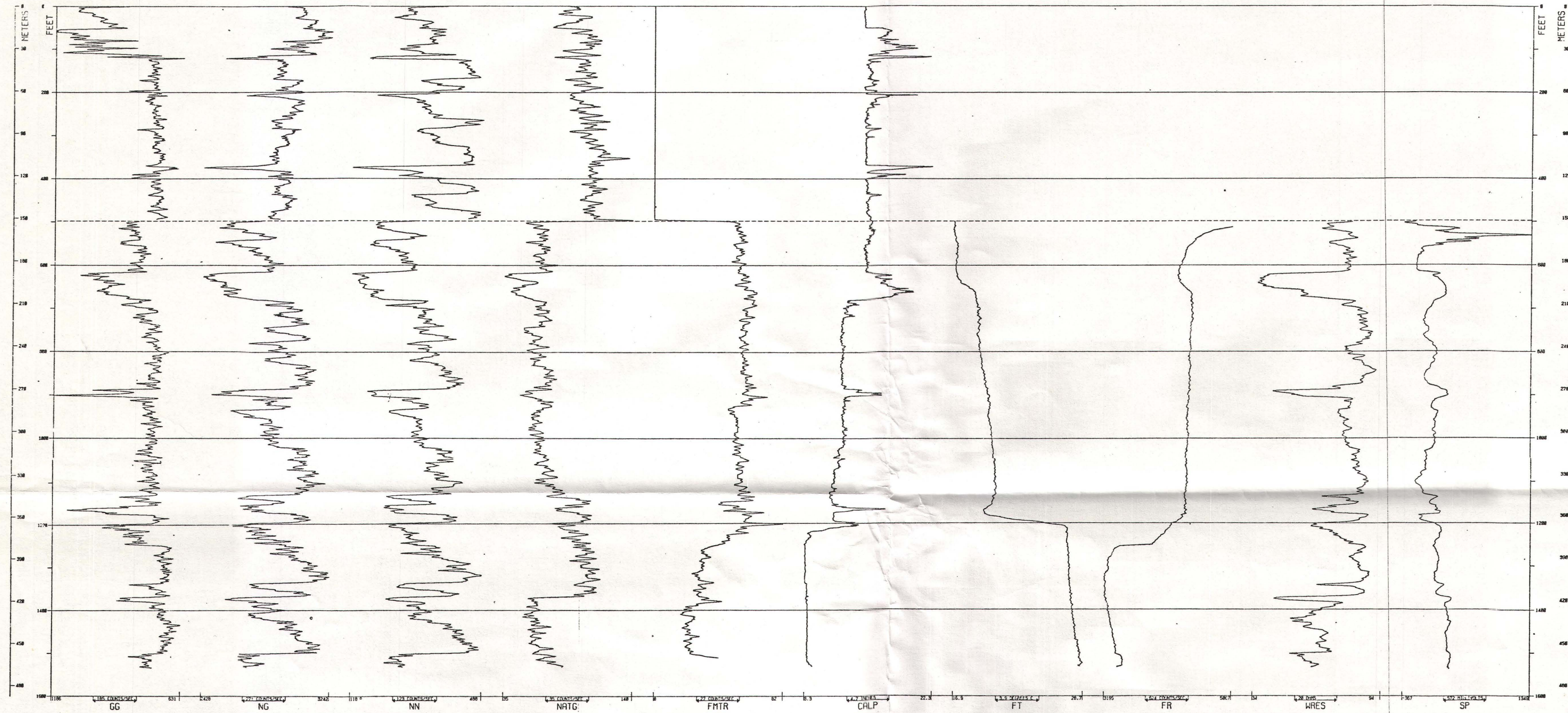
11/22/73 954

20N/29E-25C1

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4



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: CLINT CLARSEN
 DATE LOGGED: 12/28/77
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 20W/38E-21G1
 SURFACE ELEVATION: 1568
 TOTAL DEPTH LOGGED: 1541
 DEPTH TO WATER LEVEL: 498
 CASING & LINERS: 8" - 48915

LEGEND
 LOG TITLES
 GC - GRAMM-GAMMA
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NATURAL GAMMA
 FMTR - FORMATION LOSS
 CALP - CALIPER LOG
 FT - FLUORESCENCE LOG
 FR - RESISTIVITY LOG
 WRES - WIRE RESISTANCE LOG
 SP - SPONTANEOUS POTENTIAL LOG
 SH - SLOPE LOG
 SMC - SLOPE LOG
 SN - SLOPE LOG
 SM - SLOPE LOG
 SW - SLOPE LOG

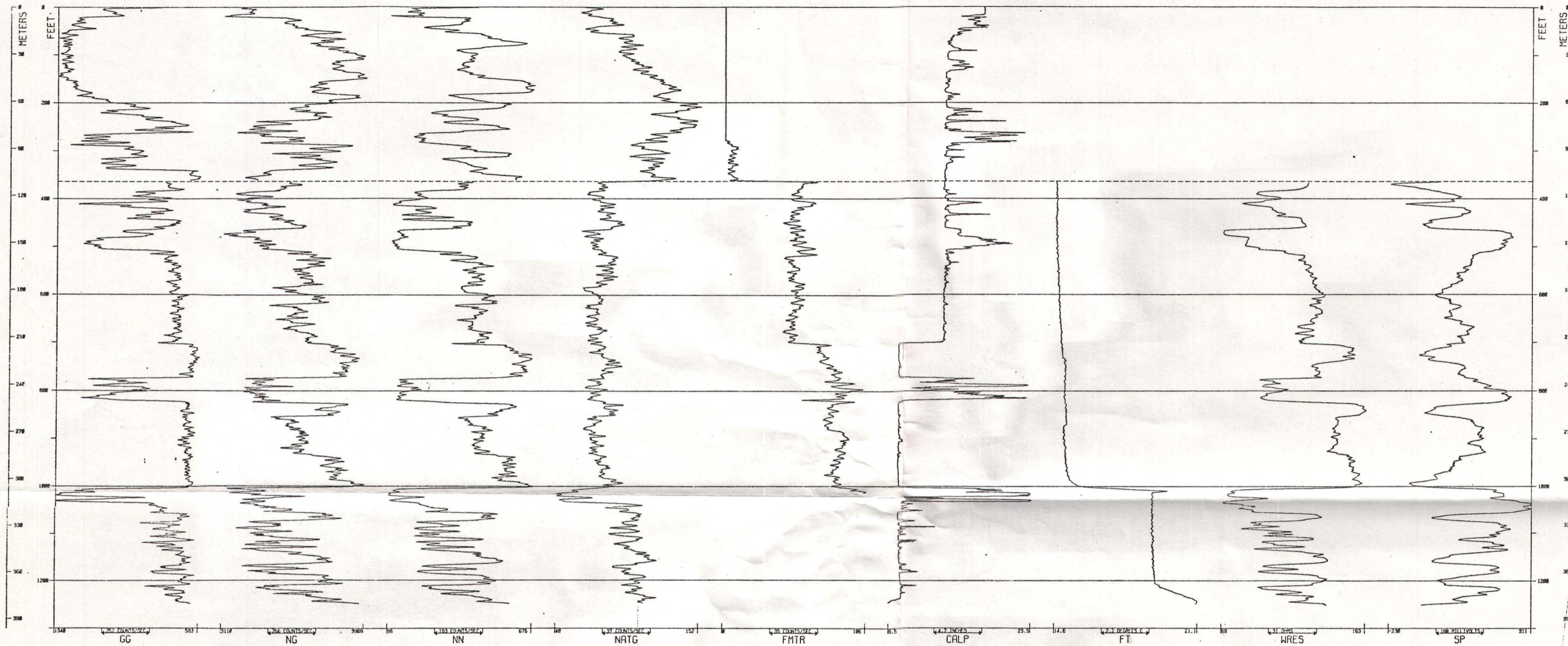
DENSITY (GG-LOG) INCREASES →
 POROSITY (NV-LOG) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

8/25/83 SK

20W/38E-21G1

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: NEIDBUR/HEST
 DATE LOGGED: 82/13/76
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 20N/38E-32K1
 SURFACE ELEVATION: 1458
 TOTAL DEPTH LOGGED: 1255
 DEPTH TO WATER LEVEL: 364
 CASING & LINERS: 8" 28-28

LEGEND
 LOG TITLES
 NATG --- NATURAL GAMMA
 NG --- NATURAL GAMMA
 NN --- NATURAL NEUTRON
 NATG --- NATURAL GAMMA
 FMTR --- FLUID RESISTIVITY
 CALP --- CALIPERS
 FT --- FLUID TEMPERATURE
 WRES --- WALL RESISTIVITY
 SP --- SPONTANEOUS POTENTIAL
 FMTR --- FLUID RESISTIVITY
 FT --- FLUID TEMPERATURE
 WRES --- WALL RESISTIVITY
 SP --- SPONTANEOUS POTENTIAL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

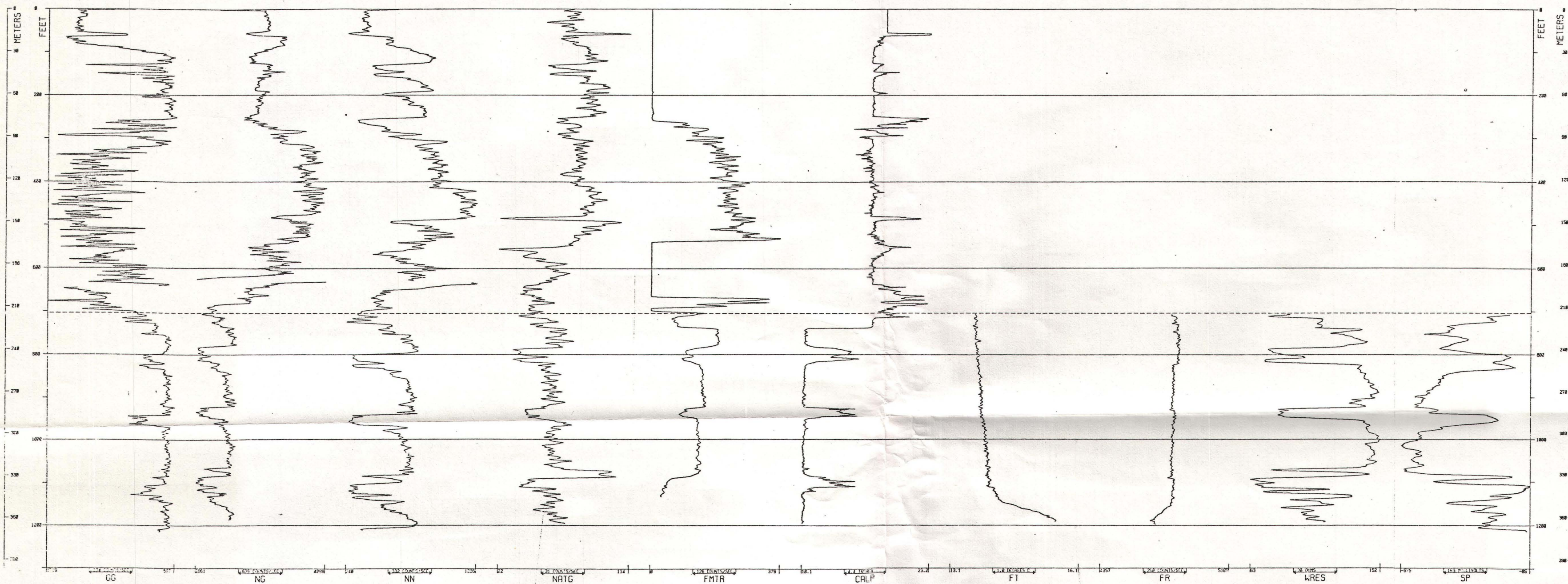
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

84/25/83 SEM

20N/38E-32K1

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: R. KRAELE
 DATE LOGGED: 8/18/77
 STATE: WASHINGTON
 COUNTY: POKAN
 LOCATION: 28N/35E-27R1
 SURFACE ELEVATION: 2225
 TOTAL DEPTH LOGGED: 1217
 DEPTH TO WATER LEVEL: 784
 CASING & LINERS: 8" 56-19
 DESCENDING WATER FROM 624 FT.

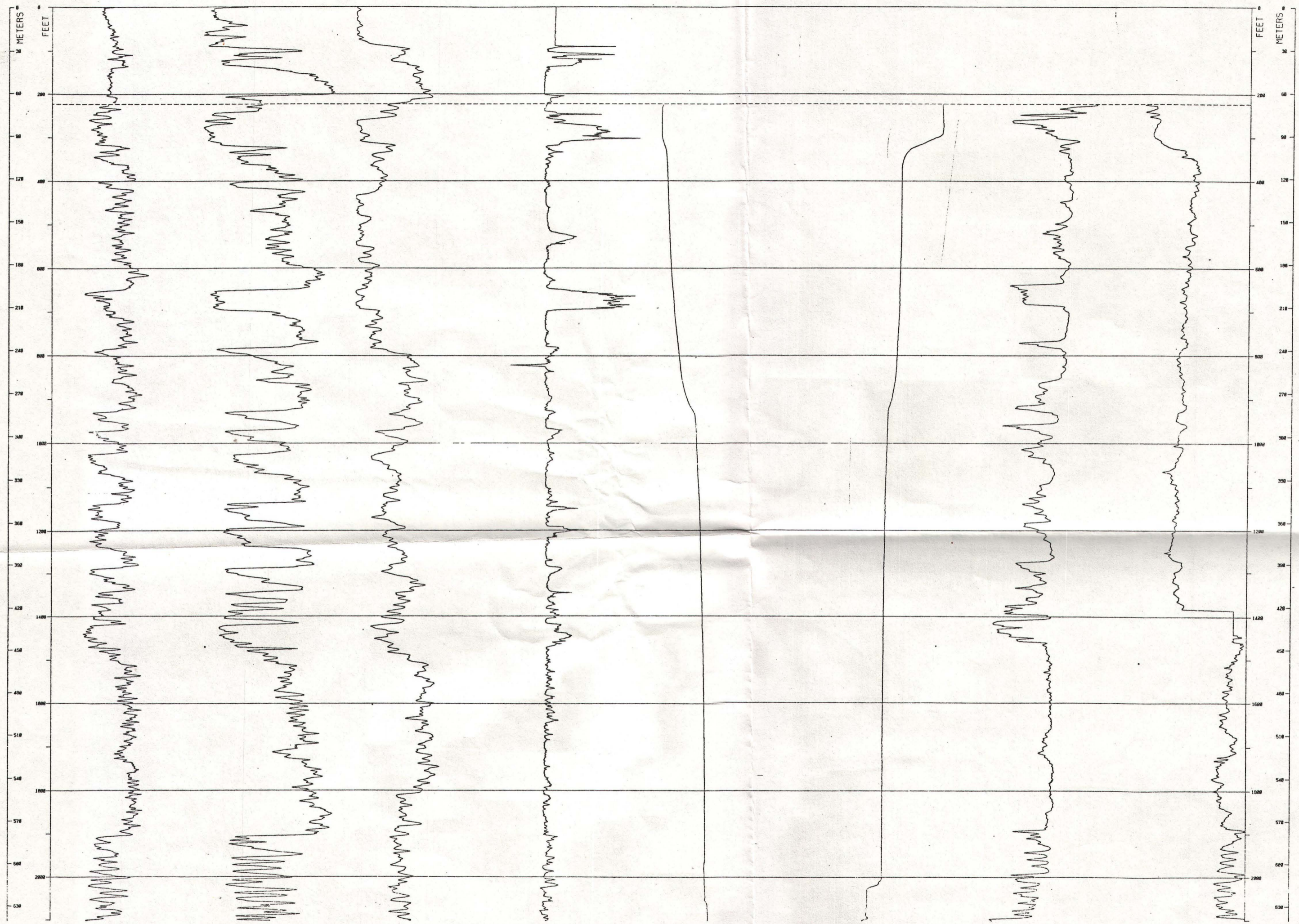
LEGEND
 LOG TITLES
 R - RESISTIVITY
 GR - GAMMA RAY LOG
 NL - NEUTRON LOG
 DL - DENSITY LOG
 PO - POROSITY LOG
 SP - SPONTANEOUS POTENTIAL
 W - WATER LEVEL
 P - PULSAR
 S - SLOPE
 M - MUD RESISTIVITY
 N - NEUTRON LOG
 D - DENSITY LOG
 W - WATER LEVEL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL -----
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

8/23/83 504

28N/35E-27R1

GLD1400 Doc-47-



WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: BASALT EXPLORER
 DATE LOGGED: 06/14/72
 STATE: WASHINGTON
 COUNTY: LINCOLN
 LOCATION: 21N/31E-10M1
 SURFACE ELEVATION: 1610
 TOTAL DEPTH LOGGED: 4484
 DEPTH TO WATER LEVEL: 223
 CASING & LINERS: 8-100-10

LEGEND
 LOG TITLES
 GR - NATURAL GAMMA
 GG - GRAMA GAMMA
 NG - NEUTRON LOGGON
 RT - RESISTIVITY
 FT - FLUID TEMPERATURE
 SP - SPONTANEOUS POTENTIAL
 RF - FLUID RESISTIVITY
 S - SALINITY
 LN - LOG NORMAL
 SN - SHORT NORMAL

DENSITY LOG INCREASES →
 POROSITY LOG INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

