AN Johnson

SLUDGE CHARACTERIZATION REPORT

PHYSICAL AND CHEMICAL PROPERTIES OF SLUDGES IN LAGOONS 1 AND 2

OCTOBER 5, 1982

ZOREX CORPORATION
307 CHARNWOOD ROAD
NEW PROVIDENCE, NJ 07974

540506

FACT SHEET - LAGOON NO.: 1

A. DRILLING AND SURVEYING DATA

TOTAL QUANTITY OF HYDROCARBON SLUDGE IN THE LAGOON ..... 3.89 MILLION GALLONS

OF WHICH: THE QUANTITY OF VISCOUS/RUBBERY SLUDGE IS: 1.42 MILLION GALLONS

AND THE QUANTITY OF HARD/CRUMBLY SLUDGE IS: 2.47 MILLION GALLONS

A WATER/HUMUS LAYER COVERING THE HYDROCARBON SLUDGE CONTAINS: 1.53 MILLION GALLONS

B. ANALYTICAL LABORATORY DATA OF CORE DRILLING SAMPLES

WELL NO.: 1-3

DEPTH, IN	DESIGNATION	HHV, BTU/LB	SULFUR, % TOTAL	SULFUR, % INORGANIC	VISCOSITY, CPS	DENSITY, LB/GAL	REMARKS
0 - 6	WH	8,273	3.12	0.14	40 - 70	8.554	
6 - 12	VR/HC	6,843-7,528	6.68	6.73	Solid	9.888	% Sulfur Inconsist.
12 - 18	VR/HC	7,643	3.4	5.35	Solid	10.181	% Sulfur Inconsist.
18 - 24	HC	6,047-9,499	1.85	8.17	Solid	10.640	% Sulfur Inconsist.

NOTE; WH - Watery Humus; LOS - Light Oil Sludge; VR - Viscous Rubbery;
HC - Hard and Crumbly

ZOREX CORPORATION
OCTOBER 5, 1982

B. ANALYTICAL LABORATORY DATA OF CORE DRILLING SAMPLES - CONTINUED

WELL NO.: 1-5

DEPTH, IN	DESIGNATION	HHV, BTU/LB	SULFUR, % TOTAL	SULFUR, % INORGANIC	VISCOSITY, CPS	DENSITY, LB/GAL	REMARKS
0 - 6	LOS/VR	14,893-15,511	6.42	0.33	2,800	8.554	
6 - 12	VR/HC	9,698	10.7	2.68	Solid	9.555	
12 - 18	LOS/VR	6,512-11,750	1.6	2.68	Semisolid	9.805	% Sulfur Inconsist.
18 - 24	VR/HC	5,010	6.29	6.45	Solid	9.889	% Sulfur Inconsist.
24 - 30	HC	4,855-5,281	6.99	6.90	Solid	10.014	
30 - 36	HC	5,995	7.40	7.40	Solid	10.640	

WELL NO.: 1-7

0 - 6	LOS	15,588	6.44	0.30	3,100	8.637	
6 - 12	VR	9,736-10,604	12.58	1.30	Semisolid	9.179	
12 - 18	VR	6,429	2.41	1.75	Solid	9.555	
18 - 24	VR/HC	7,188	6.42	6.42	Solid	9.889	

ZOREX CORPORATION
OCTOBER 5, 1982

FACT SHEET - LAGOON NO.: 2

A. DRILLING AND SURVEYING DATA

TOTAL QUANTITY OF HYDROCARBON SLUDGE IN THE LAGOON ..... 7.66 MILLION GALLONS

OF WHICH: THE QUANTITY OF LIGHT OIL SLUDGE IS: 2.91 MILLION GALLONS

AND THE QUANTITY OF VISCOUS/RUBBERY SLUDGE IS: 2.43 MILLION GALLONS

AND THE QUANTITY OF HARD/CRUMBLY SLUDGE IS: 2.32 MILLION GALLONS

A WATER/HUMUS LAYER COVERING THE HYDROCARBON SLUDGE CONTAINS: 1.24 MILLION GALLONS

B. ANALYTICAL LABORATORY DATA OF CORE DRILLING SAMPLES

WELL NO.: 2-1

DEPTH, IN	DESIGNATION	HHV, BTU/LB	SULFUR, % TOTAL	SULFUR, % INORGANIC	VISCOSITY, CPS	DENSITY, LB/GAL	REMARKS
0 - 3	WH	547	3.25	0.10	100	8.637	
3 - 6	WH	1,968	0.40	0.10	100	8.846	
6 - 9	LOS	11,790	5.48	0.40	14,000	8.846	
9 - 12	LOS	14,711	6.89	0.49	18,000	8.554	
12 - 15	LOS	14,682	7.01	0.41	6,000	8.554	
15 - 18	LOS		7.05	0.49	2,450	8.637	
18 - 21	LOS	14,505	6.73	0.50	34,000	8.637	

ZOREX CORPORATION
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DEPTH, IN	DESIGNATION	HHV, BTU/LB	SULFUR, % TOTAL	SULFUR, % INORGANIC	VISCOSITY, CPS	DENSITY, LB/GAL	REMARKS
21 - 24	LOS	14,344	7.04	0.41	42,000	8.678	
24 - 27	LOS	14,636	6.74	0.48	35,000	8.846	
27 - 30	LOS	14,510	6.30	0.47	13,900	8.554	
30 - 33	LOS	14,477	6.52	0.47	16,800	8.679	
33 - 36	LOS	14,071	3.74	0.46	13,000	8.637	
36 - 39	LOS			0.51	3,675	9.054	
39 - 42	LOS	14,800	6.66	0.51	1,650	9.054	
42 - 45	LOS	14,572	7.16	0.53	20,950	9.054	
45 - 48	LOS	11,203	7.41	0.51	25,000	9.054	
48 - 51	LOS	14,680	7.05	0.52	17,000	8.637	
51 - 54	VR	8,594	6.84	0.97	Semisolid	9.430	
54 - 57	VR	9,545	7.43	2.10	Solid	9.597	
57 - 60	HC	10,349	7.76	1.97	Solid	9.889	
60 - 63	HC	9,007	7.23	3.77	Solid	9.597	

NOTE: WH - Watery Humus; LOS - Light Oil Sludge; VR - Viscous Rubbery;
HC - Hard and Crumbly

ZOREX CORPORATION

OCTOBER 5, 1982

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 0-6 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
45	28.32
46	28.5
47	28.49
48	28.48
49	28.48
50	29.06
51	29.68
52	29.86
53	29.92
54	29.94
55	29.94
56	29.94
57	29.94
58	29.94
59	29.94
60	0

TEMPERATURE AT IGNITION: 28.48 DEG. C AT TIME: 49 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.94DEG. C AT TIME: 55 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5872
WEIGHT OF EMPTY CUP: 13.8194
SAMPLE WEIGHT: .767800003
WEIGHT OF CUP AFTER BURN: 13.8194
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.4

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 4595.8251 CAL/GRAM
= 8272.48518 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/2/82 OPERATOR'S NAME: A.THAYER
ROOM TEMPERATURE: 28.8 LAB. BOOK PG. NO.: 95

TT = 1.47032043 EA = 15.18
RI = -6.66666776E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 6-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
31	29.1
32	29.19
33	29.17
34	29.16
35	29.16
36	29.78
37	30.1
38	30.18
39	30.21
40	30.22
41	30.22
42	30.22
43	30.22
44	30.22
45	0

TEMPERATURE AT IGNITION: 29.16 DEG. C AT TIME: 35 MIN.
HIGHEST TEMPERATURE ATTAINED: 30.22DEG. C AT TIME: 40 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4754
WEIGHT OF EMPTY CUP: 13.8008
SAMPLE WEIGHT: .674599998
WEIGHT OF CUP AFTER BURN: 13.8008
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2.1

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 3801.37643 CAL/GRAM
= 6842.47757 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/2/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 28.8 LAB. BOOK PG. NO.: 96

TT = 1.07149375 EA = 18.17
RI = -9.99999792E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 6-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
11	27.32
12	27.94
13	27.94
14	27.94
15	27.93
16	28.14
17	28.92
18	28.93
19	28.97
20	28.99
21	29
22	29
23	29
24	29
25	28.99
26	0

TEMPERATURE AT IGNITION: 27.93 DEG. C AT TIME: 15 MIN.
HIGHEST TEMPERATURE ATTAINED: 29DEG. C AT TIME: 21 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4333
WEIGHT OF EMPTY CUP: 13.8169
SAMPLE WEIGHT: .616399996
WEIGHT OF CUP AFTER BURN: 13.8186
WEIGHT OF RESIDUE: 1.69999525E-03
PERCENT UNBURNED RESIDUE: .27579417
LENGTH OF UNBURNED IGNITION WIRE: 3.9

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 4181.9643 CAL/GRAM
= 7527.53573 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/11/1982 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 133

TT = 1.07531668 EA = 14.03
RI = -3.33333512E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 12-18 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
7	29.7
8	29.68
9	29.68
10	29.68
11	29.67
12	29.67
13	30.26
14	30.75
15	30.88
16	30.92
17	30.94
18	30.94
19	30.94
20	30.94
21	30.94
22	0

TEMPERATURE AT IGNITION: 29.67 DEG. C AT TIME: 12 MIN.
HIGHEST TEMPERATURE ATTAINED: 30.94DEG. C AT TIME: 17 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2117
WEIGHT OF EMPTY CUP: 13.4926
SAMPLE WEIGHT: .719099998
WEIGHT OF CUP AFTER BURN: 13.4926
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 4246.16779 CAL/GRAM
= 7643.10201 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/2/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 29.1 LAB. BOOK PG. NO.: 97

TT = 1.27476258 EA = 19.09
RI = -3.33333015E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

NEW PROFILE CORPORATION 7974

HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT:
ACCOUNT NUMBER: OBG
FUEL:
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 18-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
11	27.94
12	27.94
13	27.94
14	27.94
15	27.94
16	28.46
17	28.82
18	28.92
19	28.96
20	28.96
21	28.96
22	28.96
23	28.96
24	0

TEMPERATURE AT IGNITION: 27.94 DEG. C AT TIME: 15 MIN.
HIGHEST TEMPERATURE ATTAINED: 28.96DEG. C AT TIME: 19 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2215
WEIGHT OF EMPTY CUP: 13.4942
SAMPLE WEIGHT: .727299999
WEIGHT OF CUP AFTER BURN: 13.4942
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.4

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 3359.39119 CAL/GRAM
= 6046.90413 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/2/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 28.6 LAB. BOOK PG. NO.: 94

TT = 1.02 EA = 15.18
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 18-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
1	26.84
2	27.94
3	27.88
4	27.88
5	27.87
6	27.87
7	28.26
8	28.76
9	28.93
10	28.99
11	29.01
12	29.02
13	29.02
14	29.02
15	29.02
16	29.01
17	0

TEMPERATURE AT IGNITION: 27.87 DEG. C AT TIME: 6 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.02DEG. C AT TIME: 12 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5685
WEIGHT OF EMPTY CUP: 13.9446
SAMPLE WEIGHT: .623900004
WEIGHT OF CUP AFTER BURN: 13.9524
WEIGHT OF RESIDUE: 7.8000091E-03
PERCENT UNBURNED RESIDUE: 1.2502018
LENGTH OF UNBURNED IGNITION WIRE: 1.3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 4432.1174 CAL/GRAM
= 7977.81133 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/11/1982 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27.5 LAB. BOOK PG. NO.: 134

TT = 1.15556333 EA = 20.01
RI = -3.33333015E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 18-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
45	29.84
46	30.34
47	30.32
48	30.32
49	30.31
50	30.31
51	30.56
52	31.46
53	31.86
54	31.97
55	32
56	32.01
57	32.01
58	32.01
59	32.01
60	32
61	0

TEMPERATURE AT IGNITION: 30.31 DEG. C AT TIME: 50 MIN.
HIGHEST TEMPERATURE ATTAINED: 32.01DEG. C AT TIME: 56 MIN.

WEIGHT OF CUP AND SAMPLE: 14.3546
WEIGHT OF EMPTY CUP: 13.5787
SAMPLE WEIGHT: .775900003
WEIGHT OF CUP AFTER BURN: 13.5787
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5276.97536 CAL/GRAM
= 9498.55564 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/2/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 29.2 LAB. BOOK PG. NO.: 98

TT = 1.70637408 EA = 18.4
RI = -3.33333512E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 0-6 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
16	29.16
17	29.17
18	29.17
19	29.19
20	29.19
21	29.2
22	30.3
23	31.4
24	31.68
25	31.82
26	31.82
28	31.84
29	31.85
30	31.85
31	31.85
32	31.85
33	31.85
34	0

TEMPERATURE AT IGNITION: 29.2 DEG. C AT TIME: 21 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.85DEG. C AT TIME: 29 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5559
WEIGHT OF EMPTY CUP: 13.7909
SAMPLE WEIGHT: .764999997
WEIGHT OF CUP AFTER BURN: 13.8171
WEIGHT OF RESIDUE: .0261999965
PERCENT UNBURNED RESIDUE: 3.42483615
LENGTH OF UNBURNED IGNITION WIRE: .8

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8273.78804 CAL/GRAM
= 14892.8185 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/10/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32.5 LAB. BOOK PG. NO.: 128

TT = 2.63482273 EA = 21.16
RI = .0100000004 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 6-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
20	28.36
21	28.33
22	28.32
23	28.32
24	28.32
25	29.04
26	29.7
27	29.9
28	29.96
29	29.98
30	29.99
31	29.99
32	29.99
33	29.98
34	29.98
35	0

TEMPERATURE AT IGNITION: 28.32 DEG. C AT TIME: 24 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.99DEG. C AT TIME: 30 MIN.

