Dr. I. Haugh
Chief Geologist
993 Century Street

July 22, 1974

Dr. H. McCabe
Geological Survey Section
993 Century Street

EBOR FIELD (NORTHEAST PART)

The following is in response to your request for information regarding:

(a) The possibility of deepening the northeast Ebor wells (Henderson) to the Crinoidal.
(b) The possibility of infill drilling of the present 80 acre spacing.
(c) The possibility of extending the present producing area.

In summary:

(a) production from the underlying Daly crinoidal beds is possible, but the possibility is rather remote and is limited to wells up dip from the 1-35 and 7-35 wells.
(b) infill drilling is a definite possibility. There is no reason, geologically, for not infilling, but a decision would have to be made on more detailed reservoir engineering studies. The possible locations are 8-35-9-28 and 12-36-9-28.
(c) field extension is also a definite possibility since there is no suggestion as to any geological limits to accumulation, but a closer look at drilling and production costs vs. potential production, is necessary.

A review of the geology of the northeast part of the Ebor Field is attached.

Geology of the northeast part of the Ebor Field
(Sec. 35 and 36, Twp. 9, Rge. 29W)

STRATIGRAPHY: the producing interval for the northeast Ebor wells is the unnamed Upper Lodgepole beds, sometimes referred to as the Ebor zone. This zone lies stratigraphically above the Daly Member (Crinoidal) which is the principal producing zone in the Daly Field, one mile to the east. None of the northeast Ebor wells, however, has been drilled sufficiently deep to permit accurate correlations with the Daly Field. The deepest well (2-36-9-29) appears to have bottomed in the upper part of the Daly Member, about 10 feet above the "First Crinoidal" marker.

No correlatable lithologic or electric log markers can be defined in the northeast Ebor area, so the exact stratigraphic position of the producing (perforated) intervals cannot be correlated from well to well. The perforated intervals range from 4' to 48' below the Mississippian erosion surface, with the net thickness of perforated interval ranging from 12' to 32'. No relief at all is evident on the Mississippian erosion surface, other than the gentle regional dip to the southwest.

On the basis of the available core descriptions, almost all production is from the Dolomite-Anhydrite alteration zone at the top of the Mississippian. This contrasts markedly with the Daly Field, where production is from the Daly Member below the zone of alteration. The available core data show the alteration zone to range from <34 feet to >58 feet in thickness.

Elevation of the gross producing (perforated) zone ranges from -824' to -894'.

If tentative correlations of the 2-36 and 5-36 wells are correct, the upper Lodgepole (Ebor) beds are ±112-125 feet thick in the northeast part of

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the Ebor field, with the bottom of the producing interval occurring about 80 feet stratigraphically above the Daly First Crinoidal marker. Immediately to the east, in section 31 of the Daly Field, only 60 to 70 feet of Upper Lodgepole beds are present, indicating that truncation of the northeast Ebor producing beds must occur a short distance northeast of the present producing area. This truncation will determine the northeastward limit to accumulation in the Ebor Field.

Examination of Figures 10 and 11 of Publication 60-5 show that truncation of Ebor beds is possibly coincident with a structural flexure in the vicinity of the 1-30-9-28 well(the structurally lowest well on the flank of the Daly Field). The 1-30 well is the only hole in the Daly Field in which beds equivalent to the Ebor producing interval are present. Drill stem test of the Ebor zone gave good oil shows but produced salt water on swab tests from an interval structurally lower than the Ebor area (-919-934).

STRUCTURE: as indicated previously, correlation of markers within the producing area is not possible, so it not possible to determine the detailed structure within the field area. Tentative correlations for the 2-36 and 5-36 wells suggest a "normal" structural position, reflecting only the regional dip to the southwest. There is no evidence for any structural control of oil accumulation.

PRODUCTION: production is rather variable and erratic; but some generalizat-tions can be made. The two "structurally" lowest wells (re Mississippian erosion surface), with the lowest perforated intervals, show moderate to active water drive. In particular, the 7-35 well shows the highest initial water cut, and continuous high gross production with a fairly rapid increase in water cut. This suggests proximity to bottom or edge water.

Except for these two wells, all other northeast Ebor wells show a pronounced decrease in gross production, indicating low reservoir energy and an ineffective water drive. The increase in water cut is nil to moderate, and quite variable.

No effective oil/water interface can be defined for the northeast Ebor wells, but water cut can be said to increase below -870 feet, and downdip extension of the producing area to the southeast seems unlikely. It must be noted, however, that almost all of the Ebor Unit wells (sections 23 & 26) produce from below this elevation - as much as 75 feet below - and 3 of the 4 producers are producing clean oil (no water cut) from the same stratigraphic interval as northeast Ebor.

The control for oil accumulation is thus obscure, and the local pools such as Ebor, northeast Ebor, and West Butler may reflect purely local, isolated porsity and permeability "blobs" in the Ebor beds. The Ebor and northeast Ebor areas probably represent separate accumulations.

LIMITS OF OIL ACCUMULATION: as noted previously the up dip (northeast) limit of accumulation will be determined by truncation of the reservoir beds. Extrapolation of data from the Daly area indicates that truncation probably will occur a short distance northeast of the producing area, and extension of the producing area by more than one or two lsd in t-is direction is unlikely.

Extension to the southwest also seems unlikely because of the increase in water cut in this direction.

Extension to the northwest and southeast appears to be a reasonable possibility. The limits of extension will be defined purely by local porsity and permeability variations within the Ebor zone, and such variations are not predictable on the basis of any data presently available. Production data for wells to the northwest (13-36) suggest a decrease in productivity in this direction, so further development to the northwest might prove uneconomic. Productivity of

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wells to the southeast is relatively good, and shows the best potential for field extension, although even here a close examination of the economic potential will be necessary. In this connection, the feasibility of pressure maintenance by water flooding should be considered. Decline curves for the northwest Ebor wells appear quite comparable to wells in the Daly water flood area, suggesting that flooding could prove effective. Furthermore the low reservoir energy suggests that the present 80-acre spacing is insufficient and infill drilling on 40-acre spacing would be feasible. Studies of reservoir depletion etc. would be useful in clarifying this point.

DEEPER PRODUCTION: the possibility exists for production from the stratigraphically lower beds, of the Daly Member. None of the northeast Ebor wells have been drilled deep enough to intersect the Daly Member. Previous estimates of the elevation of the oil (water) interface on the southwest flank of the Daly Field indicated an effective interface at about -930 feet on the Crinoidal marker. No production had been obtained from any Daly Field wells where the elevation of the Crinoidal marker was less than approximately-930 feet.

More recently, however, local production has been obtained from wells with crinoidal elevations as low as -950(eg. sec. 10-9-28). Gross production rates for these wells is high (up to 400 BPD) with an active water drive and fairly rapid water encroachment.

If tentative correlations are correct, and the elevation on the crinoidal marker in section 36 of the Ebor Field is -932'to -956' crinoidal production is a possibility. However, the high water cut and rapid water encroachment in the adjacent Daly Field wells in sections 30 and 31 (elevation +912') suggests that the chances of economic production from Daly crinoidal beds in the northeast Ebor area are slight.

SUGGESTIONS: the problems involved in cost of deepening one of the existing wells to test the deeper crinoidal beds, would seem to be unwarranted in view of the limited possibilities. However, any new wells drilled, particularly in an up-dip location should be drilled deep enough to test the crinoidal beds and determine more accurately the local structure.

Although extension of the field area is possible, the best bet would appear to be drilling of an infill well or wells, such as 8-35 and 12-36. The producers surrounding the 8-35 location are somewhat better than those around the 12-36 location, so the former location probably has the best economic potention. The 12-36 location, however, is potentially higher a structure than 8-35 and would be a better test of the Daly Crinoidal beds. On balance there is little to choose between the two locations. Both could benefit from any pressure maintenance effect from the 9-35 SWD well.

[The 7-36, 3-36, and 4-36 are also potential extension/infill wells but are not adjacent to Henderson wells (ie 1-35, 7-35, 11-36 and 13-36)].

RMcC/vh

Province of Manitoba
Department of Mines, Resources and Environmental Management
Mines Branch

Geological Survey Section
993 Century Street
Winnipeg, Manitoba
R3H 0W4

August 15, 1974.

Dowell of Canada Ltd.
205 Bank of Canada Building
404 - 6th Avenue S.W.
Calgary, Alberta
T2P 0R9

Attention: Mr. Al Scales

Dear Mr. Scales:

Re: Ebor Field Core Samples

I am forwarding under separate cover core samples for the Ebor 11-36-9-29 and 13-36-9-29 wells. A list of samples is attached. Inasmuch as the lithology is quite variable, I am sending three samples for the 11-36 well, and two samples for the 13-36 well. Samples 1, 2, 4 and 5 were chosen so as to correspond to analyzed intervals in which the porosity and permeability for the samples is known. Also, all four samples are from producing (perforated) intervals. All four of these samples are dolomite with minor anhydrite. Sample No. 3 from the 11-36 well is from the calcareous zone in the lower part of the core. The calcareous section starts at about 2584.5', but was not perforated.

If any samples remain after testing, please return them to the Mines Branch, to my attention. If further samples, or information regarding the samples, is required please do not hesitate to contact me.

Yours very truly,

H. R. McCabe

HRM/hf
Encl.

p.c.: Mr. Clare Moster
Acting Chief Petroleum Engineer

Mr. Don Henderson
Hendy's Production and Management Ltd.
Box 255
Virden, Manitoba
R0M 2C0

pc. of core analyses to Don Hendy

EBOR CORE SAMPLES

Sample #1
- Ebor 11-36-9-29
- Interval: 2554' - 2554.3'
- Core analysis sample number 3
- Dolomite with vertical anhydrite stringer, fair pinpoint porosity, some relict stain

Sample #2
- Ebor 11-36-9-29
- Interval: 2567.9' - 2568.9'
- Core analysis sample number12
- Dolomite, slight pinpoint porosity, some relict stain

Sample #3
- Ebor 11-36-9-29
- Interval: 2594'
- Not analyzed
- Dolomitic limestone, oil stained, mottled, very fine intergranular porosity

Sample #4
- Ebor 13-36-9-29
- Interval: 2555.9' - 2556.4'
- Core analysis sample #2
- Dolomite, patchy oil stain, fair pinpoint to fine intergranular porosity

Sample #5
- Ebor 13-36-9-29
- Interval: 2567.5' - 2568.1'
- Core analysis sample #13
- Dolomite, mottled grey to pinkish, slight patchy relict oil stain after testing, fair pinpoint to fine intergranular porosity

Note: Sample intervals have been correlated with intervals reported for core analyses.

11-36-9-29

CORE LABORATORIES-CANADA LTD.
CALGARY ALBERTA

Company - PARADISE PETROLEUMS LTD.
Well - PARADISE NORTH EBOR 11-36-9-29
Field - EBOR AREA, MANITOBA
Location -- LSD 11-36-9-29 W1

Date Report - FEBRUARY 15, 1965
Formation - MISSISSIPPIAN
D. Fluid - GYP BASE
Analysis - FULL DIAMETER

File - CNP-3-3727
Analysts - DB DH
Core - DIAMOND

CORED INTERVAL 2540' - 2595'

CORE NO. 1 2540' - 2595' (Rec. 54.7')

SAMPLE NUMBER	DEPTH REPRESENTED FEET	FOOTAGE REPRESENTED	PERMEABILITY TO AIR HORIZONTAL K MAX	PERMEABILITY TO AIR HORIZONTAL K 90°	PERMEABILITY TO AIR VERTICAL	POROSITY PER CENT	POROSITY X FEET	DENSITY BULK	DENSITY GRAIN	VISUAL EXAMINATION
-	2540.0-2550.0	10.0	-	-	-	-	-	-	-	Not received
-	2550.0-2551.5	1.5	-	-	-	-	-	-	-	Dense, No stain
1	2551.5-2552.3	0.8	16.	14.	2.1	10.7	8.56	2.45	2.75	1, Few PPV, Anhyd.
2	2552.3-2553.1	0.8	0.57	0.57	0.36	11.0	8.80	2.53	2.85	Intergran, Few PPV, Annyd,V.
SS1	2553.1-2553.5	0.4	1.3	0.4	0.2	6.3	2.52	-	-	Intergran, Anhyd.Few PPV
-	2553.5-2554.0	0.5	-	-	-	-	-	-	-	Dense, No stain
3	2554.0-2554.3	0.3	3.6	0.82	0.09	11.9	3.57	2.44	2.77	Intergran, Anhyd, V.F.
-	2554.3-2554.5	0.2	-	-	-	-	-	-	-	Dense, No stain
4	2554.5-2555.1	0.6	1.4	1.3	<0.01	10.1	6.06	2.50	2.78	1, Few PPV, A, Shale brks
-	2555.1-2556.1	1.0	-	-	-	-	-	-	-	Dense, No stain
SS2	2556.1-2556.5	0.4	9.5	9.5	1.4	10.0	4.00	-	-	Intergran, Anhyd.
5	2556.5-2557.1	0.6	5.7	1.6	<0.01	8.6	5.16	2.60	2.84	Intergran, Anhyd.
6	2557.1-2557.8	0.7	0.93	0.41	<0.01	8.3	5.81	2.61	2.85	Intergran, Anhyd, V.F.
-	2557.8-2558.8	1.0	-	-	-	-	-	-	-	Dense, No stain
7	2558.8-2559.4	0.6	2.6	1.8	0.39	9.9	5.94	2.52	2.80	Intergran, Anhyd.
-	2559.4-2559.8	0.4	-	-	-	-	-	-	-	Dense, No stain
SS3	2559.8-2560.0	0.2	137.	90.	88.	22.5	4.50	-	-	Intergranular
-	2560.0-2560.3	0.3	-	-	-	-	-	-	-	No stain, Dense