11/23/82 304

21N/31E-10M1

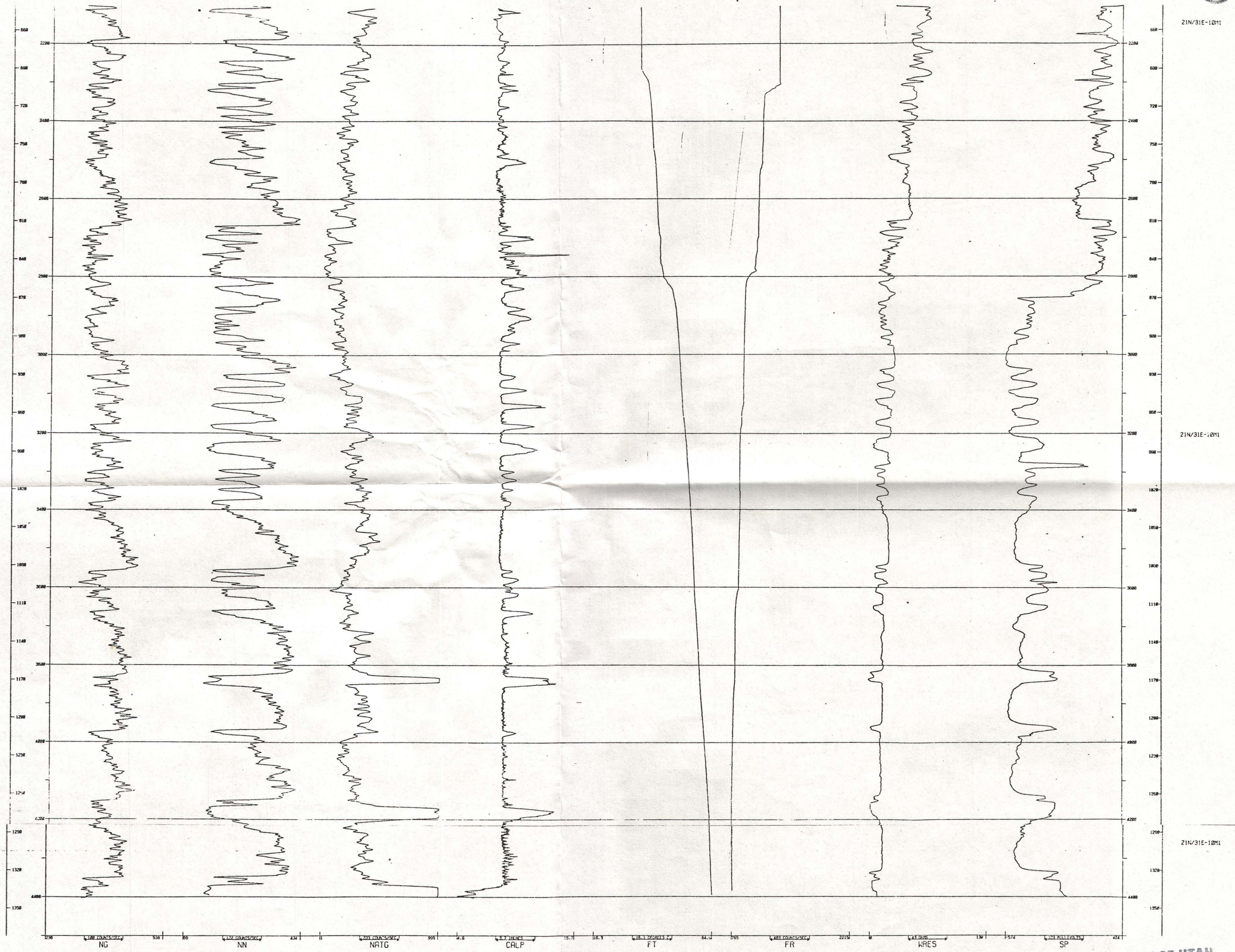
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Continued next sheet

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Basalt Exploration
Continued from previous sheet

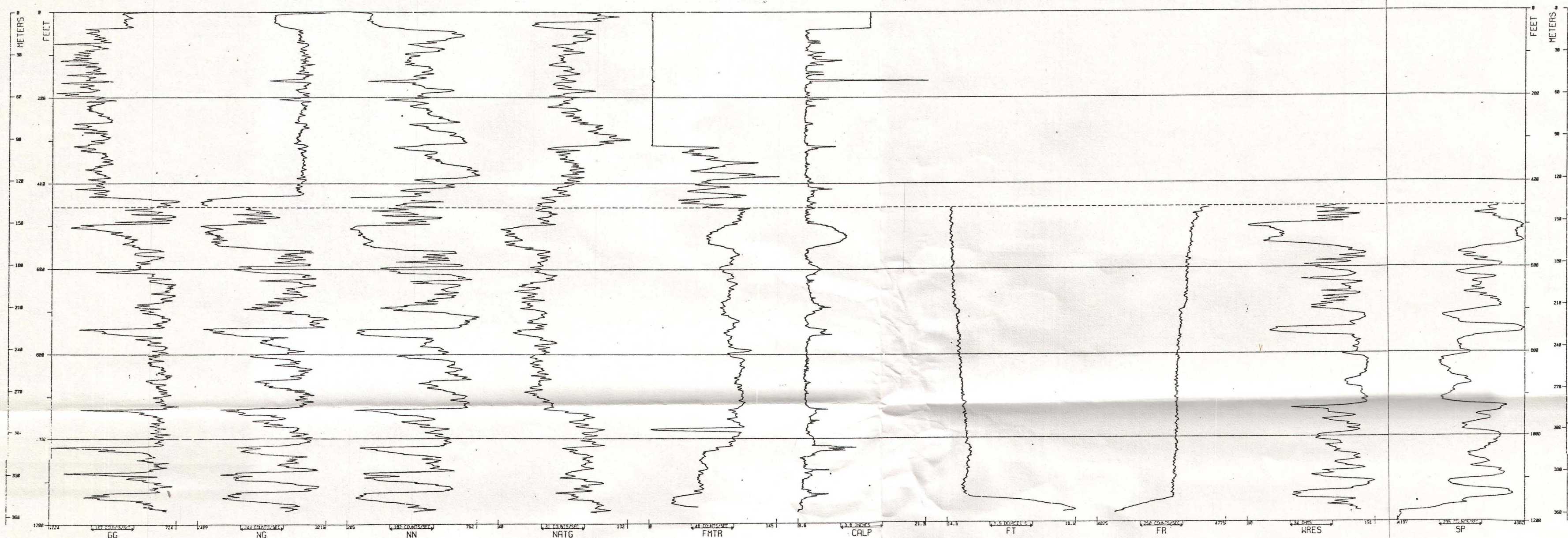
AO



21N/31E-10M1
21N/31E-10M1
21N/31E-10M1

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WASHINGTON STATE UNIVERSITY
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: BOB KISSLER
 DATE LOGGED: 04/03/77
 STATE: WASHINGTON
 COUNTY: LINCOLN
 LOCATION: 21N/91E-3202
 SURFACE ELEVATION: 1670
 TOTAL DEPTH LOGGED: 1200
 DEPTH TO WATER LEVEL: 456
 CASING & LINERS: 8" 42-16"

LEGEND
 LOG TITLES
 NATG - NATURAL GAMMA
 NG - GAMMA RAY
 NN - NEUTRON LOG
 NATG - NATURAL GAMMA
 FMTR - FORMATION TEMPERATURE
 CALP - CALIBRATION LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WATER RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 SP - SPONTANEOUS POTENTIAL
 SP - SPONTANEOUS POTENTIAL
 SP - SPONTANEOUS POTENTIAL
 SP - SPONTANEOUS POTENTIAL

DENSITY (LOG-LOG) INCREASES →
 POROSITY (FN-LOG) INCREASES ←
 WATER LEVEL - - - - -

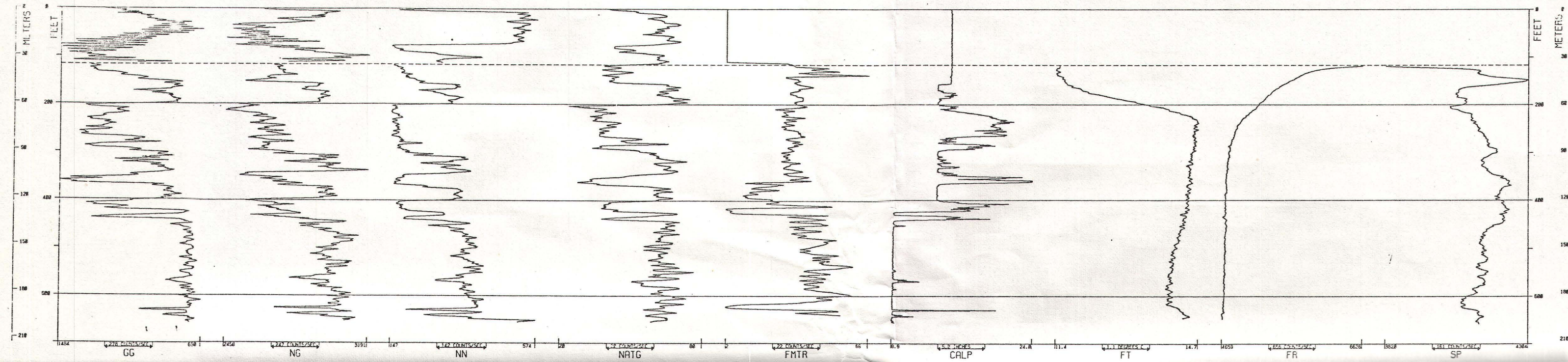
NOTE - SCALE MAY CHANGE ABOVE WATER LEVEL

11/20/83 SEN

21N/91E-3202

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL GCESSA CITY
 DATE LOGGED 11/22/77
 STATE WASHINGTON
 COUNTY LINCOLN
 LOCATION 21N/39E-09E1
 SURFACE ELEVATION 1610
 TOTAL DEPTH LOGGED 658
 DEPTH TO WATER LEVEL 117
 CASING & LINERS # 160-15

LEGEND

LOG TITLES

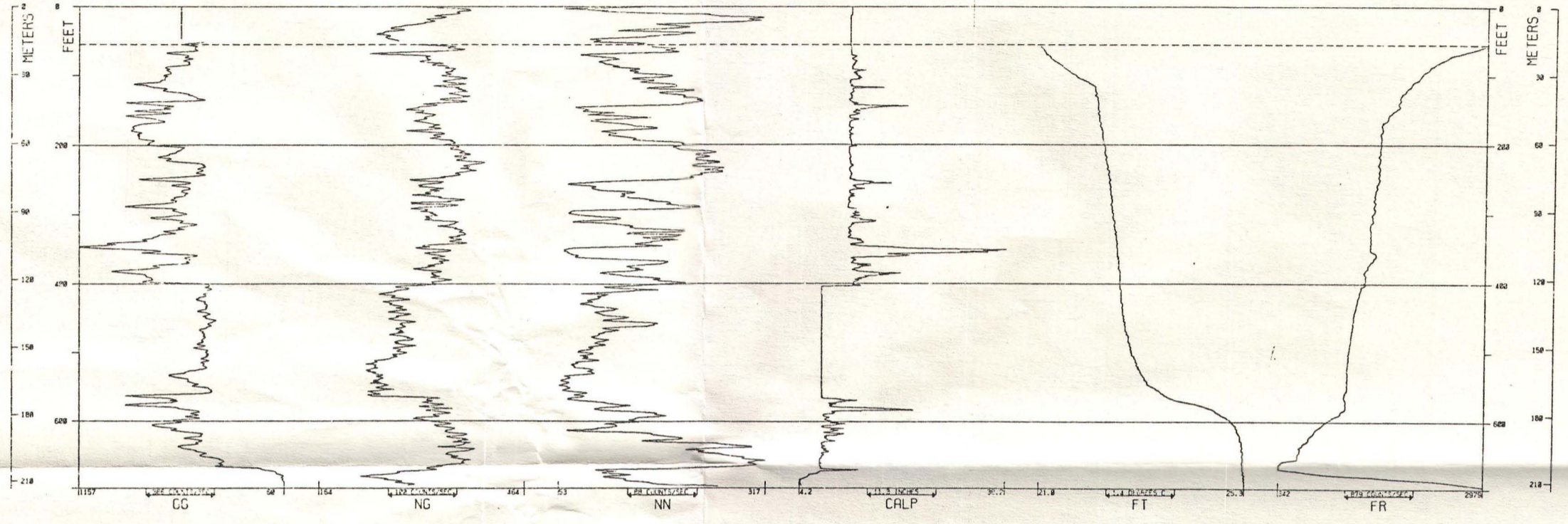
NTG - NATURAL GAMMA
 GG - GAMMA GRADIENT
 NG - NEUTRON SLOTTION
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 CALP - CALIPER
 SP - SPONTANEOUS POTENTIAL
 NATG - NATURAL GAMMA
 FMTR - FLUID MUD RESISTIVITY
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 NTG - NATURAL GAMMA
 GG - GAMMA GRADIENT
 NG - NEUTRON SLOTTION
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 CALP - CALIPER
 SP - SPONTANEOUS POTENTIAL

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL -----

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

8/12/83 SKH

GLO1400 DOC-51-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL FRED BLUMERT
 DATE LOGGED 03/23/72
 STATE WASHINGTON
 COUNTY SPOKANE
 LOCATION 15N/36E-34F1
 SURFACE ELEVATION 1050
 TOTAL DEPTH LOGGED 659
 DEPTH TO WATER LEVEL 55
 CASING & LINERS
 0- 77=11 402- 565= 8

LEGEND
 LOG TITLES
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 CALP - CALIPER LOG
 FT - FLOW TEMPERATURE
 FR - FLOW RESISTIVITY
 CC - CALIPER
 SP - SPONTANEOUS POTENTIAL
 PR - PORE RESISTIVITY
 SN - SLOTTED NEUTRON
 SN - SLOTTED NEUTRON

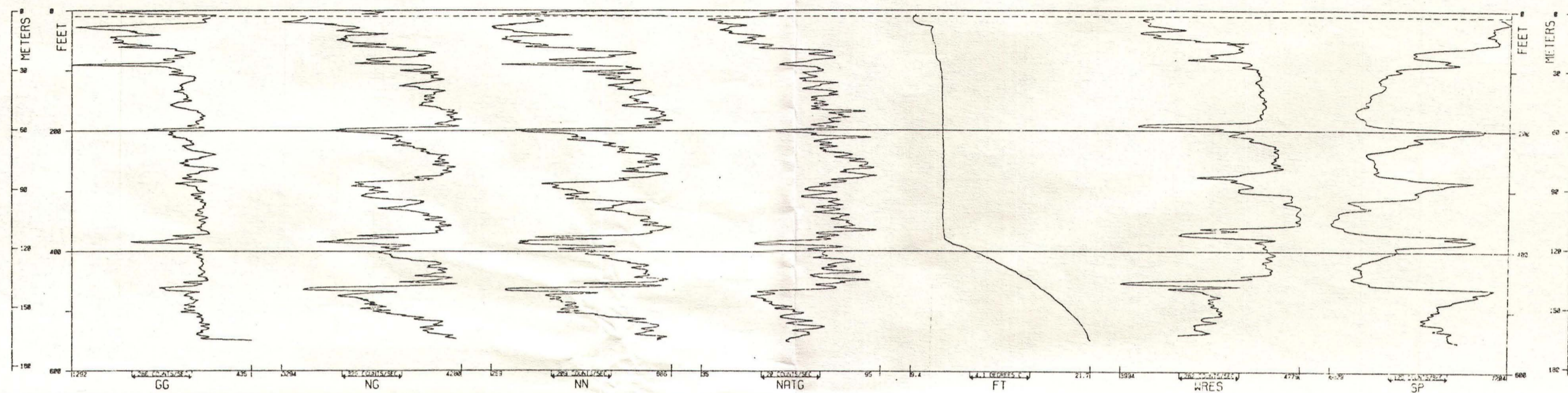
DENSITY (LOG-LOG) INCREASES ———→
 POROSITY (1-N-LOG) INCREASES ———→
 WATER LEVEL ————

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

CE/RA/BS 154

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: CONWELL
 DATE LOGGED: 25/27/74
 STATE: WASHINGTON
 COUNTY: GARFIELD
 LOCATION: 17N/37E-2700
 SURFACE ELEVATION: 3525
 TOTAL DEPTH LOGGED: 352
 DEPTH TO WATER LEVEL: 12
 CASING & LINERS:

LEGEND

LOG TITLES

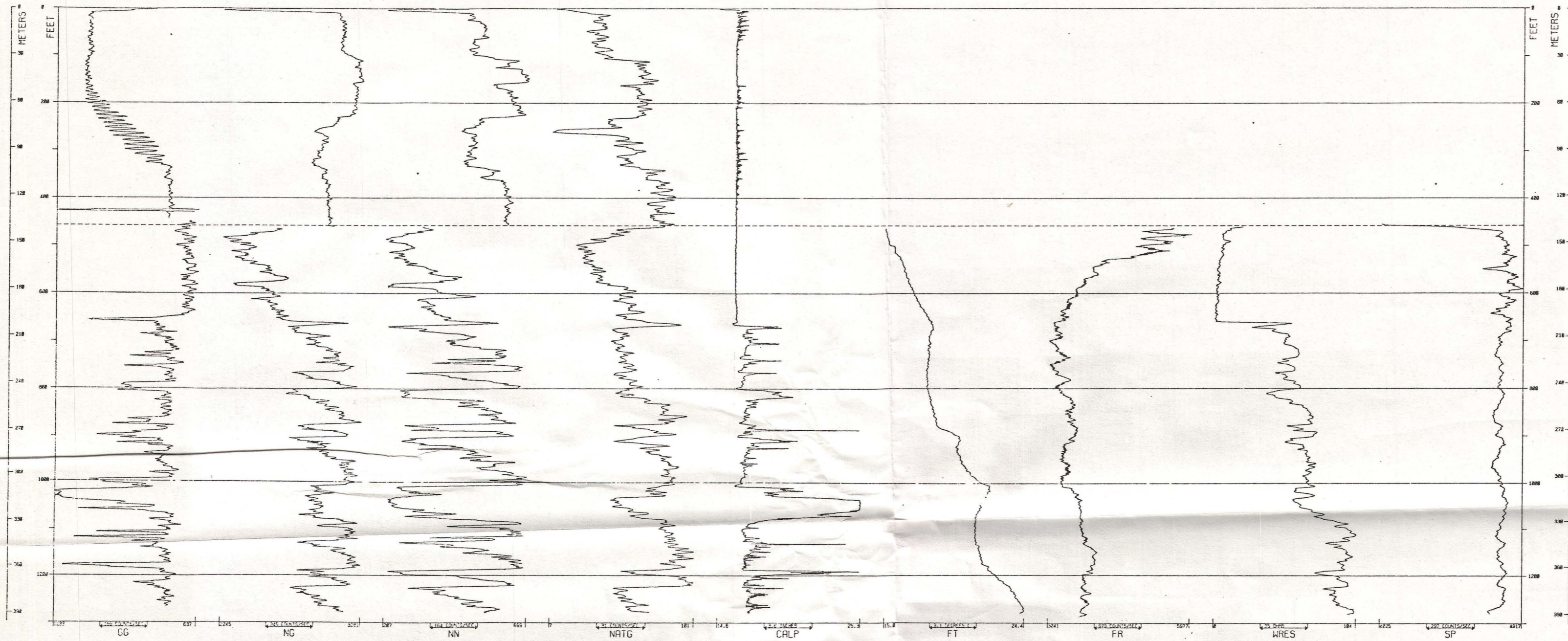
- NG - NATURAL LOG
- GG - GRADIENT
- NN - NEUTRON LOG
- NATG - NATURAL LOG
- FT - FLUID TEMPERATURE
- WRES - RESISTIVITY
- SP - SLOPE
- SNIC - SLOPE

DENSITY INCREASES →
 POROSITY INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

GLO1400 DOC-53-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

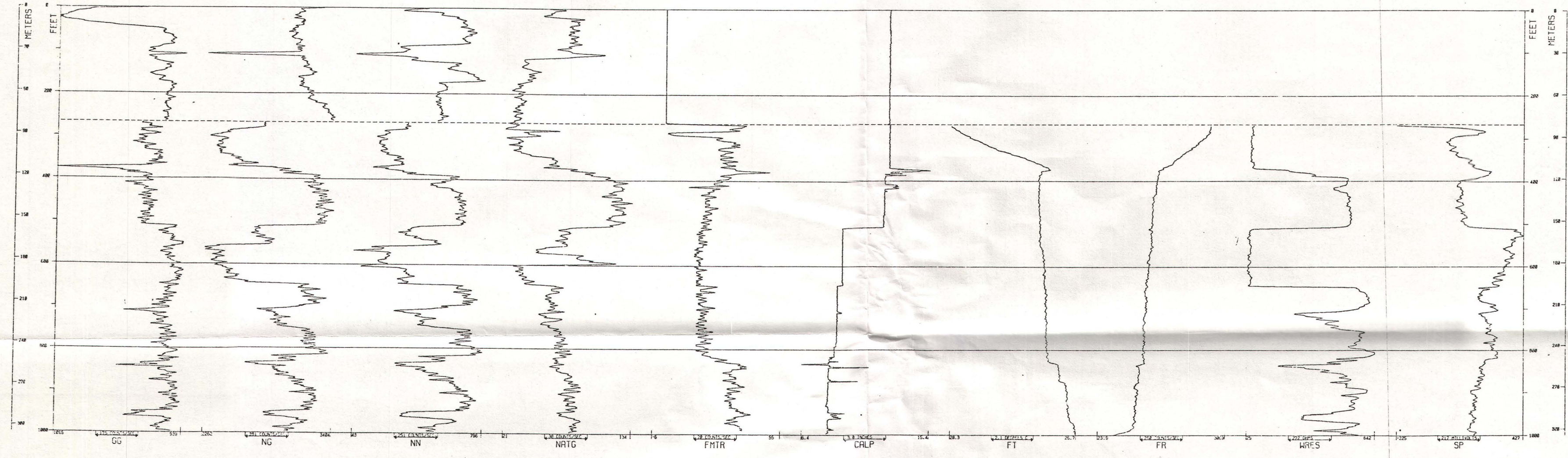
NAME OF WELL W. H. P.
 DATE LOGGED 01/27/77
 STATE WASHINGTON
 COUNTY STUTIN
 LOCATION 11N/46E-32E1
 SURFACE ELEVATION 1170
 TOTAL DEPTH LOGGED 1298
 DEPTH TO WATER LEVEL 455
 CASING & LINERS 2" 201-24 2" 201-23 2" 652-16
 CLARKSTON #7

LEGEND
 LOG TITLES
 NATG - NATURAL GAS
 NC - NEUTRON CAPTURE
 NN - NEUTRON LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WATER RESISTIVITY
 SP - SLOPE INDICATOR
 CALP - CALIBRATION LOG
 CC - CEMENT LOG
 DENSITY LOG (LOG) INCREASES →
 RESISTIVITY (OHM-LOG) INCREASES ←
 WATER LEVEL -----
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

11N/46E-32E1

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: TOM POWERS
 DATE LOGGED: 02/22/77
 STATE: WASHINGTON
 COUNTY: BENTON
 LOCATION: 25N-25E-R501
 SURFACE ELEVATION: 615
 TOT. DEPTH LOGGED: 1002
 DEPTH TO WATER LEVEL: 267
 CASING & LINERS: 8" 372-1/2" 508- 645- 0

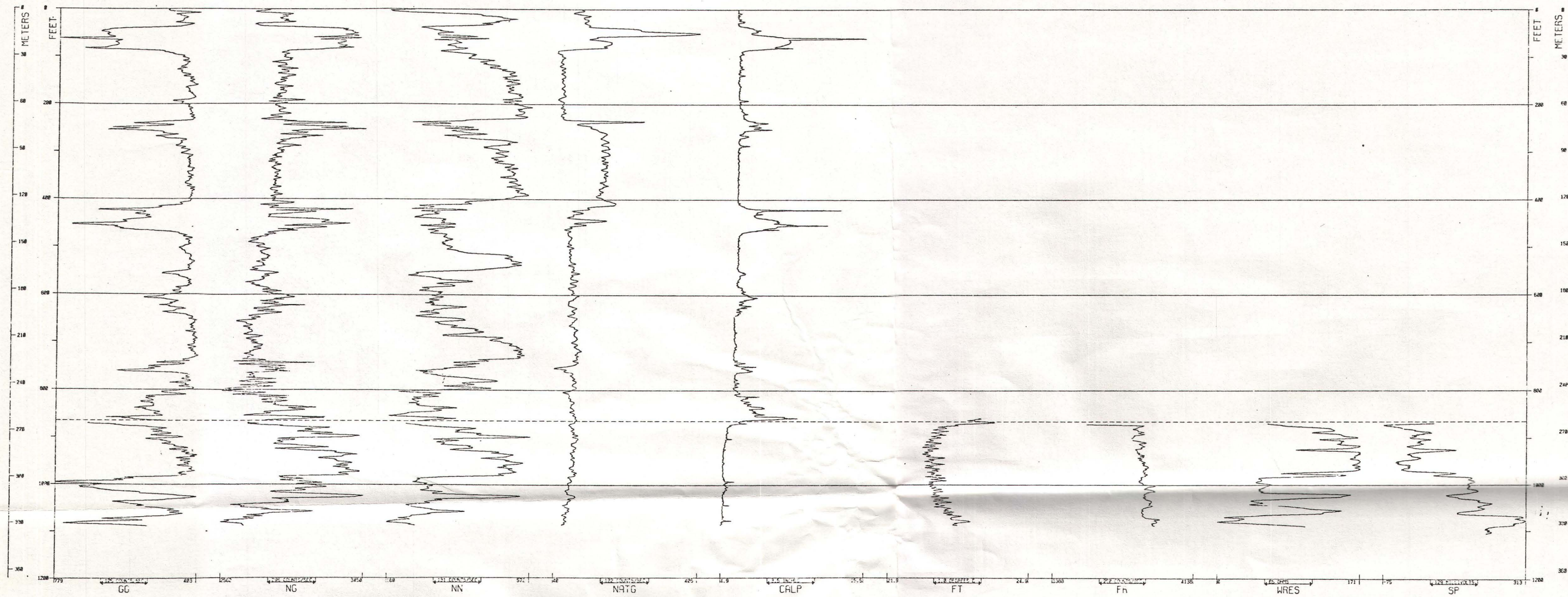
LEGEND
 LOG TITLES
 R --- RESISTIVITY (OHM-FT)
 LN-R --- NATURAL LOG RESISTIVITY
 RA --- APPARENT RESISTIVITY
 RT --- TRUE RESISTIVITY
 P --- POROSITY (PERCENT)
 D --- DENSITY (G/CC)
 S --- SONIC TIME (MICROSECONDS)
 W --- WATER LEVEL

DENSITY (G/CC) INCHES ---
 POROSITY (PERCENT) INCHES ---
 WATER LEVEL ---

NOTE: SCALE MAY CHANGE RE: WATER LEVEL

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: MORRIGAN FARMS
 DATE LOGGED: 8/15/78
 STATE: WASHINGTON
 COUNTY: BENTON
 LOCATION: R7N/24E-0801
 SURFACE ELEVATION: 1458
 TOTAL DEPTH LOGGED: 1108
 DEPTH TO WATER LEVEL: 865
 CASING & LINERS:

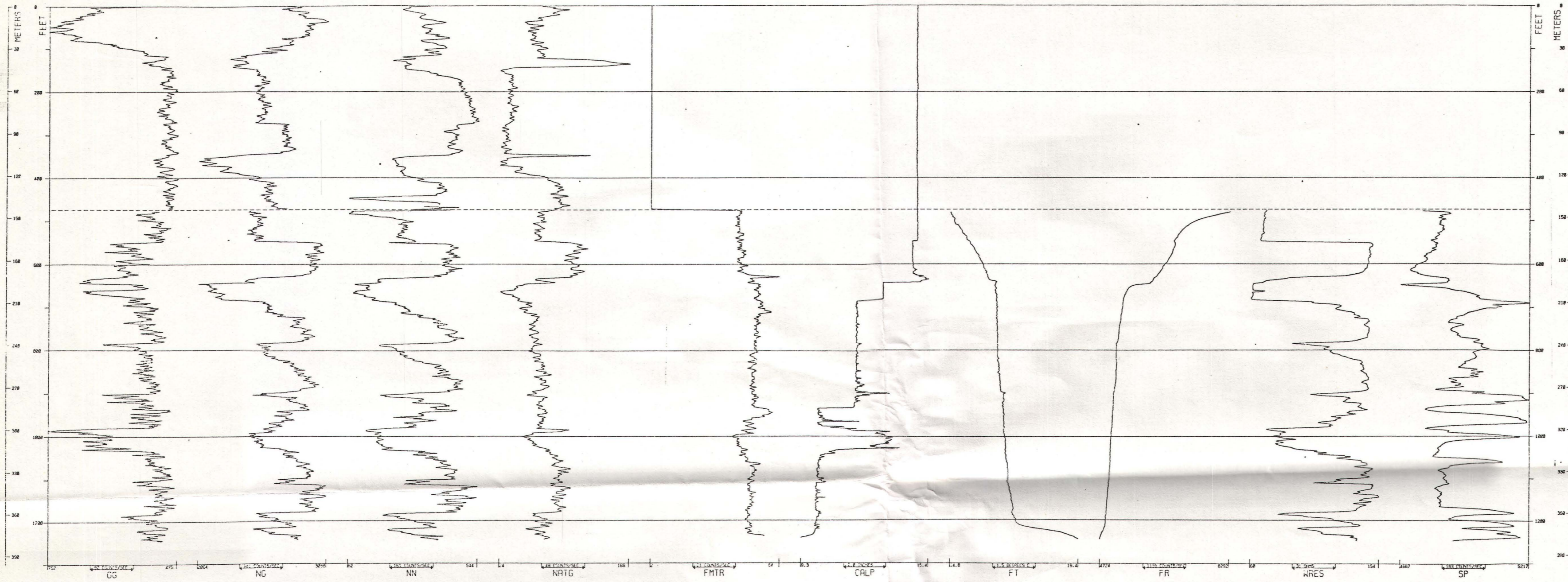
WELL DEEPENED FROM 880 FT. TO PRESENT DEPTH IN SUMMER OF 1977.

LEGEND
 LOG TITLES
 GC - GROUNDWATER CORRECTION
 NG - NEUTRON LOG
 NN - NATURAL NEUTRON LOG
 NTG - NEUTRON TANGENT LOG
 CALP - CALIBRATION LOG
 FT - FLOW TEMPERATURE
 Fh - FLOW HEAD
 WRES - WELL RESISTIVITY
 SP - SELF POTENTIAL
 Fh - FLOW HEAD
 Fh - FLOW HEAD
 Fh - FLOW HEAD

DENSITY LOG LOG1 INCREASES →
 POROSITY LOG LOG1 INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE FOR CHANGE ABOVE WATER LEVEL

87N/24E-0801

GLO1400 DOC-56-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: CR. PALMER #2
 DATE LOGGED: 10/15/78
 STATE: WASHINGTON
 COUNTY: SECTION:
 LOCATION: 87N-25E-23F1
 SURFACE ELEVATION: 840
 TOTAL DEPTH LOGGED: 1245
 DEPTH TO WATER LEVEL: 147.4
 CASING & LINERS:
 0- 605-15 643- 683-13

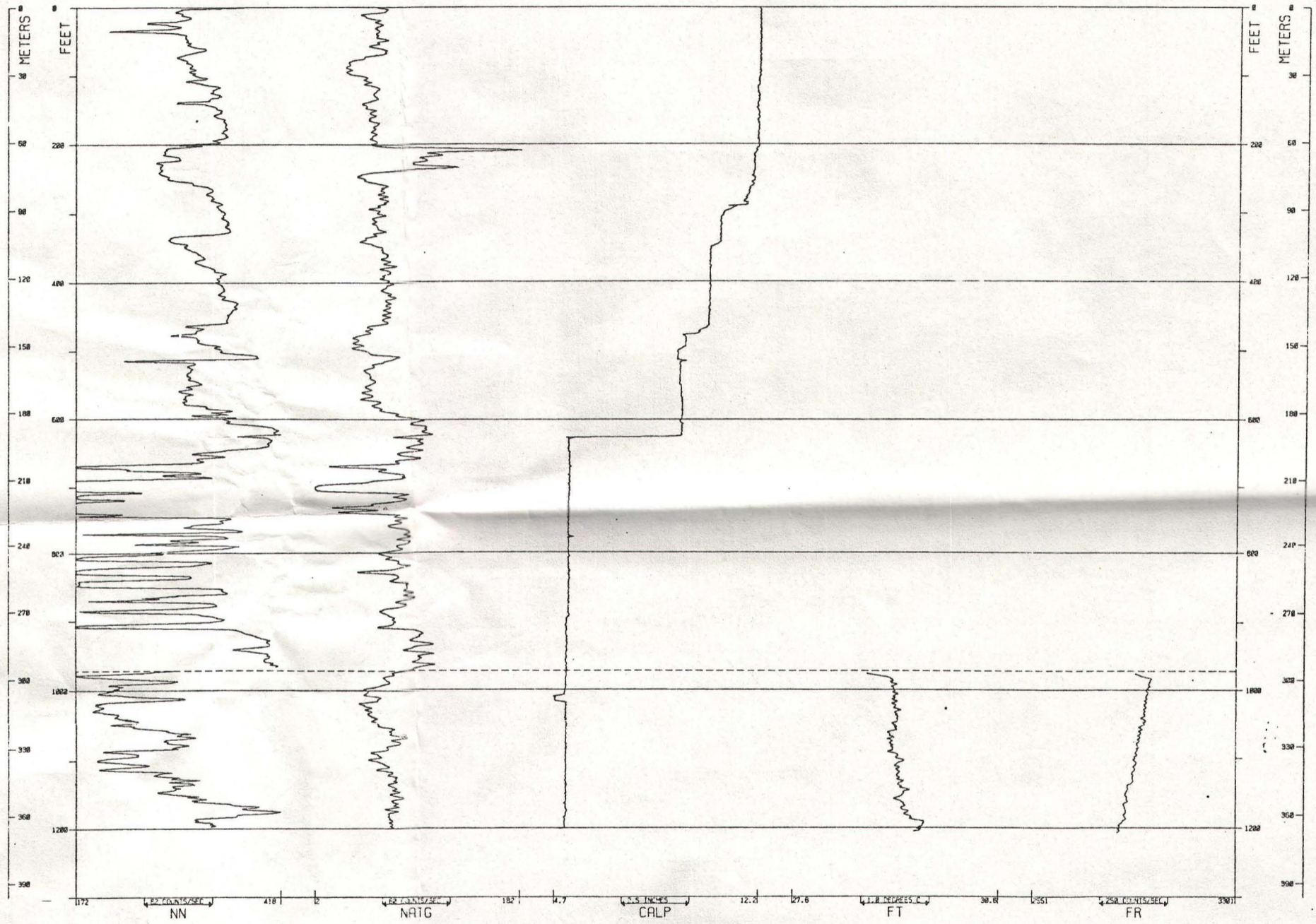
LEGEND
 LOG TITLES
 WTD - WATER LOG
 CC - CASING LOG
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 FMTR - FORMATION LOG
 CALP - CALIPER LOG
 FT - FORMATION LOG
 FR - FORMATION LOG
 WRES - RESISTIVITY LOG
 SP - SPONTANEOUS POTENTIAL LOG
 SNTC - SONIC LOG