WEIGHT OF CUP AND SAMPLE: 14.3237
WEIGHT OF EMPTY CUP: 13.5817
SAMPLE WEIGHT: .741999995
WEIGHT OF CUP AFTER BURN: 13.5817
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.4
GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5388.04374 CAL/GRAM
= 9698.47872 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/28/82 OPERATOR'S NAME: AMERICAN CYANAMID
ROOM TEMPERATURE: 26 LAB. BOOK PG. NO.: 86

TT = 1.66501059 EA = 15.18
RI = -3.33333015E-03 RF = -3.33333264E-03
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 12-18 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE, C
27	28.04
28	28.4
29	28.38
30	28.36
31	28.36
32	28.36
33	29.1
34	29.34
35	29.46
36	29.48
37	29.49
38	29.49
39	29.49
40	29.49
41	29.48
42	29.48
43	0

TEMPERATURE AT IGNITION: 28.36 DEG. C AT TIME: 32 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.49DEG. C AT TIME: 37 MIN.

WEIGHT OF CUP AND SAMPLE: 14.25
WEIGHT OF EMPTY CUP: 13.4967
SAMPLE WEIGHT: .7533
WEIGHT OF CUP AFTER BURN: 13.4967
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.9

GROSS HEATING VALUE BY PARR BOMB CALORIMETER = 3617.44593 CAL/GRAM
= 6511.40268 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/28/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 26.3 LAB. BOOK PG. NO.: 87

TT = 1.13641351 EA = 14.03
RI = -6.66666528E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 12-18 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
25	29.9
26	29.86
27	29.85
28	29.85
29	29.85
30	31.32
31	31.48
32	31.56
33	31.58
34	31.59
35	31.59
36	31.6
37	31.6
38	31.6
39	31.6
40	31.6
41	0

TEMPERATURE AT IGNITION: 29.85 DEG. C AT TIME: 29 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.6DEG. C AT TIME: 36 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2138
WEIGHT OF EMPTY CUP: 13.5692
SAMPLE WEIGHT: .6446
WEIGHT OF CUP AFTER BURN: 13.5897
WEIGHT OF RESIDUE: .0205000006
PERCENT UNBURNED RESIDUE: 3.18026692
LENGTH OF UNBURNED IGNITION WIRE: 3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 6527.89427 CAL/GRAM
= 11750.2097 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/10/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32.5 LAB. BOOK PG. NO.: 129

TT = 1.7525 EA = 16.1
RI = -3.33333264E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 18-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
1	27.3
2	28.7
3	28.68
4	28.68
5	28.66
6	28.66
7	28.78
8	29.26
9	29.4
10	29.44
11	29.46
12	29.46
13	29.46
14	29.46
15	29.45
16	0

TEMPERATURE AT IGNITION: 28.66 DEG. C AT TIME: 6 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.46DEG. C AT TIME: 11 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5032
WEIGHT OF EMPTY CUP: 13.8077
SAMPLE WEIGHT: .695500001
WEIGHT OF CUP AFTER BURN: 13.8077
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: .8

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 2783.56735 CAL/GRAM
= 5010.42123 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/28/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 88

TT = .81199999 EA = 21.16
RI = -6.66666279E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 24-30 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
36	25.48
37	25.58
38	25.6
39	25.62
40	25.62
41	25.98
42	26.08
43	26.26
44	26.32
45	26.34
46	26.36
47	26.37
48	26.37
49	26.37
50	26.37
51	26.37
52	0

TEMPERATURE AT IGNITION: 25.62 DEG. C AT TIME: 40 MIN.
HIGHEST TEMPERATURE ATTAINED: 26.37DEG. C AT TIME: 47 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5888
WEIGHT OF EMPTY CUP: 13.9481
SAMPLE WEIGHT: .640700001
WEIGHT OF CUP AFTER BURN: 13.9462
WEIGHT OF RESIDUE: -1.89999864E-03
PERCENT UNBURNED RESIDUE: -.296550434
LENGTH OF UNBURNED IGNITION WIRE: 4.3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 2697.17444 CAL/GRAM
= 4854.91399 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/11/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 25.44 LAB. BOOK PG. NO.: 130

TT = .722407403 EA = 13.11
RI = .0133333355 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 24-30 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
45	28.24
46	28.56
47	28.53
48	28.52
49	28.51
50	28.51
51	28.68
52	29.24
53	29.36
54	29.42
55	29.44
56	29.45
57	29.45
58	29.45
59	29.45
60	29.44
61	0

TEMPERATURE AT IGNITION: 28.51 DEG. C AT TIME: 50 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.45DEG. C AT TIME: 56 MIN.

WEIGHT OF CUP AND SAMPLE: 14.7281
WEIGHT OF EMPTY CUP: 13.9524
SAMPLE WEIGHT: .775699995
WEIGHT OF CUP AFTER BURN: 13.9524
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2.1

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 2933.68212 CAL/GRAM
= 5280.62781 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/28/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27.2 LAB. BOOK PG. NO.: 89

TT = .951692848 EA = 18.17
RI = -6.66666279E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-5
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 30-36 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
45	27.9
46	28.22
47	28.2
48	28.2
49	28.19
50	28.19
51	28.8
52	29.09
53	29.24
54	29.27
55	29.28
56	29.29
57	29.29
58	29.29
59	29.29
60	29.29
61	0

TEMPERATURE AT IGNITION: 28.19 DEG. C AT TIME: 50 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.29DEG. C AT TIME: 56 MIN.

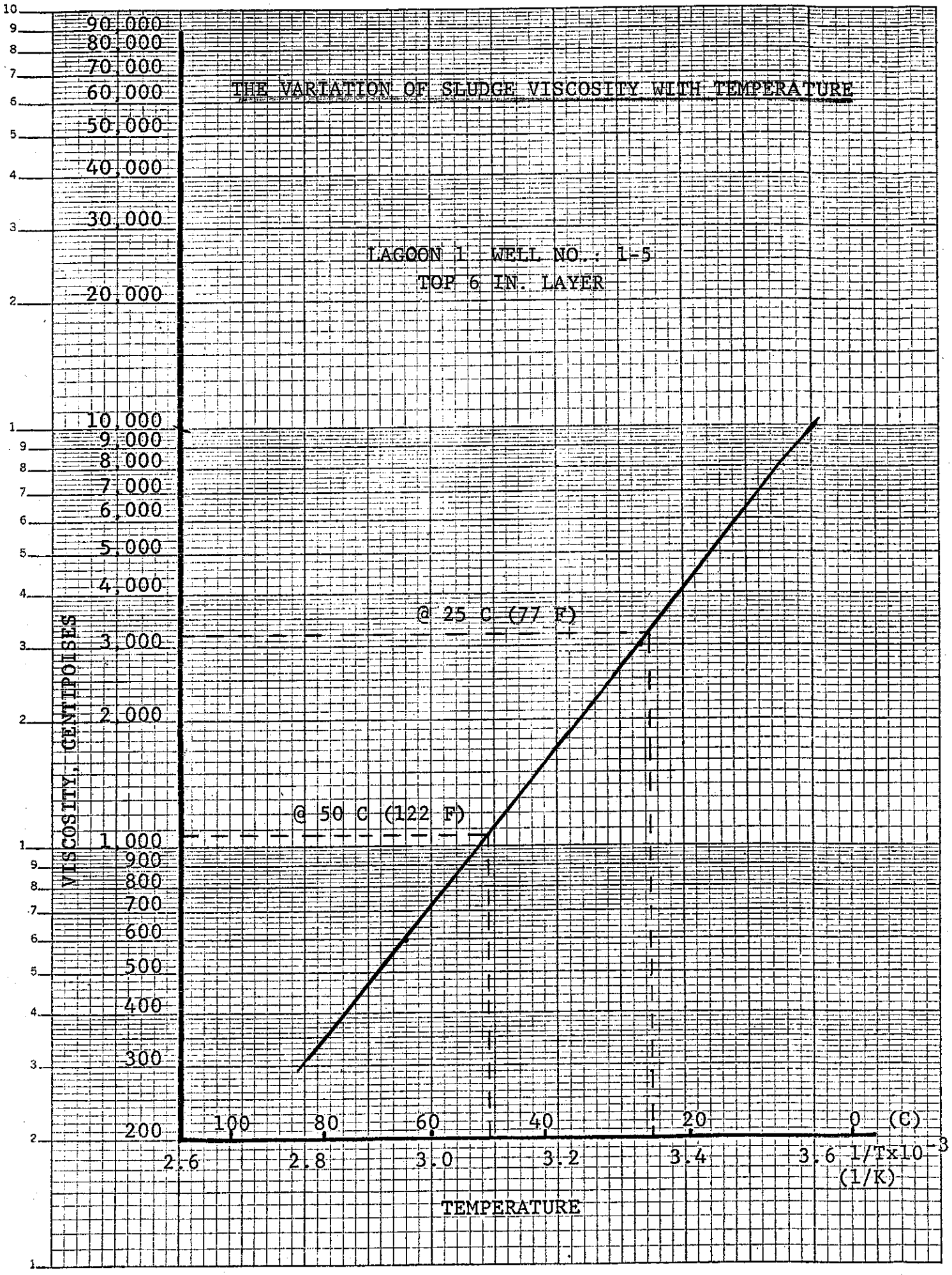
WEIGHT OF CUP AND SAMPLE: 14.3752
WEIGHT OF EMPTY CUP: 13.5811
SAMPLE WEIGHT: .794099998
WEIGHT OF CUP AFTER BURN: 13.5811
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2.6

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 3330.31062 CAL/GRAM
= 5994.55911 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/28/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 90

TT = 1.10428736 EA = 17.02
RI = -3.33333512E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG



Semi-Logarithmic
cycles x 10 to the inch

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-7
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 0-6 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
27	25.86
28	25.96
29	25.96
30	25.96
31	25.96
32	27.1
33	27.72
34	28.18
35	28.34
36	28.4
37	28.42
38	28.43
39	28.43
40	28.43
41	28.43
42	28.42
43	0

TEMPERATURE AT IGNITION: 25.96 DEG. C AT TIME: 31 MIN.
HIGHEST TEMPERATURE ATTAINED: 28.43DEG. C AT TIME: 38 MIN.

WEIGHT OF CUP AND SAMPLE: 14.3296
WEIGHT OF EMPTY CUP: 13.6441
SAMPLE WEIGHT: .6855
WEIGHT OF CUP AFTER BURN: 13.6456
WEIGHT OF RESIDUE: 1.49999931E-03
PERCENT UNBURNED RESIDUE: .218818281
LENGTH OF UNBURNED IGNITION WIRE: 2.6

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8659.84272 CAL/GRAM
= 15587.7169 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/11/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 131

TT = 2.46999999 EA = 17.02
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-7
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 6-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
9	29.7
10	29.8
11	29.78
12	29.74
13	29.74
14	30.24
15	31.28
16	31.56
17	31.6
18	31.69
19	31.68
20	31.67
21	31.66
22	31.64
23	31.64
24	31.64
25	31.63
26	31.62
27	0

TEMPERATURE AT IGNITION: 29.74 DEG. C AT TIME: 13 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.69DEG. C AT TIME: 18 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2925
WEIGHT OF EMPTY CUP: 13.4958
SAMPLE WEIGHT: .796700001
WEIGHT OF CUP AFTER BURN: 13.4958
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5891.26552 CAL/GRA
= 10604.2779 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/29/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 92

TT = 1.95400963 EA = 16.1
RI = -.0200000008 RF = -9.99999792E-03
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE 1-7
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 6-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
23	27.18
24	27.48
25	27.46
26	27.46
27	27.46
28	28.24
29	28.58
30	28.92
31	29
32	29.02
33	29.02
34	29.02
35	29.02
36	29.02
37	0

TEMPERATURE AT IGNITION: 27.46 DEG. C AT TIME: 27 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.02DEG. C AT TIME: 32 MIN.

