

BAROID ppm LOG

WELL ARCTIC RED C-60
 COMPANY SKELLY OIL CO.
 FIELD GRID 66° 49', 133° 55'
 COUNTY ARCTIC RED R STATE YUKON T.

INTERVAL LOGGED 1203 FT TO 8530 FT
 DATE LOGGED 2-2-72 TO 3-11-72
 DEPTH MEASURED FROM K.B.

SUPERVISING ENGINEER D.S. CONN UNIT NO 264
 TYPE MUDDS GEL WATER TO 1203 FT
 NONDISPERSED GEL POLYMER TO 8530 FT

LEGEND

ABBREVIATIONS

NB	NEW BIT	W	MUD CHARACTERISTICS
NCB	NEW CORE BIT	V	WEIGHT X LBS/GAL LBS/CU FT
CO	CIRCULATED OUT	F	VISCOSITY, API, SECONDS
DST	DRILL STEM TEST	CK	FILTRATE, API, CC'S
LAT	LOGGED AFTER TRIP	S	FILTER CAKE
TG	TRIP GAS	Rm	SALINITY X PPM CL GPG CL
NR	NO RETURNS	Rmc	MUD-RESISTIVITY, OHM-METER
DS	DIRECTIONAL SURVEY	Rmf	MUD-CAKE RESISTIVITY, OHM-METER
DC	DEPTH CORRECTION		MUD-FILTRATE RESISTIVITY, OHM-METER

LITHOLOGY

SAND		LIMESTONE	
SHALE		OOLITIC LIMESTONE	
CLAY		DOLOMITE	
CHERT		GYPSUM, ANHYDRITE	
SALT		COAL OR LIGNITE	
SILTSTONE		GRANITE WASH	
CONGLOMERATE			

DRILLING RATE

FT PER HR
 MIN PER FT

PROSITY
 LITHOLOGY

DEPTH

ppm HYDROCARBONS IN MUD M=1000

FLOWLINE TEMP -- 50° C₁ 60° C₂ 70° C₃ 80° 90° C₄ C₅₊

CUTTINGS ANALYSIS

TOTAL GAS
 METHANE
 LIQUID HYDROCARBONS (C₆₊)

STARTED LOGGING
2:00 AM 2/2/72

DS-1/2° NB-1 SDGH

WOB 19M
RPM 70

DS-1/2°

DS-1/2°

WOB 20
RPM 70
PP 1600
SPM 58

DS-7/8

2-3-72

DS-1/8° NB-2 SDGH

WOB 10
RPM 100

DS-1°

DS-1/8°

DS-1/2°

PPM
EAC

SET 9 5/8" CSG
DRILL B 3/4" HOLE
TEST CSG SEAT

TG - 20 UNITS

SPUD MUD GEL/WATER
13 3/8" CSG SET 217'

MUD TEMP FLOWLINE
50° 60° 70° 80° 90°

1200

1300

1400

1500

1600

SH- M-DK GY, SFT,
LAM, I/P, NON
CALC
SS- LT GY - WHT, VF
GR, CARB FLECS,
FRI, GRDG -
SLTST I/P

SH- M-DK GY GRN,
SFT, PLTY,
SLTY I/P

SS- LT GY - WHT,
FRI, SL CALC,
CARB

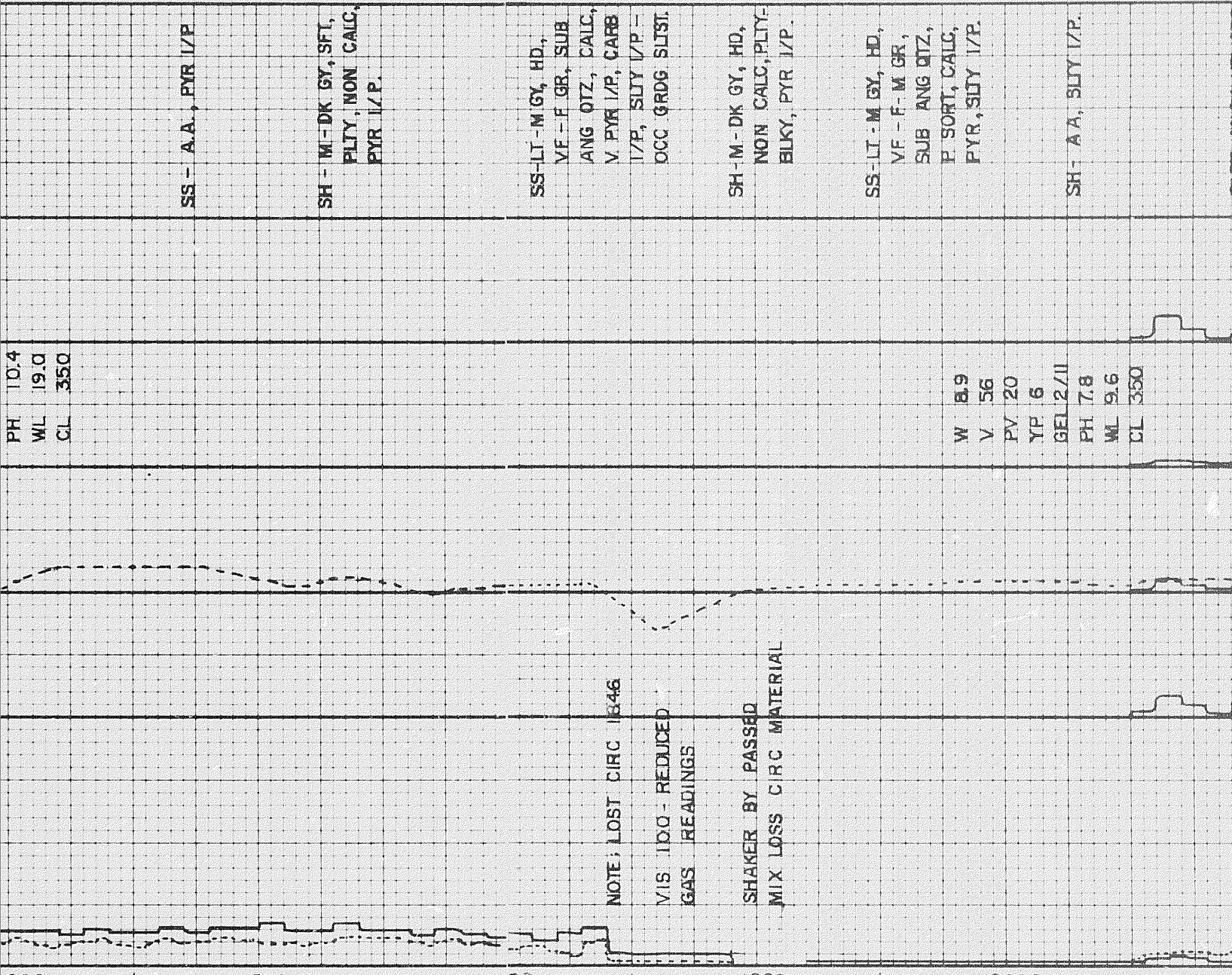
SS- WH - LT GY, DITZSE
I/P, VF GR, CALC
FRI, SUB ANG -
ANG, PR SORT,
TR CARB FLEC.

SH - LT GY - M GY, SFT
LAM, MIC - MICA,
NON CALC.

W 8.8
V 29
PV 4
YP 2
GEL 0/1
PH 10.0
WL 18.0
CL 350

W 8.7
V 28
PV 25
YP 0
GEL 0/0
PH 10.4
WL 19.0
CL 350

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SS - A.A., PYR 1/2 P.

SH - M-DK GY, SFT, PLY, NON CALC, PYR 1/2 P.

SS-LT - M GY, HD, VF - F GR, SUB ANG QTZ, CALC, V, PYR 1/2 P, CARB 1/2 P, SILTY 1/2 P. - OCC GRDG SILST.

SH - M - DK GY, HD, NON CALC, PLY-BLKY, PYR 1/2 P.

SS-LT - M GY, HD, VF - F - M GR, SUB ANG QTZ, F SORT, CALC, PYR, SILTY 1/2 P.

SH - A.A, SILTY 1/2 P.

PH 10.4
WL 19.0
CL 350

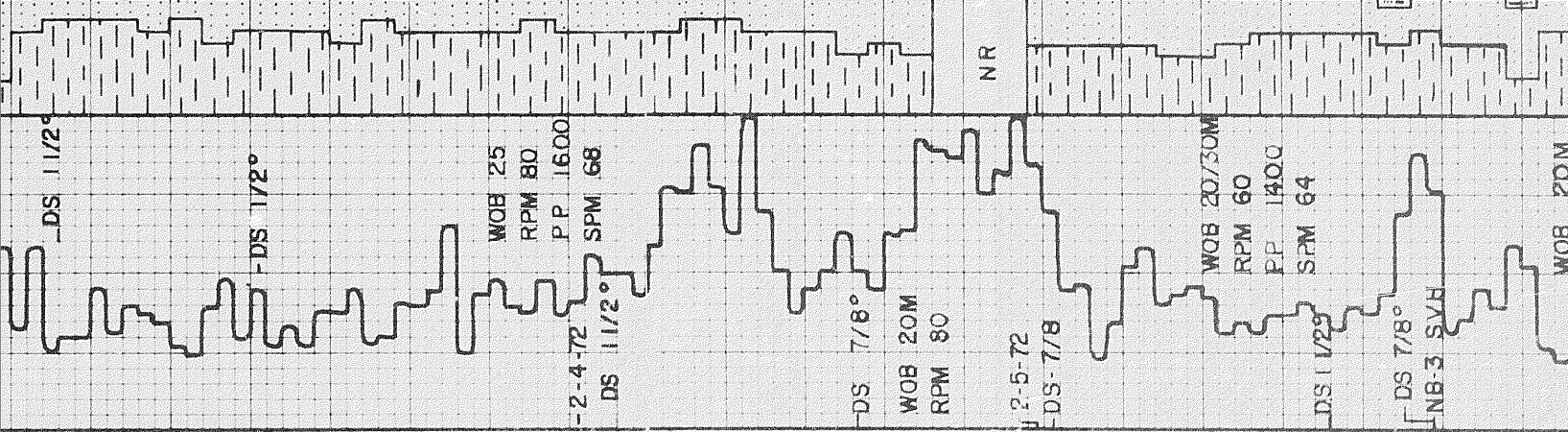
W 8.9
V 56
PV 20
YP 6
GEL 2/11
PH 7.8
WL 9.6
CL 350