DENSITY LOG LOG INCREASES →
 POROSITY LOG LOG INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

87N/25E-23F1

GLO1400 DOC-57-

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: HORSE HEAVEN TEST
 DATE LOGGED: 11/16/78
 STATE: WASHINGTON
 COUNTY: BENTON
 TOWN: 27E-36N
 SURFACE ELEVATION: 1325
 TOTAL DEPTH LOGGED: 1025
 DEPTH TO WATER LEVEL: 972
 CASING & LINERS: 4" 100-10 8" 50-12 4 1/2" 60-10
 DRILL ROD IN HOLE FROM 671' TO 841'

LEGEND
 LOG TITLES
 DLOG - DENSITY LOG
 PORLOG - POROSITY LOG
 NATG - NATURAL GAMMA RAY
 CALP - CALIBRATION LOG
 FT - FLUORESCENCE LOG
 FR - FRESHNESS LOG
 WTL - WATER LEVEL
 SMC - SALT WATER CONTENT
 SMC - SALT WATER CONTENT

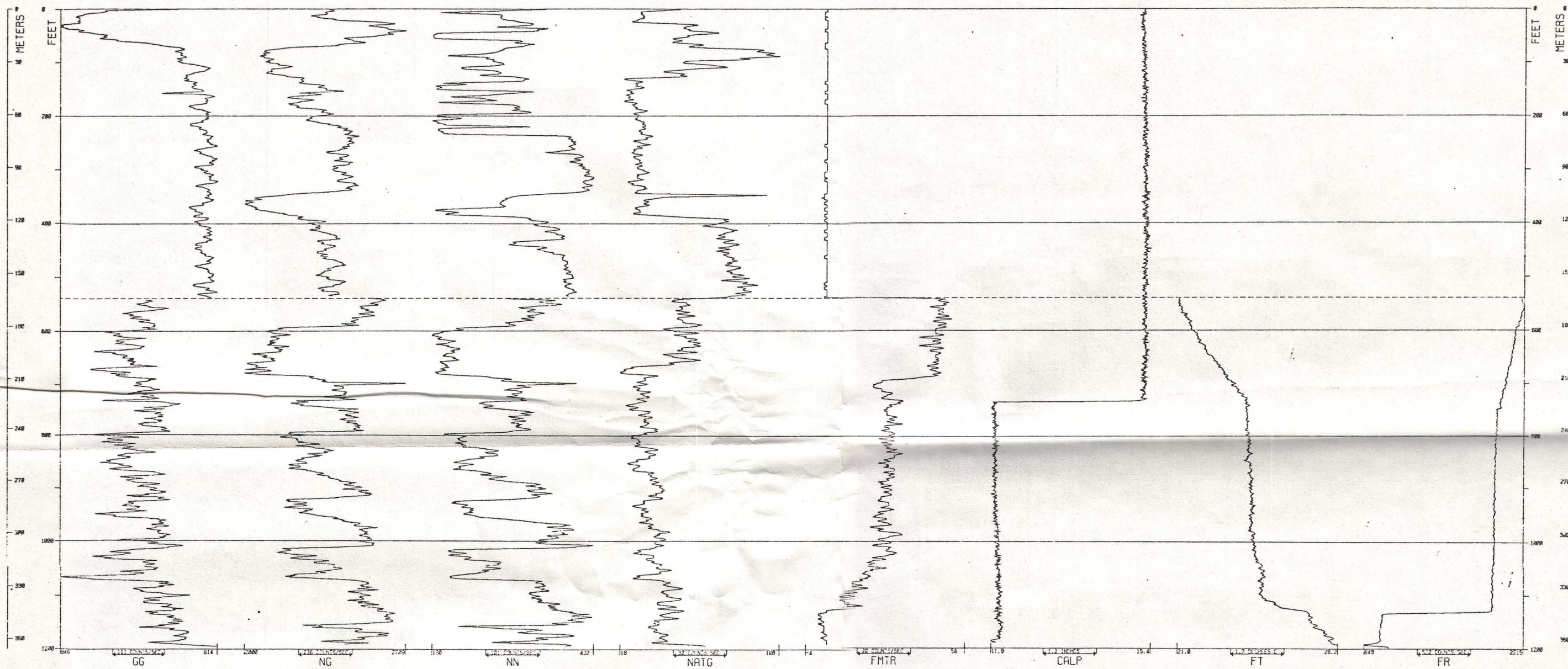
DENSITY LOG INCREASES →
 POROSITY LOG INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

07N/27E-36N

GLOH400 DDC-58-

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL PROSSER EXPT. ST
 DATE LOGGED 07/28/77
 STATE WASHINGTON
 COUNTY BENTON
 LOCATION 05W/25E-06B1
 SURFACE ELEVATION 1272
 TOTAL DEPTH LOGGED 1202
 DEPTH TO WATER LEVEL 539
 CASING & LINERS
 8" 730-1R 730-1213-12

NO SP/R SINCE THE HOLE WAS CURED TO TD.
 FMTR -- NO MEASURABLE FLOW DETECTED.

LEGEND
 LOG TITLES
 GG - GRAININESS
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 FMTR - FLOW METER
 CALP - CALIBRATION LOG
 FT - FLOW TEST
 FR - FLOW TEST

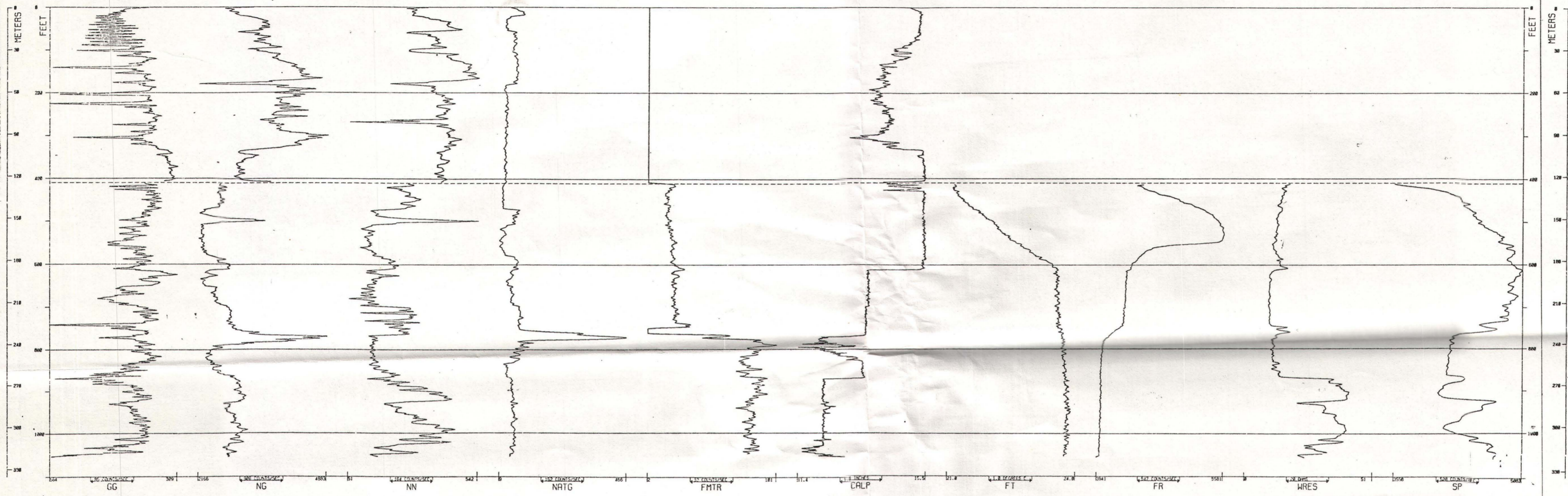
DENSITY LOG LOG1 INCREASES →
 POROSITY LOG LOG2 INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

05W/25E-06B1

GLO1400 Doc 59-

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: UNR 79-87
 DATE LOGGED: 09/14/82
 STATE: WASHINGTON
 COUNTY: BENTON
 LOCATION: 85W/27N-25W1
 SURFACE ELEVATION: 850
 TOTAL DEPTH LOGGED: 1057
 DEPTH TO WATER LEVEL: 115
 CASING & LINERS:

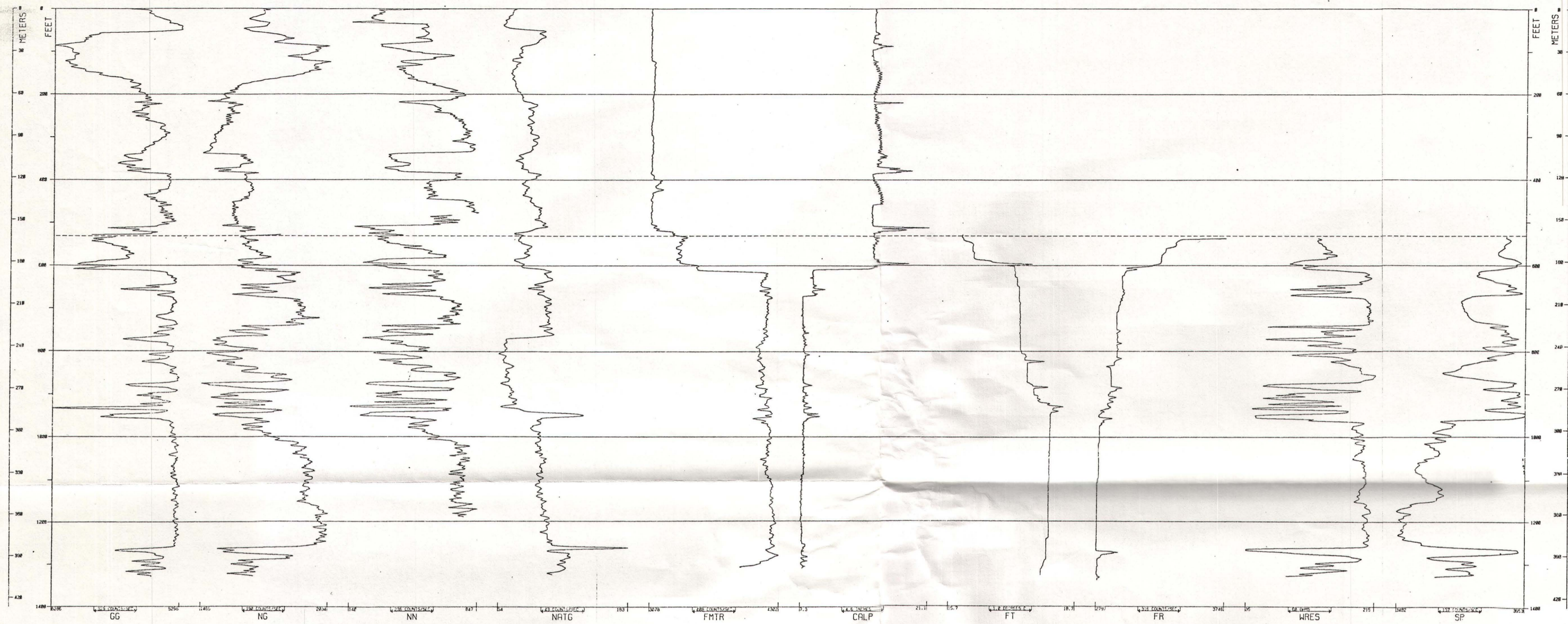
FMTR LOG -- PROPELLER STOPPAGE BETWEEN 745 FT. AND 768 FT.

LEGEND
 LOG TITLES
 NG -- NATURAL GRAB
 GG -- GRAB GRAB
 NN -- NATURAL NEUTRON
 NN -- NEUTRON LOG
 NG -- FLUID RESISTIVITY
 NATG -- NATURAL GAMMA
 FMTR -- FLUID MODULUS
 CALP -- CALIPER
 FT -- FLUID TEMPERATURE
 FR -- FLUID RESISTIVITY
 WRES -- WATER RESISTIVITY
 SP -- SLOPE
 SMC -- SLOPE

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

GL01400 DOC-60-

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WASHINGTON STATE UNIVERSITY
COLLEGE OF ENGINEERING
GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

NAME OF WELL: PINLEE TEST WELL
DATE LOGGED: 12/28/77
STATE: WASHINGTON
COUNTY: DOUGLAS
LOCATION: 23N/26E-2001
SURFACE ELEVATION: 1920
TOTAL DEPTH LOGGED: 1339
DEPTH TO WATER LEVEL: 531
CASING & LINES: 8" 50-16

SP AND CALP ARE HAND DIGITIZED. NN IS FROM A PREVIOUS LOGGING - 12/31/75.

LEGEND
LOG TITLES
GC - GRAIN COUNT
NG - NEUTRON LOG
NN - NEUTRON LOG
NATG - NATURAL GAMMA
FMTR - FORMATION THICKNESS
CALP - CALIBRATION LOG
FT - FORMATION TEMPERATURE
FR - FORMATION RESISTIVITY
WRES - WATER RESISTIVITY
SP - SPONTANEOUS POTENTIAL
PFR - PORE FILLING RESISTIVITY
SFR - SALT FINGER
SFC - SALT FINGER

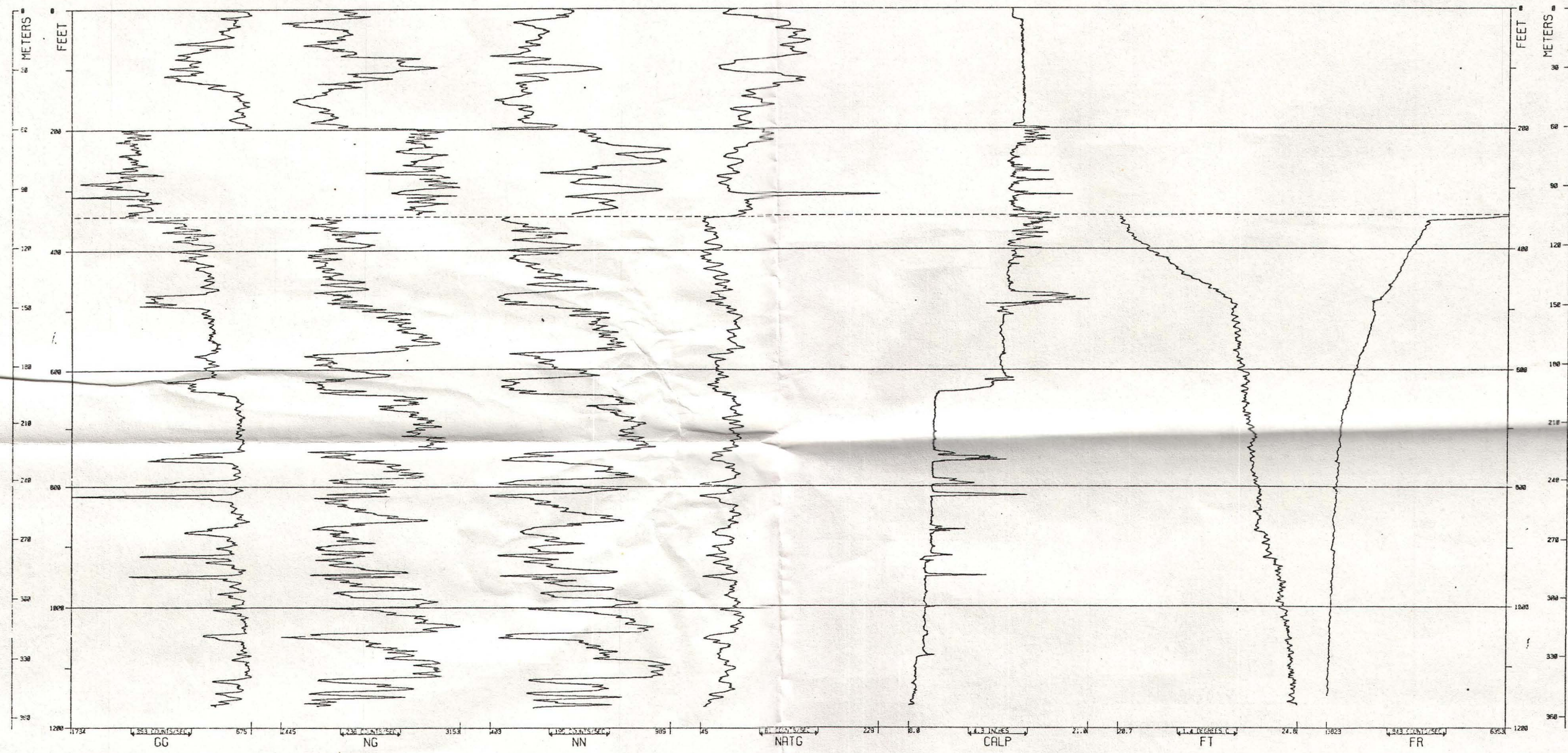
DENSITY (LOG-LOG) INCREASES →
POROSITY (LN-LOG) INCREASES ←
WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