WEIGHT OF CUP AND SAMPLE: 14.1855
WEIGHT OF EMPTY CUP: 13.4891
SAMPLE WEIGHT: .696400005
WEIGHT OF CUP AFTER BURN: 13.4919
WEIGHT OF RESIDUE: 2.80000642E-03
PERCENT UNBURNED RESIDUE: .402068696
LENGTH OF UNBURNED IGNITION WIRE: 1.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5408.62766 CAL/GRAM
= 9735.52978 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/11/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 132

TT = 1.57064314 EA = 19.09
RI = -6.66666528E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-3
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 12-18 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
27	27.3
28	27.32
29	27.32
30	27.32
31	27.32
32	27.66
33	28.2
34	28.32
35	28.42
36	28.44
37	28.45
38	28.45
39	28.45
40	28.45
41	28.45
42	0

TEMPERATURE AT IGNITION: 27.32 DEG. C AT TIME: 31 MIN.
HIGHEST TEMPERATURE ATTAINED: 28.45DEG. C AT TIME: 37 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5852
WEIGHT OF EMPTY CUP: 13.8269
SAMPLE WEIGHT: .758300003
WEIGHT OF CUP AFTER BURN: 13.8269
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.4

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 3571.69165 CAL/GRAM
= 6429.04497 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/30/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27.2 LAB. BOOK PG. NO.: 92

TT = 1.13 EA = 15.18
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE-WELL 1-7
POINT OF ORIGIN: LAGOON 1
DEPTH IN CORE: 18-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
45	24.86
46	25.39
47	25.44
48	25.47
49	25.49
50	25.5
51	25.52
52	25.54
53	26.38
54	26.56
55	26.64
56	26.68
57	26.7
58	26.72
59	26.74
60	26.74
61	26.74
62	26.74
63	26.74
64	0

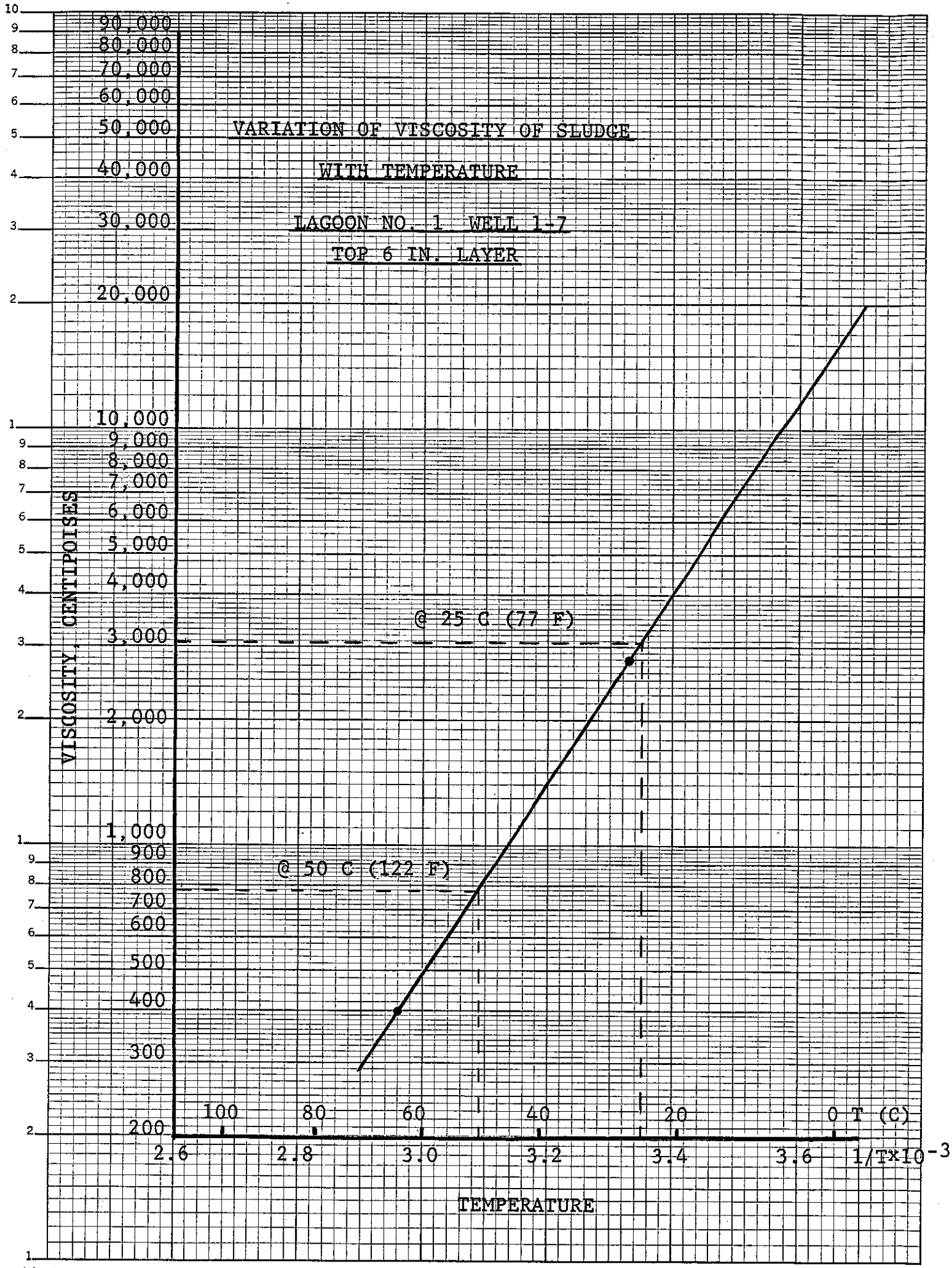
TEMPERATURE AT IGNITION: 25.52 DEG. C AT TIME: 51 MIN.
HIGHEST TEMPERATURE ATTAINED: 26.74DEG. C AT TIME: 59 MIN.
WEIGHT OF CUP AND SAMPLE: 14.525
WEIGHT OF EMPTY CUP: 13.8115
SAMPLE WEIGHT: .713499997
WEIGHT OF CUP AFTER BURN: 13.8216
WEIGHT OF RESIDUE: .0100999959
PERCENT UNBURNED RESIDUE: 1.41555654
LENGTH OF UNBURNED IGNITION WIRE: 3.4

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 3993.50554 CAL/GRAM
= 7188.30997 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 8/4/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.16 LAB. BOOK PG. NO.: 118

TT = 1.18848016 EA = 15.18
RI = .0166666657 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG



Semi-Logarithmic
3 Cycles x 10 to the inch

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OB&G
FUEL: SLUDGE/WATER
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 0-3 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
2	31.68
3	31.63
4	31.62
5	31.62
6	31.62
7	31.64
8	31.66
9	31.67
10	31.68
11	31.7
12	31.7
13	31.7
14	31.7
15	31.7
16	0

TEMPERATURE AT IGNITION: 31.62 DEG. C AT TIME: 6 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.7DEG. C AT TIME: 11 MIN.

WEIGHT OF CUP AND SAMPLE: 14.6059
WEIGHT OF EMPTY CUP: 13.9474
SAMPLE WEIGHT: .658499997
WEIGHT OF CUP AFTER BURN: 13.9474
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2.6

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 304.06187 CAL/GRAM
= 547.311365 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: MS. THAYER
ROOM TEMPERATURE: 31.85 LAB. BOOK PG. NO.: 47

TT = .0901333218 EA = 17.02
RI = -3.33333015E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OB&G
FUEL: WATERY SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 3-6 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
429	31.24
430	31.2
431	31.2
432	31.2
433	31.2
434	31.22
435	31.42
436	31.44
437	31.47
438	31.49
439	31.49
440	31.49
441	31.49
442	31.49
443	0

TEMPERATURE AT IGNITION: 31.2 DEG. C AT TIME: 433 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.49DEG. C AT TIME: 438 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5742
WEIGHT OF EMPTY CUP: 13.9475
SAMPLE WEIGHT: .626699995
WEIGHT OF CUP AFTER BURN: 14.5742
WEIGHT OF RESIDUE: .626699995
PERCENT UNBURNED RESIDUE: 100
LENGTH OF UNBURNED IGNITION WIRE: 3.9

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 1092.93982 CAL/GRAM
= 1967.29168 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.4 LAB. BOOK PG. NO.: 48

TT = .289999992 EA = 14.03
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OB&G
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 6-9 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
1030	26.82
1031	26.84
1032	26.84
1033	26.84
1034	26.84
1035	27.48
1036	28.3
1037	28.4
1038	28.58
1039	28.6
1040	28.62
1041	28.63
1042	28.63
1043	28.63
1044	28.63
1045	28.63
1046	0

TEMPERATURE AT IGNITION: 26.84 DEG. C AT TIME: 1034 MIN.
HIGHEST TEMPERATURE ATTAINED: 28.63DEG. C AT TIME: 1041 MIN.

WEIGHT OF CUP AND SAMPLE: 14.61
WEIGHT OF EMPTY CUP: 13.9534
SAMPLE WEIGHT: .656599998
WEIGHT OF CUP AFTER BURN: 13.9534
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 4

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 6549.74933 CAL/GRAM
= 11789.5488 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/23/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27 LAB. BOOK PG. NO.: 49

TT = 1.79 EA = 13.8
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 9-12 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
130	27.36
131	27.42
132	27.44
133	27.44
134	27.44
135	28.46
136	29.34
137	29.62
138	29.72
139	29.72
140	29.76
141	29.76
142	29.76
143	29.76
144	29.76
145	0

TEMPERATURE AT IGNITION: 27.44 DEG. C AT TIME: 134 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.76DEG. C AT TIME: 140 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5185
WEIGHT OF EMPTY CUP: 13.8386
SAMPLE WEIGHT: .679900002
WEIGHT OF CUP AFTER BURN: 13.8386
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 5.2

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8172.71863 CAL/GRAM
= 14710.8935 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/23/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 28.1 LAB. BOOK PG. NO.: 50

TT = 2.30998789 EA = 11.04
RI = 6.66666528E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMER. CYAN.
ACCOUNT NUMBER: OBG
FUEL:
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 12-15 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
202	31.17
203	31.17
204	31.17
205	31.18
206	31.18
207	31.18
208	31.19
209	31.19
210	31.19
211	32.66
212	32.66
213	33.85
214	34.05
215	34.05
216	34.05
217	34.05
218	34.05
219	0

TEMPERATURE AT IGNITION: 31.19 DEG. C AT TIME: 210 MIN.
HIGHEST TEMPERATURE ATTAINED: 34.05DEG. C AT TIME: 214 MIN.

WEIGHT OF CUP AND SAMPLE: 14.6529
WEIGHT OF EMPTY CUP: 13.8114
SAMPLE WEIGHT: .841499995
WEIGHT OF CUP AFTER BURN: 13.8114
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 5

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8156.31028 CAL/GRAM
= 14681.3585 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/26/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 33 LAB. BOOK PG. NO.: 51

TT = 2.85240392 EA = 11.5
RI = 3.33333512E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 18-21 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
39	31.56
40	31.58
41	31.58
42	31.58
43	31.58
44	32.6
45	32.3
46	33.58
47	33.64
48	33.67
49	33.68
50	33.68
51	33.68
52	33.68
53	33.68
54	0

TEMPERATURE AT IGNITION: 31.58 DEG. C AT TIME: 43 MIN.
HIGHEST TEMPERATURE ATTAINED: 33.68DEG. C AT TIME: 49 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4546
WEIGHT OF EMPTY CUP: 13.8286
SAMPLE WEIGHT: .626000002
WEIGHT OF CUP AFTER BURN: 13.8286
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 2.6

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8058.34819 CAL/GRAM
= 14505.0268 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.48 LAB. BOOK PG. NO.: 63

TT = 2.09999999 EA = 17.02
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 21-24 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
22	32.38
23	32.42
24	32.42
25	32.42
26	32.42
27	34.2
28	34.52
29	34.63
30	34.67
31	34.68
32	34.68
33	34.68
34	34.68
35	34.67
36	0

TEMPERATURE AT IGNITION: 32.42 DEG. C AT TIME: 26 MIN.
HIGHEST TEMPERATURE ATTAINED: 34.68DEG. C AT TIME: 31 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2643
WEIGHT OF EMPTY CUP: 13.5825
SAMPLE WEIGHT: .6818
WEIGHT OF CUP AFTER BURN: 13.5825
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.9

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 7968.84361 CAL/GRAM
= 14343.9185 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32 LAB. BOOK PG. NO.: 64

TT = 2.25999999 EA = 14.03
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT:
ACCOUNT NUMBER: OBG
FUEL:
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 24-27 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
46	27.42
47	27.46
48	27.4
49	27.39
50	27.39
51	28.88
52	29.22
53	29.26
54	29.47
55	29.49
56	29.49
57	29.5
58	29.5
59	29.5
60	29.5
61	29.5
62	0

TEMPERATURE AT IGNITION: 27.39 DEG. C AT TIME: 50 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.5DEG. C AT TIME: 57 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4396
WEIGHT OF EMPTY CUP: 13.8103
SAMPLE WEIGHT: .629300002
WEIGHT OF CUP AFTER BURN: 13.8103
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.74

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8130.97797 CAL/GRAM
= 14635.7603 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32.3 LAB. BOOK PG. NO.: 65

TT = 2.13081678 EA = 18.998
RI = -.0233333334 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT:
ACCOUNT NUMBER: OBG
FUEL:
POINT OF ORIGIN: LAGOON 2

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

:ENT: AMERICAN CYANAMID
:OUNT NUMBER: OBG
:L: SLUDGE
:NT OF ORIGIN: LAGOON 2
'TH IN CORE: 27-30 IN.

'UT: LABORATORY DATA:

IE	TEMPERATURE,C
	29.66
	29.54
	29.56
	29.57
	29.58
	29.58
	30.52
	31.5
	31.66
	31.76
	31.78
	31.78
	31.8
	31.8
	31.8
	31.8
	31.8
	0

:PERATURE AT IGNITION: 29.58 DEG. C AT TIME: 36 MIN.
HEST TEMPERATURE ATTAINED: 31.8DEG. C AT TIME: 41 MIN.

GHT OF CUP AND SAMPLE: 14.24
GHT OF EMPTY CUP: 13.5815
PLE WEIGHT: .658499997
GHT OF CUP AFTER BURN: 13.5815
GHT OF RESIDUE: 0
CENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8060.89518 CAL/GRAM
= 14509.6113 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32 LAB. BOOK PG. NO.: 66

TT = 2.21021361 EA = 19.09
RI = 6.66666528E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 30-33 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
16	31.62
17	31.54
18	31.54
19	31.54
20	31.54
21	32
22	33.26
23	33.64
24	33.74
25	33.82
26	33.84
27	33.84
28	33.84
29	0

TEMPERATURE AT IGNITION: 31.54 DEG. C AT TIME: 20 MIN.
HIGHEST TEMPERATURE ATTAINED: 33.84DEG. C AT TIME: 26 MIN.