NOTE: LOST CIRC 1846

VIB. 100 - REDUCED GAS READINGS

SHAKER BY PASSED MIX LOSS CIRC MATERIAL

600 1700 1800 1900 2000



DS 1 1/2

DS 1 1/2

WOB 25
RPM 80
P.P. 16.00
SPM 68

-2-4-72
DS 1 1/2

DS 7/8

WOB 20M
RPM 80

2-5-72
DS 7/8

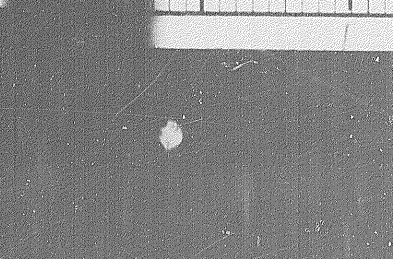
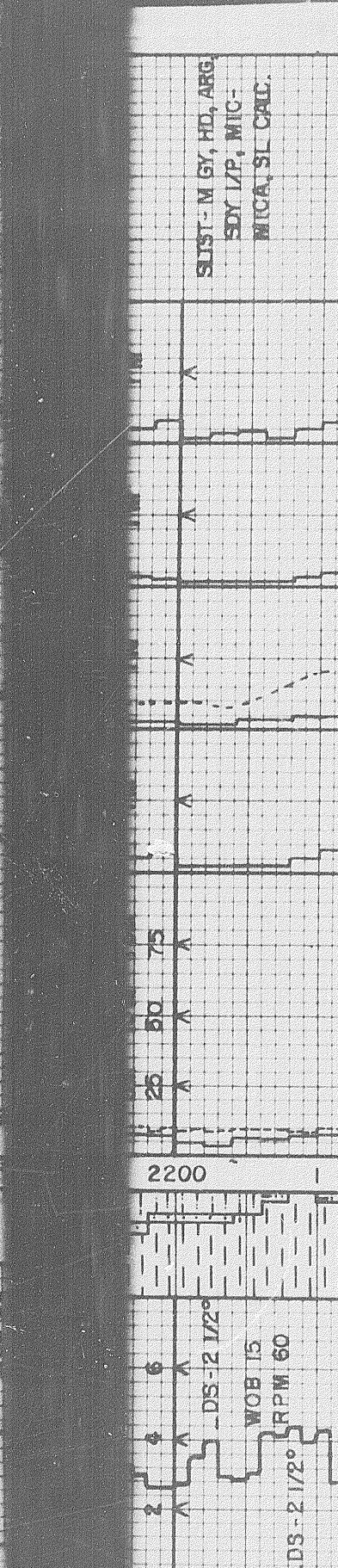
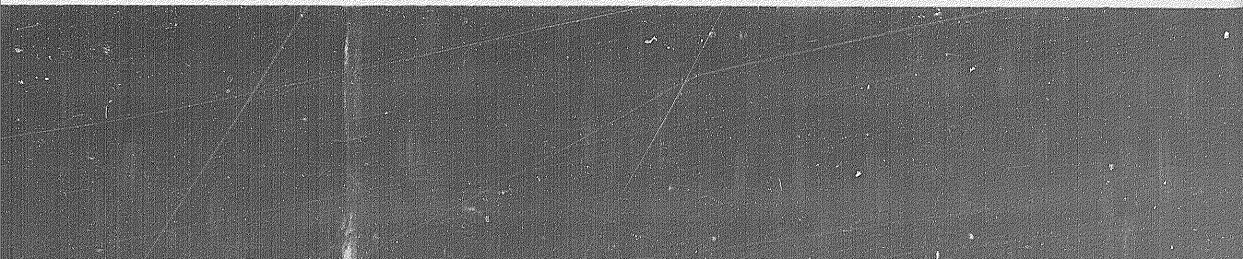
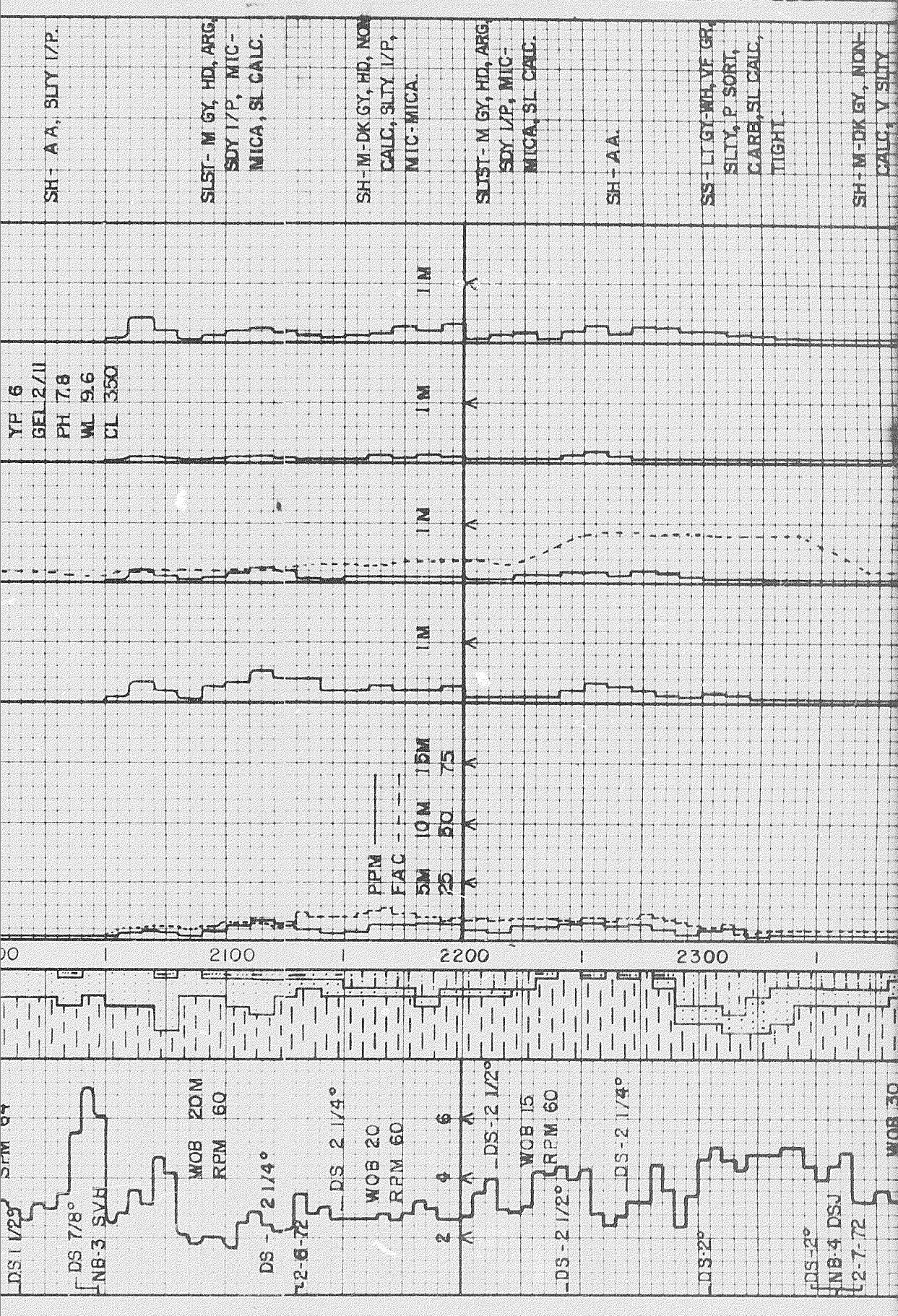
WOB 20/30M
RPM 60
P.P. 14.00
SPM 64

DS 1 1/2

DS 7/8
NB-3 SVLF

WOB 20M

NR



SH - A.A.

SS - LI-GT-WH, VF GR, SILTY, P SORT, CARB, SL CALC, TIGHT.

SH - M-DK GY, NON-CALC, V SILTY I/P, MIC-MICA.

SS - A.A., SILTY I/P.

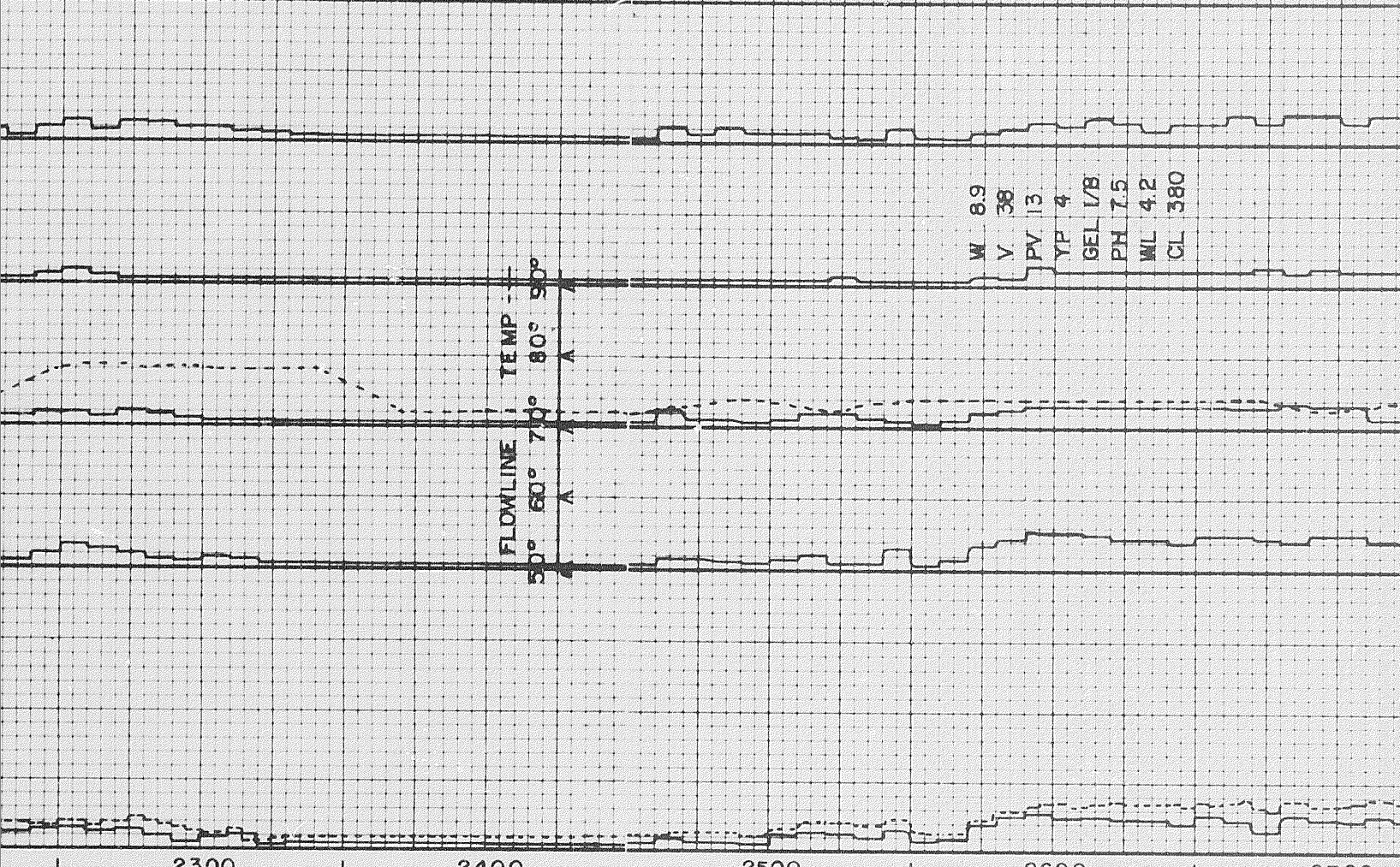
SH - M-DK GY, HD, BLKY, LAM I/P, MICA, NON-SL CALC, SILTY.