23N/26E-2001

GL01400 DOC-601-

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

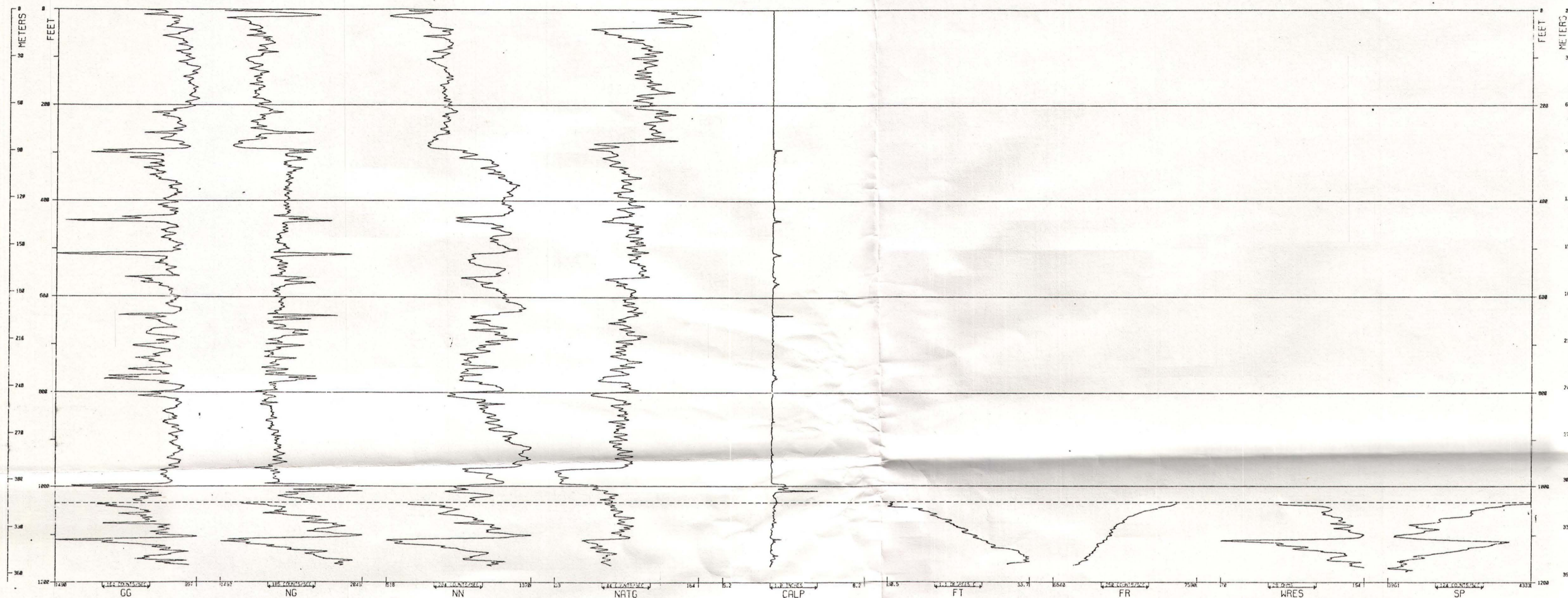
NAME OF WELL H. NEXAMARR
 DATE LOGGED 8/19/75
 STATE WASHINGTON
 COUNTY FRANKLIN
 LOCATION 11N/31E-21H1
 SURFACE ELEVATION 780
 TOTAL DEPTH LOGGED 1168
 DEPTH TO WATER LEVEL 344
 CASING & LINERS
 8" 220#16

LEGEND
 LOG TITLES
 NATG - NATURAL GAMMA
 NG - NEUTRON LOG
 NN - NEUTRON POROSITY
 FT - FORMATION TEMPERATURE
 FR - FORMATION RESISTIVITY
 SP - SPONTOAN POTENTIAL
 SRS - SLOTTED RESISTIVITY
 TMR - THERMISTOR
 SMC - SONIC

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -
 NOTE: SCALE 1/4" CHANGE ABOVE WATER LEVEL

11N/31E-21H1

GL01400.DOC 62-



WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL LLOYD COCKRANE
 DATE LOGGED 02/16/75
 STATE WASHINGTON
 COUNTY FRANKLIN
 LOCATION 13N/34E-30M1
 SURFACE ELEVATION 1520
 TOTAL DEPTH LOGGED 1179
 DEPTH TO WATER LEVEL 1034
 CASING & LINERS 4" 295' 6"

LEGEND
 LOG TITLES
 NATG - NEUTRON ATTENUATION
 GG - GRAININESS
 NG - NEUTRON
 NN - NEUTRON
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 CALP - CALIPER
 WRES - WELL RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 SMC - SONIC

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

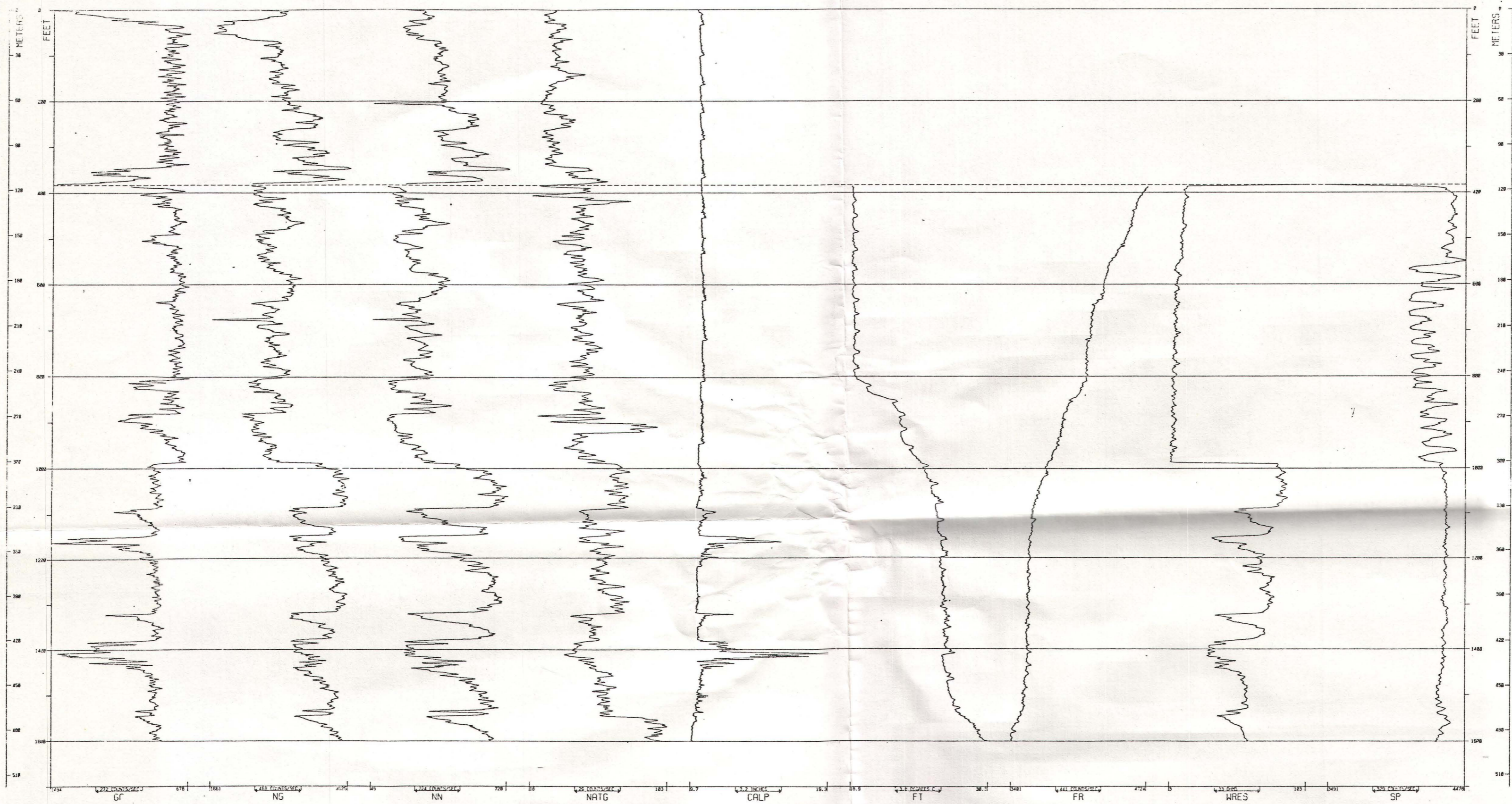
NOTE: SCALE 1% CHANGE ABOVE WATER LEVEL.

13N/34E-30M1

GLD1400 Doc-63-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: GEORGE TEST WELL
 DATE LOGGED: 03/07/79
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCATION: 18N/25E-15E1
 SURFACE ELEVATION: 1155
 TOTAL DEPTH LOGGED: 1624
 DEPTH TO WATER LEVEL: 303
 CASING & LINERS: 8" 990-10

SECOND LOGGING

LEGEND

- LOG TITLES
 GR - GRADIENT
 NG - NEUTRON LOG
 NN - NEUTRON LOG
 NATG - NEUTRON LOG
 CALP - CALIPER LOG
 FT - FLUID TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WELL RESISTIVITY
 SP - SPONTANEOUS POTENTIAL
 SN - LOG NUMBER
 SN - SHORT NUMBER

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

03/08/79

18N/25E-15E1

GL01400D02-64-

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: EPHRATA CITY #18
 DATE LOGGED: 09/18/77
 STATE: WASHINGTON
 COUNTY: GRANT
 LOCAL ID: 21N/26E-15H1
 SURFACE ELEVATION: 1320
 TOTAL DEPTH LOGGED: 1856
 DEPTH TO WATER LEVEL: 214
 CASING & LINERS:
 @ 890-16

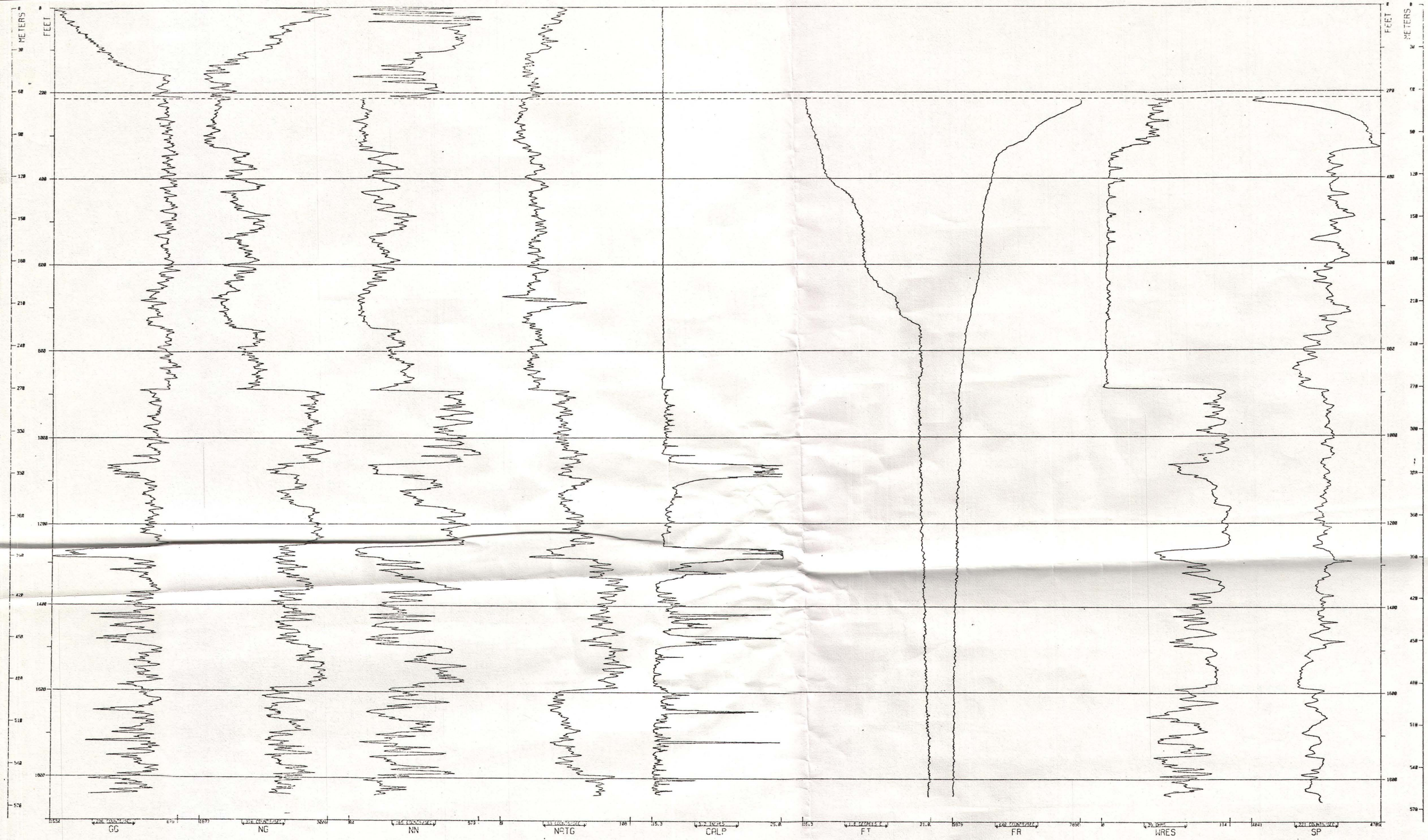
LEGEND

LOG TITLES

- GR - GRAMMATIC
- NC - NEUTRON CAPTURE
- NR - NEUTRON RESONANCE
- SI - SELF-SHIELDING
- FT - FLUID TEMPERATURE
- FR - FLUID RESISTIVITY
- CA - CALIPER
- WRES - WIRE RESISTIVITY
- SP - SPONTANEOUS POTENTIAL
- SG - SLOTTED GRINDER
- SGC - SLOTTED GRINDER

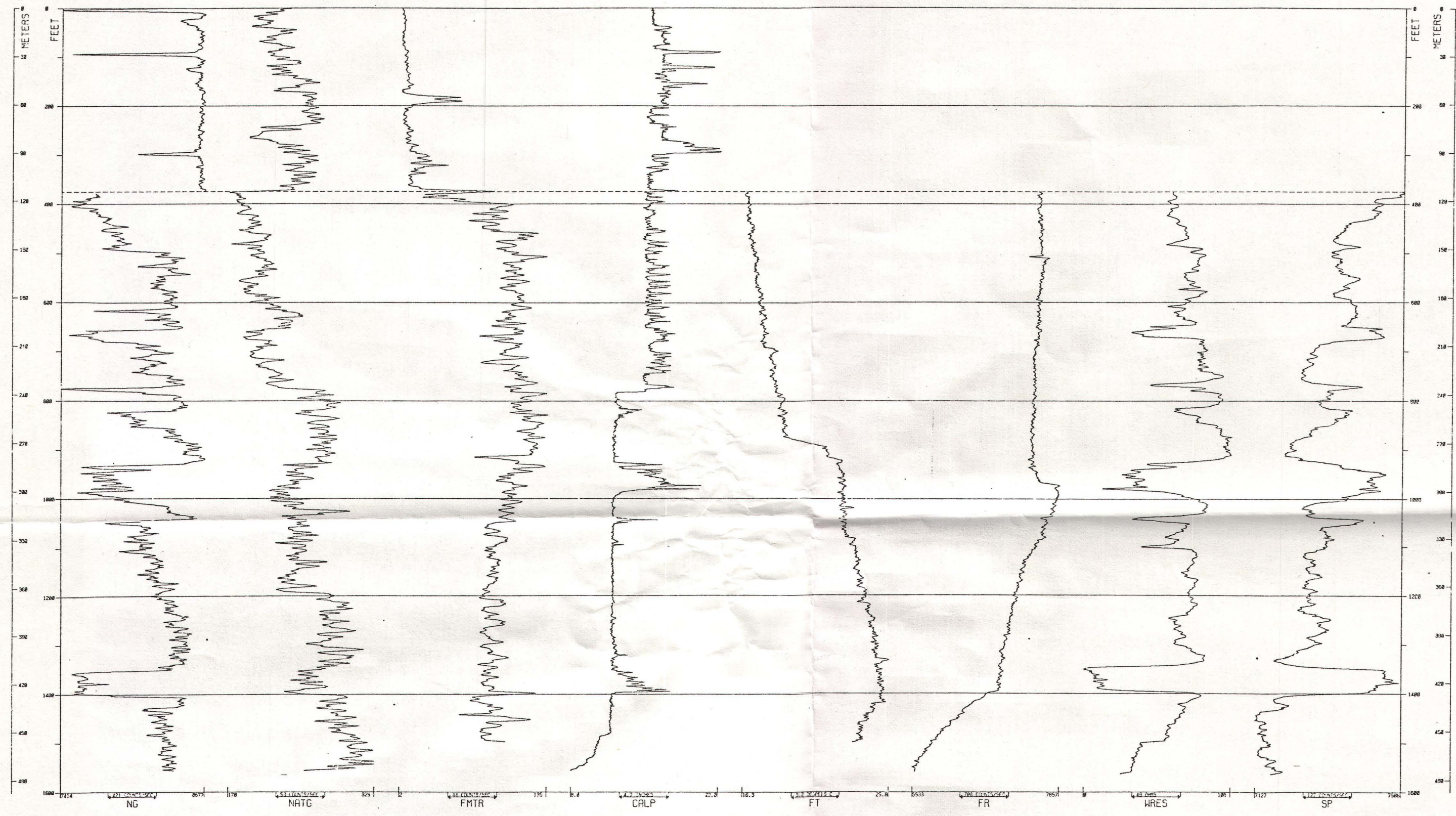
DENSITY LOG INCREASES →
 RESISTIVITY (MN-LOG) INCREASES ←
 WATER LEVEL ———
 MULTI SCALE 100 FT CHANGE FACED WATER LEVEL

21N/26E-15H1



GLO1400 DOZ-65-

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WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: BLD KING
 DATE LOGGED: 26/28/74
 STATE: WASHINGTON
 COUNTY: CHWAT
 LOCATION: 22N/30E-26G1
 SURFACE ELEVATION: 1673
 TOTAL DEPTH LOGGED: 1565
 DEPTH TO WATER LEVEL: 375
 CASING & LINERS:
 R: 42" IB
 WRES -- HARD DIGITIZED