WEIGHT OF CUP AND SAMPLE: 14.492
WEIGHT OF EMPTY CUP: 13.8051
SAMPLE WEIGHT: .686899994
WEIGHT OF CUP AFTER BURN: 13.8051
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8,042.677 [redacted] CAL/GRAM
= 14,476.801 [redacted] BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 32 LAB. BOOK PG. NO.: 67

TT = -31.54 EA = 19.09
RI = 0 RF = -11.28
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OBG
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 33-36 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
56	32.4
57	32.45
58	32.45
59	32.45
60	32.45
61	32.45
62	33.22
63	34.12
64	34.44
65	34.57
66	34.61
67	34.62
68	34.62
69	34.62
70	34.62
71	34.62
72	0

TEMPERATURE AT IGNITION: 32.45 DEG. C AT TIME: 61 MIN.
HIGHEST TEMPERATURE ATTAINED: 34.62DEG. C AT TIME: 67 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4941
WEIGHT OF EMPTY CUP: 13.8268
SAMPLE WEIGHT: .667299997
WEIGHT OF CUP AFTER BURN: 13.8268
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 3.9

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 7816.92526 CAL/GRAM
= 14070.4655 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/27/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.8 LAB. BOOK PG. NO.: 68

TT = 2.17 EA = 14.03
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: O'BRIEN&GERE
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON NO.
DEPTH IN CORE: 39-42 IN.

TIME	TEMPERATURE,C
1	27.2
2	27.37
3	27.38
4	27.38
5	27.38
6	28.28
7	29.06
8	29.32
9	29.4
10	29.44
11	29.45
12	29.45
13	29.45
14	29.45
15	29.45
16	0

TEMPERATURE AT IGNITION: 27.38 DEG. C AT TIME: 5 MIN.
HIGHEST TEMPERATURE ATTAINED: 29.45DEG. C AT TIME: 11 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4395
WEIGHT OF EMPTY CUP: 13.8355
SAMPLE WEIGHT: .603999995
WEIGHT OF CUP AFTER BURN: 13.8355
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGHT OF UNBURNED IGNITION WIRE: 5.2

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8221.85719 CAL/GRAM
= 14799.3429 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27.2 LAB. BOOK PG. NO.: 39

TT = 2.06493976 EA = 11.04
RI = 3.33333015E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG'

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: O'BRIEN&GERE
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 42-45 IN.

TIME	TEMPERATURE,C
8	28.8
9	28.86
10	28.86
11	28.86
12	28.86
13	29.9
14	30.62
15	30.88
16	30.96
17	30.98
18	31
19	31
20	31
21	31
22	31
23	0

TEMPERATURE AT IGNITION: 28.86 DEG. C AT TIME: 12 MIN.
HIGHEST TEMPERATURE ATTAINED: 31DEG. C AT TIME: 18 MIN.

WEIGHT OF CUP AND SAMPLE: 14.2185
WEIGHT OF EMPTY CUP: 13.5837
SAMPLE WEIGHT: .634799998
WEIGHT OF CUP AFTER BURN: 13.5837
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGHT OF UNBURNED IGNITION WIRE: 1.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8095.25271 CAL/GRAM
= 14571.4549 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 27.18 LAB. BOOK PG. NO.: 40

TT = 2.14 EA = 19.09
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: O'BRIEN&GERE
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 45-48 IN.

TIME	TEMPERATURE,C
54	30.8
55	30.6
56	30.6
57	30.6
58	30.6
58	30.6
59	30.96
60	31.96
61	32.22
62	32.32
63	32.34
64	32.36
65	32.36
66	32.36
67	32.36
68	32.36
69	0

TEMPERATURE AT IGNITION: 30.6 DEG. C AT TIME: 58 MIN.
HIGHEST TEMPERATURE ATTAINED: 32.36DEG. C AT TIME: 64 MIN.

WEIGHT OF CUP AND SAMPLE: 14.5194
WEIGHT OF EMPTY CUP: 13.8406
SAMPLE WEIGHT: .678799998
WEIGHT OF CUP AFTER BURN: 13.8406
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGHT OF UNBURNED IGNITION WIRE: 2.5

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 6223.93578 CAL/GRAM
= 11203.0844 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: MS. THAYER
ROOM TEMPERATURE: 28.8 LAB. BOOK PG. NO.: 41

TT = 1.76 EA = 17.25
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORA

NEW PROVIDENCE, N.J. 07974

HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OB&G
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 48-51 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
4	29.4
5	29.4
6	29.41
7	29.41
8	29.41
9	29.52
10	30.98
11	31.44
12	31.6
13	31.64
14	31.67
15	31.67
16	31.67
17	31.67
18	31.67
19	0

TEMPERATURE AT IGNITION: 29.41 DEG. C AT TIME: 8 MIN.
HIGHEST TEMPERATURE ATTAINED: 31.67DEG. C AT TIME: 14 MIN.

WEIGHT OF CUP AND SAMPLE: 14.1655
WEIGHT OF EMPTY CUP: 13.5019
SAMPLE WEIGHT: .663600005
WEIGHT OF CUP AFTER BURN: 13.5019
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 8155.38527 CAL/GRAM
= 14679.6935 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 29.92 LAB. BOOK PG. NO.: 42

TT = 2.25366712 EA = 20.01
RI = 3.33333512E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER: OB&&G
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 51-54 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
1220	30.92
1221	30.9
1222	30.89
1223	30.88
1224	30.88
1225	31.1
1226	31.54
1227	31.81
1228	32.06
1229	32.08
1230	32.08
1231	32.1
1232	32.1
1233	32.1
1234	32.1
1235	32.1
1236	0

TEMPERATURE AT IGNITION: 30.88 DEG. C AT TIME: 1224 MIN.
HIGHEST TEMPERATURE ATTAINED: 32.1DEG. C AT TIME: 1231 MIN.

WEIGHT OF CUP AND SAMPLE: 14.4563
WEIGHT OF EMPTY CUP: 13.8344
SAMPLE WEIGHT: .621900003
WEIGHT OF CUP AFTER BURN: 13.8344
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 5.7

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 4774.44453 CAL/GRAM
= 8594.00015 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: MS. THAYER
ROOM TEMPERATURE: 30.45 LAB. BOOK PG. NO.: 43

IT = 1.23601482 EA = 9.89
RI = -6.66666776E-03 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT:
ACCOUNT NUMBER: OB&G
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 54-57 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
142	30.74
143	30.72
144	30.72
145	30.72
146	30.72
147	30.72
148	31.52
149	31.8
150	31.96
151	32.02
152	32.04
153	32.05
154	32.05
155	32.05
156	32.05
157	0

TEMPERATURE AT IGNITION: 30.72 DEG. C AT TIME: 147 MIN.
HIGHEST TEMPERATURE ATTAINED: 32.05DEG. C AT TIME: 153 MIN.

WEIGHT OF CUP AND SAMPLE: 14.0999
WEIGHT OF EMPTY CUP: 13.4992
SAMPLE WEIGHT: .600700002
WEIGHT OF CUP AFTER BURN: 13.4992
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5303.20587 CAL/GRAM
= 9545.77057 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: MS. THAYER
ROOM TEMPERATURE: 31.6 LAB. BOOK PG. NO.: 44

TT = 1.32999999 EA = 20.01
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT: AMERICAN CYANAMID
ACCOUNT NUMBER:
FUEL: SLUDGE
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 57-60 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
223	31.4
224	31.36
225	31.36
226	31.36
227	31.36
228	31.94
229	32.54
230	32.7
231	32.76
232	32.76
233	32.8
234	32.8
235	32.8
236	32.8
237	32.8
238	0

TEMPERATURE AT IGNITION: 31.36 DEG. C AT TIME: 227 MIN.
HIGHEST TEMPERATURE ATTAINED: 32.8DEG. C AT TIME: 233 MIN.

WEIGHT OF CUP AND SAMPLE: 14.1856
WEIGHT OF EMPTY CUP: 13.5833
SAMPLE WEIGHT: .602299999
WEIGHT OF CUP AFTER BURN: 13.5833
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 6.5

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5749.16885 CAL/GRAM
= 10348.5039 BTU/LB

OTHER LABORATORY RECORDS:

DATE: 7/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.42 LAB. BOOK PG. NO.: 45

TT = 1.44 EA = 8.05
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG

ZOREX CORPORATION
NEW PROVIDENCE, N.J. 07974
HEATING VALUE CALCULATIONS PROGRAM #1

CLIENT:
ACCOUNT NUMBER: OBG
FUEL:
POINT OF ORIGIN: LAGOON 2
DEPTH IN CORE: 60-63 IN.

INPUT: LABORATORY DATA:

TIME	TEMPERATURE,C
305	32
306	31.96
307	31.96
308	31.96
309	31.96
310	32.6
311	33.16
312	33.36
313	33.42
314	33.45
315	33.45
316	33.45
317	33.45
318	33.45
319	0

TEMPERATURE AT IGNITION: 31.96 DEG. C AT TIME: 309 MIN.
HIGHEST TEMPERATURE ATTAINED: 33.45DEG. C AT TIME: 314 MIN.

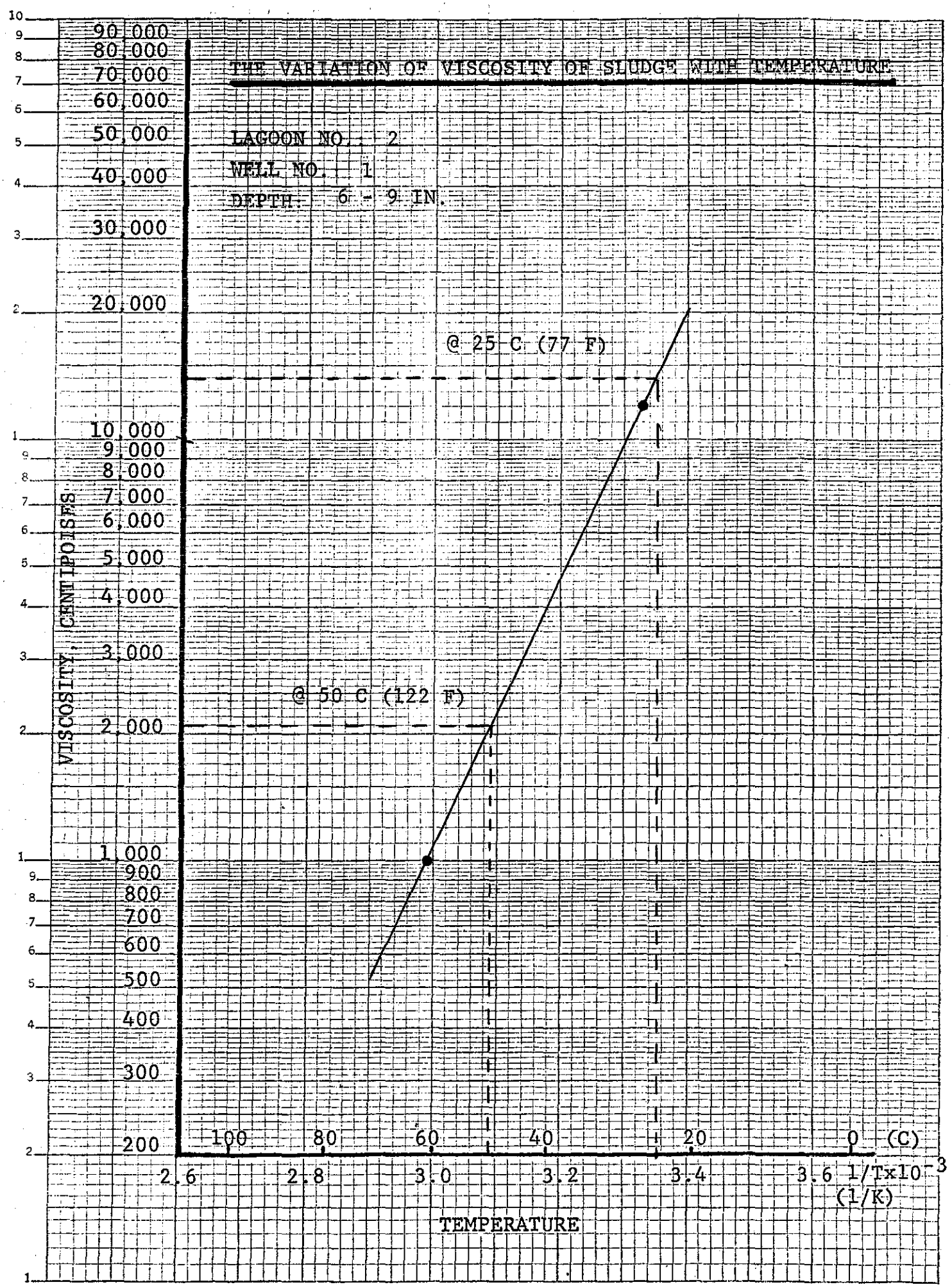
WEIGHT OF CUP AND SAMPLE: 14.2932
WEIGHT OF EMPTY CUP: 13.5795
SAMPLE WEIGHT: .713700008
WEIGHT OF CUP AFTER BURN: 13.5795
WEIGHT OF RESIDUE: 0
PERCENT UNBURNED RESIDUE: 0
LENGTH OF UNBURNED IGNITION WIRE: 1.3