SAMPLE NUMBER	DEPTH REPRESENTED FEET	FOOTAGE REPRESENTED	PERMEABILITY TO AIR HORIZONTAL K MAX	HORIZONTAL K 90°	VERTICAL	POROSITY PER CENT	POROSITY X FEET	DENSITY BULK	DENSITY GRAIN	VISUAL EXAMINATION
CORE NO. 1 cont'd										
SS4	2560.3-2560.5	0.2	7.1	4.2	1.6	10.0	2.00	-	-	Intergran, Anhyd.
-	2560.5-2560.9	0.4	-	-	-	-	-	-	-	Dense, No stain
SS5	2560.9-2561.4	0.5	1.7	1.1	0.2	7.6	3.80	-	-	Intergran, Anhyd.
-	2561.4-2563.1	1.7	-	-	-	-	-	-	-	Dense, No stain
SS6	2563.1-2563.7	0.6	0.3	0.3	0.2	3.4	2.04	-	-	Intergran, Anhyd.
8	2563.7-2564.9	1.2	4.8	4.3	<0.01	10.8	12.96	2.50	2.81	Intergran, Few PPV, Anhyd.
-	2564.9-2565.4	0.5	-	-	-	-	-	-	-	Dense, No stain
9	2565.4-2566.0	0.6	2.1	2.1	<0.01	7.4	4.44	2.64	2.85	Intergran, Few PPV, Anhyd. Shale breaks
10	2566.0-2566.6	0.6	3.0	3.0	<0.01	8.3	4.98	2.48	2.71	Intergran, Few PPV, Anhyd.
11	2566.6-2567.5	0.9	1.3	0.79	<0.01	8.2	7.38	2.65	2.89	Intergran, Few PPV, Anhyd.
-	2567.5-2567.9	0.4	-	-	-	-	-	-	-	Dense, No stain
12	2567.9-2568.9	1.0	8.9	5.5	0.90	12.9	12.90	2.46	2.83	Intergran, V.F.
-	2568.9-2569.6	0.7	-	-	-	-	-	-	-	Dense, No stain
13	2569.6-2569.9	0.3	1.0	0.9	0.7	12.8	3.84	-	-	Intergran, Anhyd.
-	2569.9-2571.0	1.1	-	-	-	-	-	-	-	Dense, No stain
14	2571.0-2571.4	0.4	2.0	1.8	0.31	9.2	3.68	2.35	2.59	Intergran, Few PPV, V.F.
-	2571.4-2571.7	0.3	-	-	-	-	-	-	-	Dense, No stain
15	2571.7-2572.4	0.7	8.5	6.3	0.19	11.8	8.26	2.40	2.71	Intergran, Few PPV, Anhyd.
16	2572.4-2573.3	0.9	2.4	2.2	0.14	9.2	8.28	2.51	2.76	Intergran, Few PPV
17	2573.3-2574.5	1.2	3.7	2.7	0.44	12.6	15.12	2.43	2.79	Intergran, Few PPV, Anhyd.
-	2574.5-2574.8	0.3	-	-	-	-	-	-	-	Dense, No stain
SS7	2574.8-2575.8	1.0	0.3	0.3	<0.1	2.5	2.50	-	-	Intergran, Anhyd.
SS8	2575.8-2576.0	0.2	12.	11.	1.1	12.6	2.52	-	-	Intergran, Anhyd.
18	2576.0-2576.7	0.7	1.3	0.73	<0.01	5.3	3.71	2.63	2.77	Intergran, Anhyd, V.F.
19	2576.7-2577.8	1.1	0.16	0.14	<0.01	5.4	5.94	2.60	2.74	Intergran, Anhyd.
-	2577.8-2578.2	0.4	-	-	-	-	-	-	-	Dense, No stain
20	2578.2-2578.9	0.7	2.9	1.5	0.24	18.5	12.95	2.23	2.74	Intergran, shale brks, Anhy
-	2578.9-2579.4	0.5	-	-	-	-	-	-	-	Dense, No stain

13-36-9-29

CORE LABORATORIES-CANADA LTD.
CALGARY ALBERTA

Company - PARADISE PETROLEUMS LTD.
Well - PARADISE N EBOR PROV. 13-36-9-29
Field - EBOR, MANITOBA
Location - LSD 13-36-9-29 W1

Date Report - FEBRUARY 19, 1965
Formation - MISSISSIPPIAN
D. Fluid - GYP BASE
Analysis - FULL DIAMETER

File - CNP-3-3735
Analysts - DB PW GB
Remarks - DIAMOND CORES

SAMPLE NUMBER	DEPTH REPRESENTED FEET	FOOT. REPR.	PERMEABILITY TO AIR HORIZONTAL K MAX	K 90°)	VERTICAL	POROSITY PER CENT	POROSITY X FEET	DENSITY BULK	DENSITY GRAIN	VISUAL EXAMINATION
CORED INTERVAL 2544' - 2588'										
CORE NO. 1 2544' - 2588' (Rec. 43.9')										
-	2544.0-2554.7	10.7	-	-	-	-	-	-	-	Not received
1	2554.7-2555.6	0.9	5.7	1.1	0.29	8.2	7.38	2.57	2.81	VF. I. A. PPV.
-	2555.6-2555.9	0.3	-	-	-	-	-	-	-	Dense, no sample
2	2555.9-2556.4	0.5	25.	25.	14.	13.9	6.95	2.31	2.68	I. A. PPV.
3	2556.4-2557.0	0.6	1.8	1.6	0.10	11.3	6.78	2.62	2.95	I. A. few PPV.
-	2557.0-2557.4	0.4	-	-	-	-	-	-	-	Dense, no sample
4	2557.4-2558.5	1.1	21.	19.	0.15	9.6	10.56	2.42	2.67	VF. I. A. PPV.
-	2558.5-2558.7	0.2	-	-	-	-	-	-	-	Dense, no sample
5	2558.7-2559.6	0.9	3.1	2.4	0.07	7.7	6.93	2.53	2.74	I. A. few PPV.
-	2559.6-2559.9	0.3	-	-	-	-	-	-	-	Dense, no sample
6	2559.9-2560.4	0.5	15.	2.0	0.15	3.9	1.95	2.69	2.80	VF. I. few PPV. A.
7	2560.4-2561.1	0.7	5.0	4.8	0.91	17.1	11.97	2.42	2.93	I. few PPV.
SS1	2561.1-2561.4	0.3	2.1	1.7	1.6	6.8	2.04	-	-	I.
-	2561.4-2562.0	0.6	-	-	-	-	-	-	-	Dense, no sample
8	2662.0-2662.6	0.6	9.6	1.5	0.11	9.3	5.58	2.54	2.79	VF. I. PPV. A.
SS2	2562.6-2562.9	0.3	68.	67.	49.	21.2	6.36	-	-	I. PPV.
9	2562.9-2563.7	0.8	5.9	5.5	0.13	11.0	8.80	2.53	2.85	I. few PPV. A.
-	2563.7-2564.2	0.5	-	-	-	-	-	-	-	Dense, no sample
10	2564.2-2565.3	1.1	3.9	3.5	0.23	9.5	10.45	2.51	2.77	I. PPV.
-	2565.3-2565.6	0.3	-	-	-	-	-	-	-	Dense, no sample
11	2565.6-2566.3	0.7	3.0	1.2	1.2	10.2	7.14	2.51	2.79	I. few PPV.
12	2566.3-2567.1	0.8	2.3	2.2	0.19	9.5	7.60	2.50	2.77	VF. I. A. few PPV.VF.
-	2567.1-2567.5	0.4	-	-	-	-	-	-	-	Dense, no sample
13	2567.5-2568.1	0.6	3.6	2.6	0.07	11.0	6.60	2.47	2.77	I. few PPV.
-	2568.1-2568.5	0.4	-	-	-	-	-	-	-	Dense, no sample

DEPARTMENT OF MINES, RESOURCES AND ENVIRONMENTAL MANAGEMENT

ROUTE SLIP

TO	FROM
TO	FROM

- ☐ For your approval or revision
- ☐ For your information
- ☐ Please take action
- ☐ Extracts of minutes for your information and action
- ☐ Please draft reply for signature of
- ☐ Reply direct with copy to me
- ☐ Please supply data for my reply
- ☐ Return with comments and/or recommendations
- ☐ Investigate and report
- ☐ Please sign
- ☐ Please return
- ☐ Please see me
- ☐ Please phone

Date

Subject

Message

Re: Ebor Field.

Decline curves for adjacent

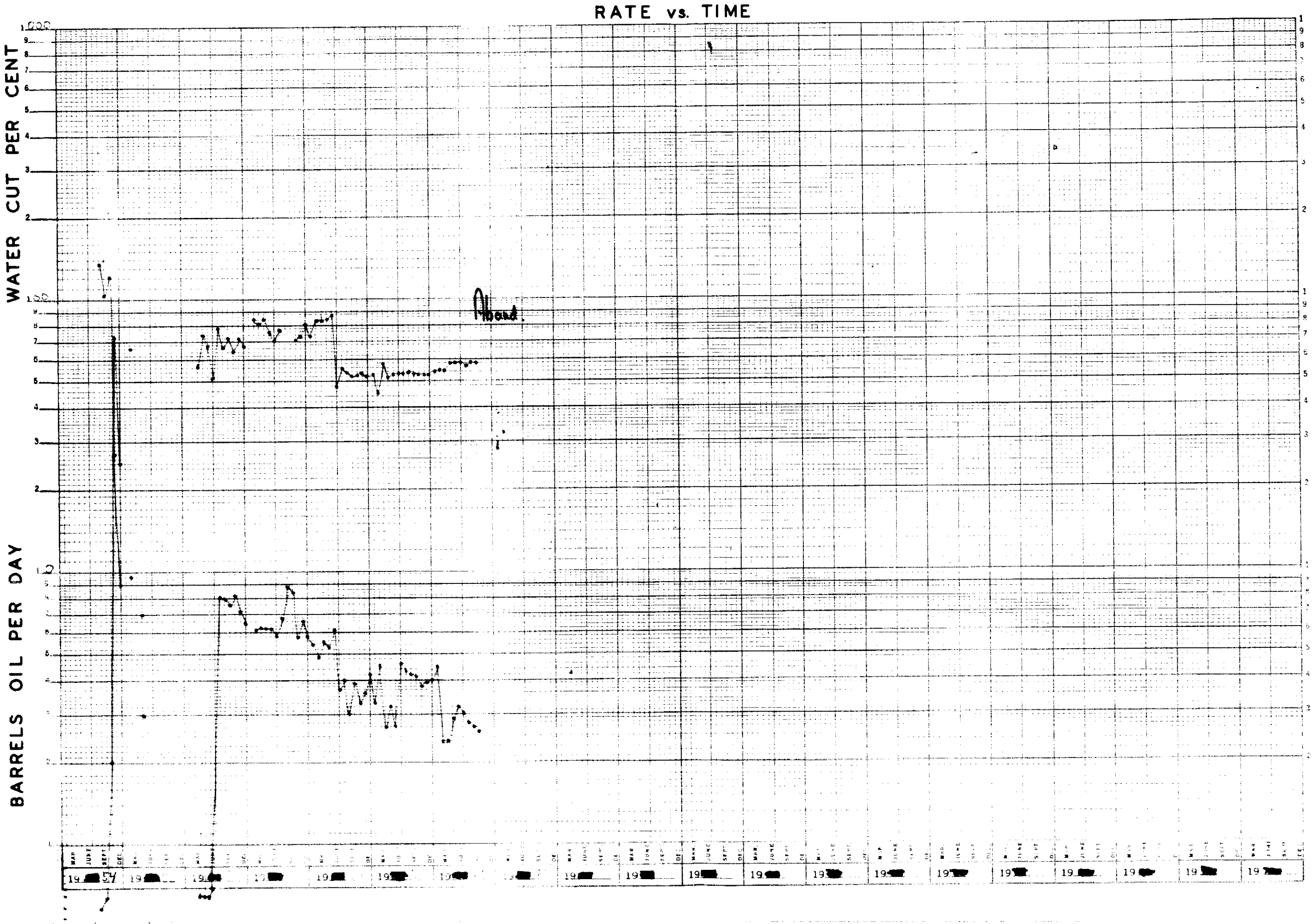
Daly Field wells.

and Sprung Corner Wells - sec 10

just SW. of Daly Fld. - lowest prod.