LEGEND
 LOG TITLES
 NG -- NEUTRAL GRAMS
 NATG -- NATURAL GRAMS
 FMTR -- FORMATION TREATMENT
 CALP -- CALIBRATION LOG
 FT -- FORMATION TEST
 FR -- FORMATION RESISTIVITY
 WRES -- WELL RESISTIVITY
 SP -- SONIC PLOT
 SNE -- SONIC

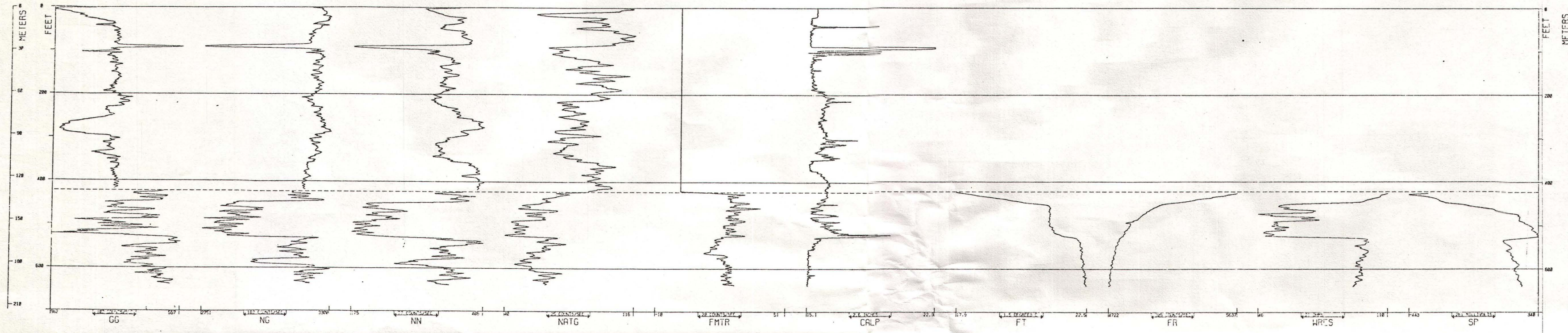
DENSITY LOG (LOG) INCREASES →
 RESISTIVITY LOG (LOG) INCREASES →
 WATER LEVEL ---

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

22N/30E-26G1

GLD1400 DOC-66-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL JERRY CONNER
 DATE LOGGED 04/23/76
 STATE WASHINGTON
 COUNTY GRANT
 LOCATION 21N/26E-27E1
 SURFACE ELEVATION 1702
 TOTAL DEPTH LOGGED 643
 DEPTH TO WATER LEVEL 423
 CASING & LINERS
 8" 2215

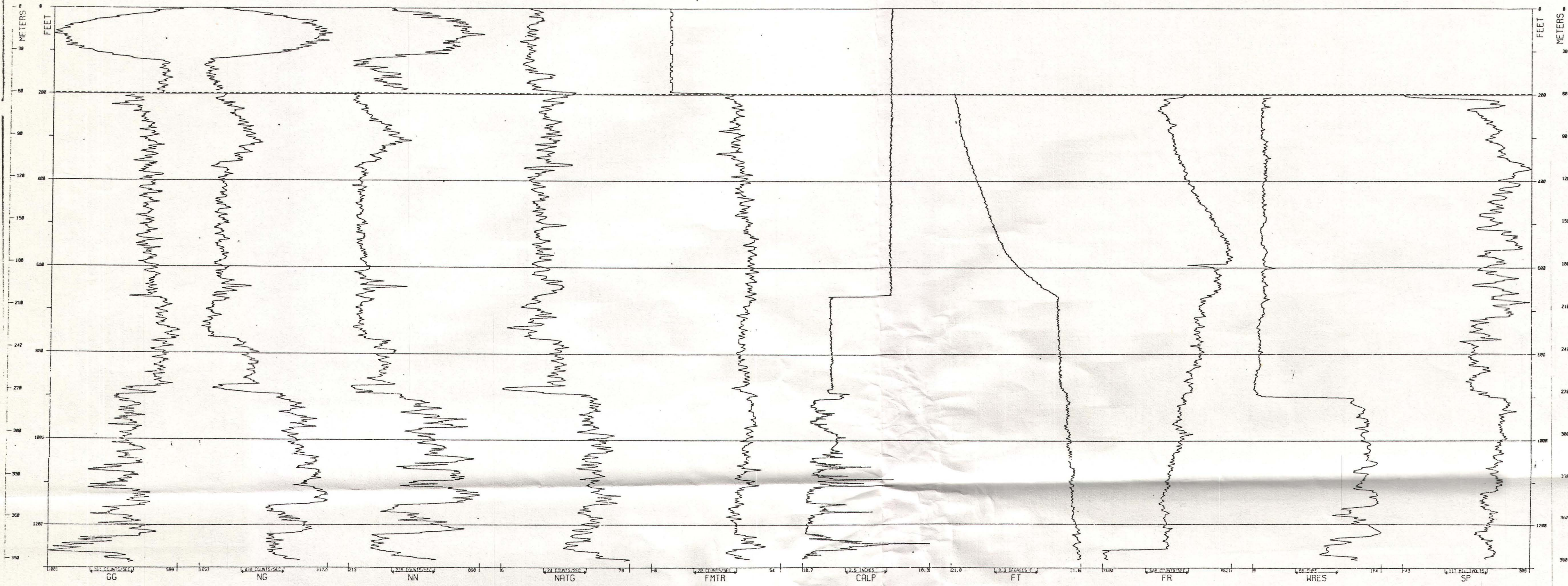
FMTR -- NO MEASURABLE FLOW DETECTED.

LEGEND
 LOG TITLES
 GR -- GRANT COUNTY
 NG -- NORTH GRANT
 NN -- NORTH NORTH GRANT
 NRTG -- NORTH NORTH GRANT TIGHT
 FMTR -- FINE MEDIUM
 CLP -- CLAY
 FT -- FINE TIGHT
 FR -- FINE REFINED
 WRTS -- WESTERN REFINED TIGHT SAND
 SP -- SAND
 DENSITY LOG LOG INCREASES →
 POROSITY LOG LOG INCREASES ←
 WATER LEVEL ←

NOTE: SCALE MAY CHANGE WITH WATER LEVEL.

11/22/76

GL01400 DOC -67-



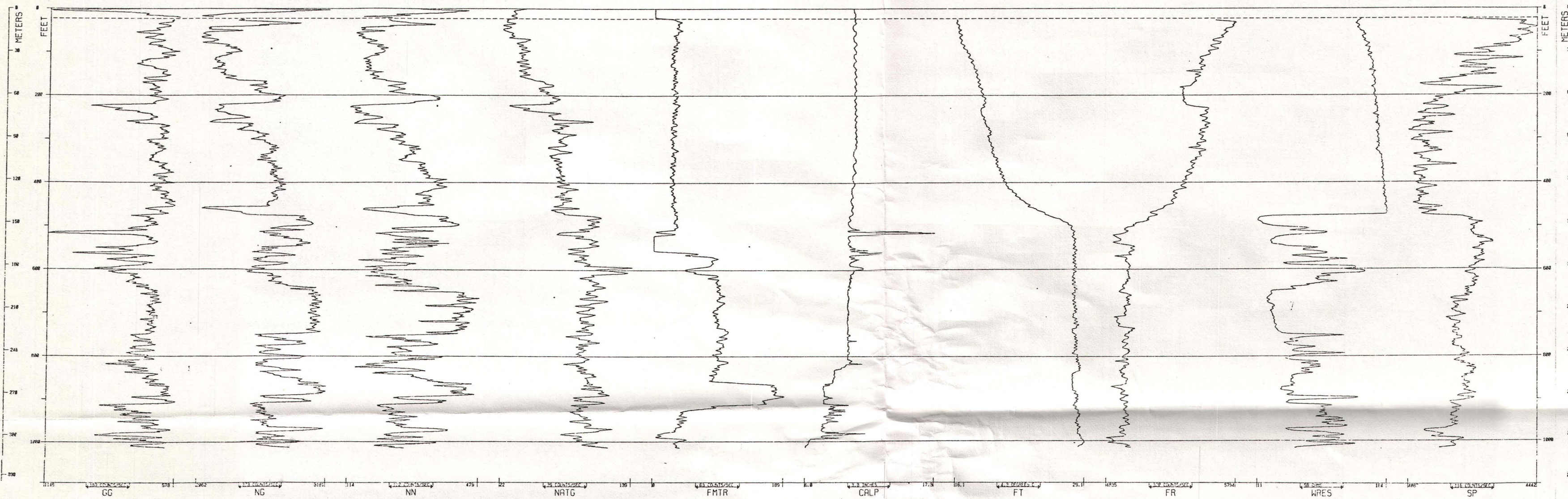
WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: LARSON FRUIT WELL
 DATE LOGGED: 07/15/68
 STATE: WASHINGTON
 COUNTY: KITTITAS
 LOCATION: 15N/19E-22P1
 SURFACE ELEVATION: 1442
 TOTAL DEPTH LOGGED: 1289
 DEPTH TO WATER LEVEL: 198
 CASING & LINERS:
 0- 768-16 665- 918-12
 SP/R IS FROM PREVIOUS LOGGING -- 6/18/68
 FHR -- NO MEASUREMENTS DETECTED.

LEGEND
 LOG TITLES
 GG --- GEOPHYSICAL LOG
 NG --- NEUTRON LOG
 NN --- NEUTRON LOG
 NPTG --- NEUTRON LOG
 FHTR --- FLOW LOG
 CALP --- CALIPER LOG
 FT --- FLOW LOG
 FR --- FLOW LOG
 WRES --- WIRE LOG
 SP --- SP LOG
 DENSITY (LOG) INCREASES
 POROSITY (LOG) INCREASES
 WATER LEVEL
 NOTE: SP & FHR CHECK FOR WATER LEVEL.

15N/19E-22P1

GL01400 DOC-68-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: LUTANUM CREEK
 DATE LOGGED: 02/26/78
 STATE: WASHINGTON
 COUNTY: KILLBUCK
 LOCATION: 16N/19E-28C1
 SURFACE ELEVATION: 1420
 TOTAL DEPTH LOGGED: 1018
 DEPTH TO WATER LEVEL: 23
 CASING & LINERS: 8" 476-18

UP-HOLE FLOW IN THE WELL. 30 FPM AT 535'
 AND 75 FPM AT 508'

LEGEND
 LOG TITLES
 GR - GAMMA RAY
 RES - RESISTIVITY
 CAL - CALIBRATION
 FT - FORMATION TEMPERATURE
 FR - FLUID RESISTIVITY
 WRES - WATER RESISTIVITY
 SP - SLOPE

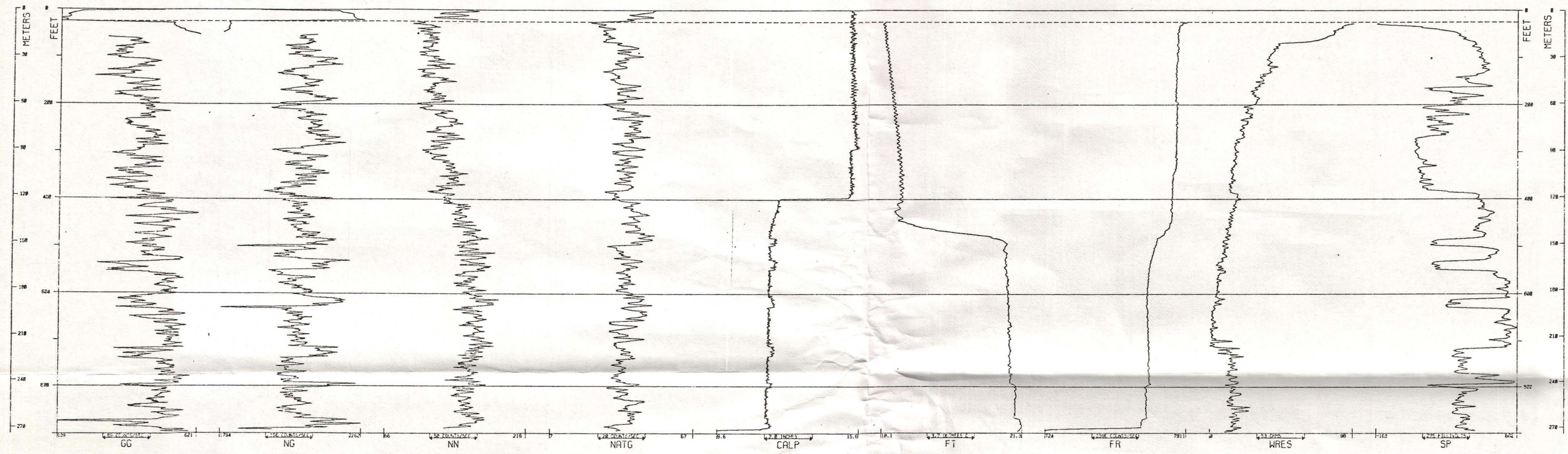
DENSITY LOG LOGS INCREASES →
 RESISTIVITY LOGS INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE 1/2" = 100 FEET WITH LEVEL

16N/19E-28C1

GLD1400 DOZ 69-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL ELLENSBURG CITY
 DATE LOGGED 01/17/78
 STATE WASHINGTON
 COUNTY KITTITAS
 LOCATION WASHINGTON 95E1
 SURFACE ELEVATION 1555
 TOTAL DEPTH LOGGED 295
 DEPTH TO WATER LEVEL 25
 CASING 2 INCHES
 DI 580-15

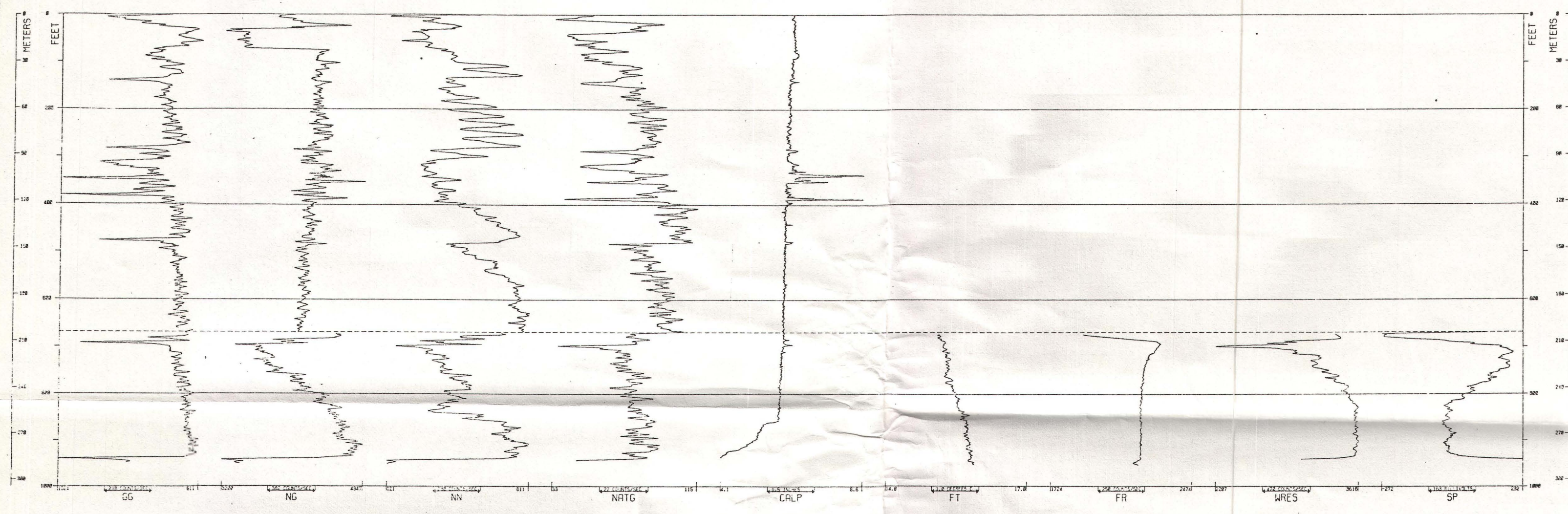
LEGEND
 LOG TITLES
 RES - RESISTIVITY
 POR - POROSITY
 FL - FLUID RESISTIVITY
 CALP - CALIPER
 FT - FILTER
 FR - FRESHNESS
 WRES - WATER RESISTIVITY
 SP - SPALL RESISTIVITY
 SNE - SLOTTED NEUTRON
 SNT - SLOTTED

DENSITY LOG LOGS INCREASED →
 POROSITY LOG LOGS INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE AFTER LEVEL

11/22/78 134

GLD1400DOC-70-



WASHINGTON STATE UNIVERSITY
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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: LEROY VAN BELLE
 DATE LOGGED: 2/21/76
 STATE: WASHINGTON
 COUNTY: CLATSOP
 LOCATION: 62N14E21C1
 SURFACE ELEVATION: 1352
 TOTAL DEPTH LOGGED: 297
 DEPTH TO WATER LEVEL: 228
 CASING & LINERS:

LEGEND

LOG TITLES

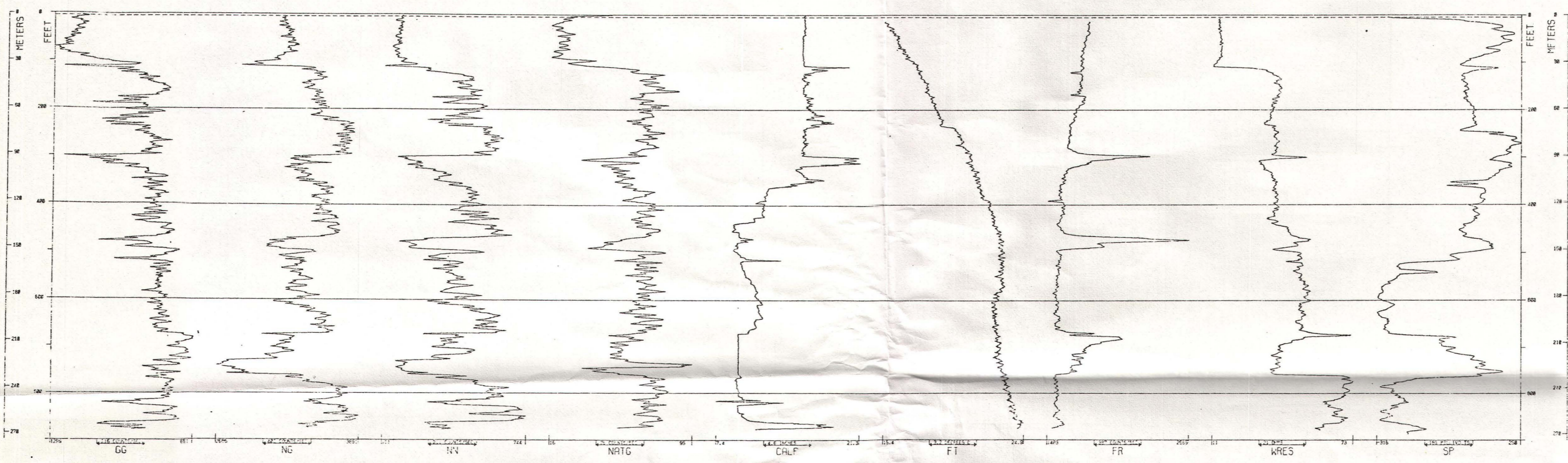
- GR - GAMMA RAY
- RES - RESISTIVITY
- SP - SLOPE
- CP - CALIPERS
- FT - FLOW TEST
- FR - FLOW RATE
- WRES - WELL RESISTIVITY
- SP - SLOPE

DENSITY LOG - LOG - LOG
 POROSITY (FON-LOG) - LOG - LOG
 WATER LEVEL - LOG - LOG

NOTE: SCALE 100% OF LOG WATER LEVEL.