GROSS HEATING VALUE BY PARR BOMB CALORIMETER= 5003.8915 CAL/GRAM
= 9007.00471 BTU/LB

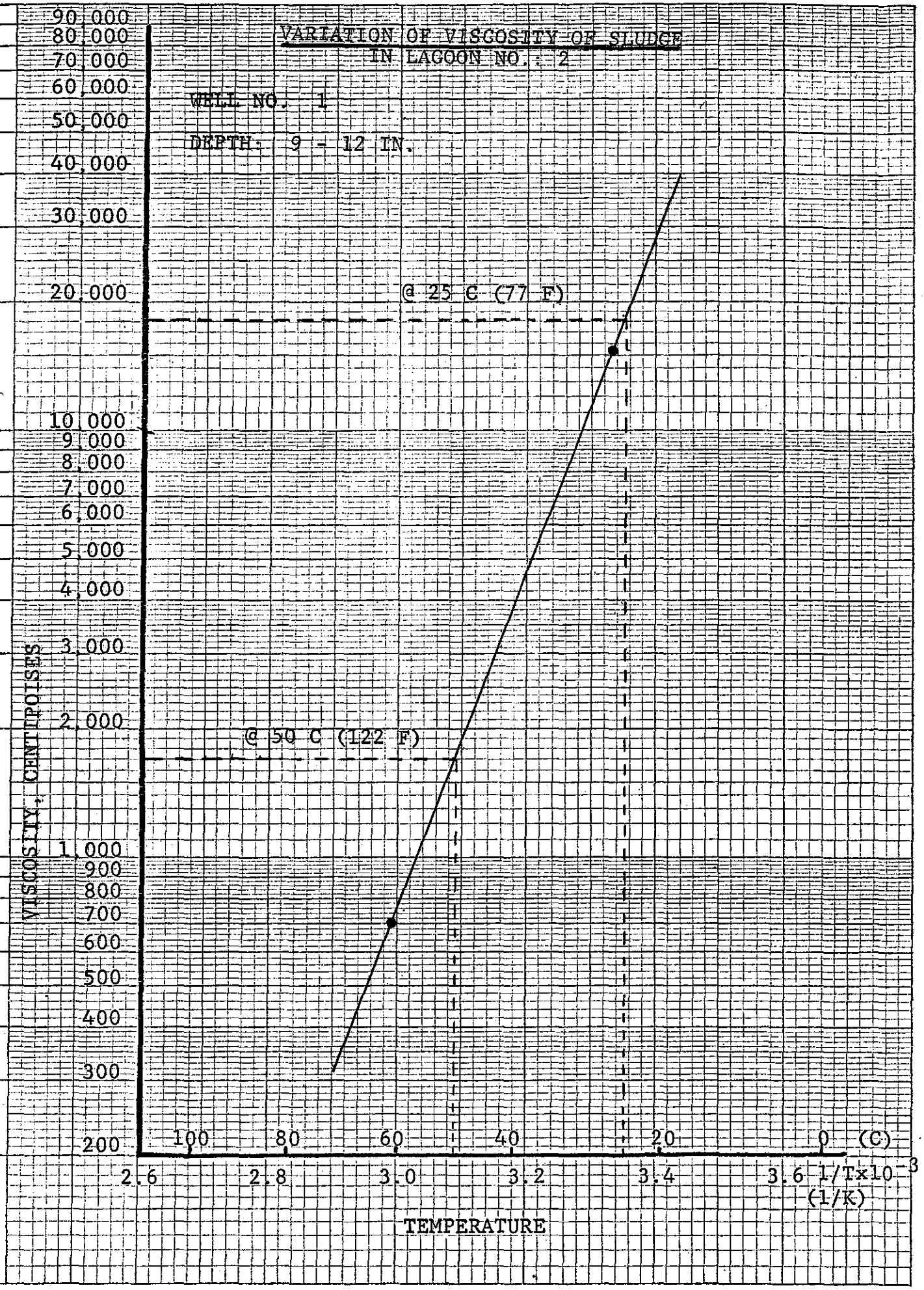
OTHER LABORATORY RECORDS:

DATE: 2/22/82 OPERATOR'S NAME: THAYER
ROOM TEMPERATURE: 31.6 LAB. BOOK PG. NO.: 46

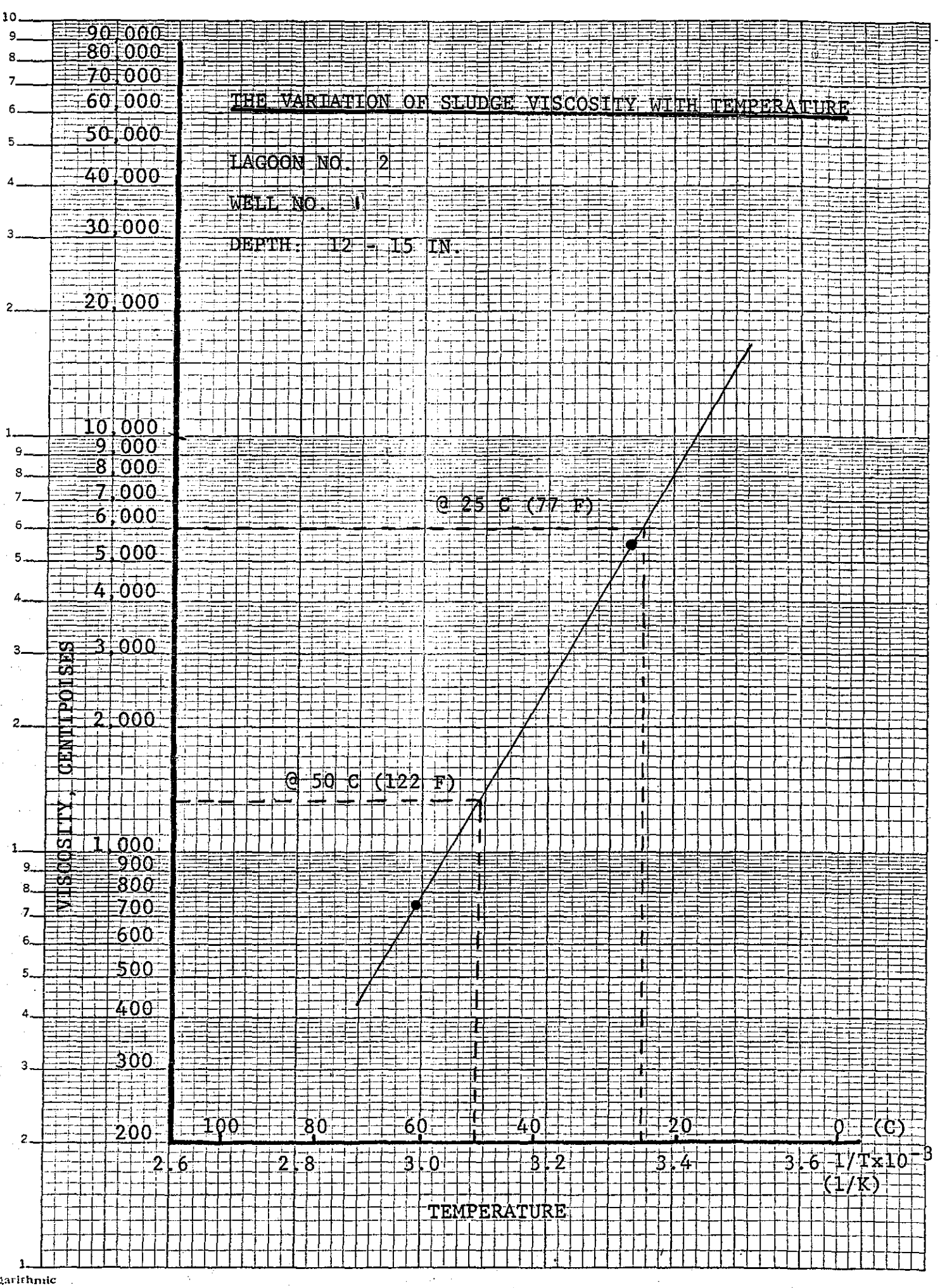
TT = 1.49 EA = 20.01
RI = 0 RF = 0
CALORIMETER CONSTANT = 2410.26 CAL/DEG



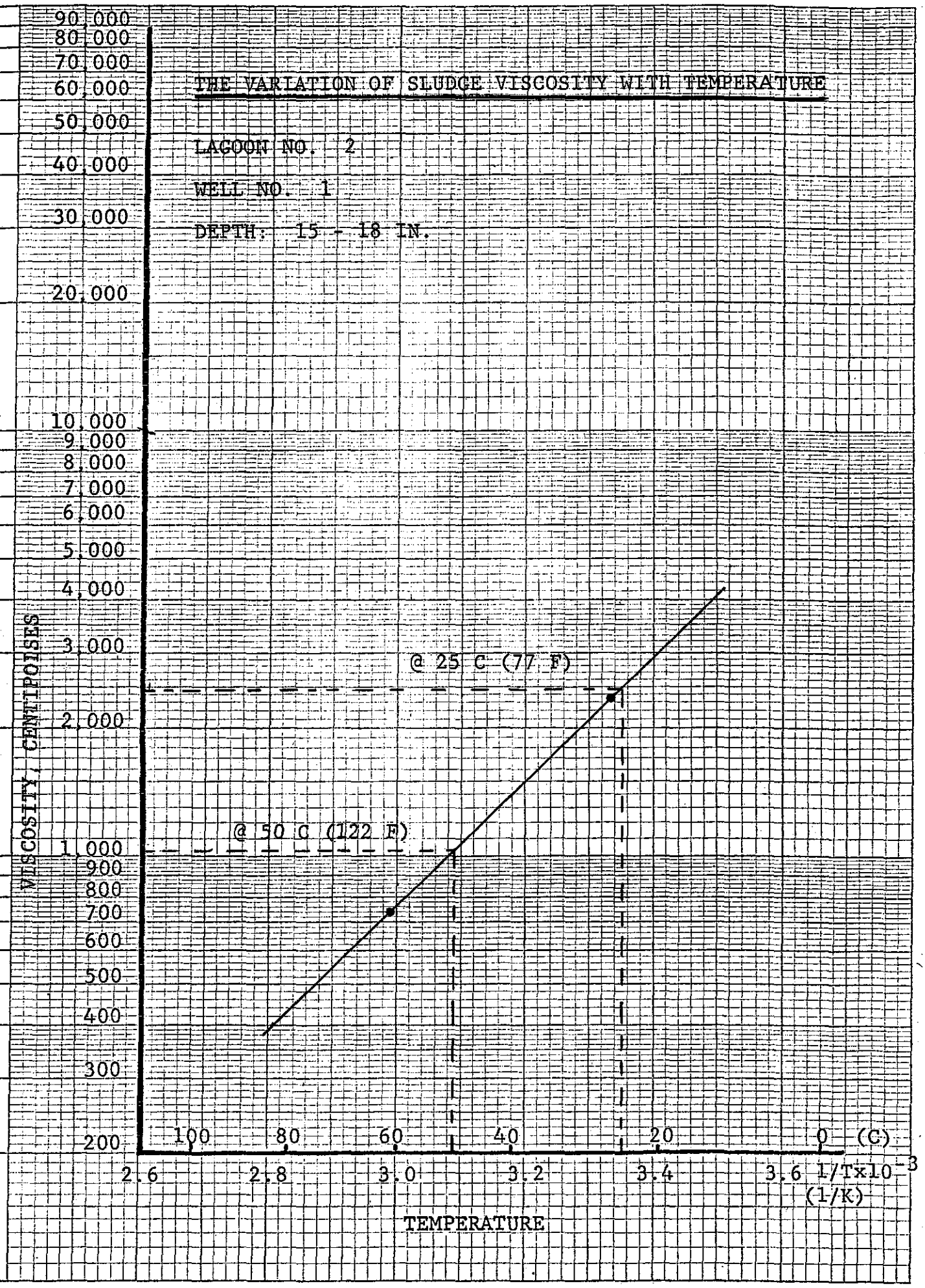
Semi-Logarithmic
Cycles x 10 to the inch



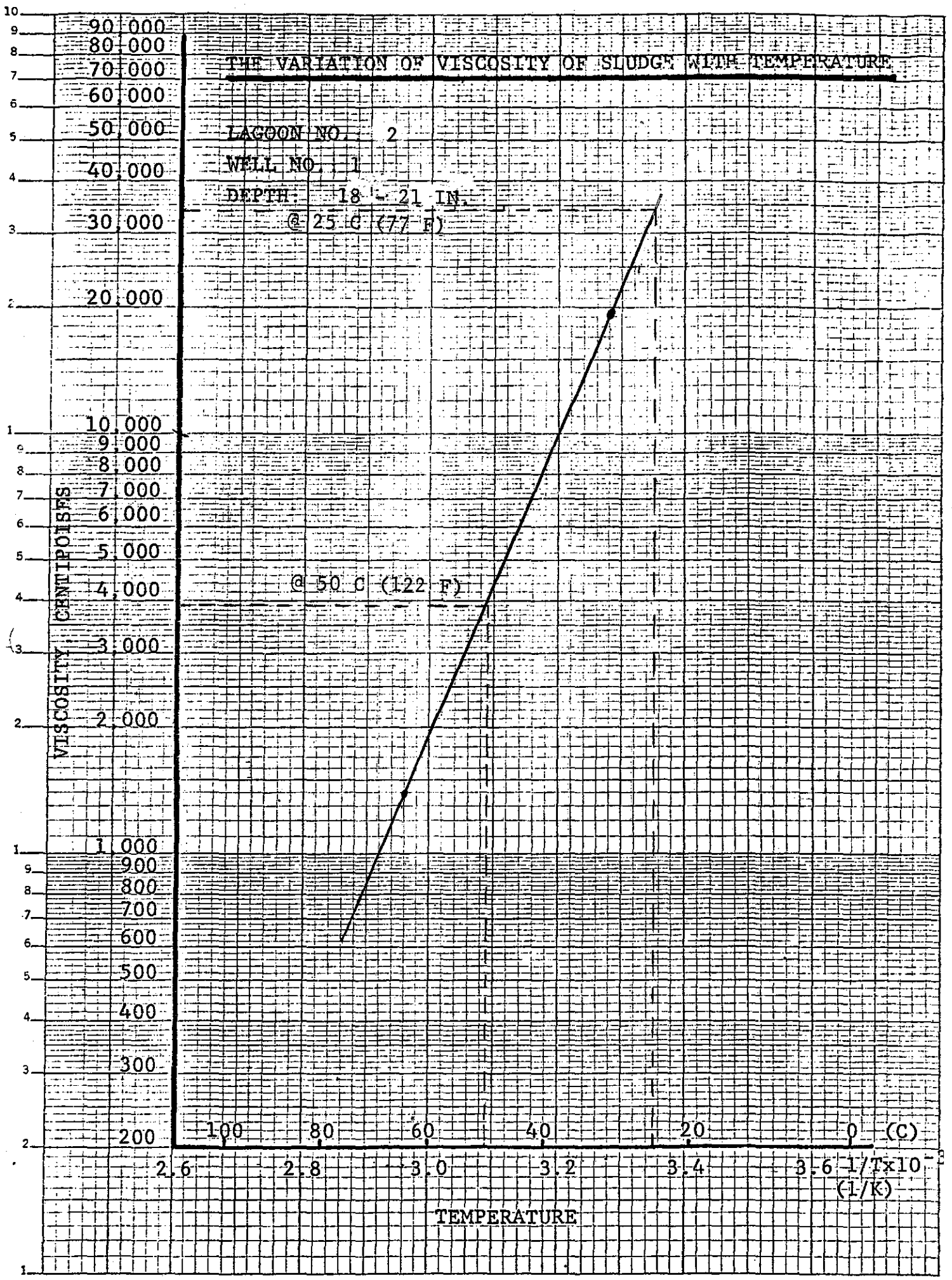
Semi-Logarithmic
Cycles x 10 to the inch