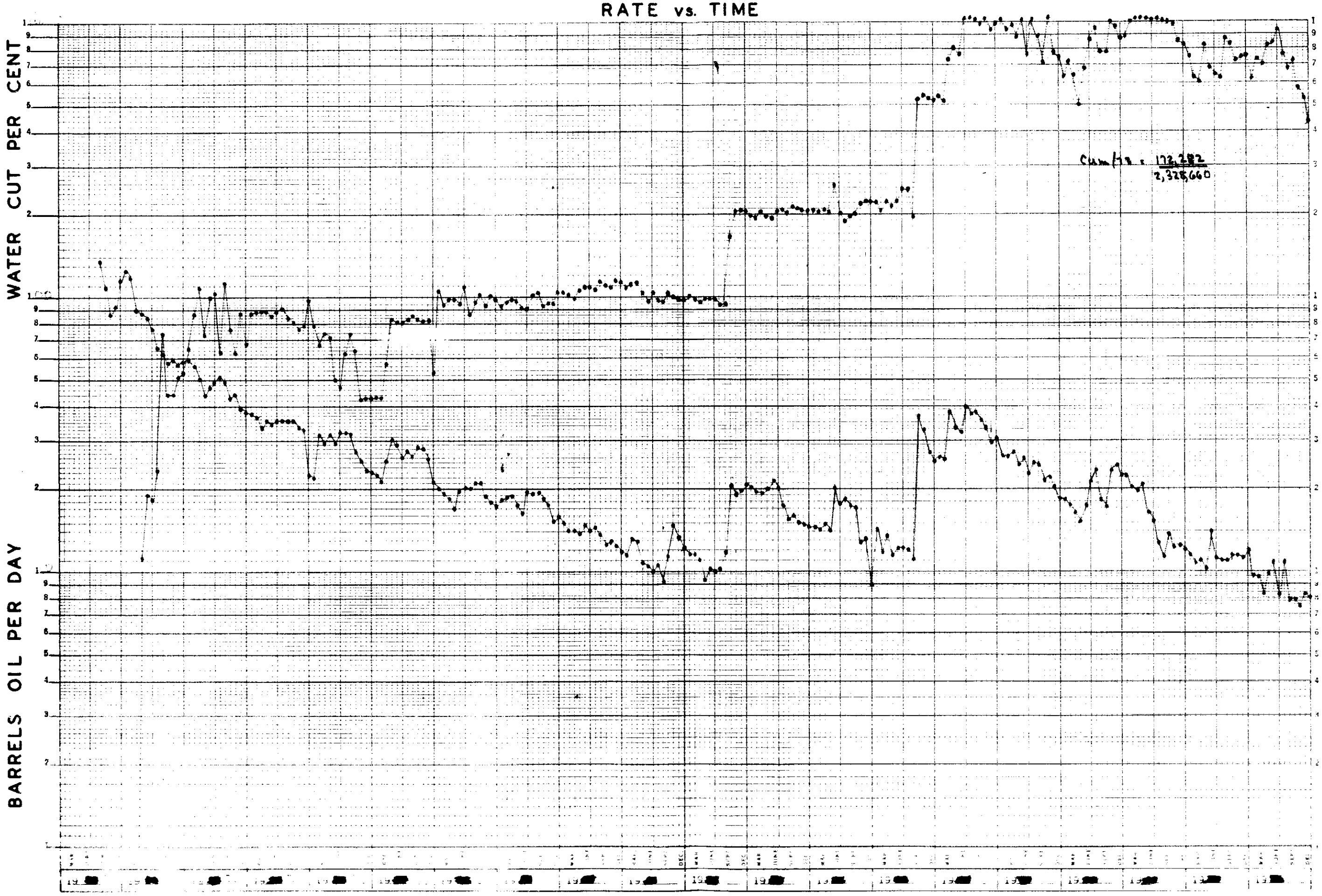
MNR-A-94

Use reverse side if necessary

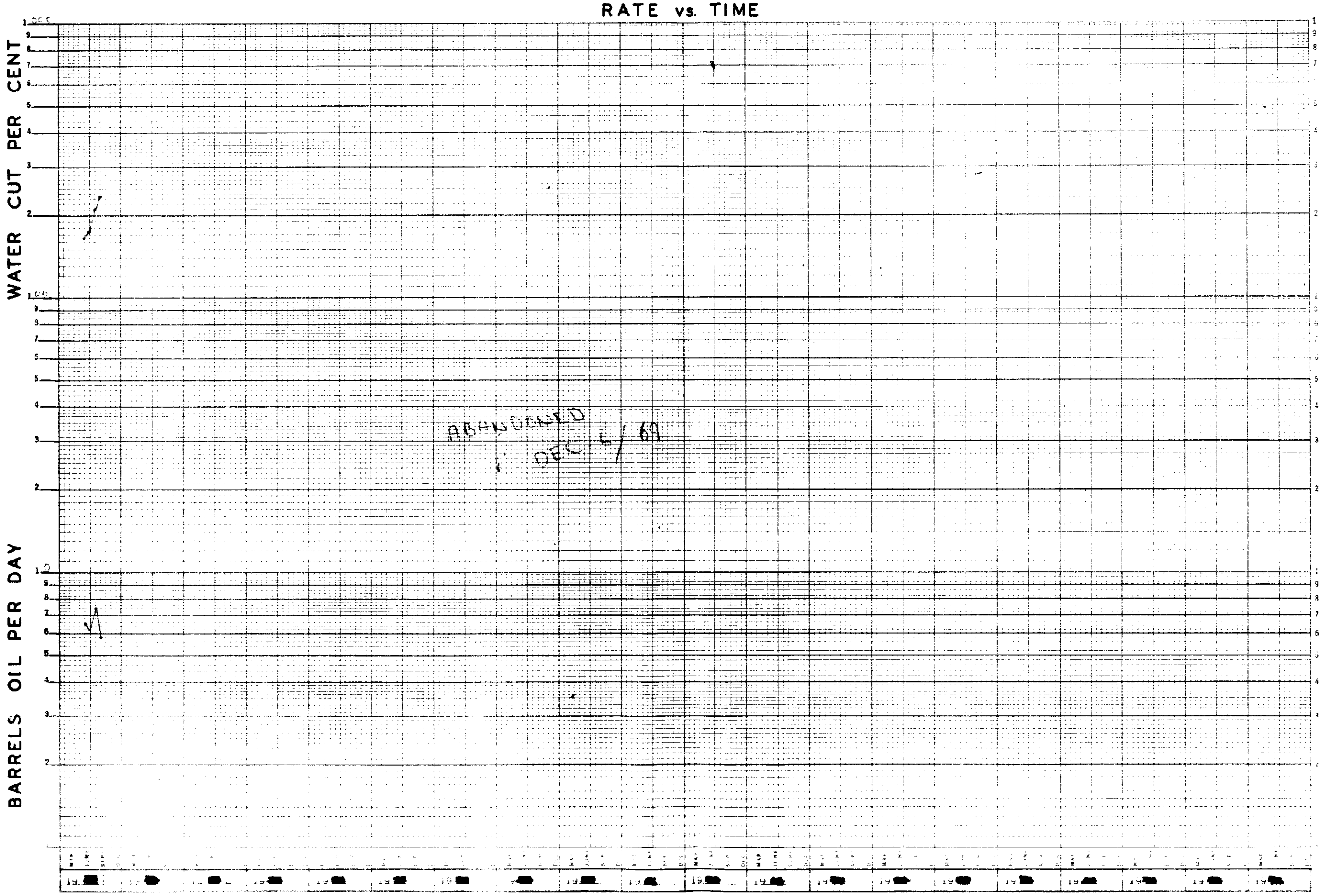

RATE vs. TIME
WATER CUT PER CENT
BARRELS OIL PER DAY
1,000
100
10
1
Aband.
MAR
JUNE
SEPT
DEC
19[redacted]