11/15/82 154

GL01400 DOC-11-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL GOLDENORLE CITY #1
 DATE LOGGED 08/29/76
 STATE WASHINGTON
 COUNTY KLUCKITAT
 LOCATION 30N/18E-160J
 SURFACE ELEVATION 1640
 TOTAL DEPTH LOGGED 800
 DEPTH TO WATER LEVEL 5
 CASING & LINERS

FT, STD. AND RADIATION LOGS ARE FROM PREVIOUS LOGGING - 12/1/75.

LEGEND
 LOG TITLES
 MFC - MFC LOG
 GR - GRAVITY
 NI - NEUTRON LOG
 PI - PULSED INDUCTION LOG
 CP - CALIPER
 SP - SPONTANEOUS POTENTIAL
 RES - RESISTIVITY
 RAB - RESISTIVITY BINDER
 RAC - RESISTIVITY CALIBRATION
 IN - INCLINATION
 SW - SWATH LOG

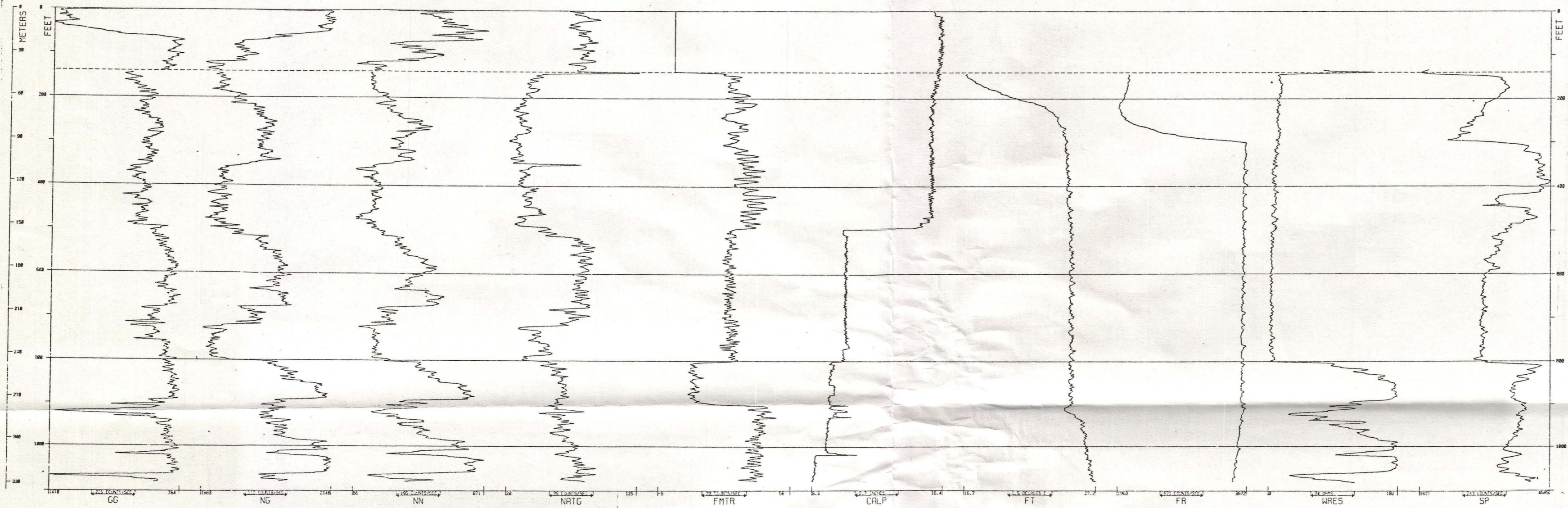
DENSITY LOG (LOG1) INCREASES →
 POROSITY LOG (LOG1) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY DIFFER FROM WATER LEVEL.

11/15/82 154

GLO1400 D0272-

25



WASHINGTON STATE
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GEOLOGICAL ENGINEERING SECTION
WELL LOG PROCESSING SYSTEM

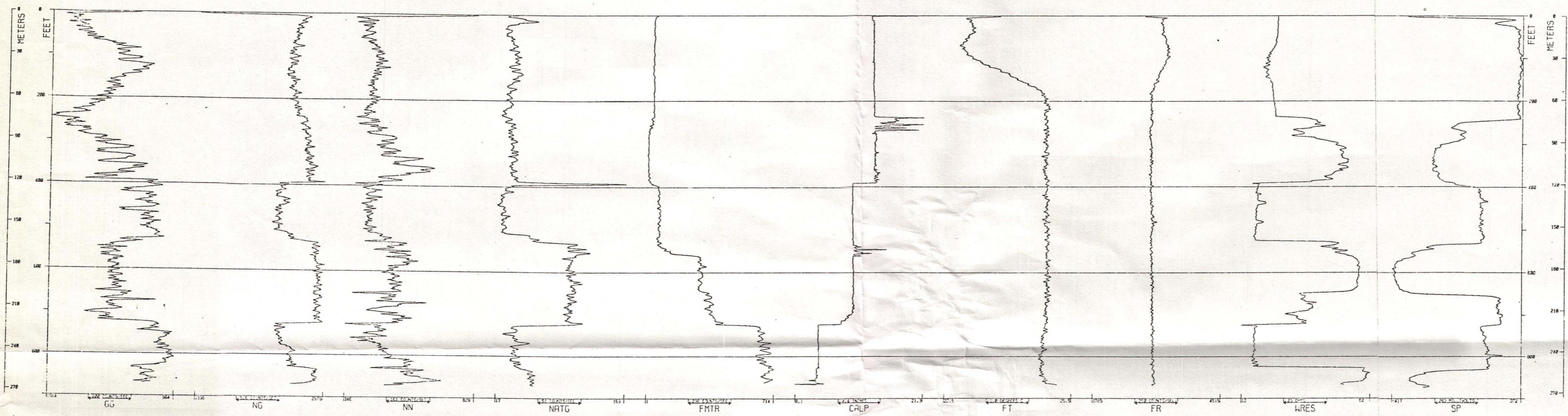
NAME OF WELL TOM POWERS
DATE LOGGED 23.28.78
STATE WASHINGTON
COUNTY KULLICKIT
LOCATION 8-AV-02E-13J1
SURFACE ELEVATION 575
TOTAL DEPTH LOGGED 1855
DEPTH TO WATER LEVEL 142
CASING & LININGS
Ø 450-18 495-ØR#12
UPHOLE FLOW FROM 500' TO 525' IS 25 FPM.
UPHOLE FLOW FROM 500' TO 525' IS 13 FPM.

LEGEND
LOG TITLES
GR - GRAY SANDS
M - MUDSTONE
S - SANDSTONE
SH - SHALE
SLT - SLT
P - CLAYSTONE
L - LIMESTONE
C - CARBONATE
G - GYPSUM
SAL - SALT
SA - SALT
SP - SPIT
DENSITY (CG-LOW) INCREASES →
RESISTIVITY (OHM-LOG) INCREASES ←
WATER LEVEL - - - - -
NOTE: SCALE MAY VARY FROM WATER LEVEL

11/18/82 154

85N/23C-13J1

GLD1400 Doc 73-



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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

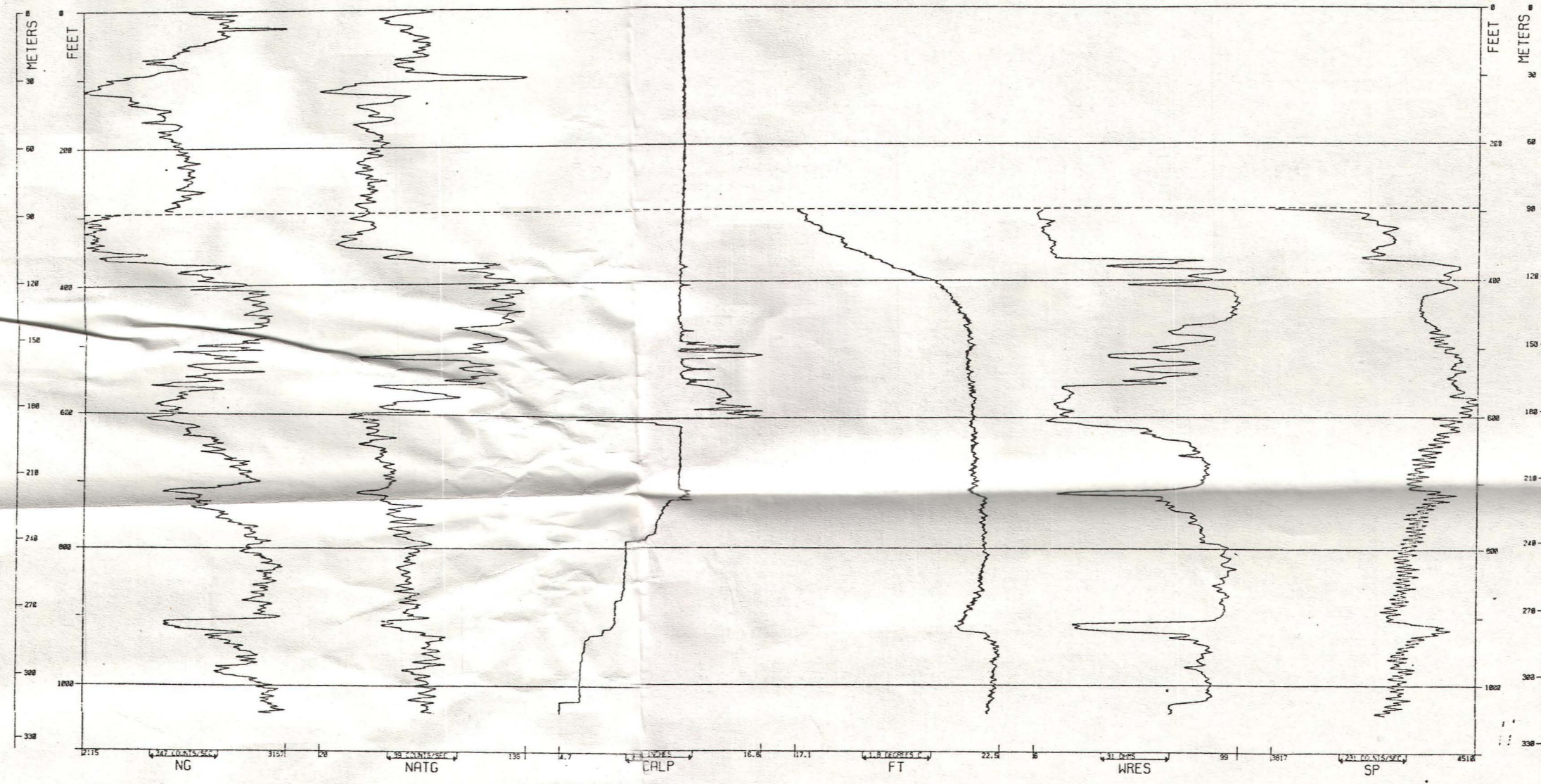
NAME OF WELL C. YARBRO
 DATE LOGGED 83/25/77
 STATE WASHINGTON
 COUNTY KILLICK
 LOCATION 28N/23E/2301
 SURFACE ELEVATION 865
 TOTAL DEPTH LOGGED 876
 DEPTH TO WATER LEVEL 0
 CASING & LINERS 8" 230-115 330-524+14 728-825+10

LEGEND
 LOG TITLES
 RES - RESISTIVITY
 POR - POROSITY
 WTL - WATER LEVEL
 DENS - DENSITY
 GRAV - GRAVITY
 SP - SP. RESISTIVITY
 S - SLOPE
 ST - SLOPE
 SI - SLOPE

DENSITY (G/CC) INCREASES →
 POROSITY (VOL-%) INCREASES →
 WATER LEVEL - - - - -
 WTL SCALE POSITIVE DOWN WATER LEVEL

11/12/82 154

GL01400 DOC-74-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL ROBERT ANDREWS
 DATE LOGGED 05/07/78
 STATE WASHINGTON
 COUNTY KALAMAZOO
 LOCATION 85N/23E-22J1
 SURFACE ELEVATION 932
 TOTAL DEPTH LOGGED 1245
 DEPTH TO WATER LEVEL 295
 CASING & LINERS

LEGEND
 LOG TITLES
 WTR - WATER LOG
 GR - GRADIENT LOG
 NG - NEUTRON LOG
 NATG - NATURAL GAMMA LOG
 FT - FORMATION TIME LOG
 WRES - WIRELINE RESISTANCE LOG
 SP - SPONTANEOUS POTENTIAL LOG
 CALP - CASING LOG
 SPT - SPLIT POTENTIAL LOG
 SPT - SPLIT POTENTIAL LOG
 SPT - SPLIT POTENTIAL LOG

DENSITY LOG INCREASES →
 RESISTIVITY LOG INCREASES ←
 WATER LEVEL - - - - -

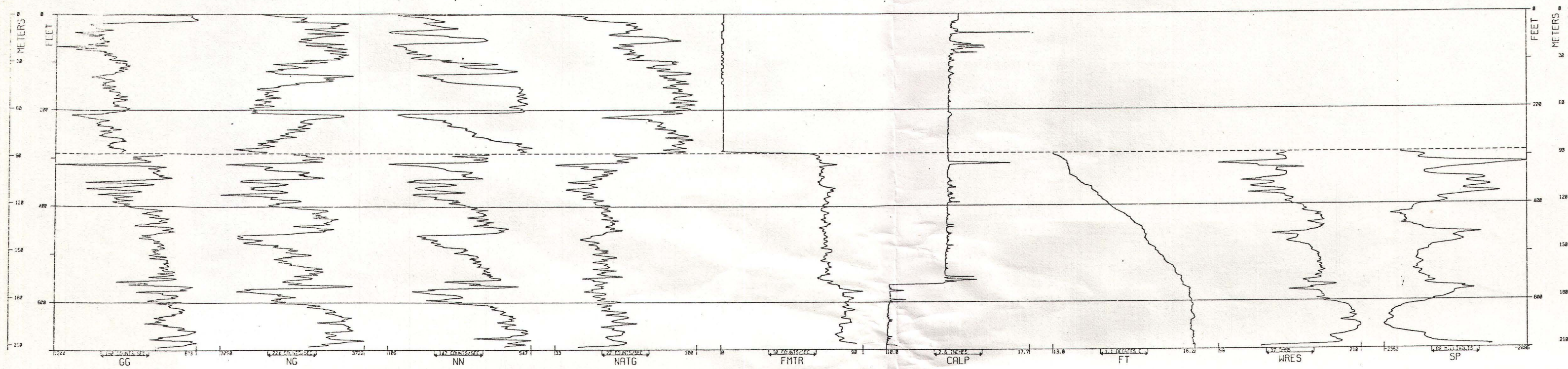
NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

85N/23E-22J1

GLD1400 Doc 75-

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WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL: W. WEISBERG #1
 DATE LOGGED: 12/25/73
 STATE: WASHINGTON
 COUNTY: LINCOLN
 LOCATION: 79N/32E-04J1
 SURFACE ELEVATION: 1605
 TOTAL DEPTH LOGGED: 697
 DEPTH TO WATER LEVEL: 290
 CASING & LINERS: 8" 20-14
 NO MEASURABLE FLOW.