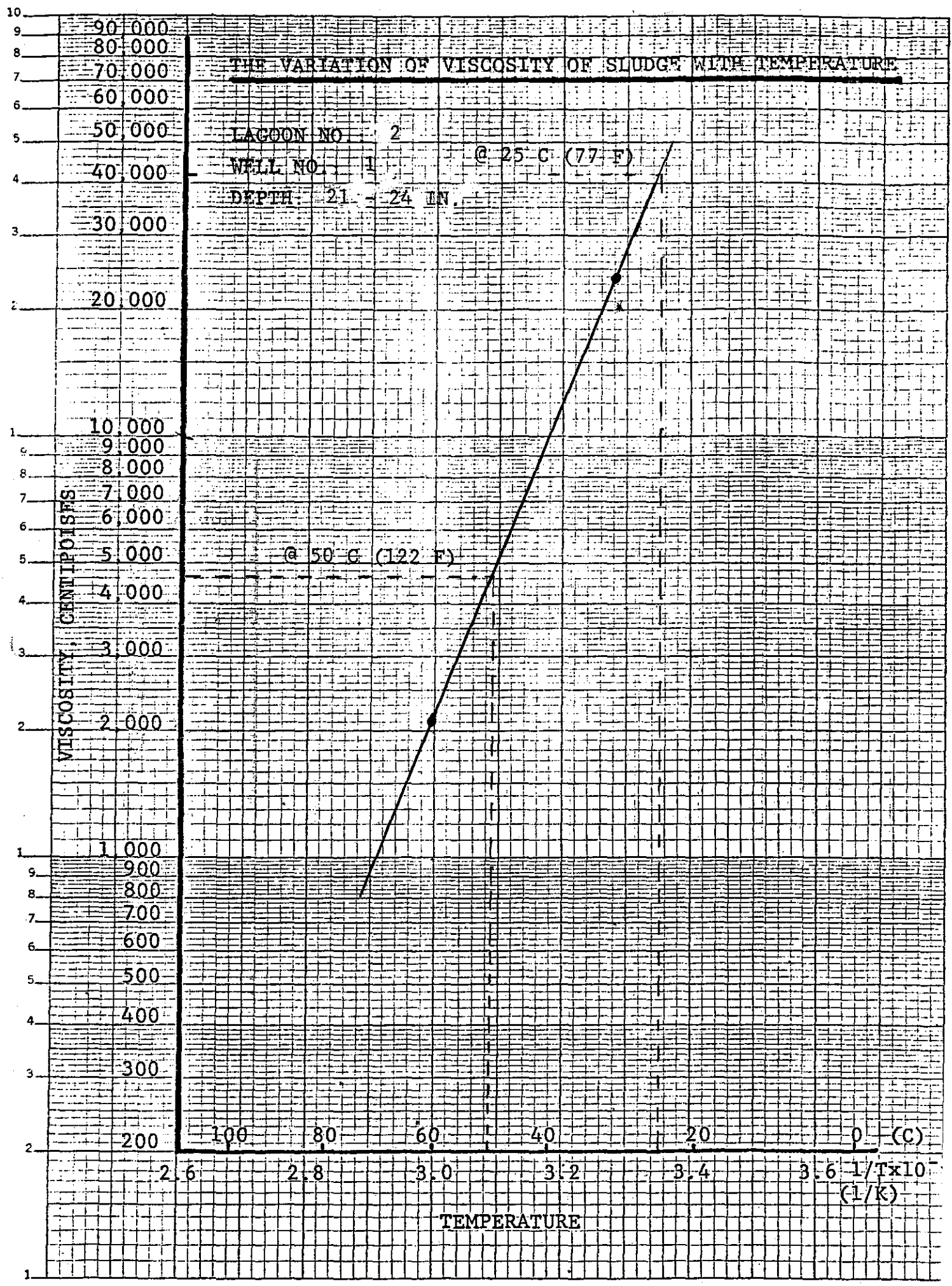
Semi-Logarithmic
Cycles x 10 to the inch



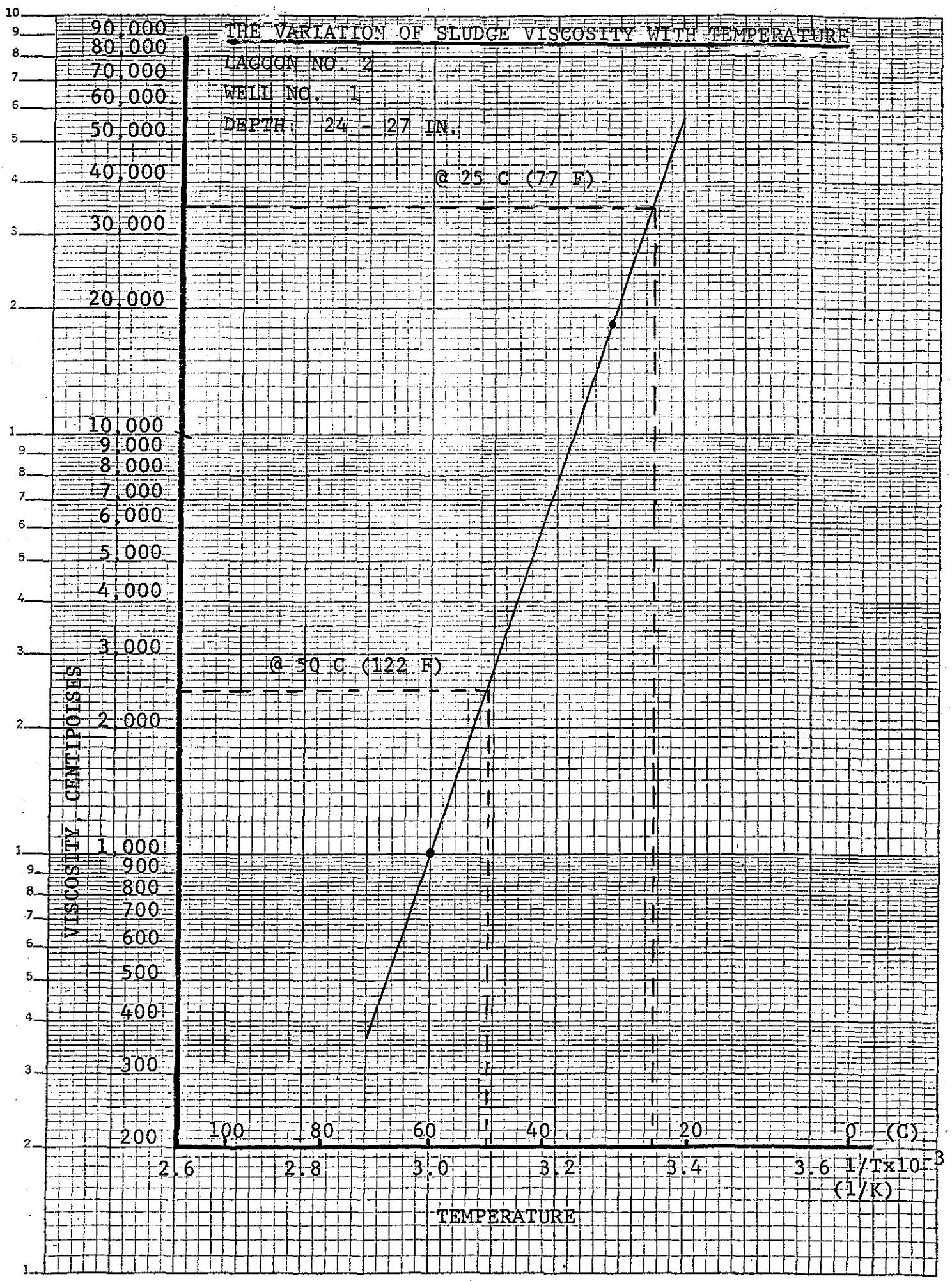
Semi-Logarithmic
5 Cycles x 10 to the inch



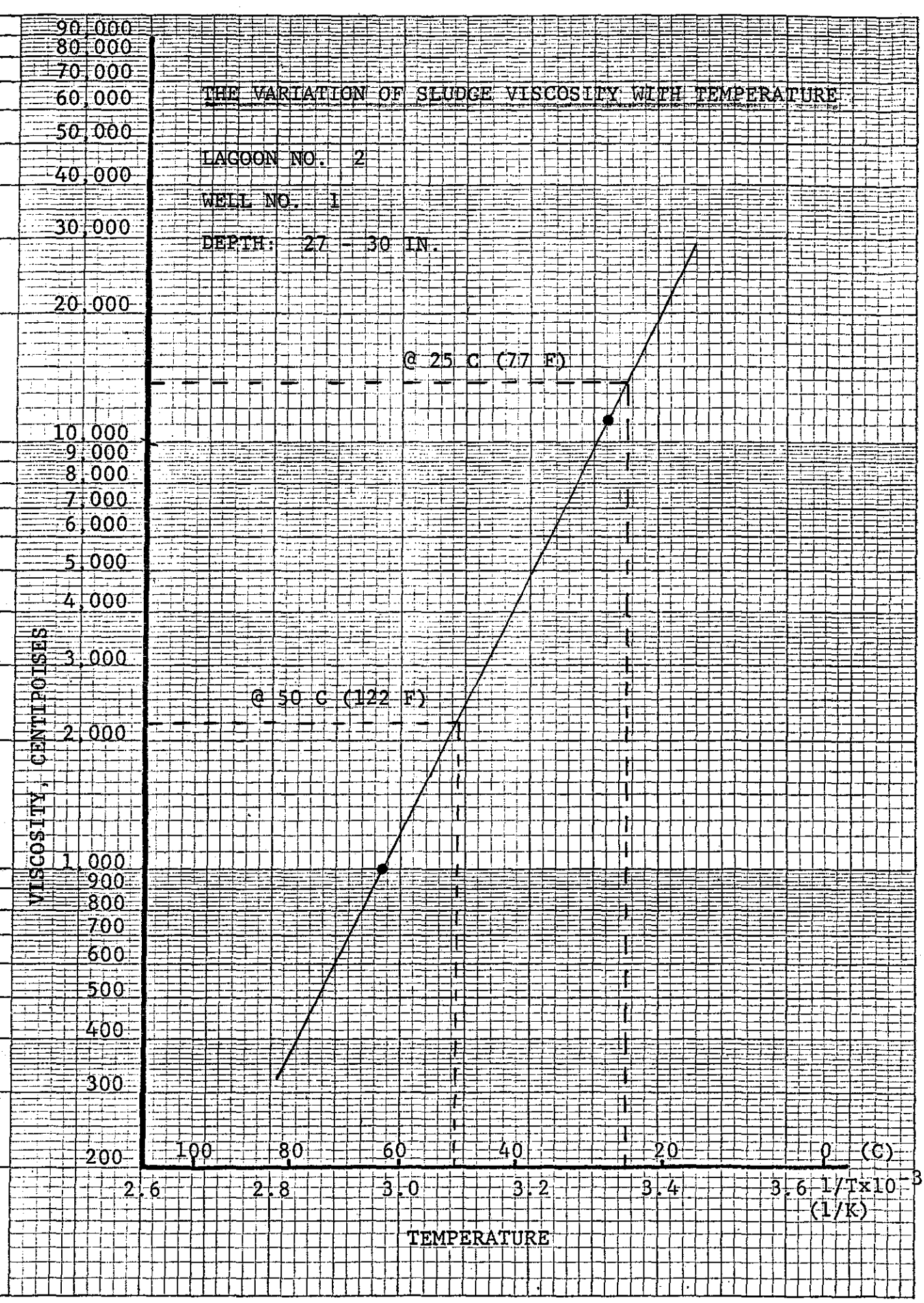
Semi-Logarithmic
3 Cycles x 10 to the inch