SUST - M - DK GY, HD, SDY I/P, SL CALC.

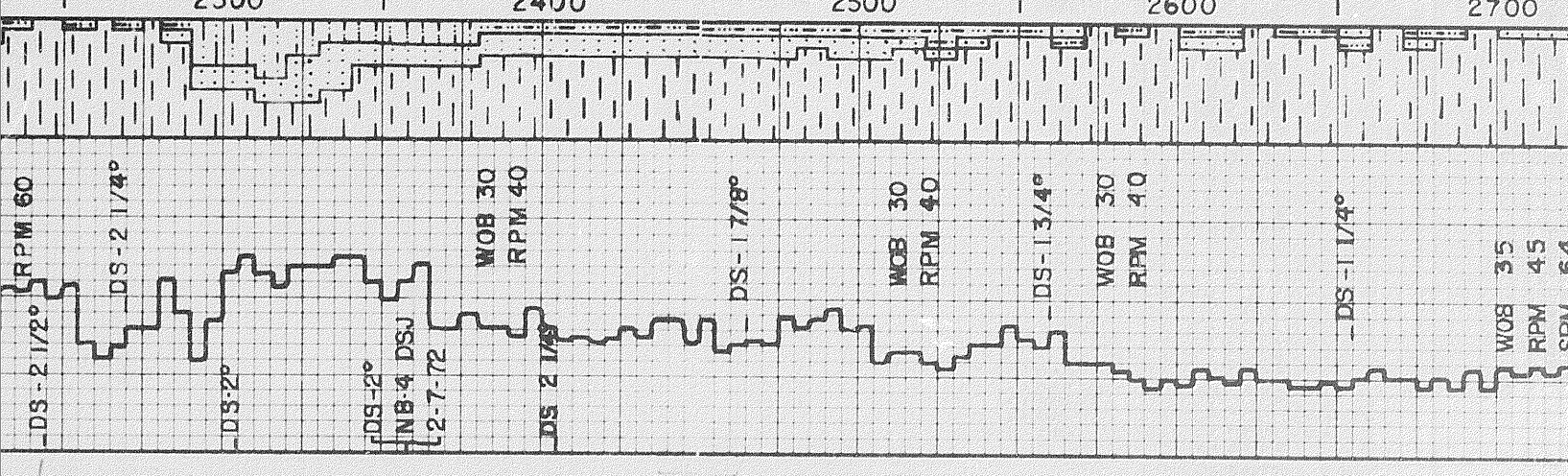
SH - AA, DOL I/P.

-- TR DOL - BRN, CRY - XLN, ARG.

SS - LI-M GY, VF GR, SILTY, V SL CALC, P SORT, TIGHT.



W 8.9
 V 38
 PV 13
 YP 4
 GEL 1/8
 PH 7.5
 WL 4.2
 CL 380



-DS - 2 1/2° RPM 60

-DS - 2°

-DS - 2 1/4°

-DS - 2°

WOB 30 RPM 40

-DS - 1 7/8°

WOB 30 RPM 40

-DS - 1 3/4°

WOB 30 RPM 40

-DS - 1 1/4°

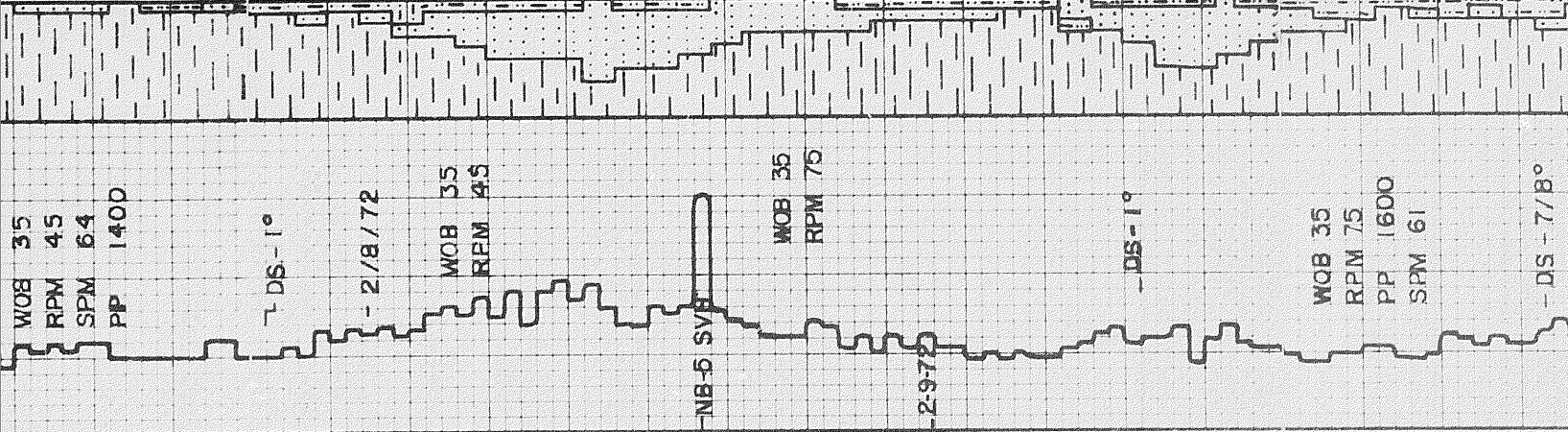
WOB 35 RPM 45

SDM 54

SILTY, V SL CALC,
 P SORT, TIGHT.
 SH-AA, TR COAL.
 SLTST-M-DK GY, HD,
 SL CALC., SDY
 I/P, GRDG-VF
 SS I/P
 SS-LT-M GY-GY
 BRN, HD, VF-F
 GR, SL CALC.,
 SILTY, MIC MICA
 SH-M-DK GY, HD,
 MICA, V SILTY
 I/P, NON CALC.
 SS-LT-M GY, HD, VF-
 F GR, SA QIZ,
 F SORT, SILTY,
 CARB, V SL CALC.
 SLTST-AA.
 SS-AA.
 SLTST-LT-M GY, SDY
 I/P, CARB, MICA,
 INDUR, SL-NON
 CALC.