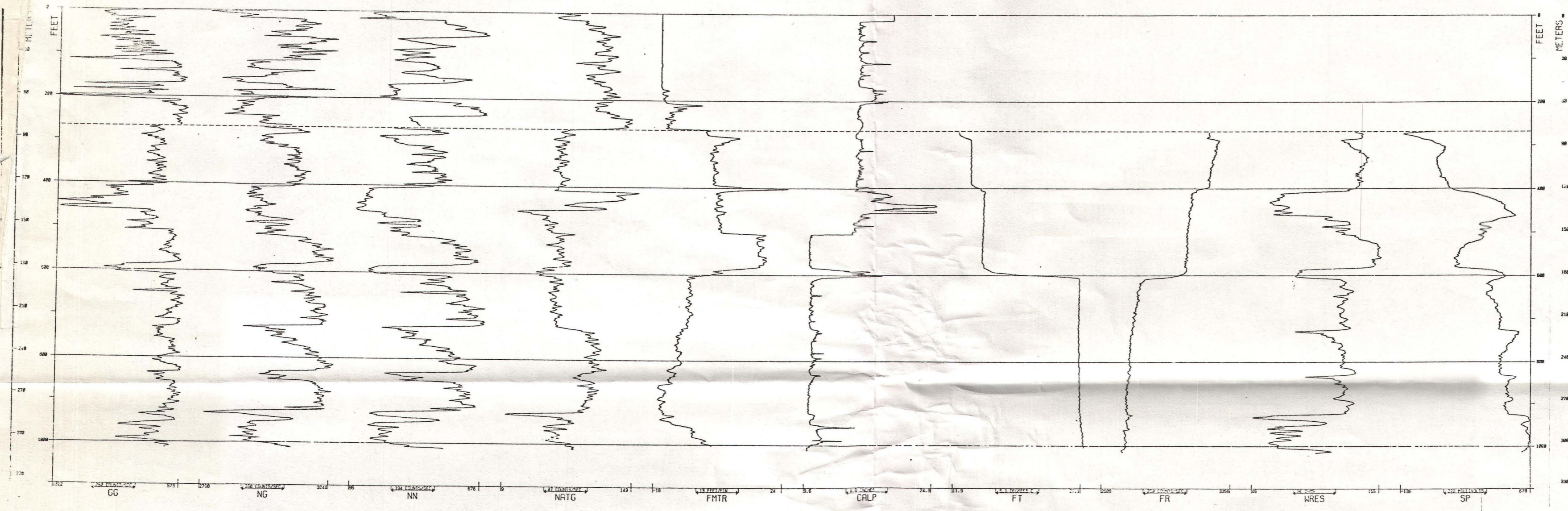
LEGEND
 LOG TITLES
 GG -- GRAIN GRAIN
 NG -- NEUTRON LOG
 NN -- NEUTRON LOG
 NATG -- NATURAL GAMMA
 FMTR -- FORMATION RESISTIVITY
 CALP -- CALIBRATION LOG
 FT -- FORMATION THICKNESS
 WRES -- WELL RESISTIVITY
 SP -- SELF POTENTIAL
 SWP -- WELL POTENTIAL
 SWR -- WELL RESISTIVITY
 SWC -- WELL CAPACITANCE
 SWI -- WELL IMPEDANCE
 SWR -- WELL RESISTIVITY

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL -----

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL

AP 8/14/83 924

GLO1400 DOZ-76-



WASHINGTON STATE UNIVERSITY
 COLLEGE OF ENGINEERING
 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL ALVIN SCHRIENER
 DATE LOGGED 03/17/76
 STATE WASHINGTON
 COUNTY LINCOLN
 LOCATION 24V/33E-23P1
 SURFACE ELEVATION 2930
 TOP OF WELL DEPTH LOGGED 1817
 DEPTH TO WATER LEVEL 268
 CASING & LINERS
 0- 18219

LEGEND
 LOG TITLES
 GG - GRINDING
 NG - NEUTRON LOG
 NN - NATURAL NEUTRON LOG
 NATG - NATURAL GAMMA LOG
 FMTR - FORMATION MICRORESISTIVITY LOG
 CALP - CALIBRATION LOG
 FT - FLOW TEMPERATURE LOG
 FR - FLOW RATE LOG
 WRES - WELL RESISTIVITY LOG
 SP - SPONTANEOUS POTENTIAL LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

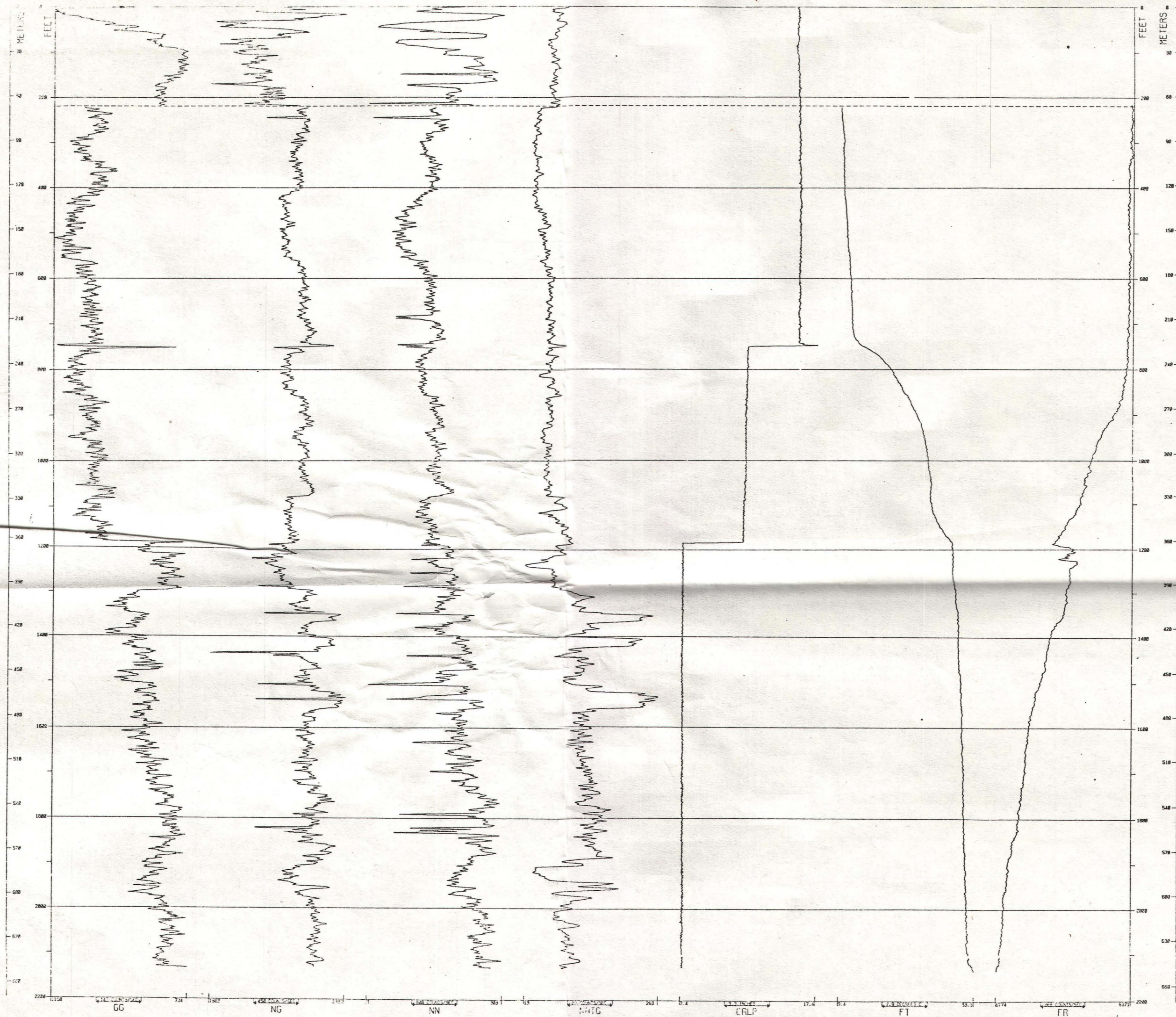
NOTE: SCALE MAY CHANGE REVEAL WATER LEVEL

05/16/82 12M

24V/33E-23P1

GLD1400 Doc-77-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

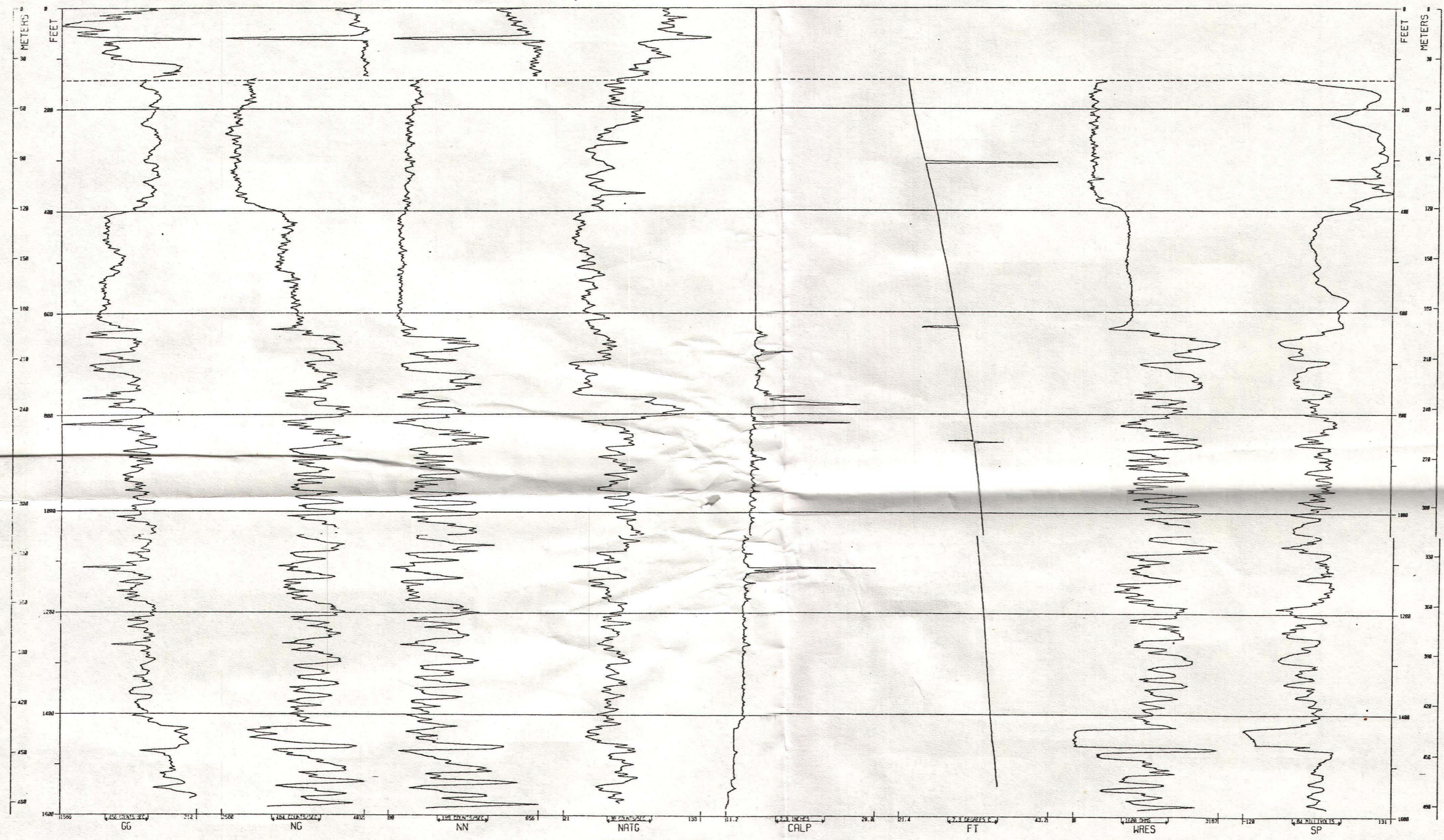
NAME OF WELL CHENEY CITY #5
 DATE LOGGED 11/16/77
 STATE WASHINGTON
 COUNTY SPOKANE
 LOCATION 23N41E-23B2
 SURFACE ELEVATION 2372
 TOTAL DEPTH LOGGED 2135
 DEPTH TO WATER LEVEL 219
 CASING & LINERS 2" 742-16 748-1188; 12 1160-2135# 8

LEGEND
 LOG TITLES
 GC - GAMMA RAY
 NG - NEUTRON POROSITY
 NN - NEUTRON POROSITY
 NTG - NEUTRON POROSITY
 CLP - CALIPER LOG
 FT - FLOW TEST
 FR - FLOW TEST
 DEN - DENSITY LOG INCREASES
 RES - RESISTIVITY LOG INCREASES
 WL - WATER LEVEL
 NOTE: SCALE NOT CORRECT BELOW WATER LEVEL.

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL ED CHAVTEL
 DATE LOGGED 03/01/74
 STATE WASHINGTON
 COUNTY WELLS
 LOCATION BSN/34E-0681
 SURFACE ELEVATION 558
 TOTAL DEPTH LOGGED 1588
 DEPTH TO WATER LEVEL 143
 CASING & LINERSH # 628-12 1442-1458-11
 FT SPIKES CAUSED BY GAS IN THE WELL.

LEGEND
 LOG TITLES
 GR - GRADIENT
 NG - NEUTRON LOG
 NN - NEUTRON POROSITY LOG
 NATG - NEUTRON ATTENUATION LOG
 CALP - CALIBRATION LOG
 FT - FLUORESCENCE LOG
 WRES - RESISTIVITY LOG
 SP - SPONTANEOUS POTENTIAL LOG
 RES - RESISTIVITY LOG
 PATE - PORE PRESSURE LOG
 SW - SOUND VELOCITY LOG
 SN - SLOPE LOG

DENSITY (GG-LOG) INCREASES →
 POROSITY (NN-LOG) INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

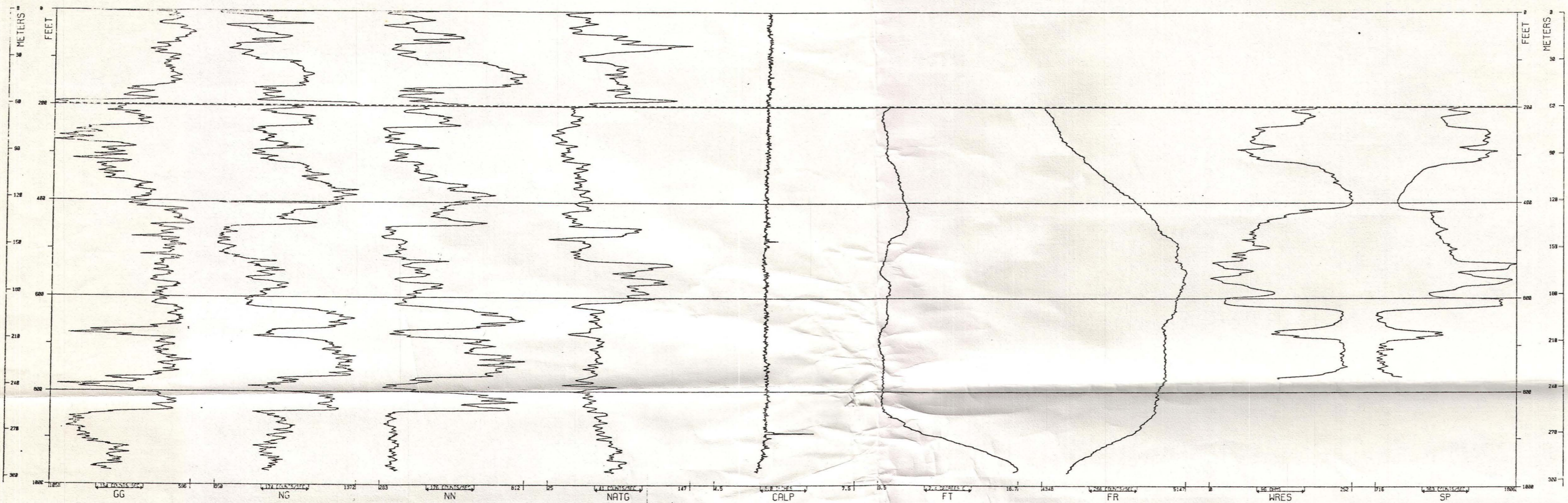
05/10/83 154

BSN/34E-0681

GLO1400 DOZ-79-

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 GEOLOGICAL ENGINEERING SECTION
 WELL LOG PROCESSING SYSTEM

NAME OF WELL FULLY'N TEST WELL
 DATE LOGGED 8/7/52/75
 STATE WASHINGTON
 COUNTY WITMAN
 LOCATION LEWIS-21F1
 SURFACE ELEVATION 2475
 TOTAL DEPTH LOGGED 977
 DEPTH TO WATER LEVEL 198
 CASING & LINERS # 8888 8

SP/R WERE HAND DIGITIZED FROM 12/3/74.

LEGEND

LOG TITLES

- GG - GEOPHYSICAL
- NG - NEUTRON LOG
- NN - NEUTRON POROSITY
- NATG - NATURAL GAMMA
- CALP - CALIPER
- FT - FLOW TEMPERATURE
- FR - FLOW RATE
- WRES - WATER RESISTIVITY
- SP - SPALL

DENSITY LOG - INCREASES →
 POROSITY LOG - INCREASES ←
 WATER LEVEL - - - - -

NOTE: SCALE MAY CHANGE ABOVE WATER LEVEL.

85/18/83 154

GL01400 DOC-81-

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