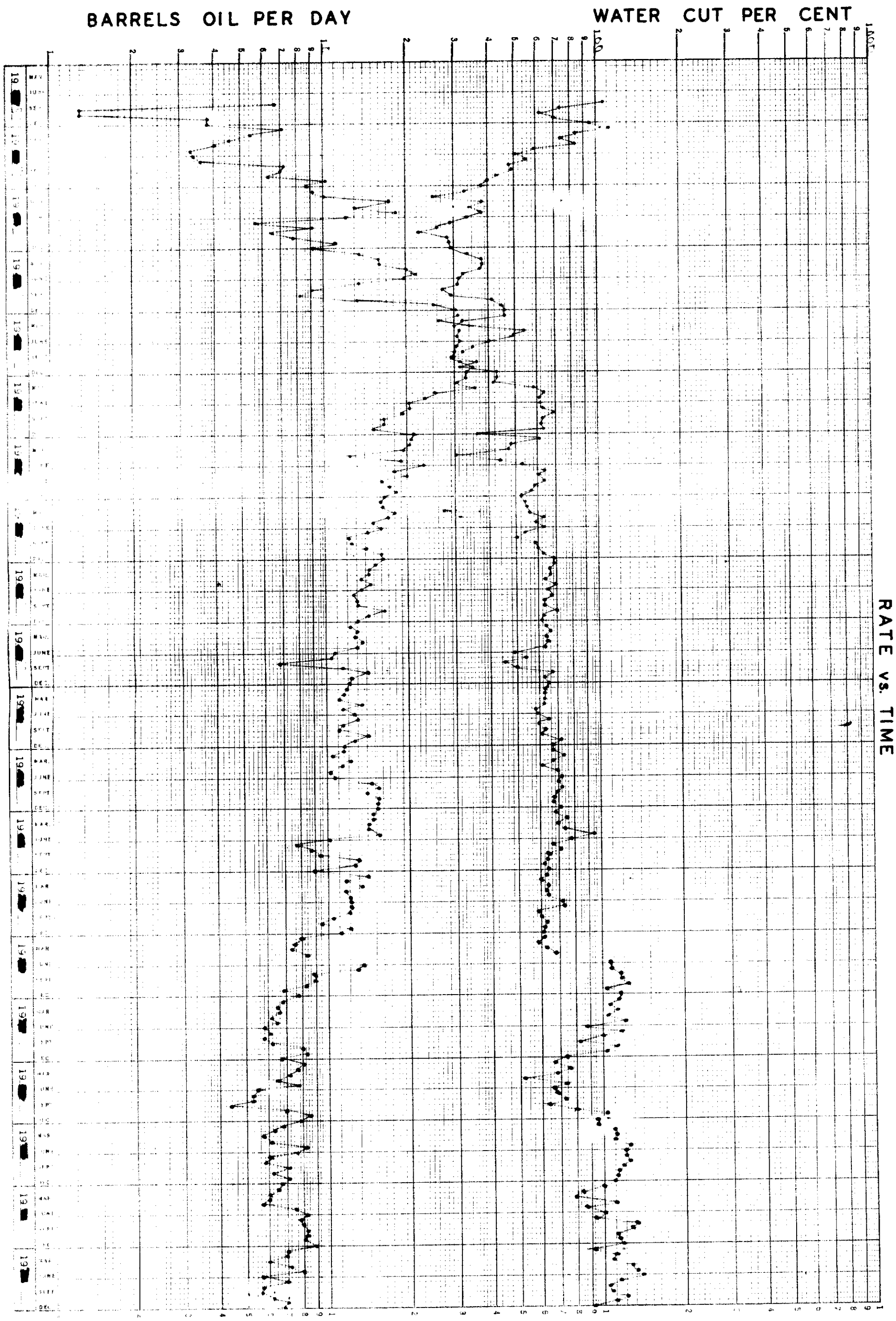
1-31-9-22

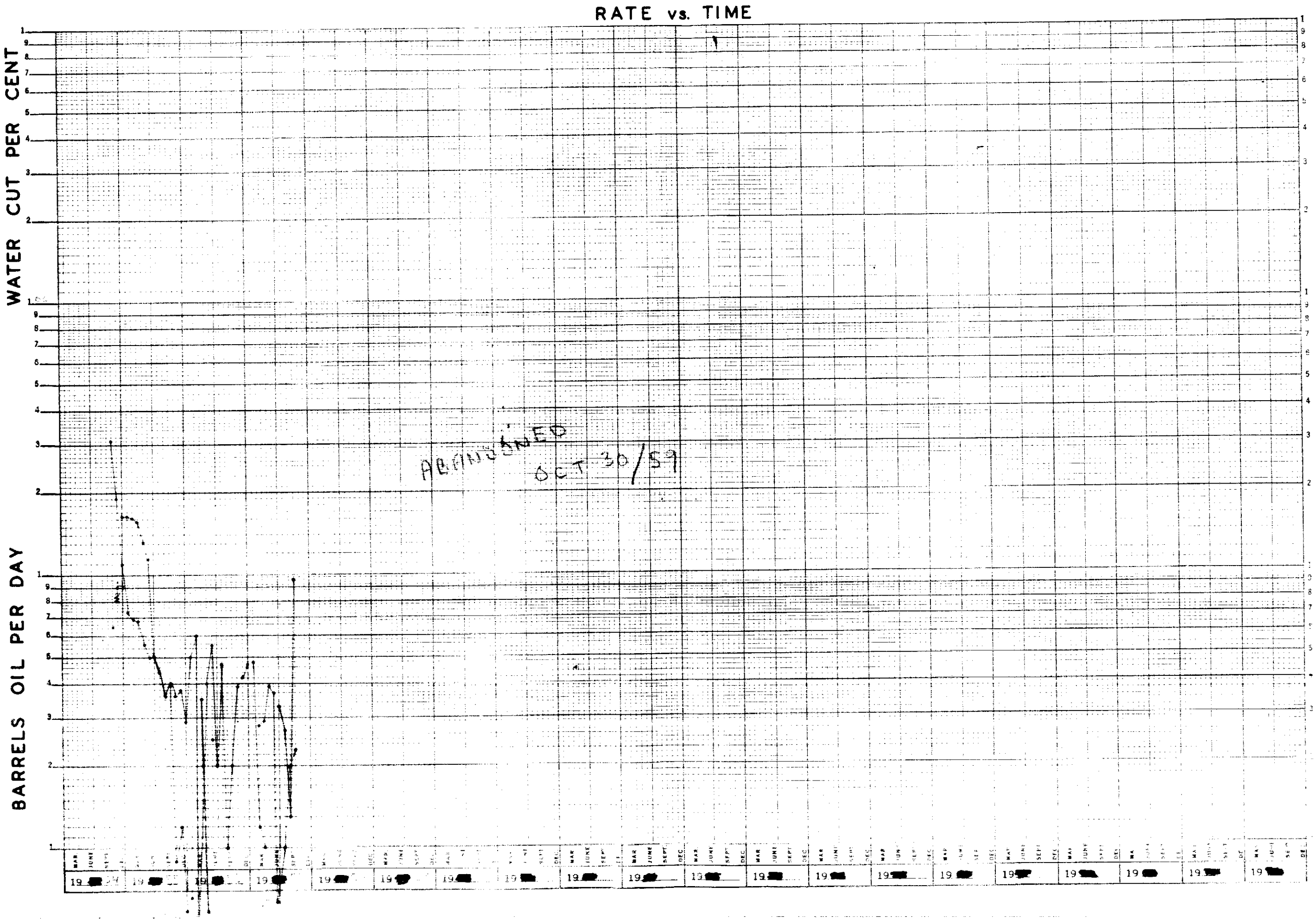
RATE vs. TIME



RATE vs. TIME

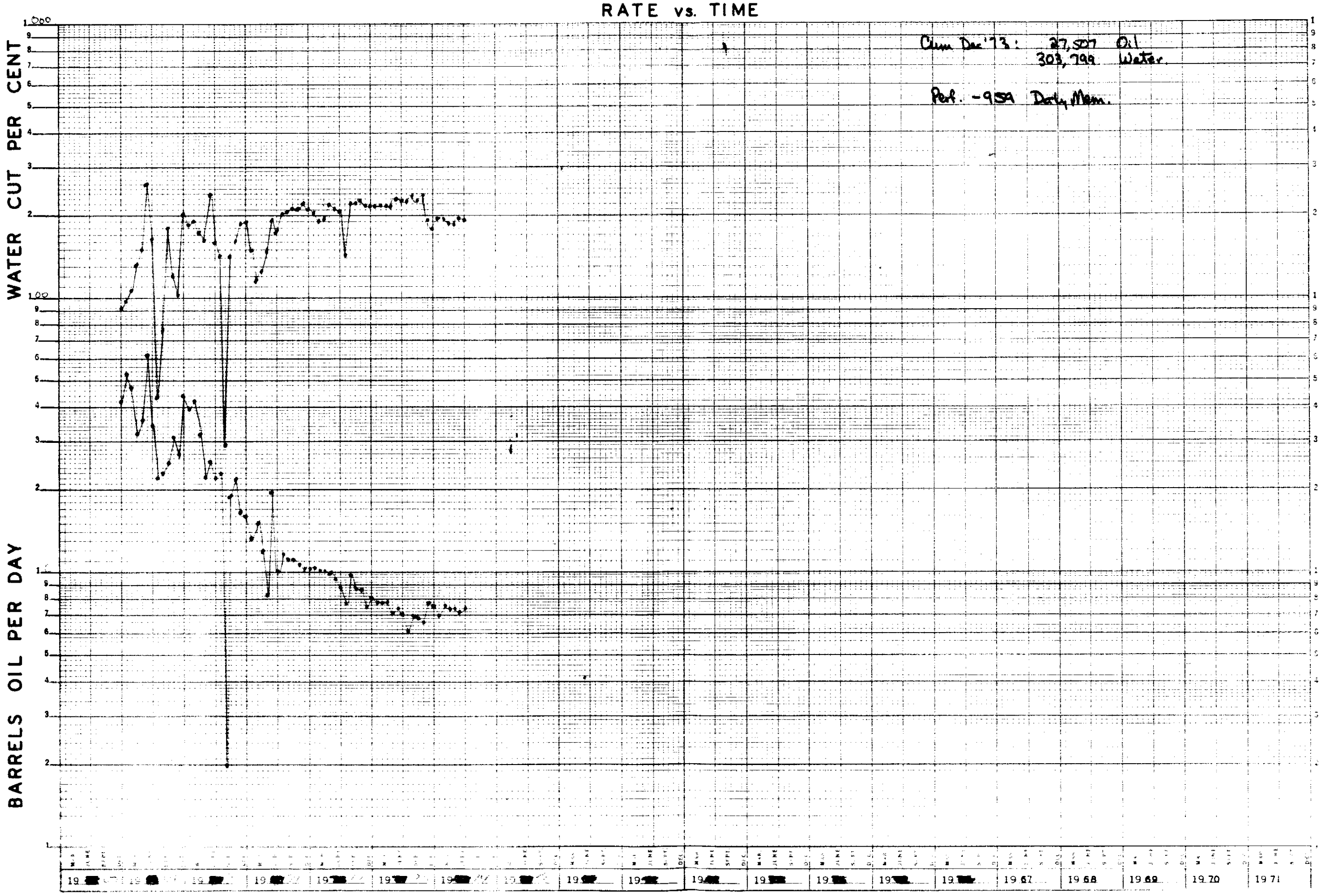


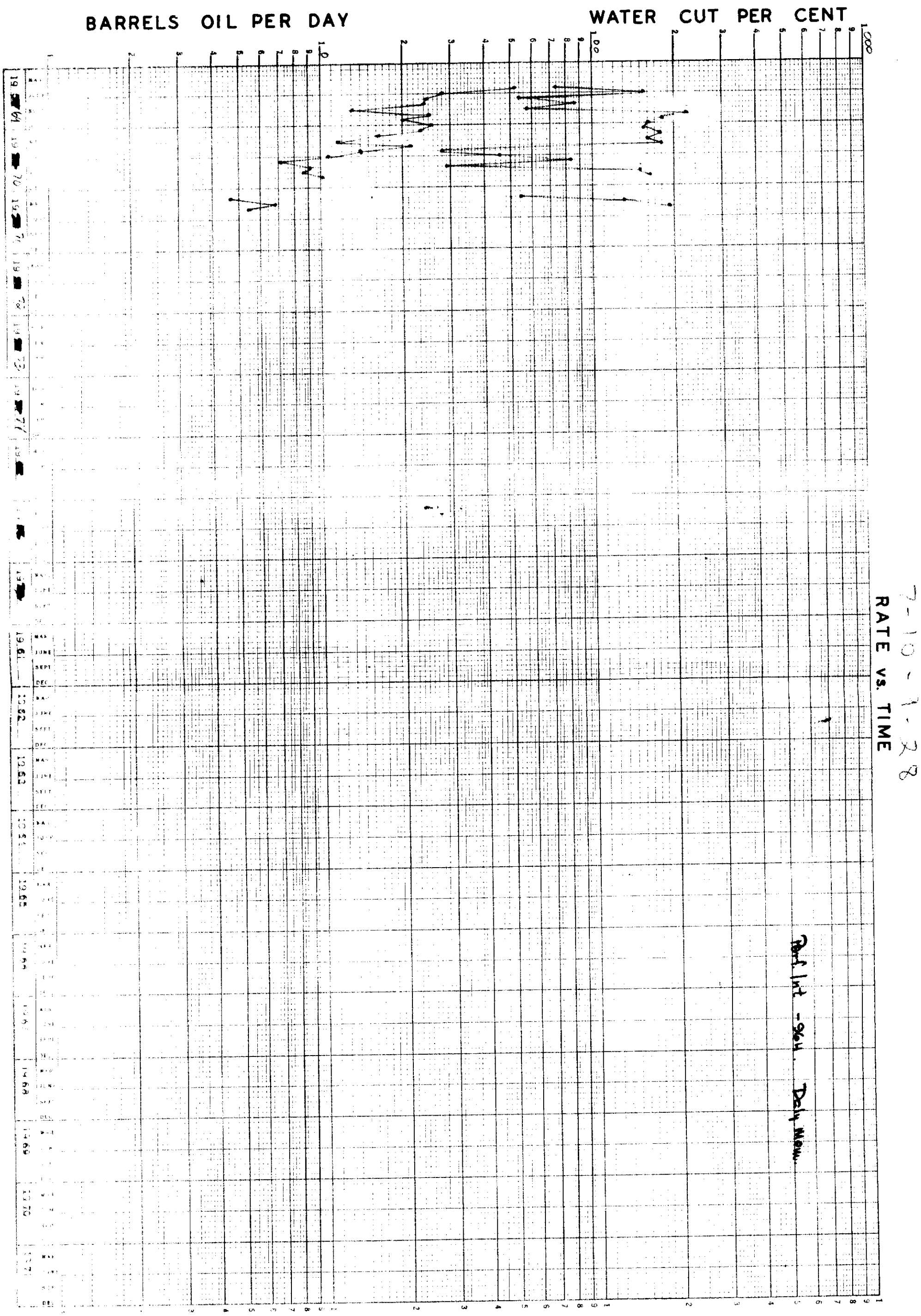

BARRELS OIL PER DAY
WATER CUT PER CENT
RATE vs. TIME


RATE vs. TIME
WATER CUT PER CENT
BARRELS OIL PER DAY
ABANDONED
OCT 30/59

5-10-9-20

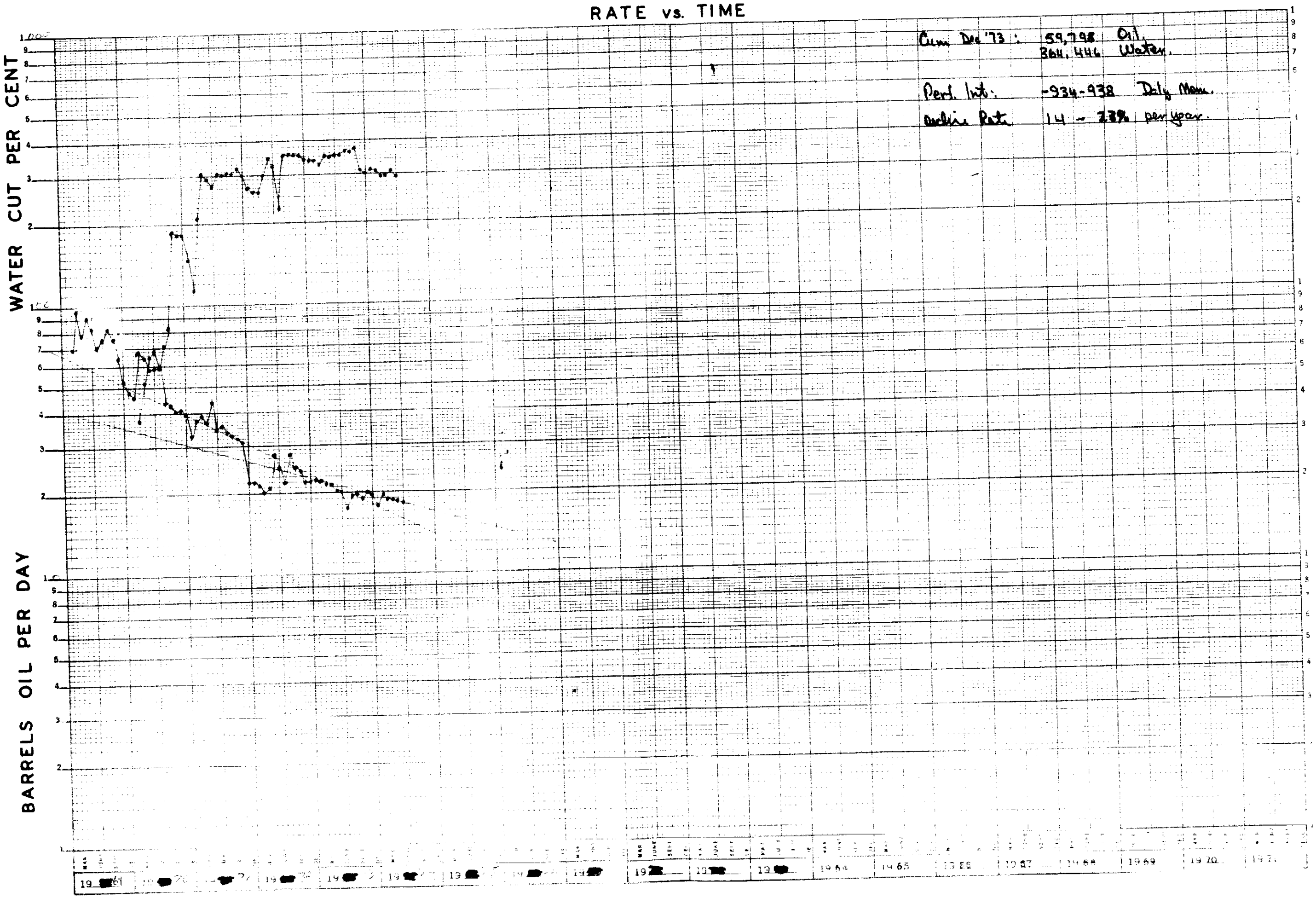
RATE vs. TIME




BARRELS OIL PER DAY
WATER CUT PER CENT
RATE vs. TIME
7-10-1-28
Perf. int. - 9614. Daily Meas.
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