Semi-Logarithmic
3 Cycles x 10 to the inch



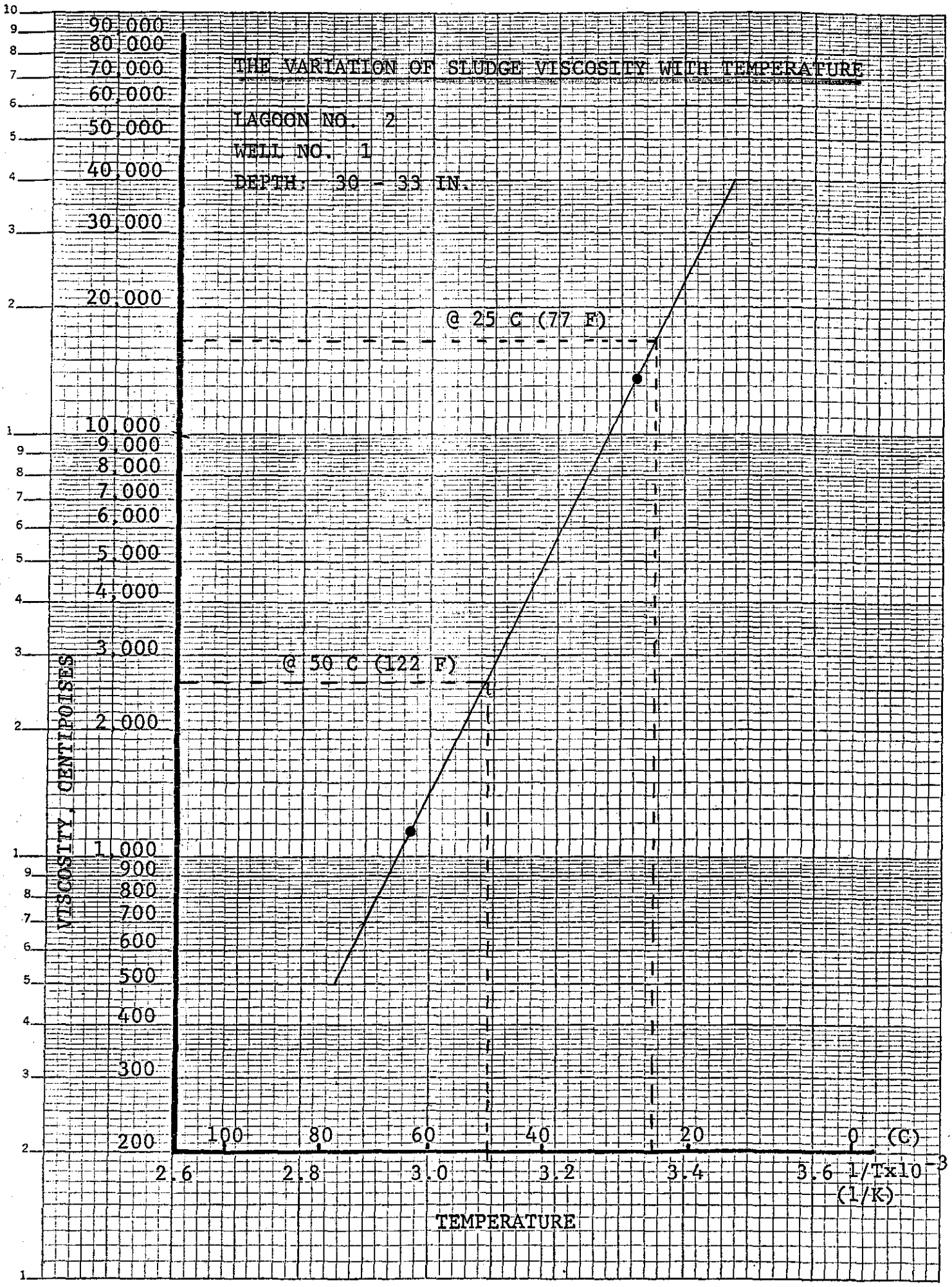
Semi-Logarithmic
cycles x 10 to the inch



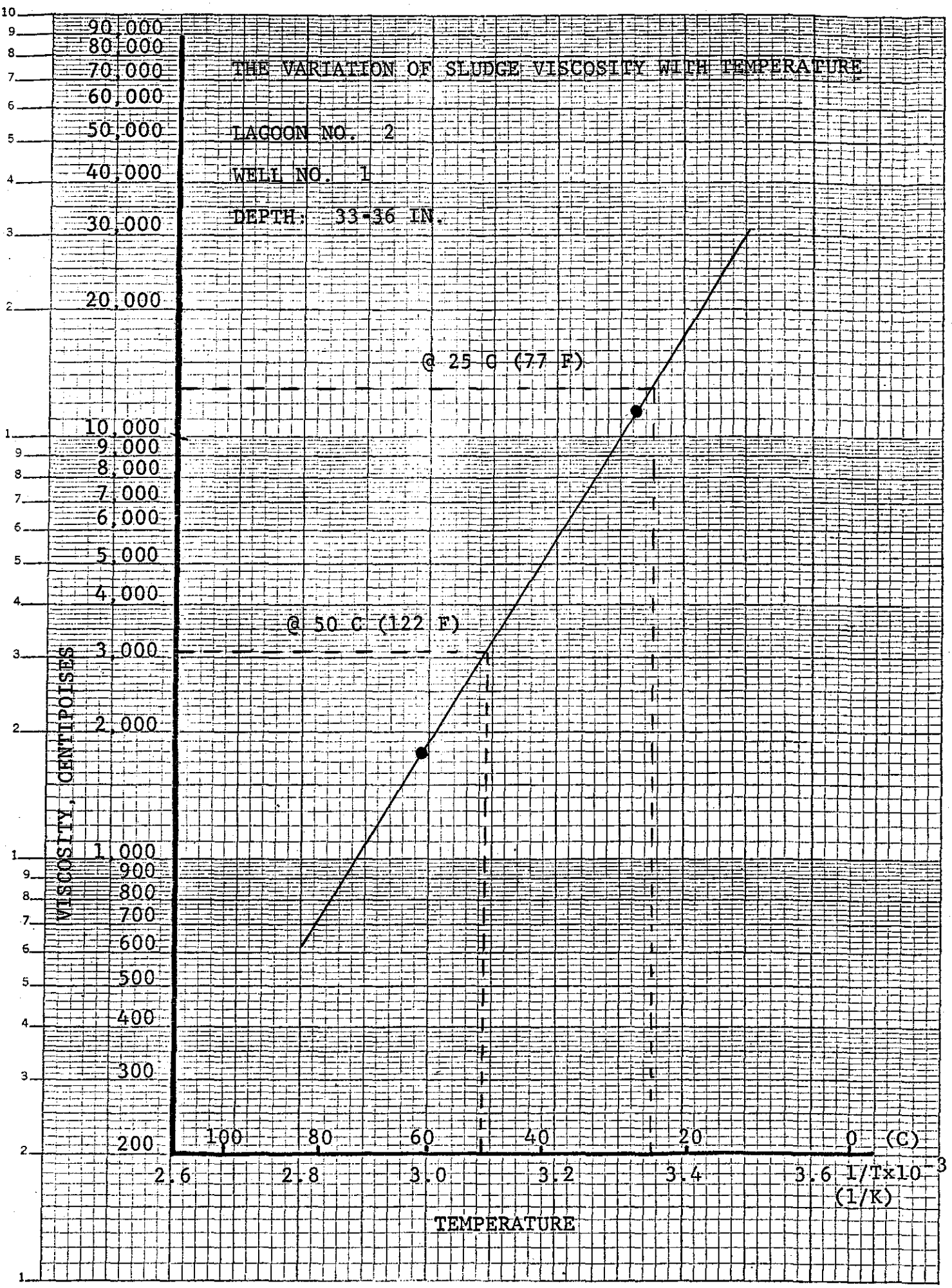
Semi-Logarithmic
Cycles x 10 to the inch

@ 28°C → 11 240 cps

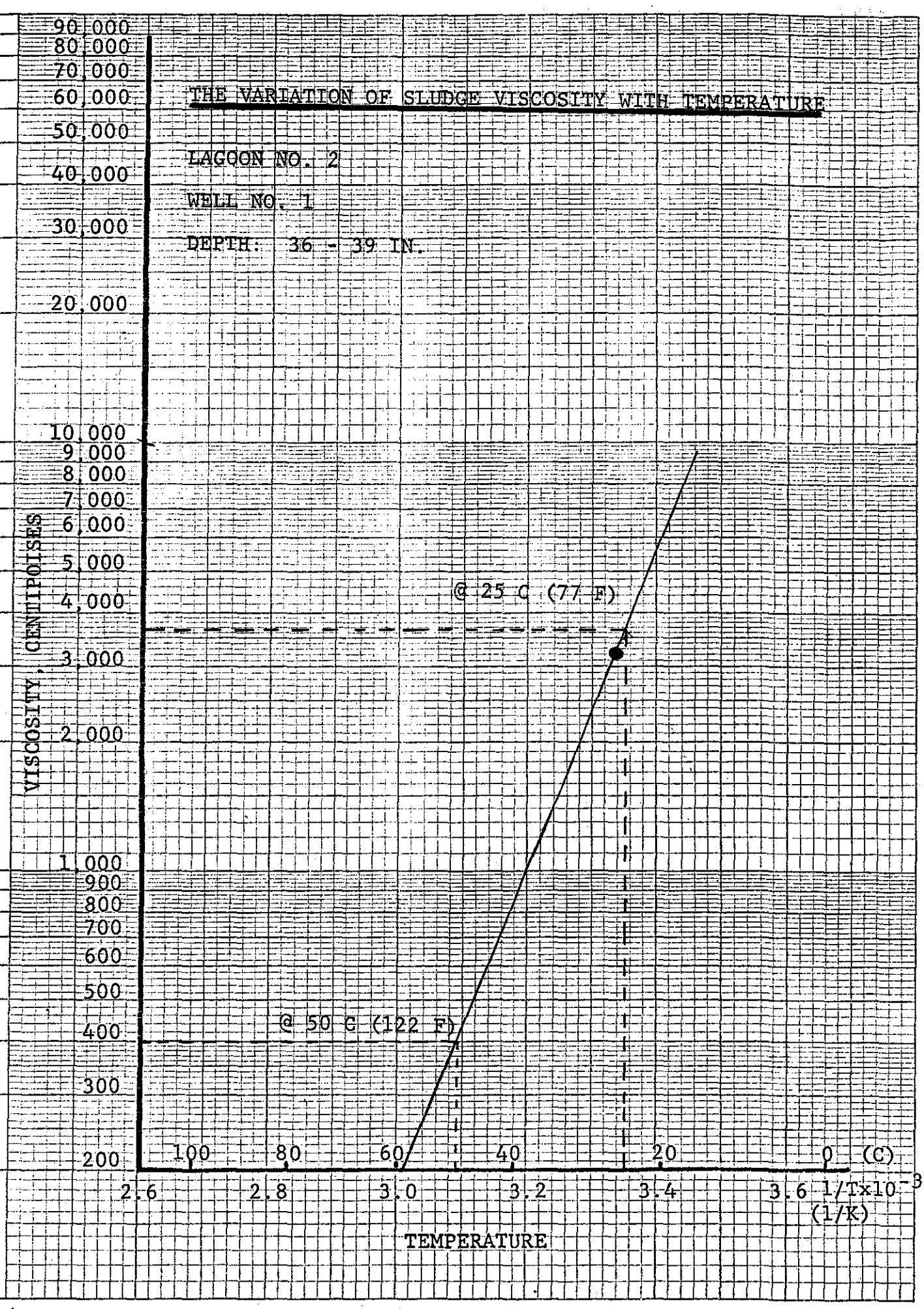
@ 63°C → 1000 cps



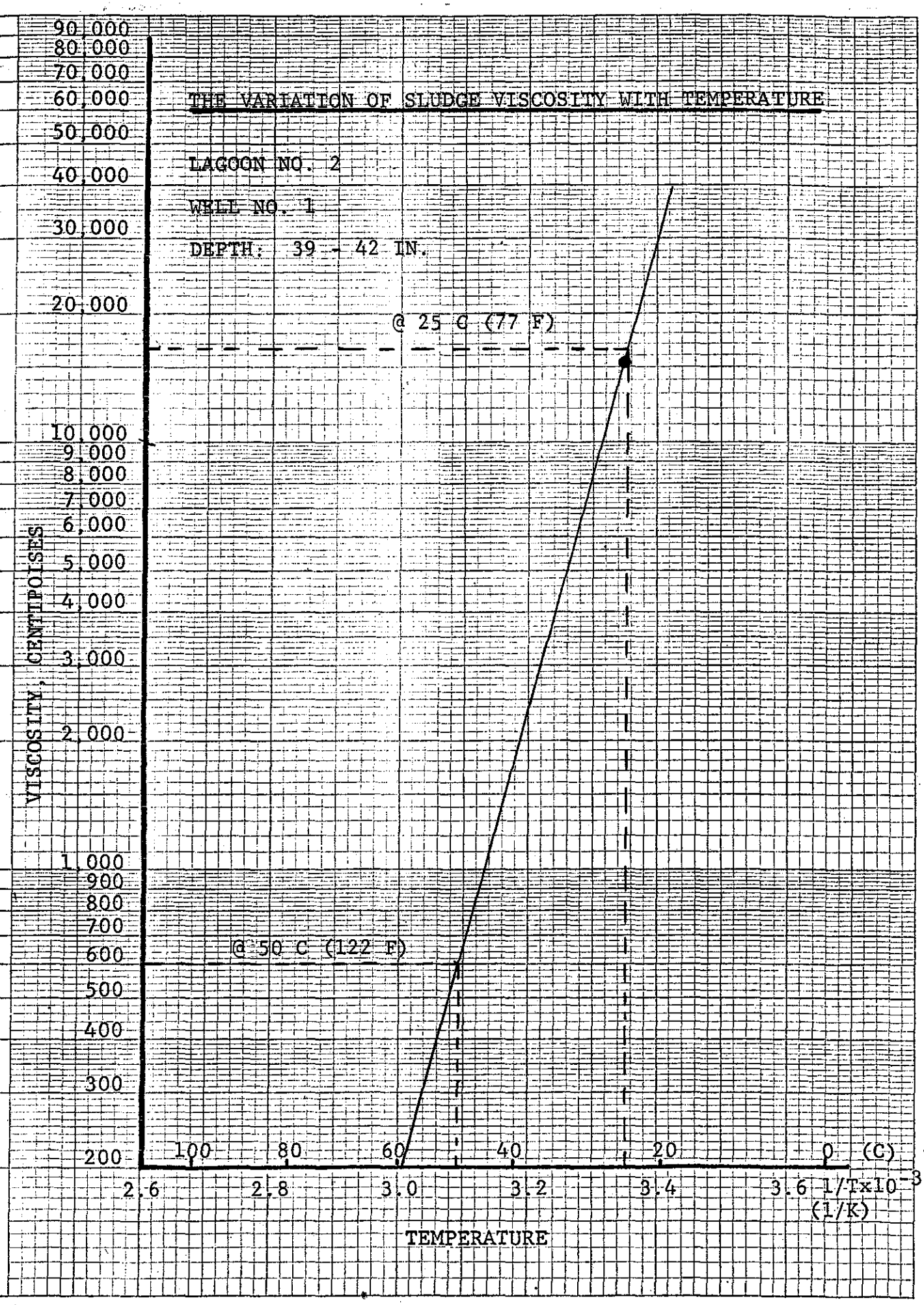
Semi-Logarithmic
Cycles x 10 to the inch