700 2800 2900 3000 3100 PPM



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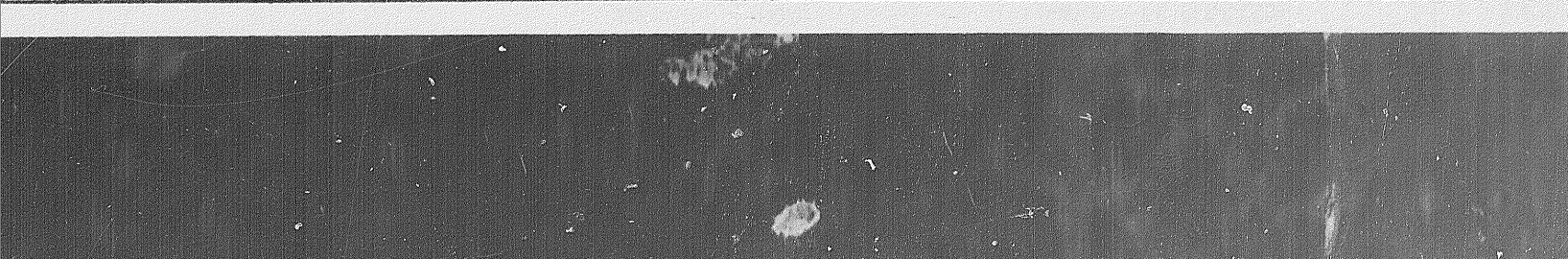
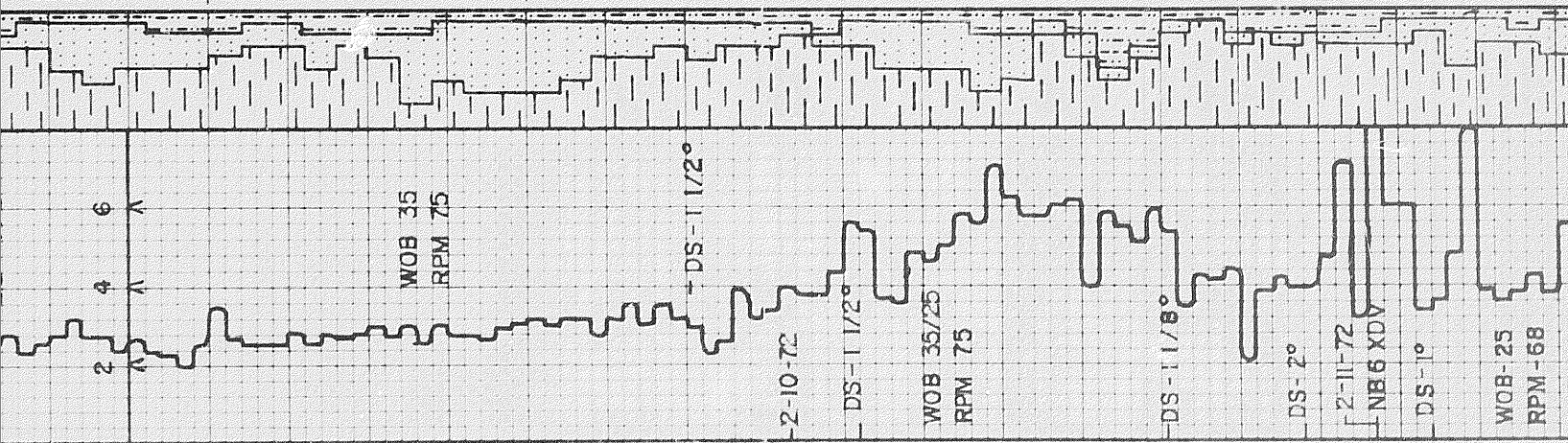
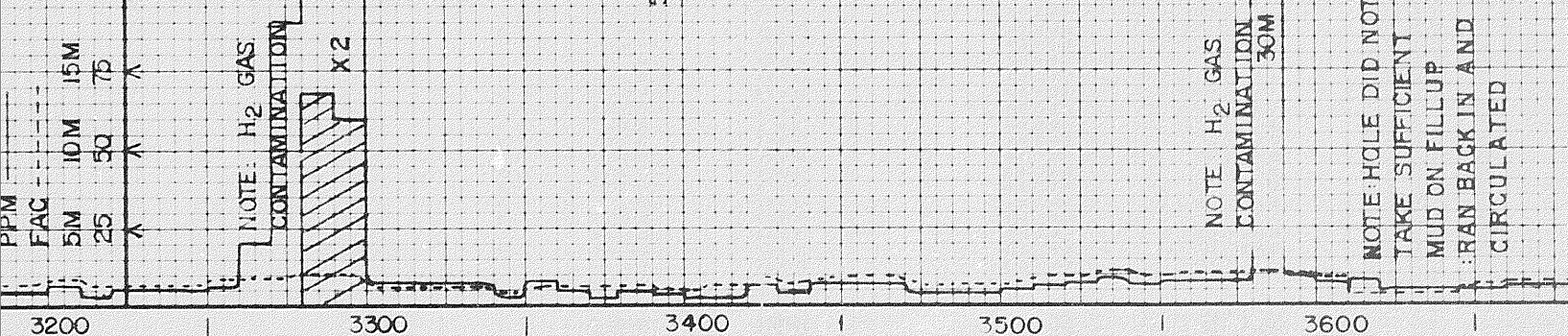
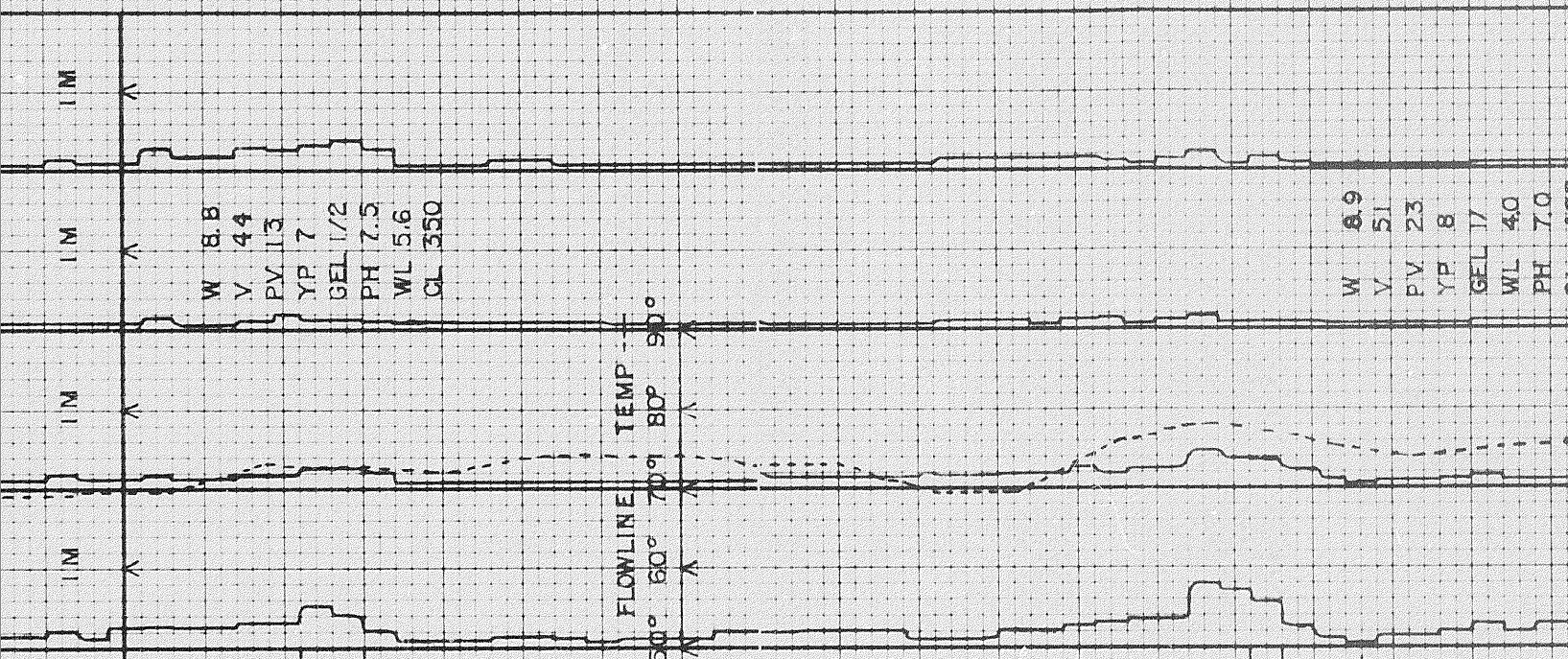
SS - LT - M GY, VF -
 F GR, CAREB,
 SL CALC, INDUR,
 MICA, P SORT,
 SLTY I/P.

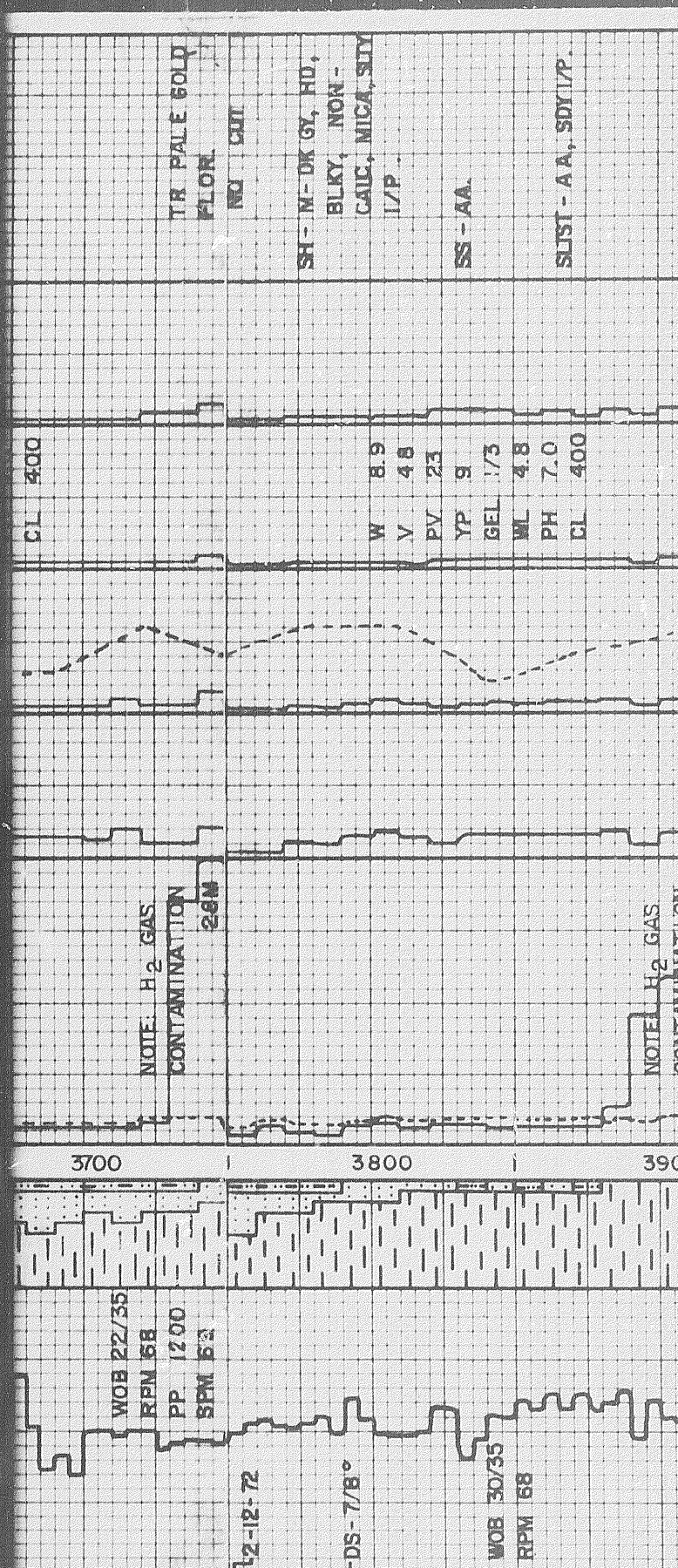
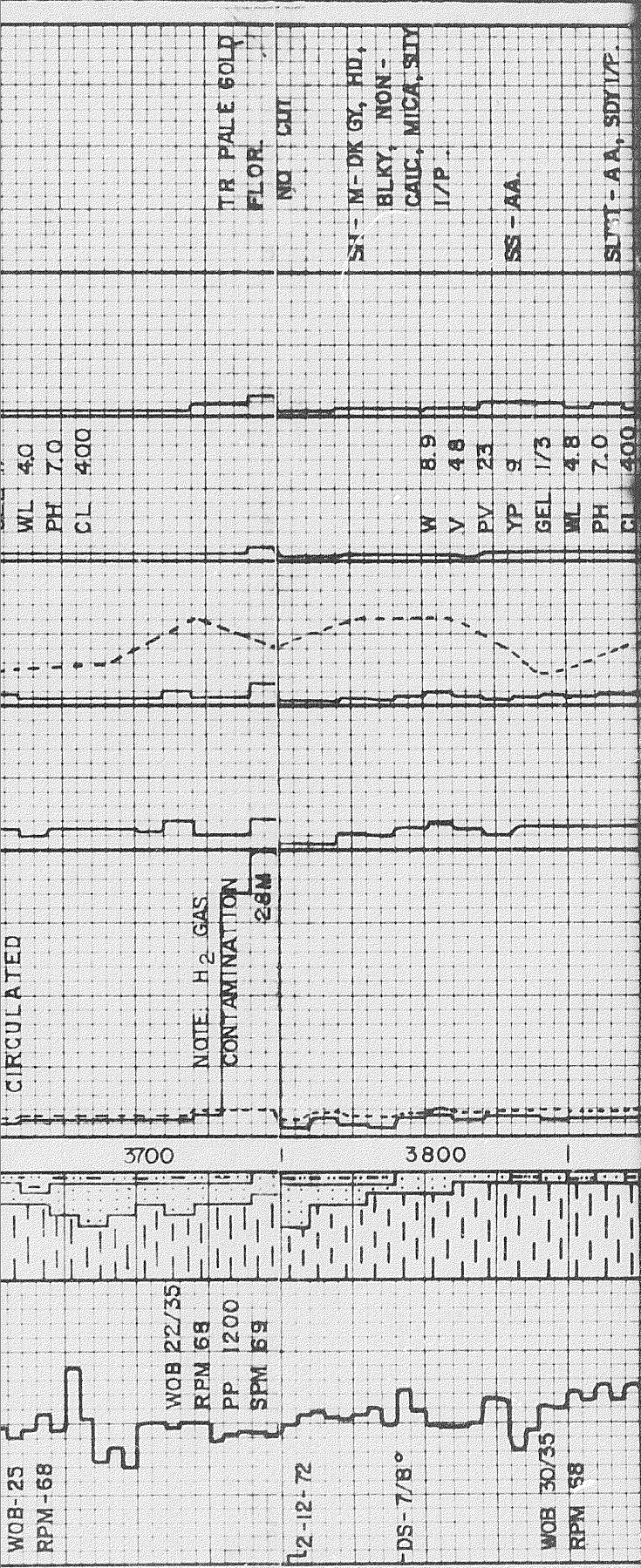
NOTE: OIL STAIN
 ON SH, LI
 YELLOW, GRN
 BLEEDING CUT,
 POOR, Ø IN SS