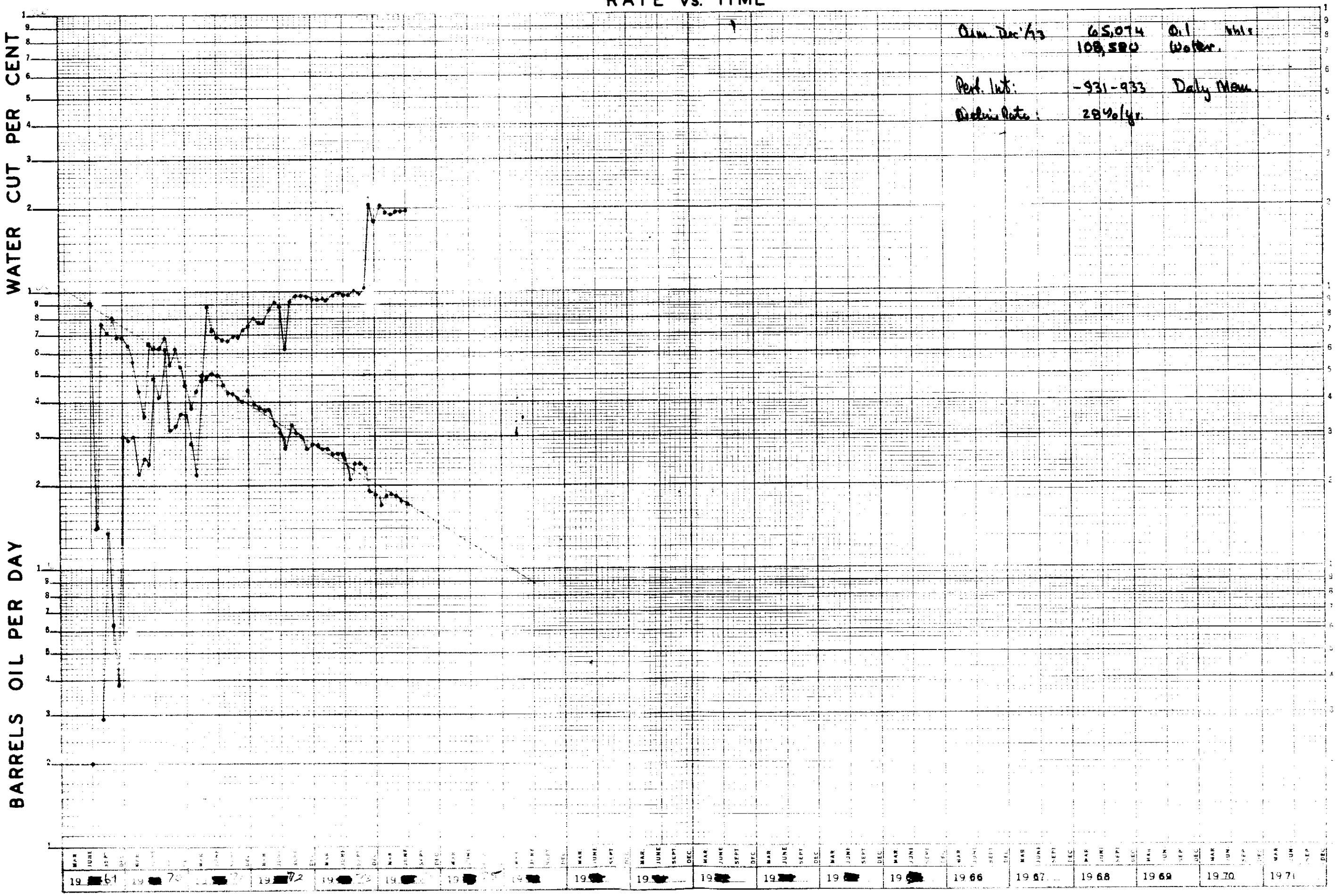
11 - 10 - 9 - 28

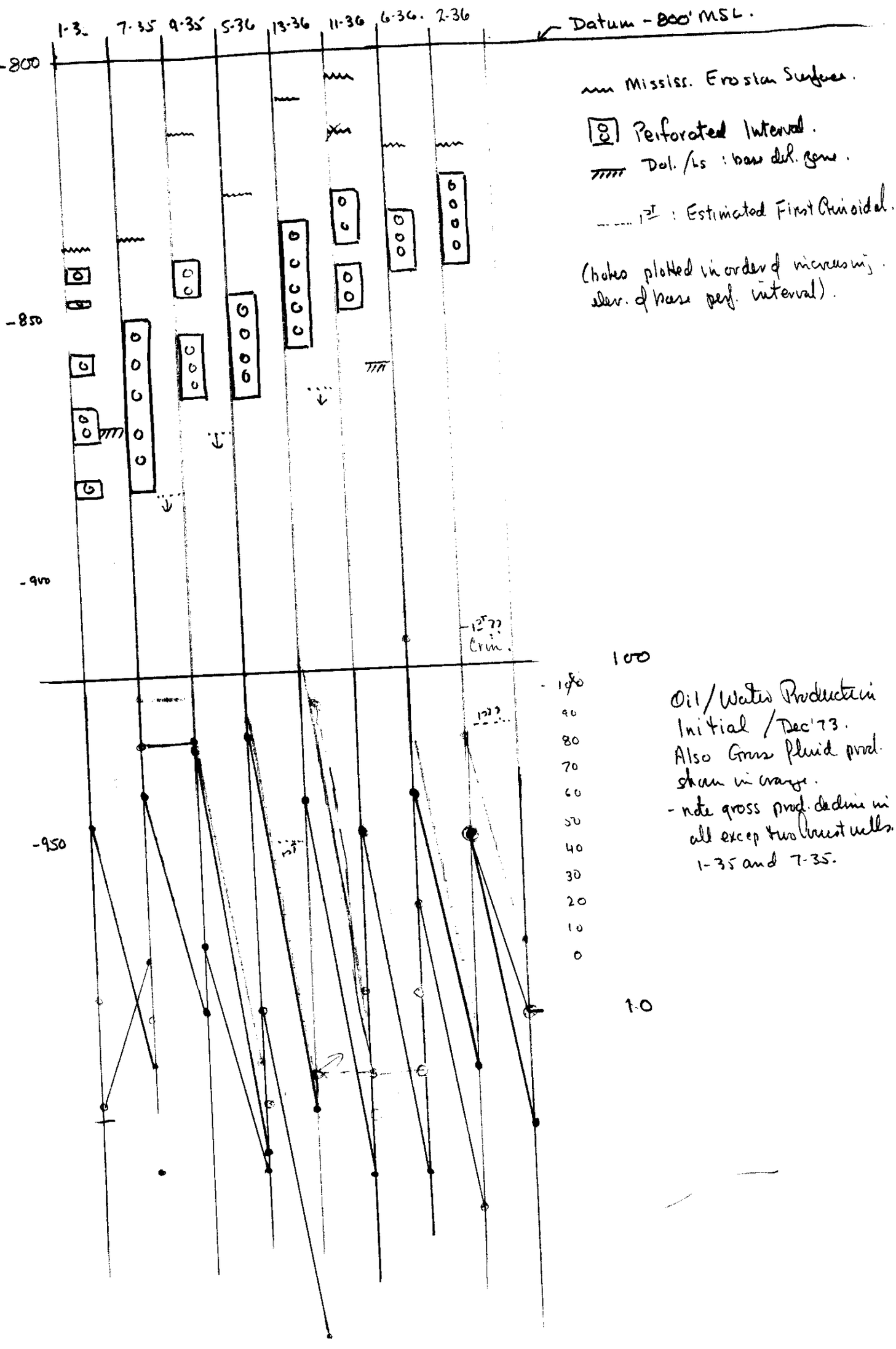
RATE vs. TIME

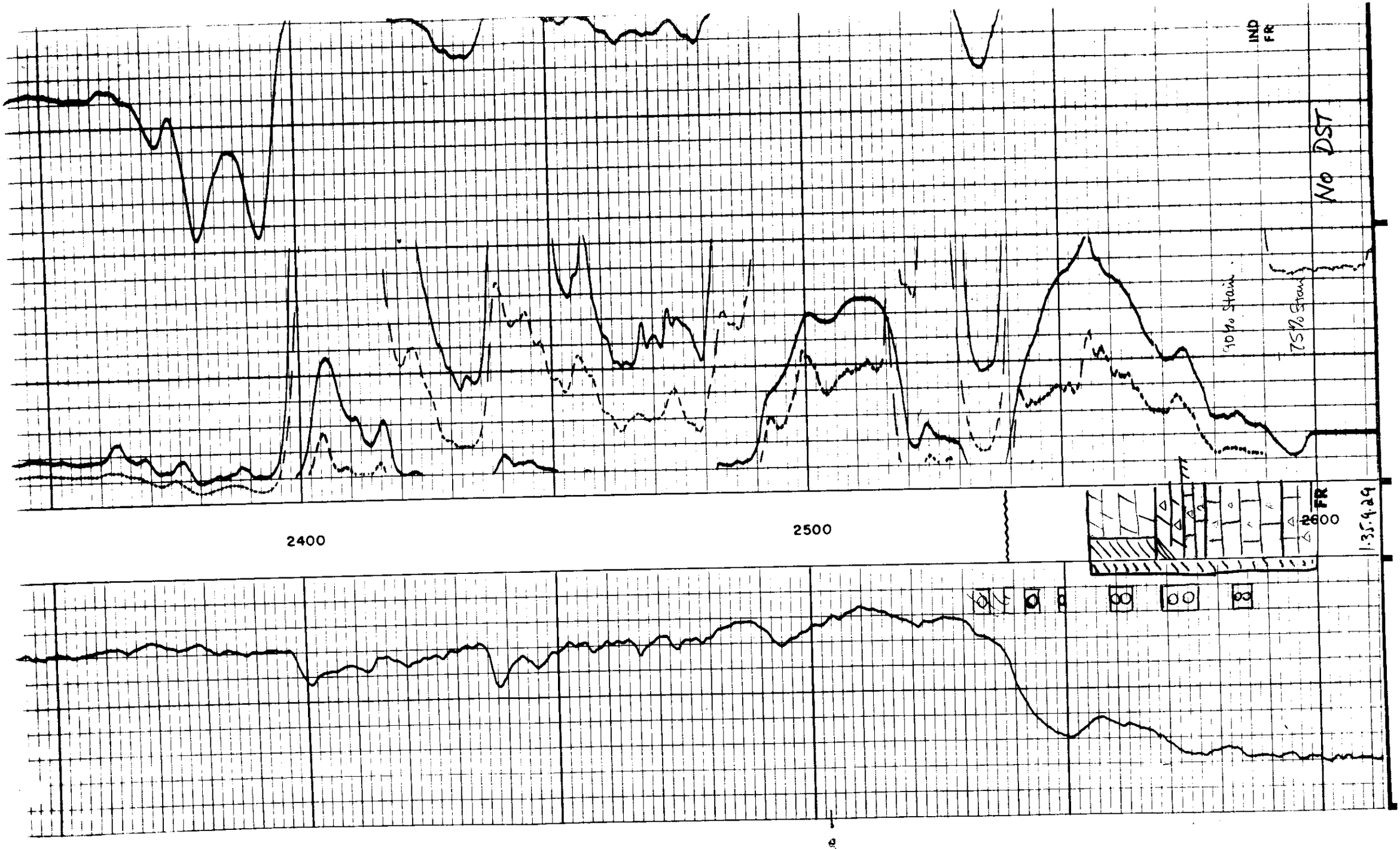


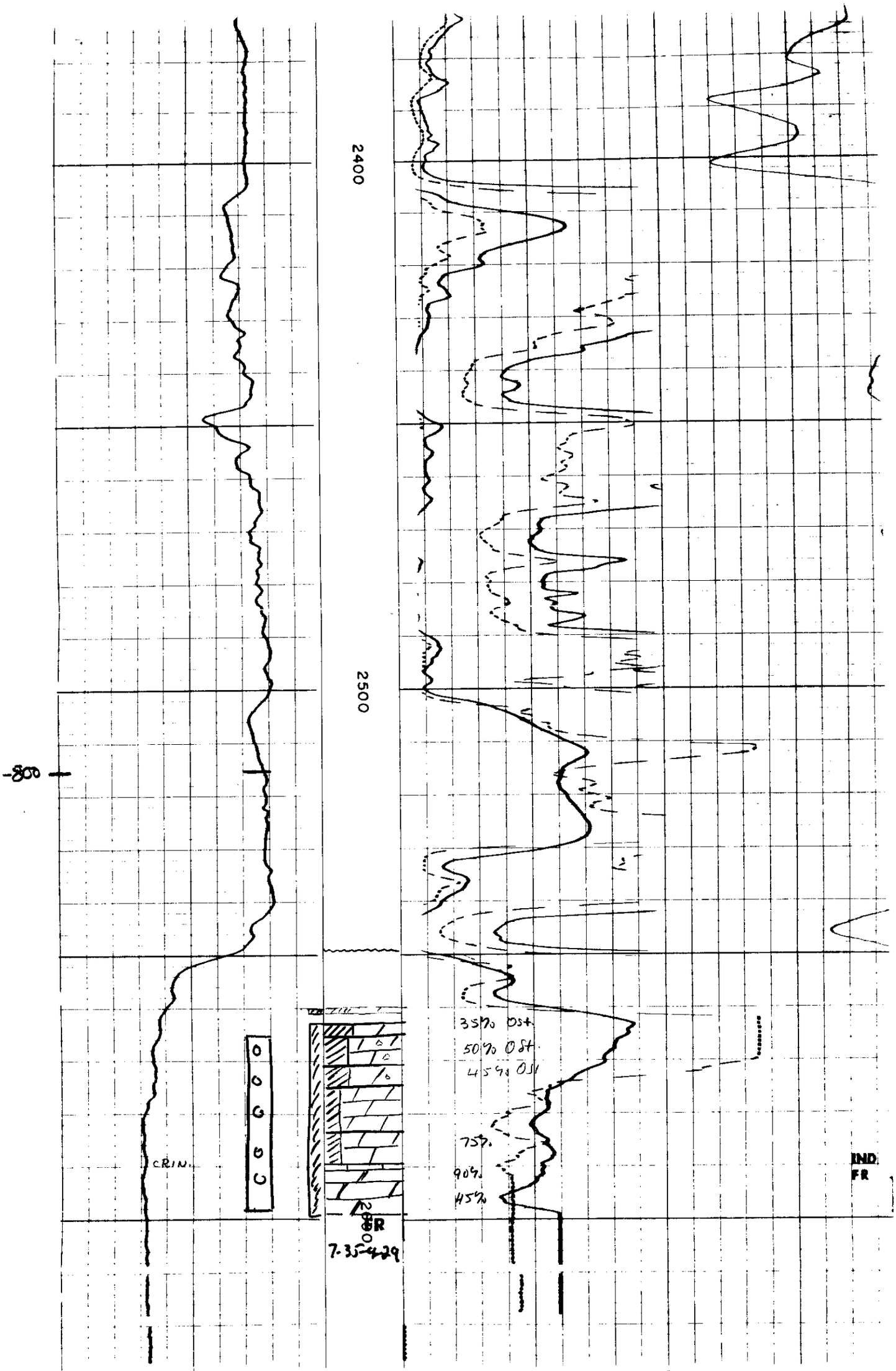
13 - 10 - 9 - 29

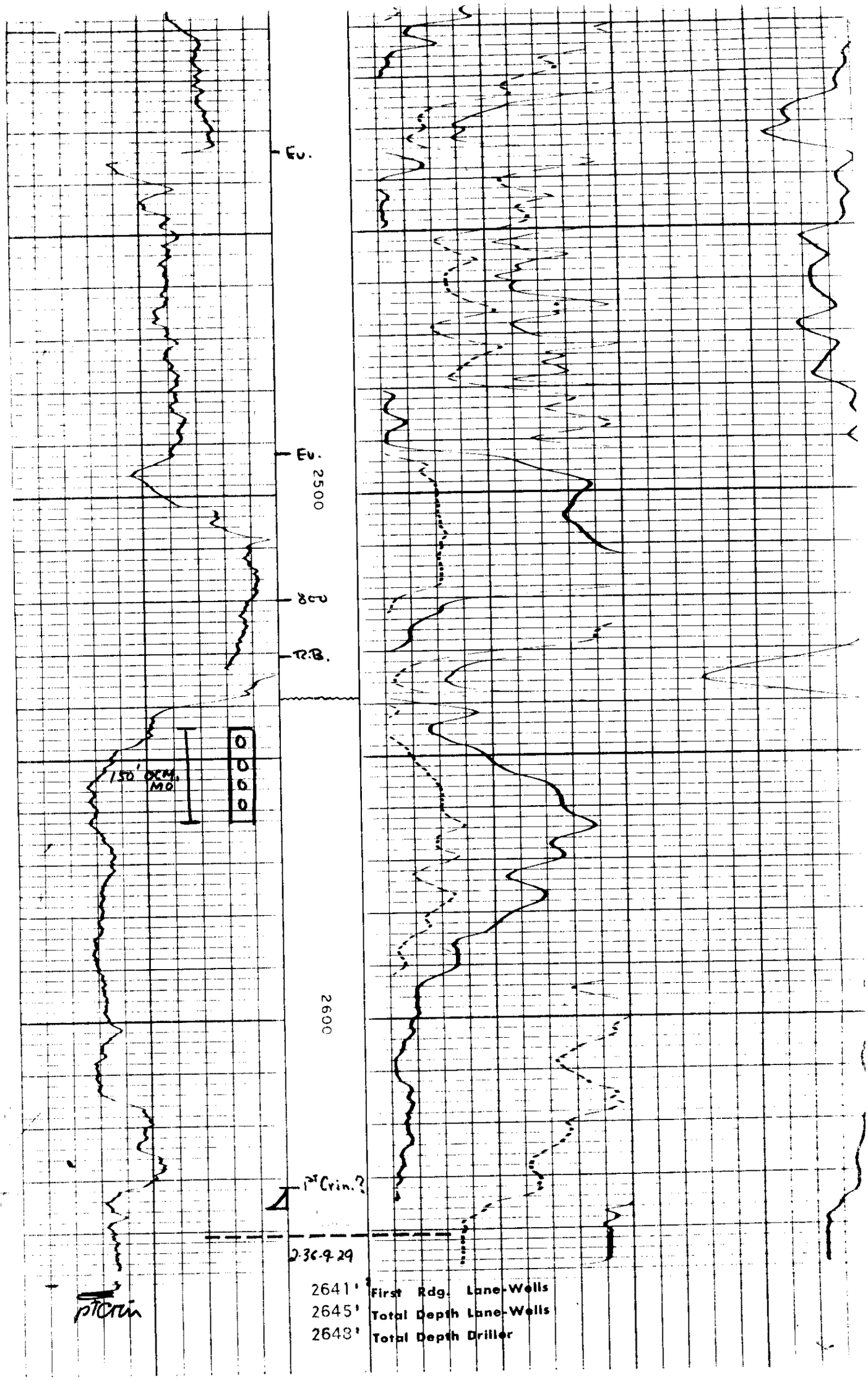
RATE vs. TIME



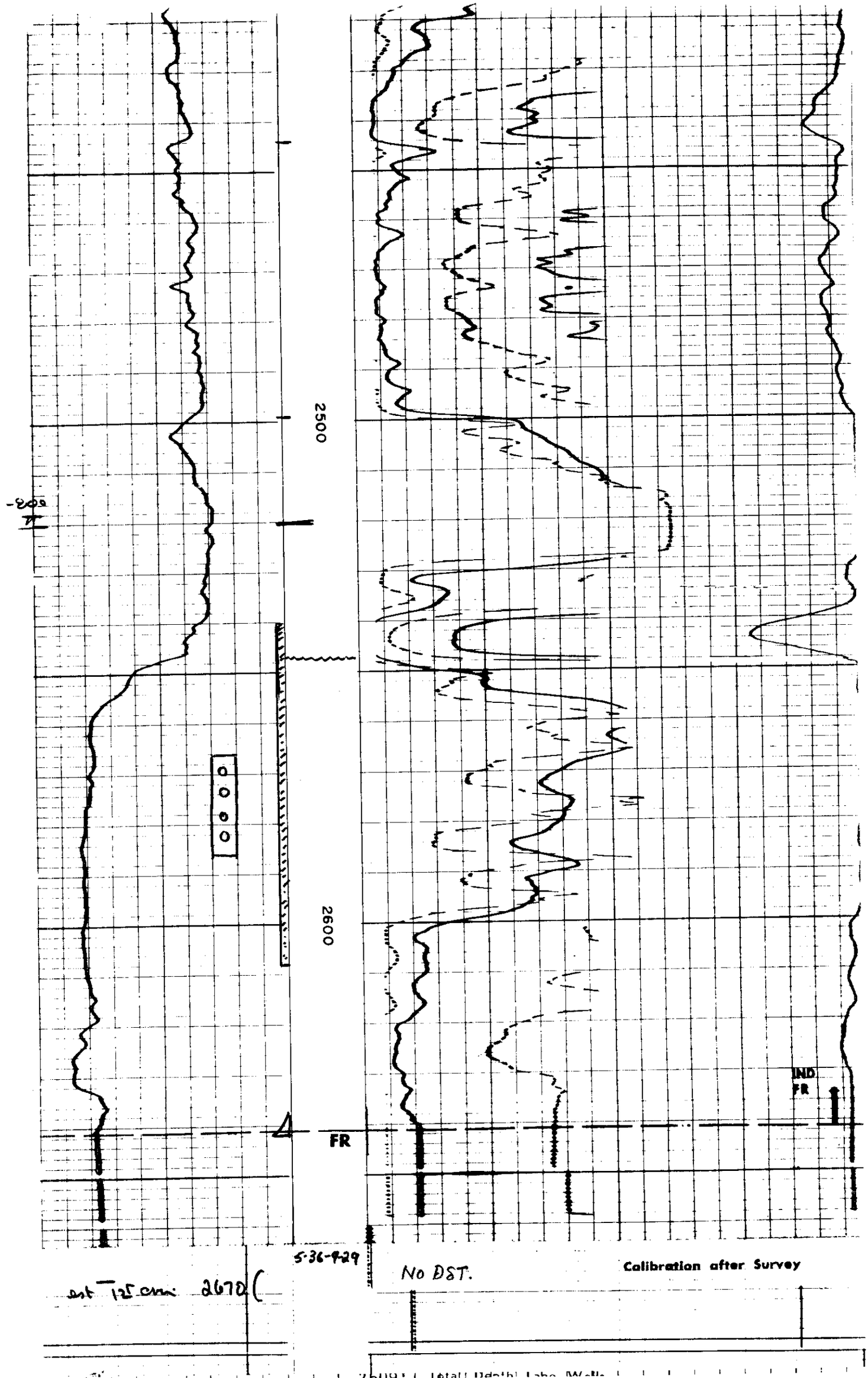

1-3
7-35
9-35
5-36
13-36
11-36
6-36
2-36
Datum - 800' MSL.
-800
-850
-900
-950
Mississ. Erosion Surface.
Perforated Interval.
Dol./Ls : base dol. zone.
1st : Estimated First Crinoidal.
(holes plotted in order of increasing elev. of base perf. interval).
1st ?? Crin.
1st ?
1st ?
100
90
80
70
60
50
40
30
20
10
0
1.0
Oil/Water Production in Initial / Dec'73.
Also Gross Fluid prod. shown in orange.
- note gross prod. decline in all except two newest wells. 1-35 and 7-35.


IND
FR
No DST
10% Stain
75% Stain
2400
2500
2600
FR
1.35.4.24

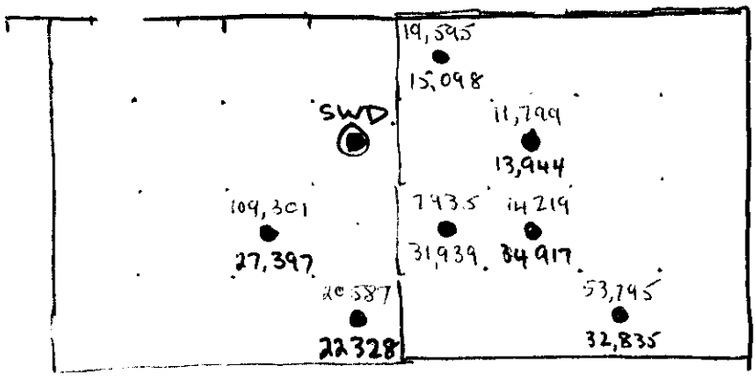

2400
2500
-800
CRIN.
35% Ost.
50% Ost.
45% Ost
75%
90%
45%
IND.
FR
7-35-4-29
No DST.
Con Rese.


Eu.
Eu.
2500
Sco
R.B.
150' OCM MO
2600
1st Crin.?
2-36-9-29
ptCrin
2641' First Rdg. Lane-Wells