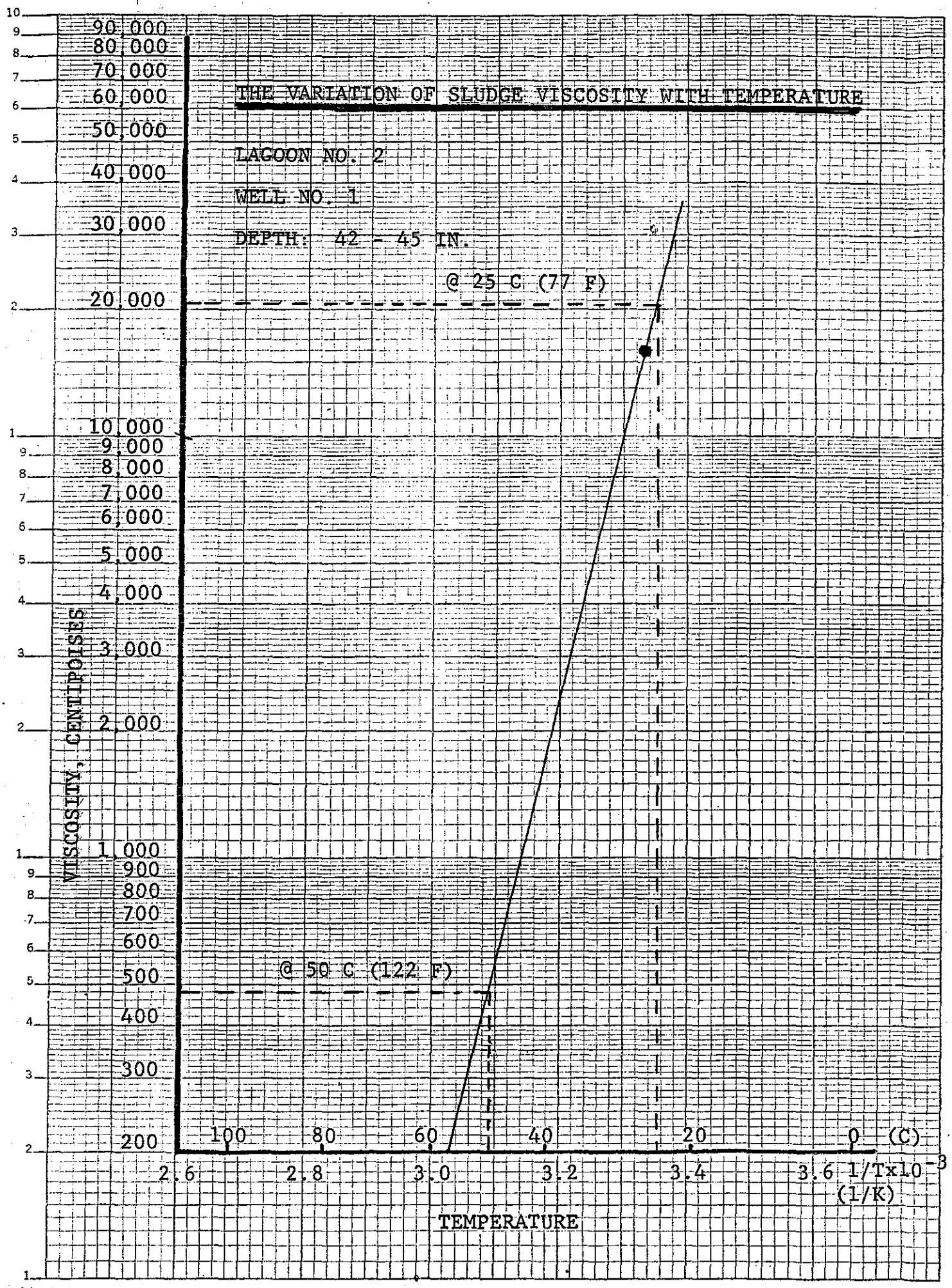
Semi-Logarithmic
Cycles x 10 to the inch



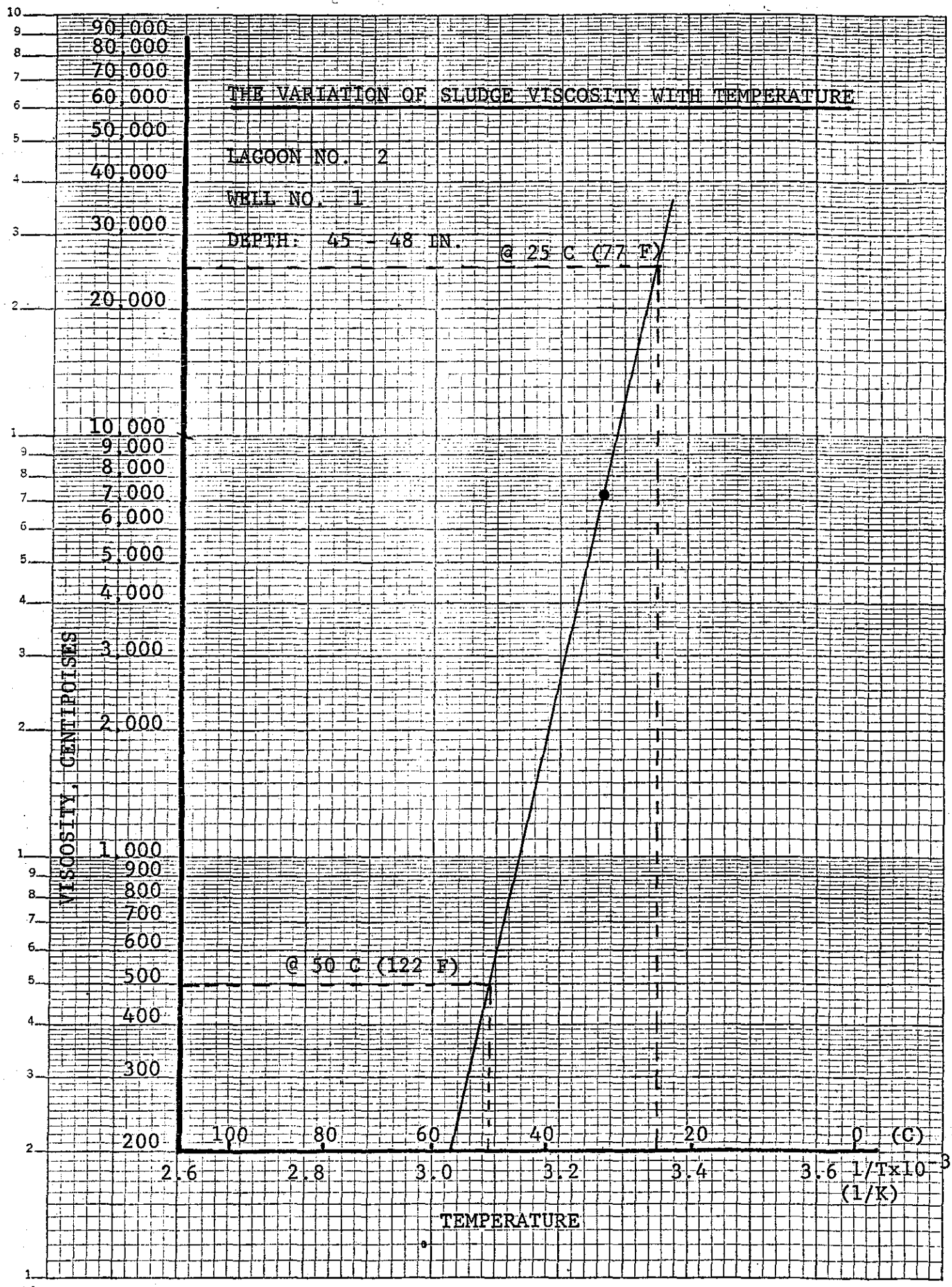
Semi-Logarithmic
Cycles x 10 to the inch



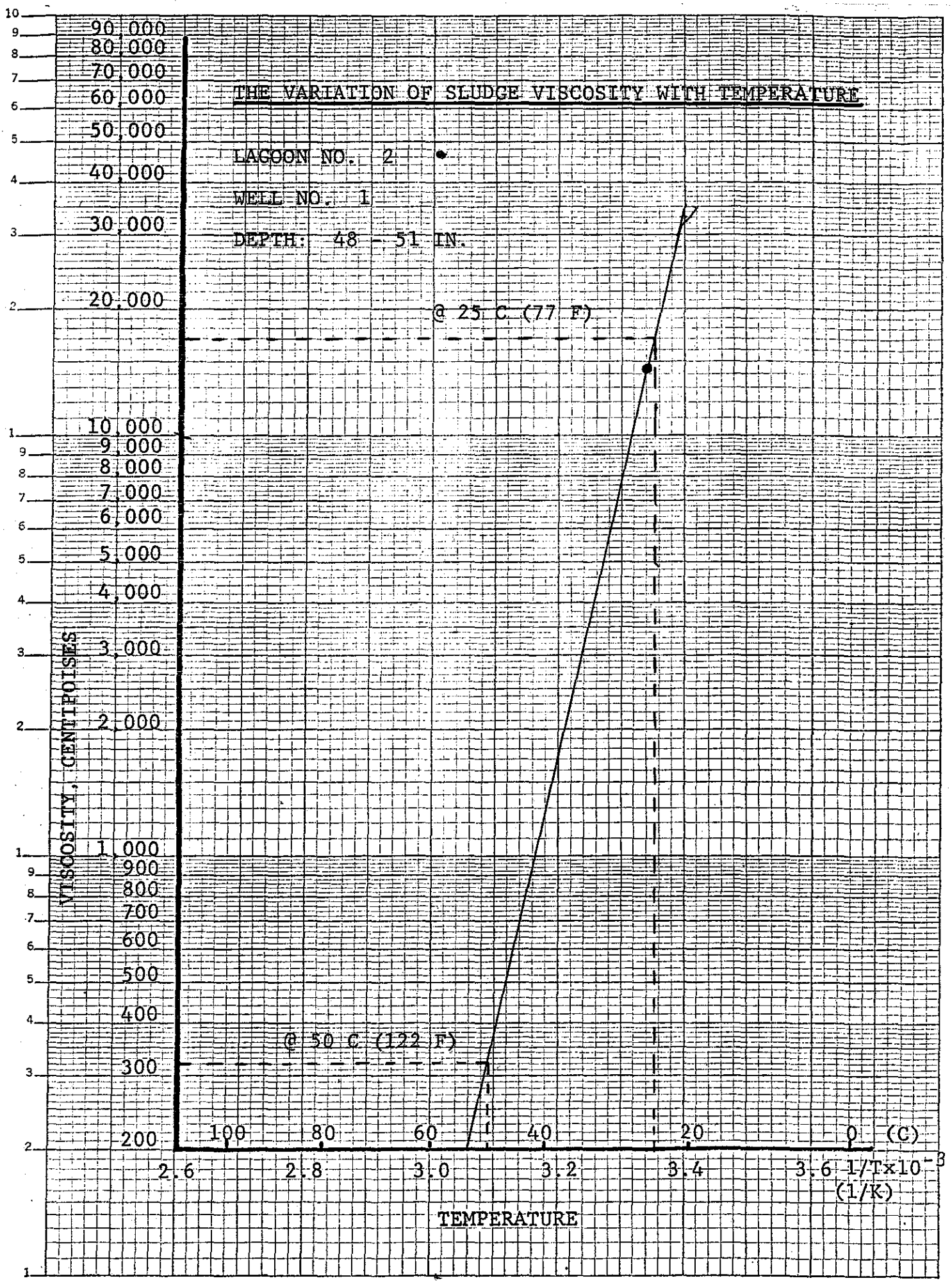
Semi-Logarithmic
Cycles x 10 to the inch



Semi-Logarithmic
Cycles x 10 to the inch



Semi-Logarithmic
ycles x 10 to the inch



Semi-Logarithmic
Cycles x 10 to the inch