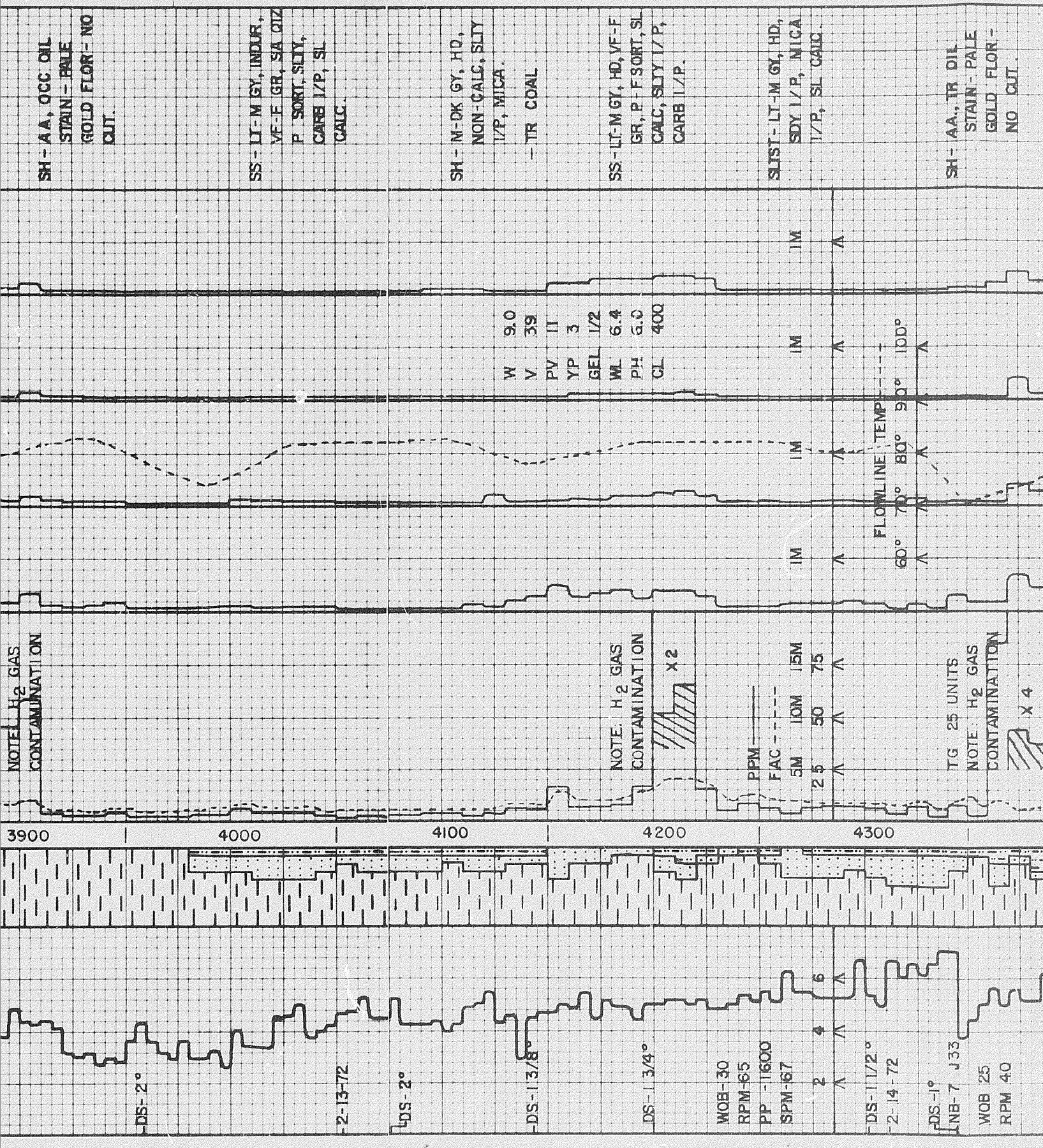
SH - AA.

SS - LT - M GY, VF -
 F GR, SA QIZ,
 INDUR, P SORT,
 SLTY, SL CALC,
 MICA.

SH - M - DK GY, HD,
 SL LAM, MIC
 MICA, NON CALC







SH - AA, OCC OIL
STAIN - PALE
GOLD FLOR - NO
CUT.

SS - LI-M GY, INDR,
VF-E GR, SA QIZ
P SORT, SILTY,
CARB I/P, SL
CALC.

SH - M-DK GY, HD,
NON-CALC, SILTY
I/P, MICA.
- TR COAL

SS - LI-M GY, HD, VF-F
GR, P - F SORT, SL
CALC, SILTY I/P,
CARB I/P.

SLUST - LI-M GY, HD,
SDY I/P, MICA
I/P, SL CALC.

SH - AA, TR OIL
STAIN - PALE
GOLD FLOR -
NO CUT.

W 9.0
V 39
PV 11
YP 3
GEL 1/2
WL 6.4
PH 6.0
CL 400

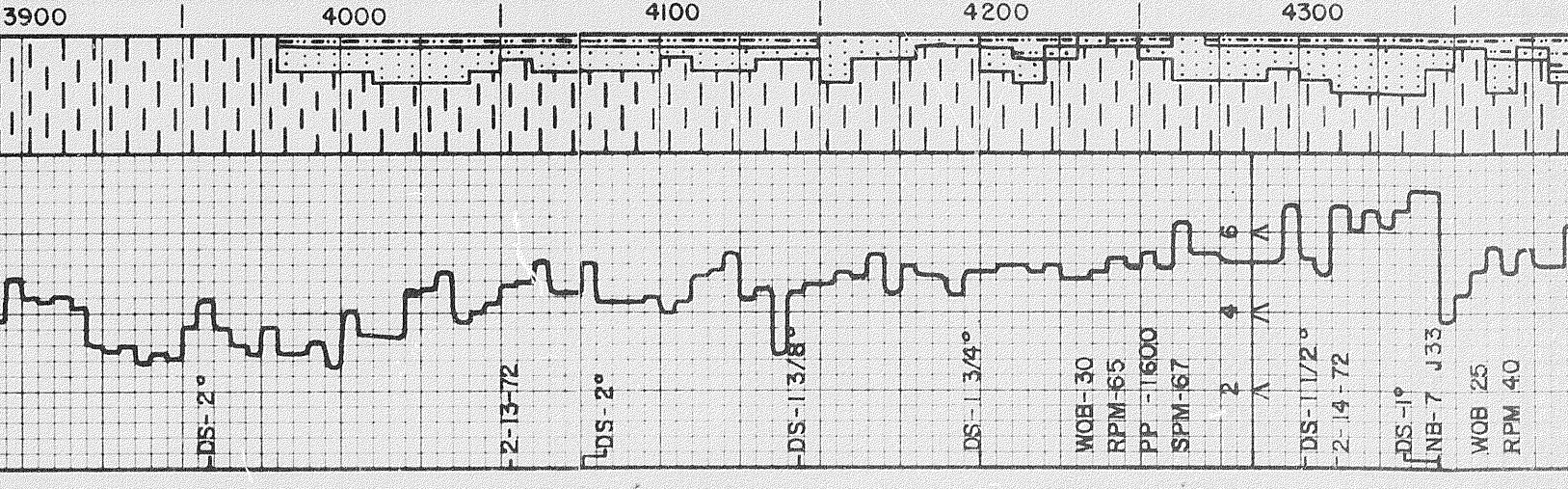
60° 70° 80° 90° 100°
FLOWLINE TEMP

NOTE: H₂ GAS
CONTAMINATION

NOTE: H₂ GAS
CONTAMINATION

TG 25 UNITS
NOTE: H₂ GAS
CONTAMINATION

PPM
FAC
5M 10M 15M
25 50 75



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GOLD FLOR - NO CUT.