2645' Total Depth Lane-Wells
2648' Total Depth Driller

NO CORE.


2500
2600
FR
IND
FR
5-36-9-29
No DST.
Calibration after Survey
est 125 cm 2670(

MID
FR
2400
2500
2600
FR
Speed in F.P.M.
No DST



Cumulative Production Dec 1/73. water/oil

9-35-9-29 converted to WIW June 1/65. - last mo. prod @ 144/120 o/w. poorest of Bralorne wells. but still fair production. check on injection. herizon + possible. water break thrugh in. 7-35.

~20¢/bbl. SWD.

Operating cost ~2.65/bbl. 3.20 if SWD cost for trucking etc.
4 wells + SWD

330/361. = 35%.

Initial Gas/Prod gas.

Initial Oil/Prod oil.

Initial Water/Prod Wtr.

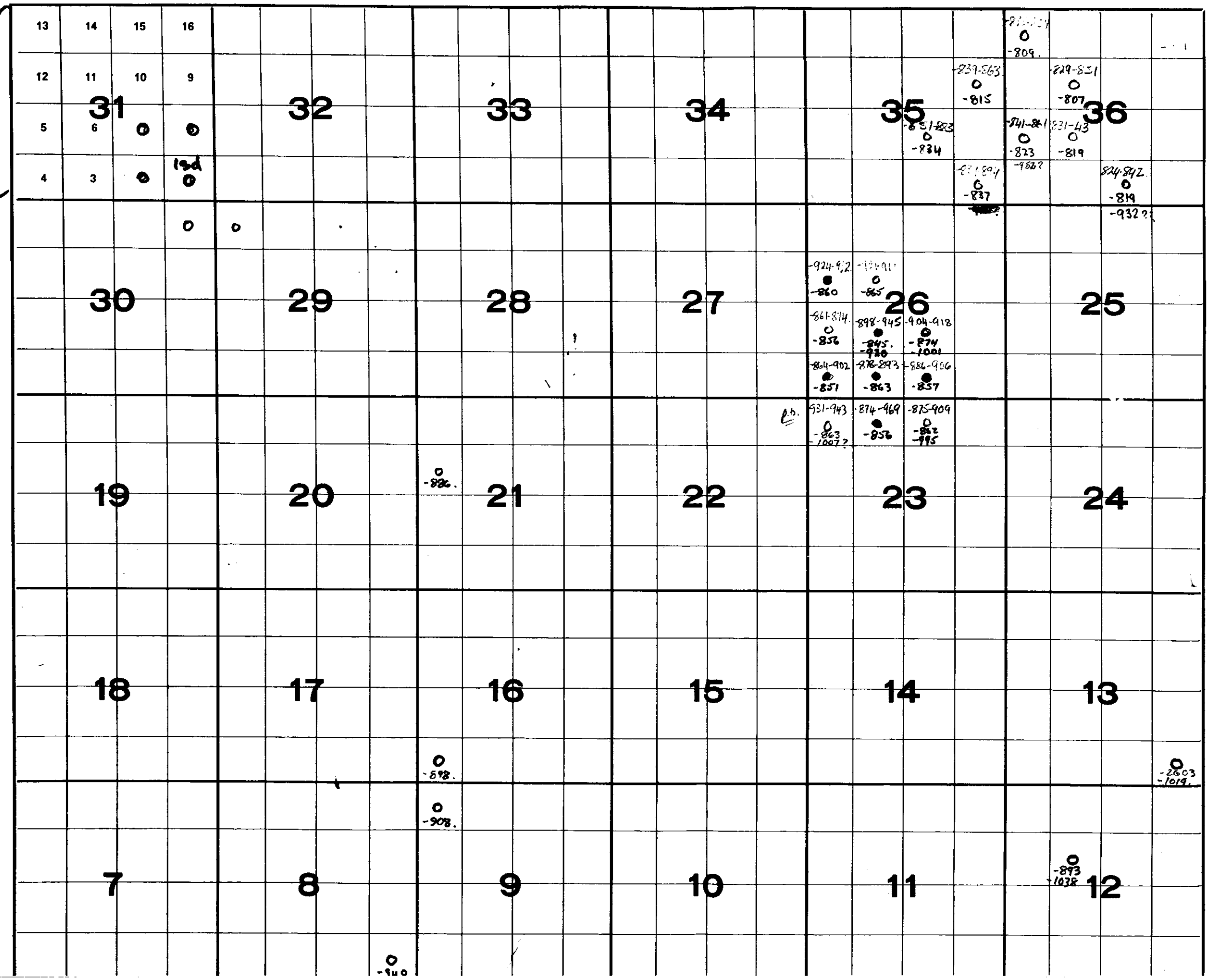
MNR-m-76-a

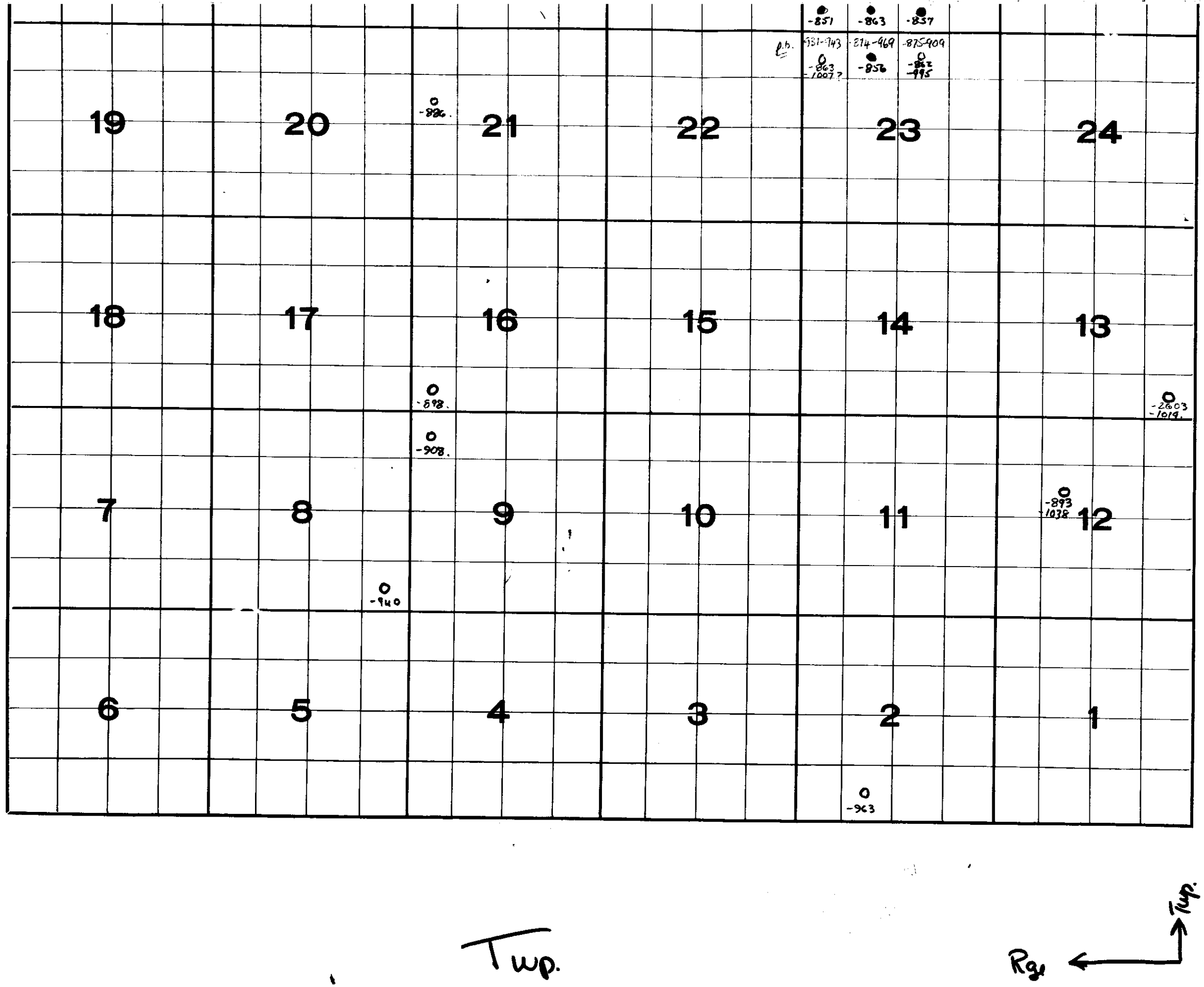
15 - 29 - 14 - 14
lsd - Sec - twp - Rge
(4) (3) (1) (2)

Perforated/Interval.
O
Erosion Surface
(Conicoid marker set).

Tp. N-S. Rge. E-W. P.M.

Section.




-851
-863
-857
-931-943
-863
-1007?
-874-969
-856
-875-909
-862
-995
19
20
-886.
21
22
23
24
18
17
16
15
14
13
-898.
-2603
-1019.
-908.
7
8
9
10
11
-893
-1038
12
-940
6
5
4
3
2
1
-963
Twp.
Rge
Twp.

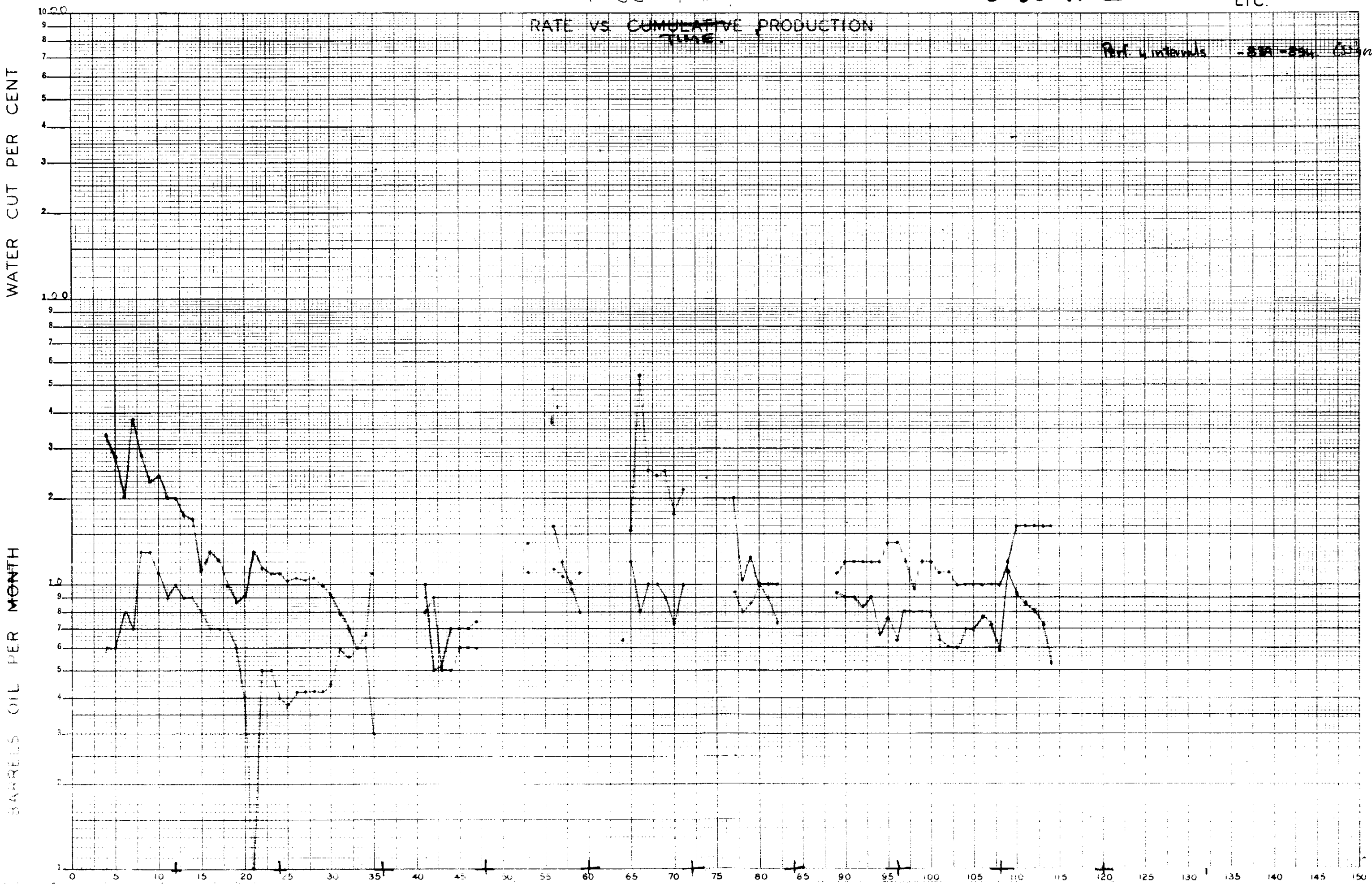
1-35-9-27

~~3-30-11-26~~

LIC.

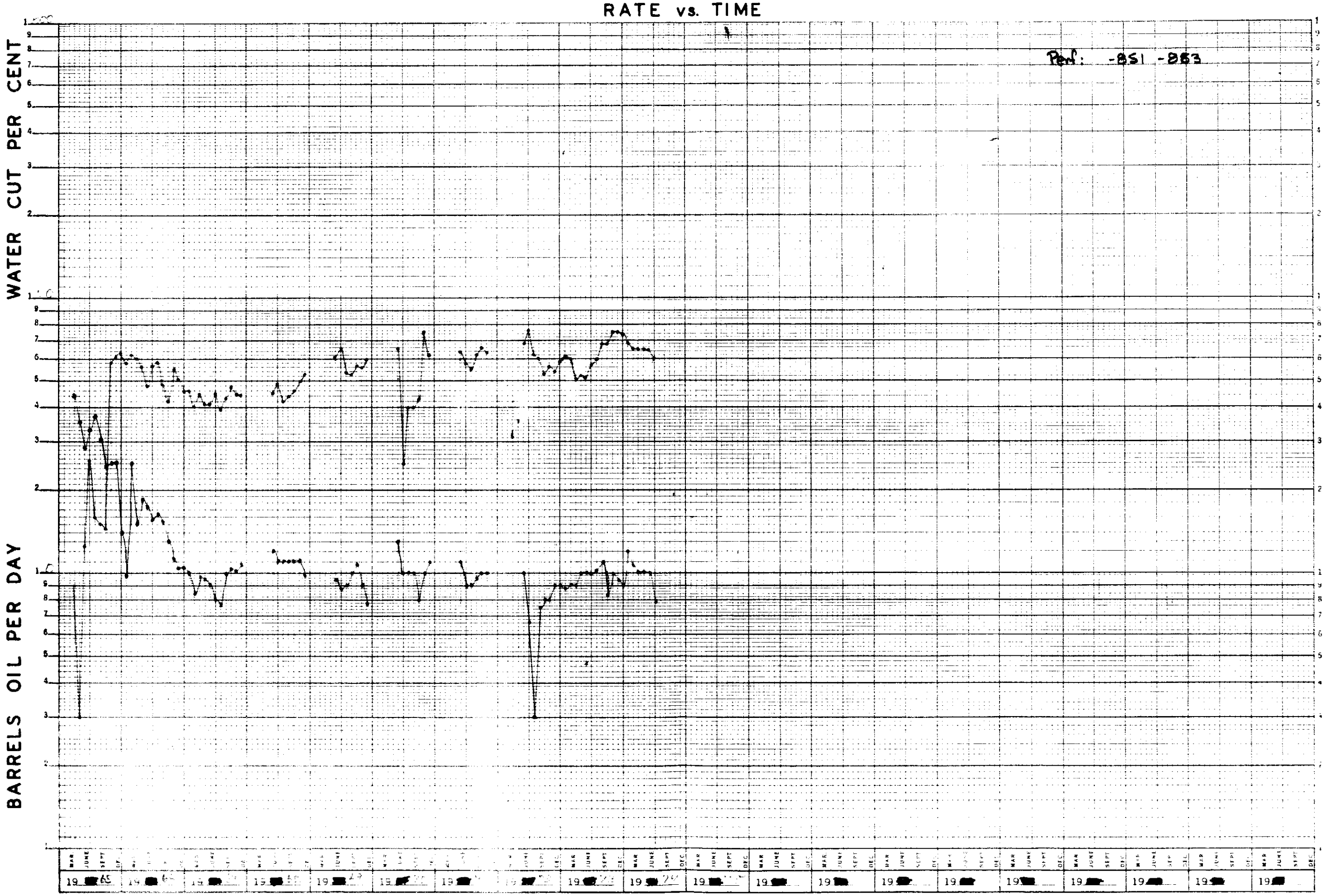
RATE VS. ~~CUMULATIVE~~ PRODUCTION
TIME.

Perf. 4 intervals -834 -834 (illegible)



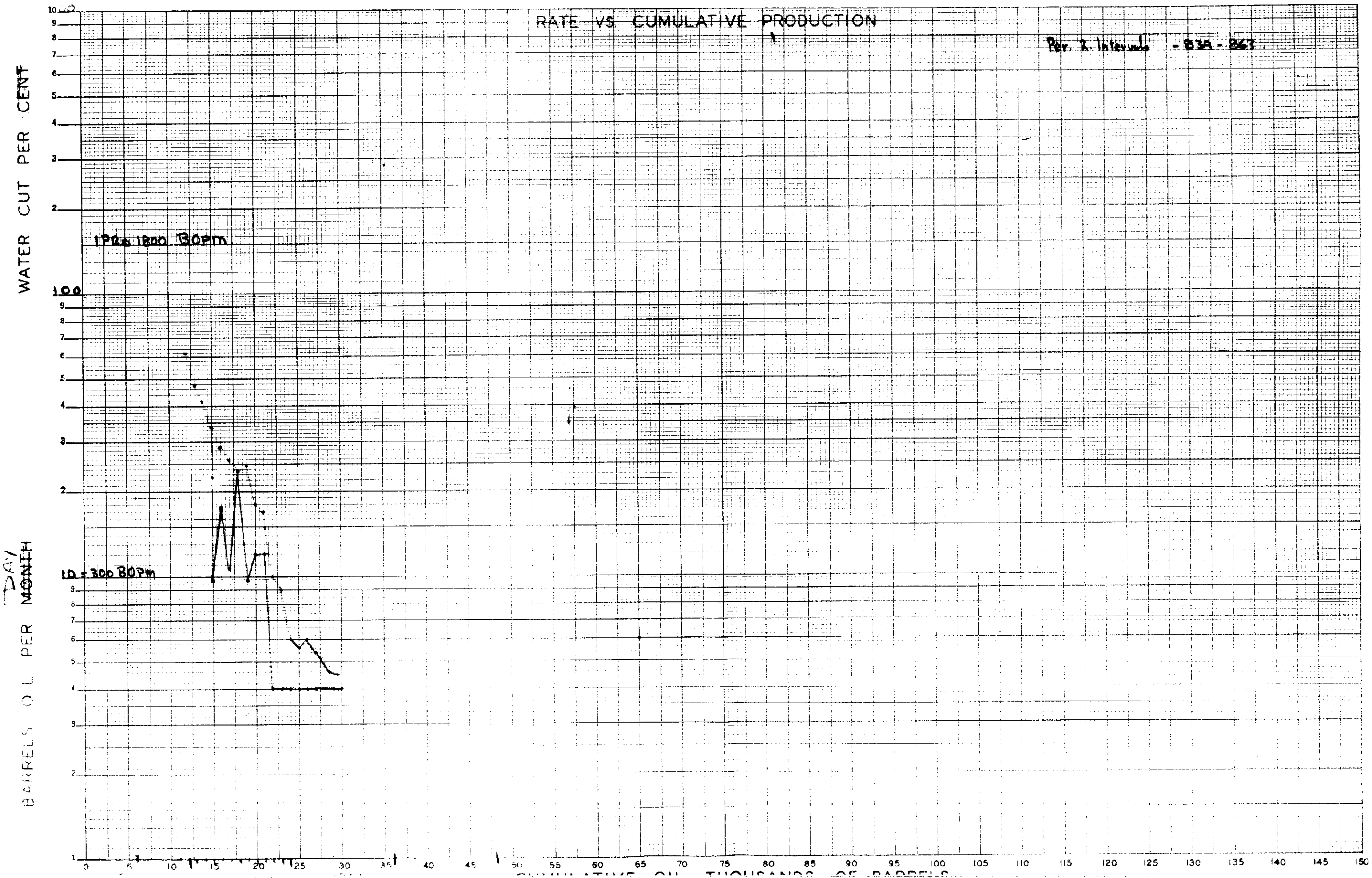
7-25-9-81

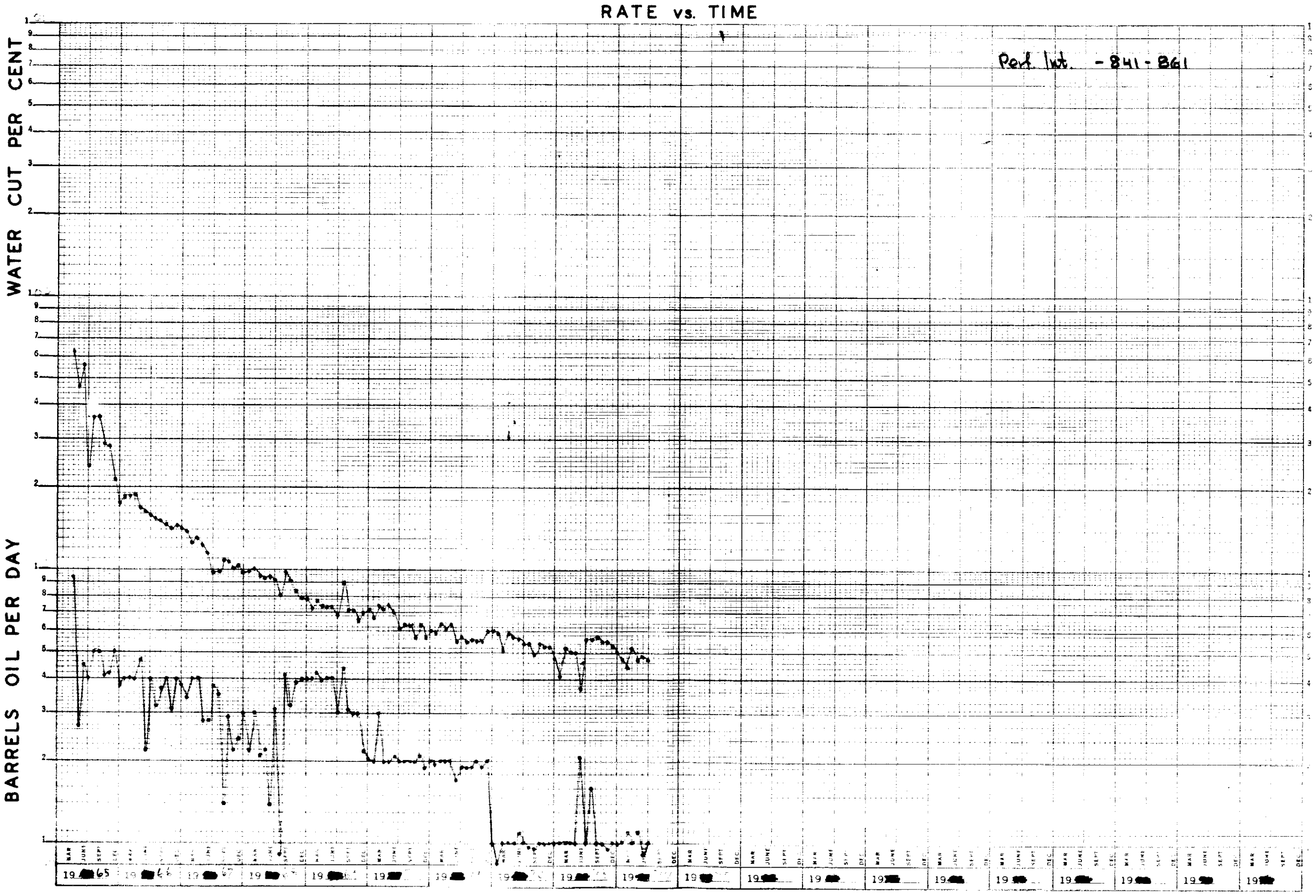
RATE vs. TIME



9-35-9-29.