CALCITE - CLR - WH - BRN GY, M-C. CRV. XLN INT-XLN - VUS. POR., NO FLOR.

SH - M-DK GY, HD, NON CALC, SLTY I/P, OCC OIL STAIN, PALE GOLD FLOR NO CUT.

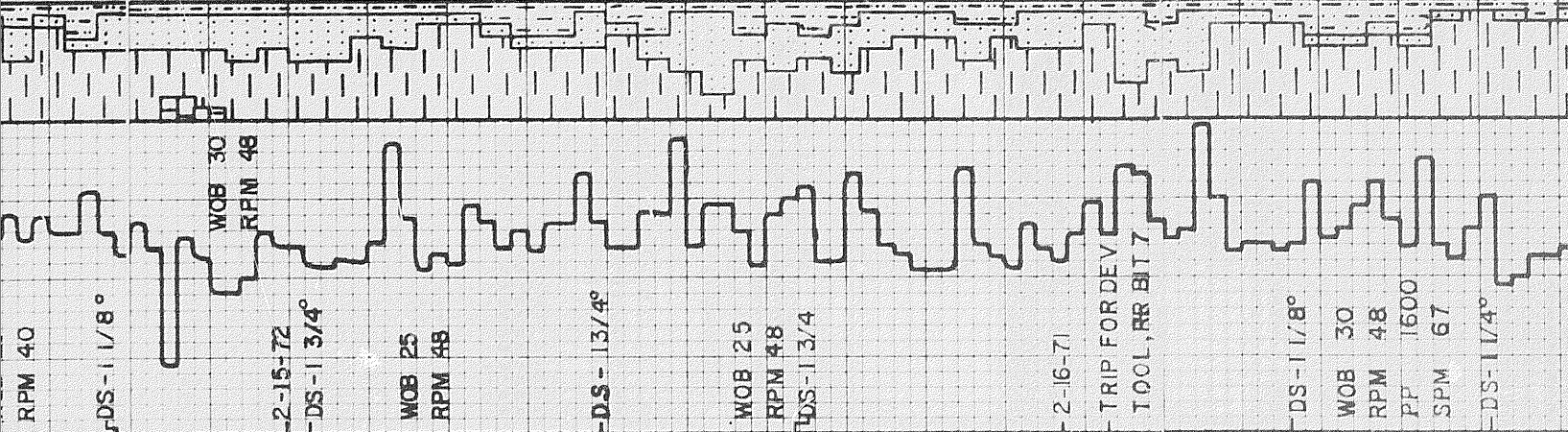
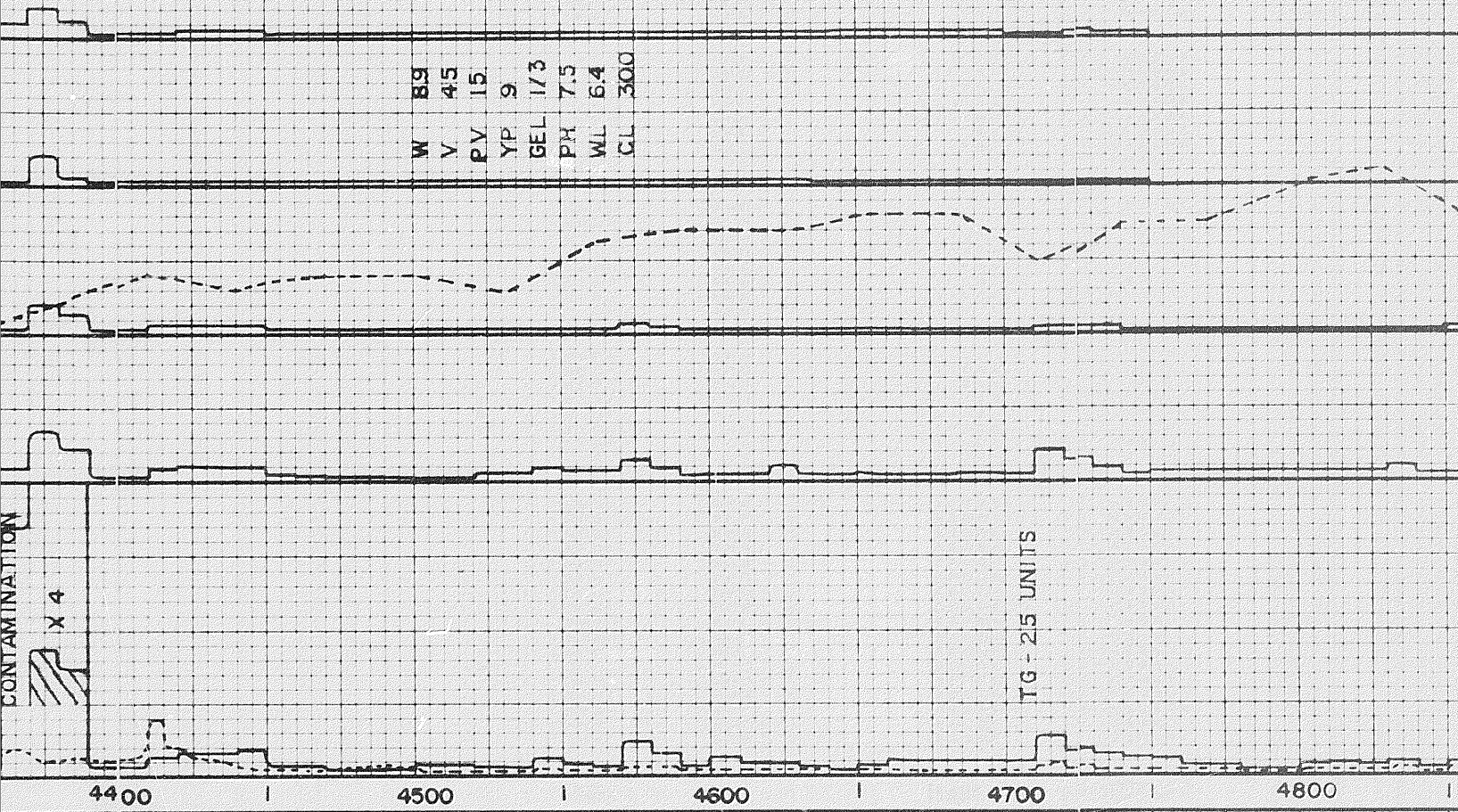
TR OIL STAIN

SS - LT-M GY WHT, INDUR V.F GR, SL CALC, TR CARB FLECS, SLTY I/P

SUST-LT-M GY, HD, SDY I/P, MICA, SL CALC, V SL ARG.

SH-A7A

W 89
 V 45
 PV 15
 YP 9
 GEL 1/3
 PH 7.5
 WL 6.4
 CL 300



1/P, SL CALC,
MICA, INDUR,
TR CAMB FLEC

TR COAL

SH - V SLTY

SS - AA, PYR
1/P

TR SS, SLTST

SH - M-DK GY, HD,
MIC MICA, NON
CALC, SLTY,
SPLINTRY

TR COAL

SLTST-LT-DK GY
M HD, MIC MICA,
PYR

LS - M WHT-LT GY,
VF-FX LN, M HD,
ARG, SLTY, 1/P,
FOOR ϕ

TR BRN CRT

W 8.8
V 39
PV 9
YP 3
GEL 1/2
PH 7.0
WL 6.4
ICL 300

W 8.8
V 4.4
PV 1.4
YP 5
GEL 1/2
PH 8.5
WL 6.8
ICL 350

FLOWLINE TEMP ---
70° 80° 90° 100° 110°

PPM ---
FAC ---
5M 10M 15M
25 50 75

4900 5000 5100 5200 5300

DS - 11°

WOB 30
RPM 48

DS - 11/8°

WOB 30
RPM 48

2-18-72

DS - 11/8°

2

4

6

DS - 11/8°

DS - 11/2°

SPLINTRY

TR COAL

SLIST-LI-DK GY
M HD, MIC MICA,
PYR

LS-M WHT-LT GY,
VF-FXLN, M HD,
ARG, SLTY, I/P,
POOR ϕ

TR BRN CHT

SH- DK GY-BLK, BIT,
HD, MIC, MICA,
FRAG, V SL-
NON CALC.