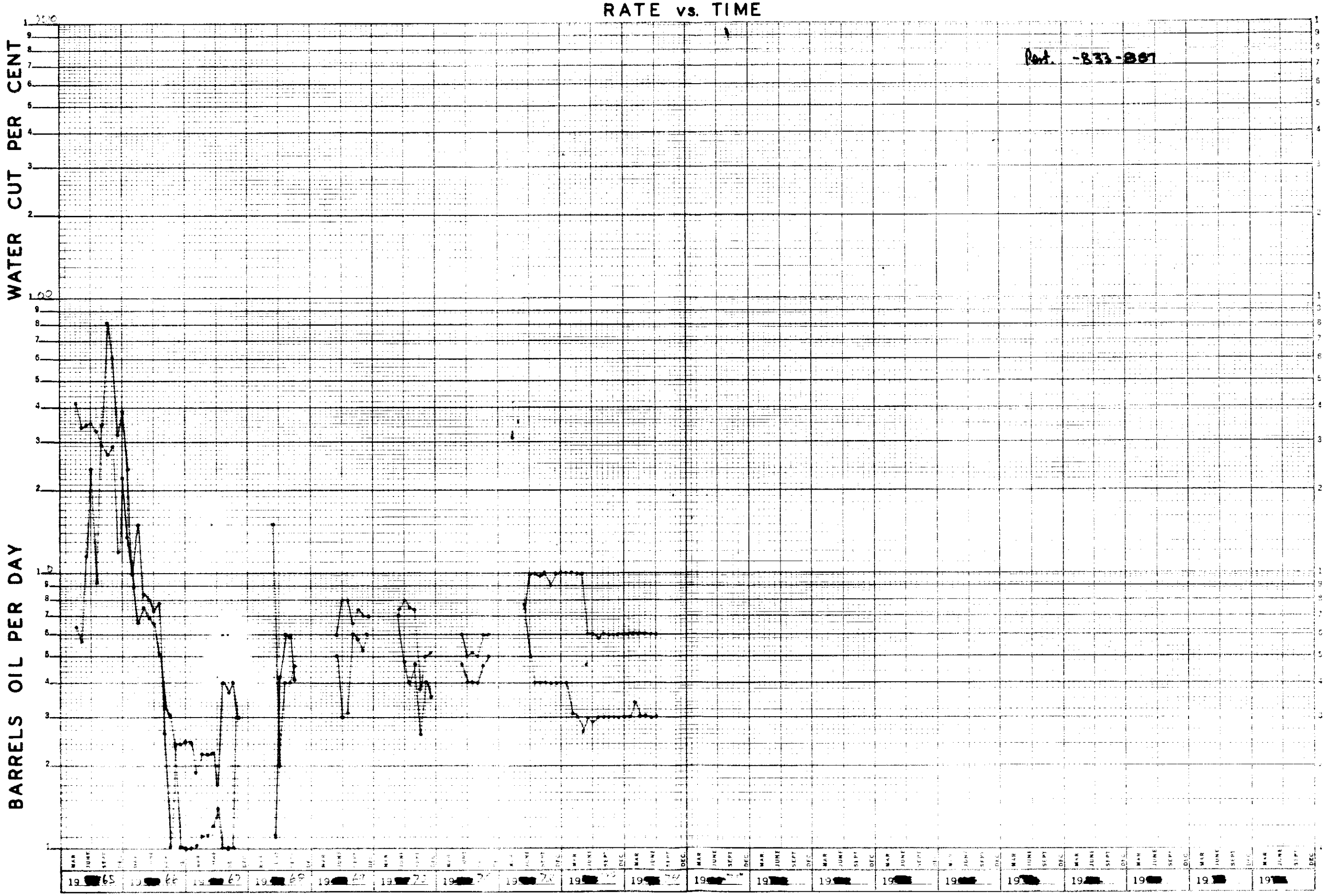
LIC.


RATE VS. CUMULATIVE PRODUCTION
Per. 2. Intervals - 839 - 267
WATER CUT PER CENT
BARRELS OIL PER ~~MONTH~~ DAY
1 Pr. = 1800 BOPM
10 = 300 BOPM
CUMULATIVE OIL THOUSANDS OF BARRELS


RATE vs. TIME
Perf Int. - 841 - 861
WATER CUT PER CENT
BARRELS OIL PER DAY
MAR
JUNE
SEPT
DEC

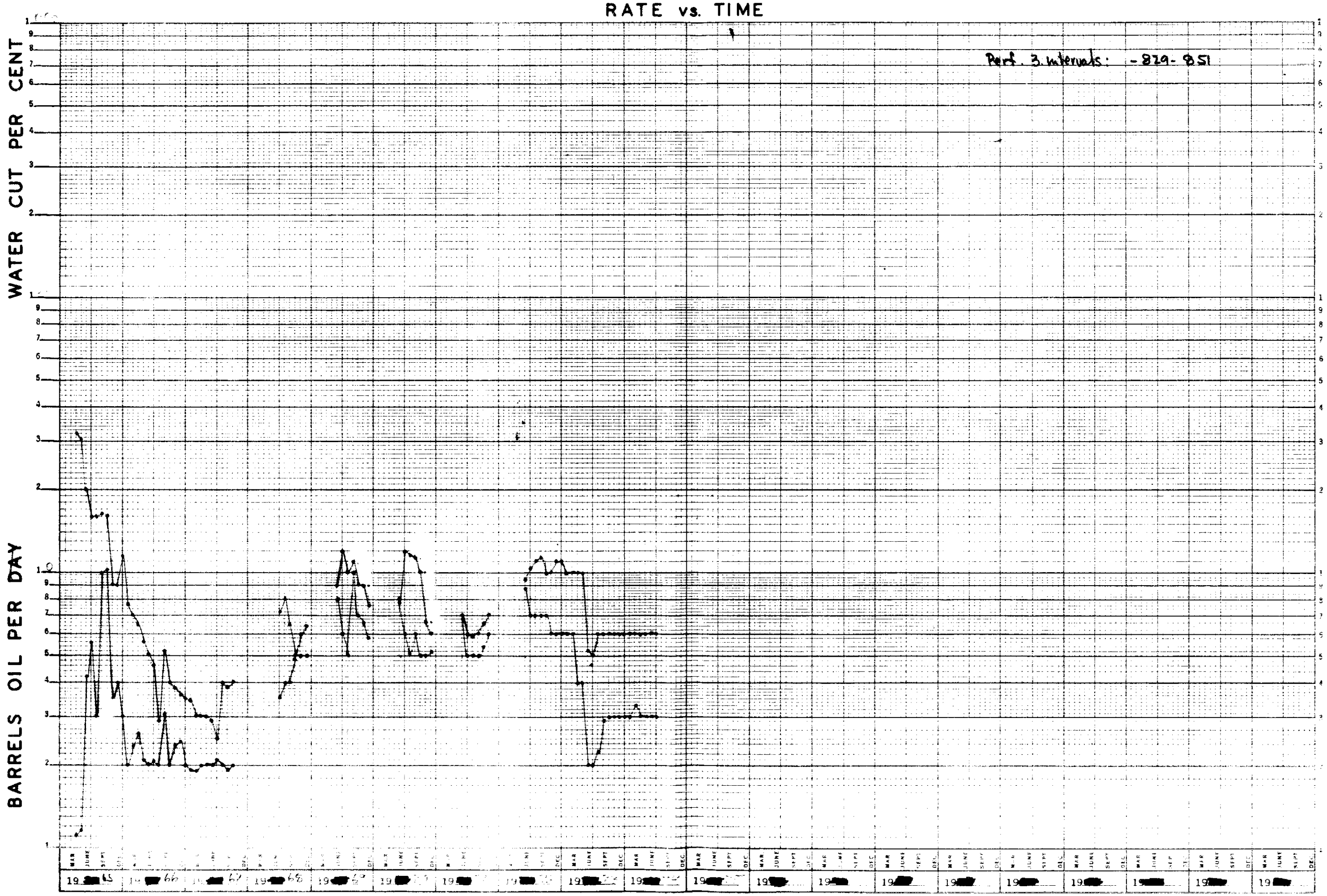
13 - 3/ - 9 - 29

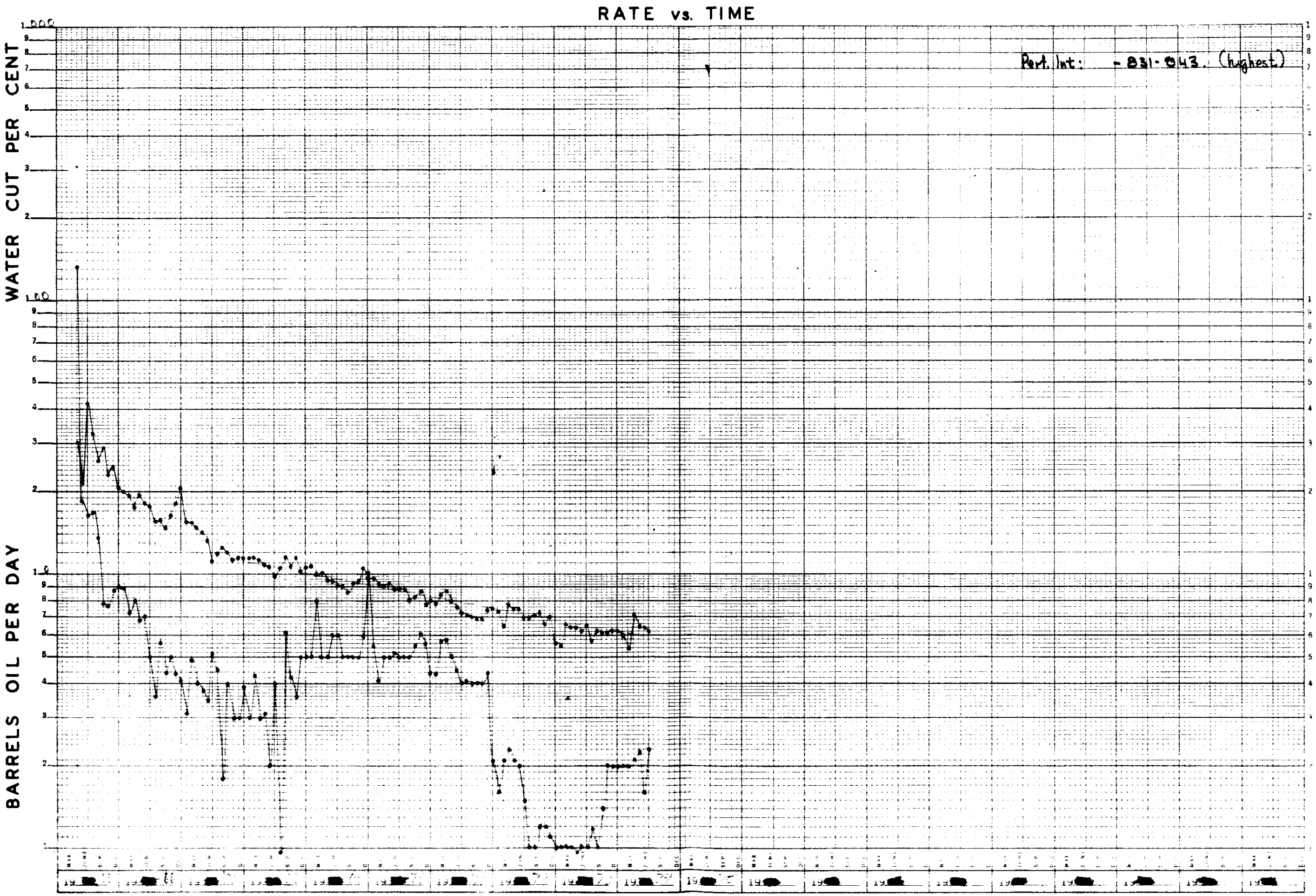
RATE vs. TIME

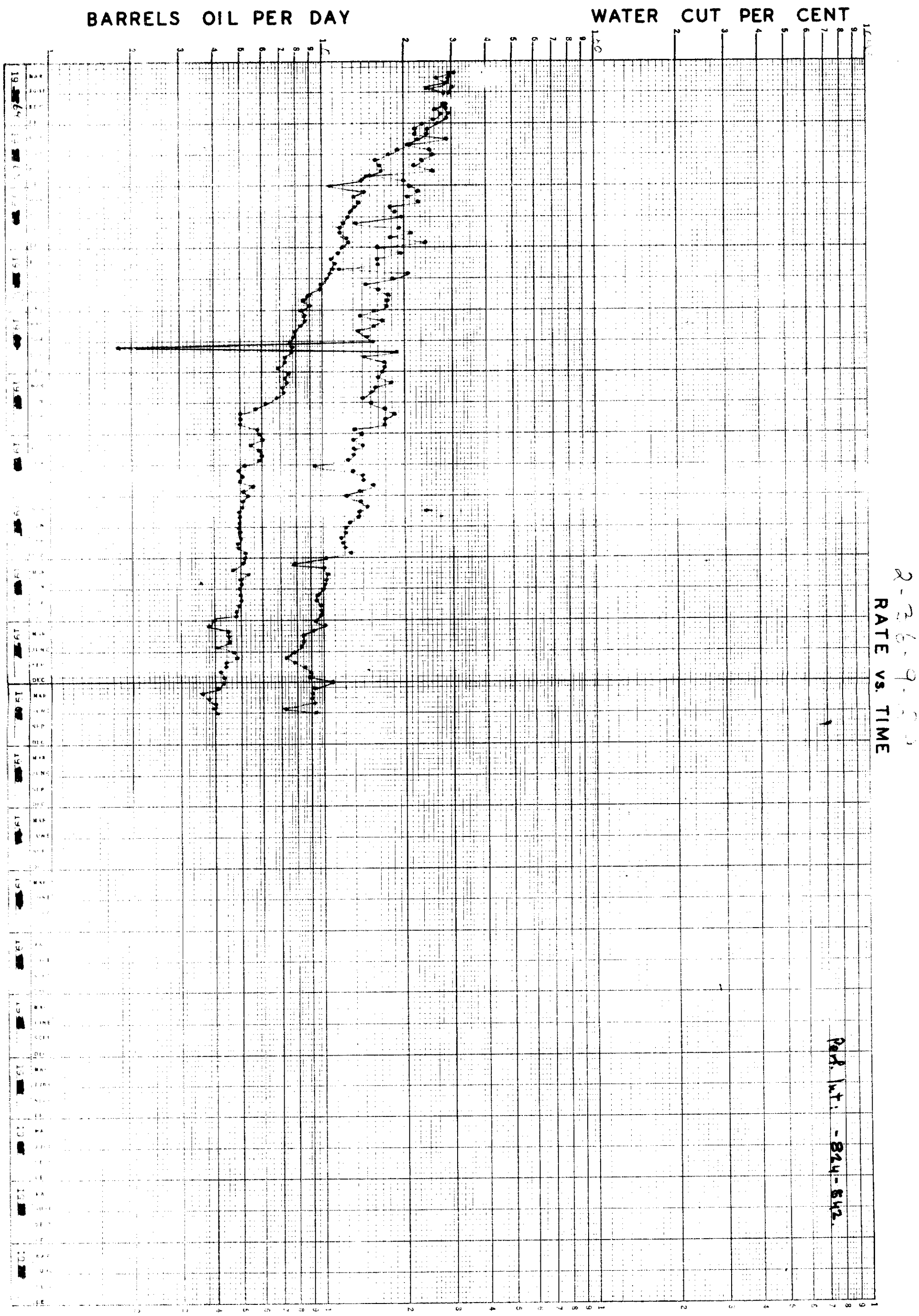


1-26-9-29

RATE vs. TIME




RATE vs. TIME
WATER CUT PER CENT
BARRELS OIL PER DAY
Perf. Int: - 831-843. (highest)


BARRELS OIL PER DAY
WATER CUT PER CENT
RATE vs. TIME
Perf. Int. - 8244-642.
2-26-9