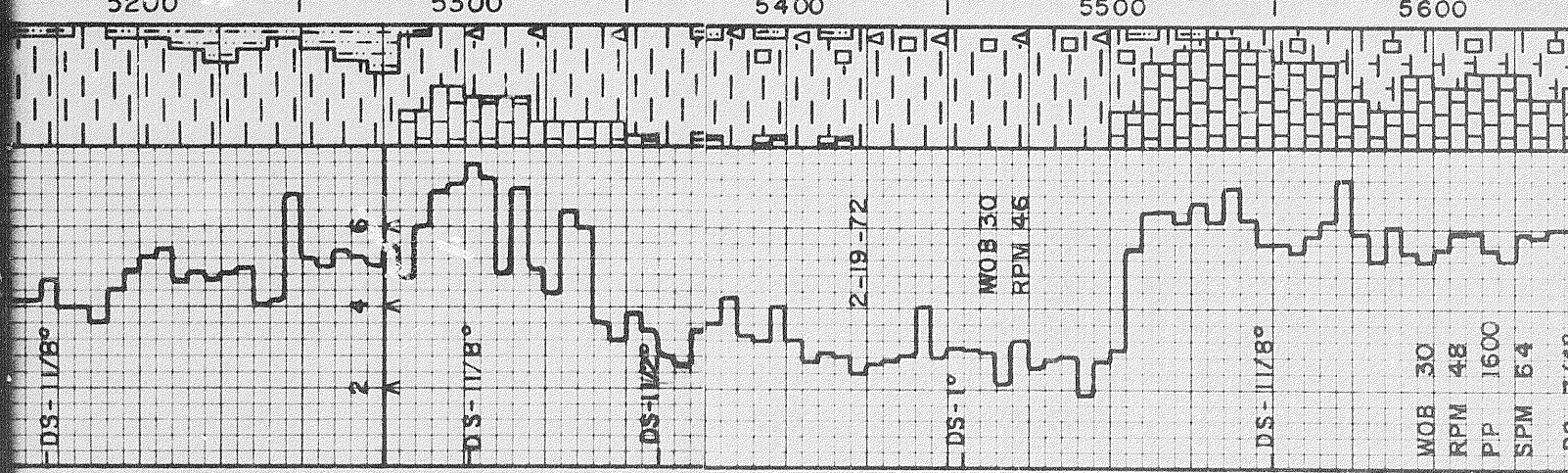
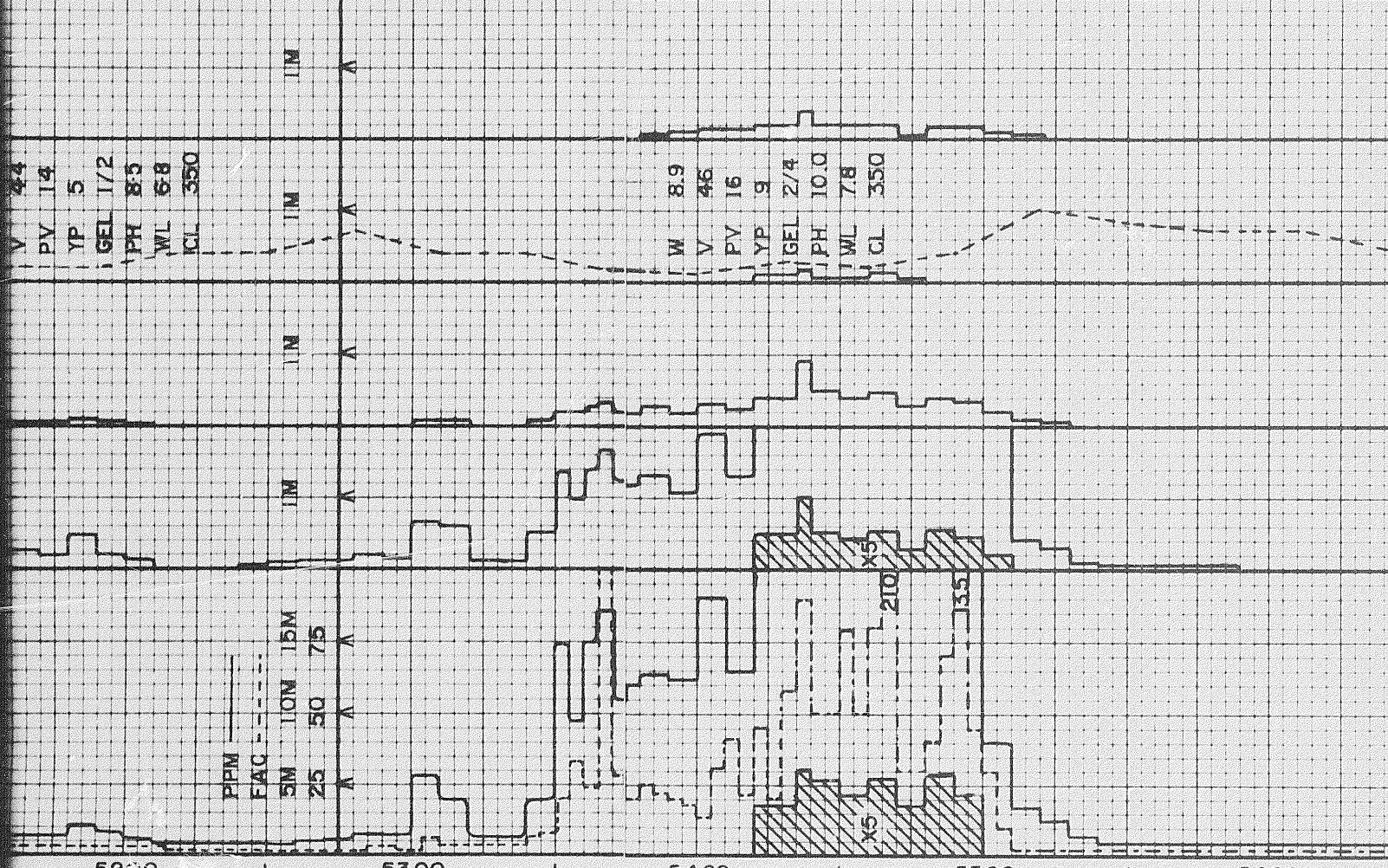
TRS BLK CHT

SH-PYR I/P

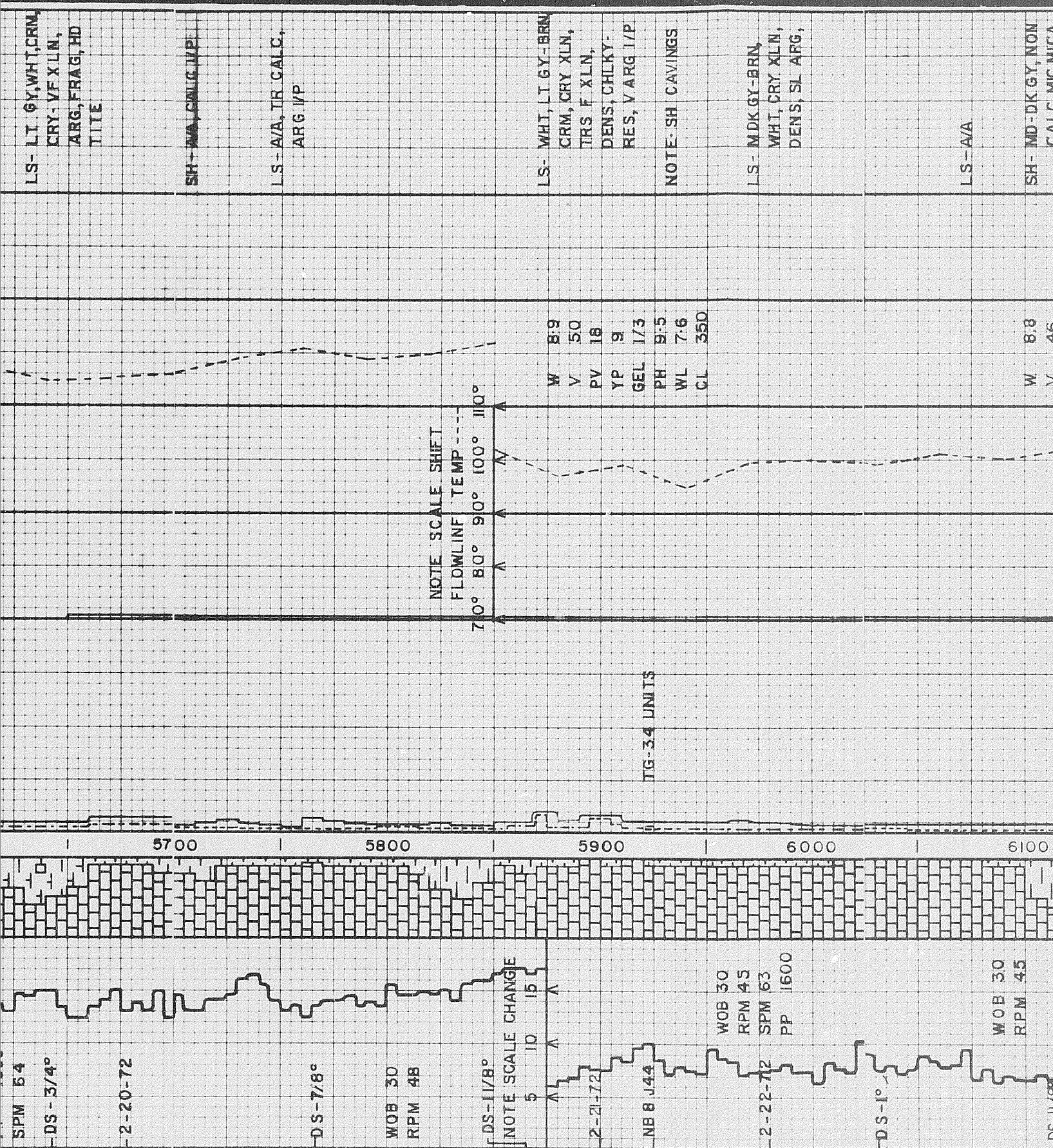
LS-LT GY-BRN,
CRM, CRY-VF-
F XLN, ARG I/P,
CHLKY, RES,
NO ϕ

SH-LT GY-BLK,
V CALC, MIC
MICA

LS-LT GY, WHT, CRM,
CRY-VF XLN.



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LS-LT, GY, WHT, CRM,
CRY-VF XLN,
ARG, FRAG, HD
TITE

SH-A/A, CALC I/P

LS-A/A, TR CALC,
ARG I/P

LS-WHT, I GY-BRN,
CRM, CRY XLN,
TRS F XLN,
DENS, CHLKY-
RES, V ARG I/P

NOTE-SH CAVINGS

LS-MDK GY-BRN,
WHT, CRY XLN,
DENS, SL ARG

LS-A/A

SH-MD-DK GY, NON
CALC I/P

NOTE SCALE SHIFT

FLOMLINE TEMP

70° 80° 90° 100° 110°

W	8.9
V	5.0
PV	1.8
YP	9
GEL	1/3
PH	9.5
WL	7.6
CL	350

FIG-34 UNITS

5700

5800

5900

6000

6100

SPM 64

DS-3/4°

DS-20-72

DS-7/8°

WOB 30
RPM 48

DS-1/8°
NOTE SCALE CHANGE

DS-21-72

DS-22-72

WOB 30
RPM 45
SPM 63
PP 1600

DS-1°

WOB 30
RPM 45

SH - MD-DK GY, NON
CALC, MIC MICA,
L.A.M - FRAG
TR OIL STN.

LS - BUFF-CRM, BRN
LT. GY - WHT,
CRY XLN, FRAG,
SL ARG

LS - AZA, TR CALC

LS - CRM - BRN-DK GY,
HD, CRY-F XLN
I/P, SL ARG,
CALCITE VEINING

DOL - LT BRN - DK GY,
HD, CRY XLN,
LWY I/P.

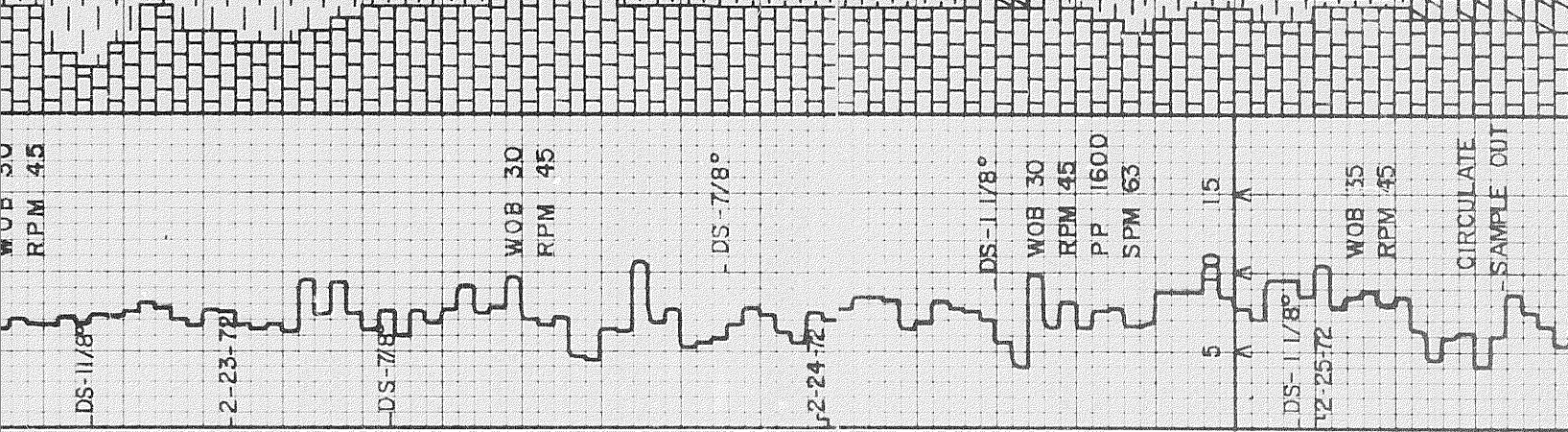
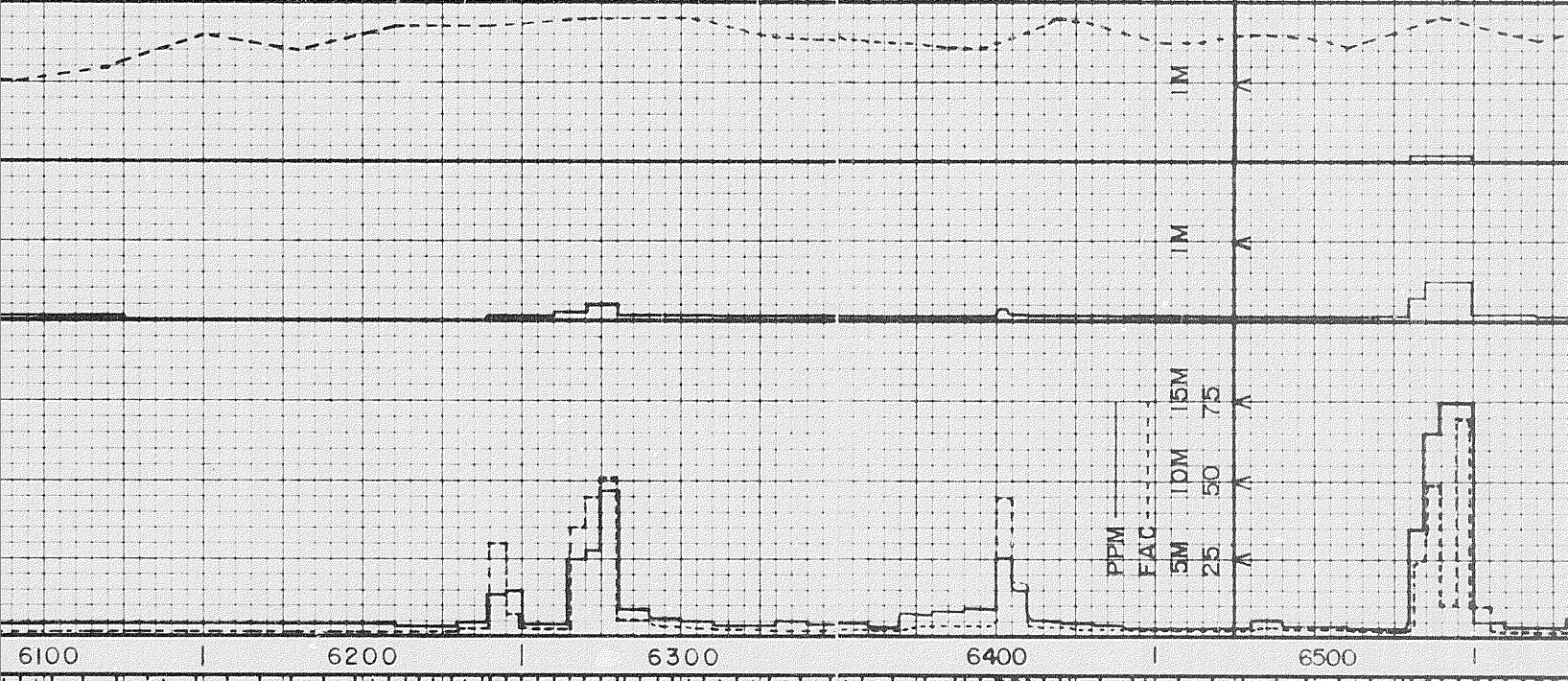
SH - DK GY - BLK, FRM,
FLTY, NON - SL
CALC.

LS - AA, CHKY I/P.

DOL - LT - M BRN, CRY -
VF XLN, HD, SL
ARG, TR M - C GR,
TR VF INT XLN

W 8.8
V 46
PV 14
YP 8
GEL 1/4
PH 10.0
WL 7.2
CL 350

W 8.8
V 41
PV 11
YP 7
GEL 1/6
PH 9.5



DS-1 1/8°
-2-23-72
DS-7/8°
-2-24-72

WOB 30
RPM 45

DS-7/8°

DS-1 1/8°
WOB 30
RPM 45
PP 1600
SPM 63

DS-1 1/8°
-2-25-72

WOB 35
RPM 45

CIRCULATE
-SAMPLE OUT

HD, CRYE XLN
I/P, SL ARG,
CALCITE VEINING

DOL-LT BRN-DK GY,
HD, CRY XLN,
LWY I/P.

SH - DK GY - BLK, FRM,
FLTY, NON - SL
CALC.

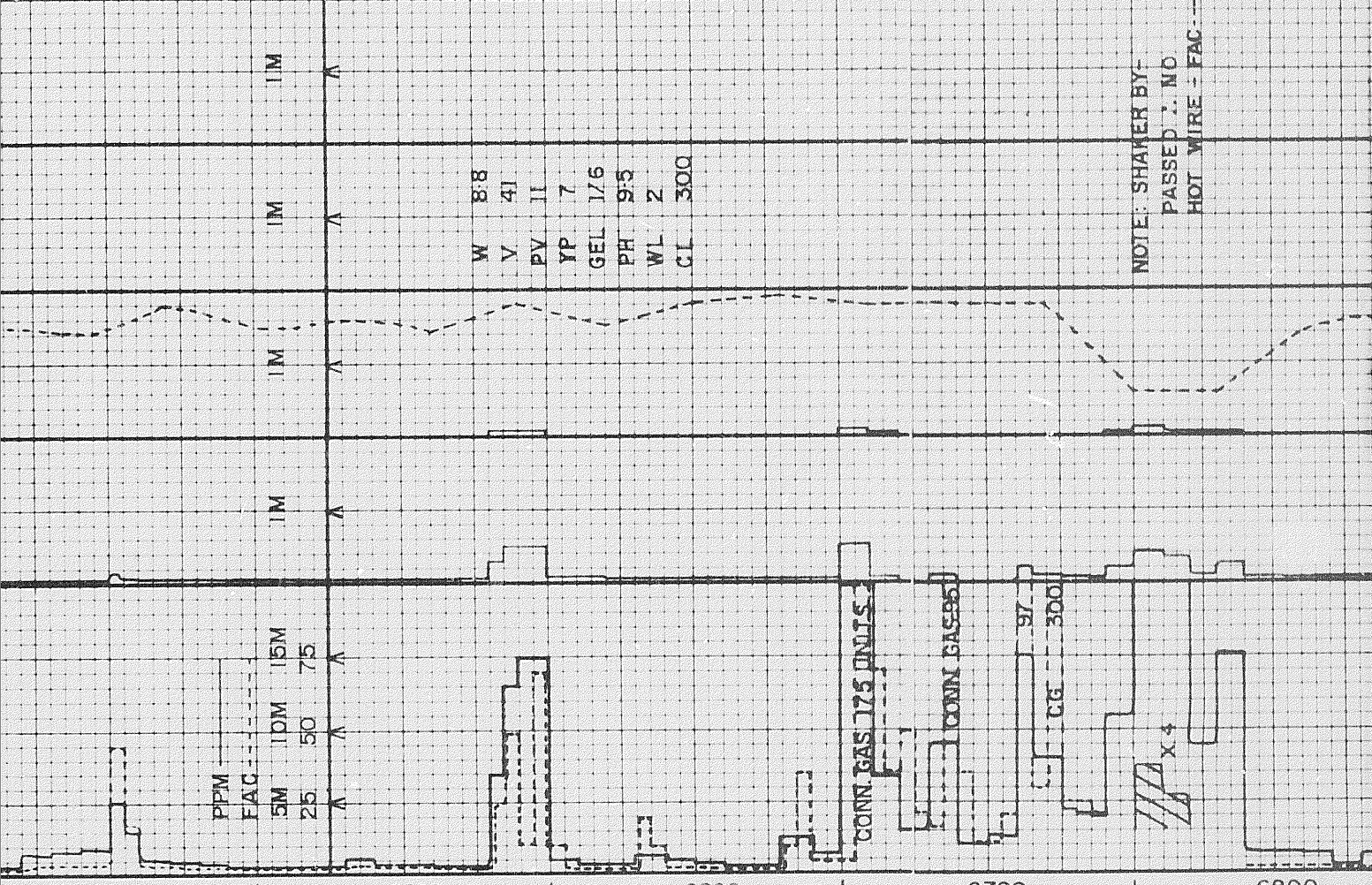
LS - AA, CHKY I/P.

DOL-LT-M BRN, CRY -
VE XLN, HD, SL
ARG, TR M-C GR,
TR VF INT XLN
POR.

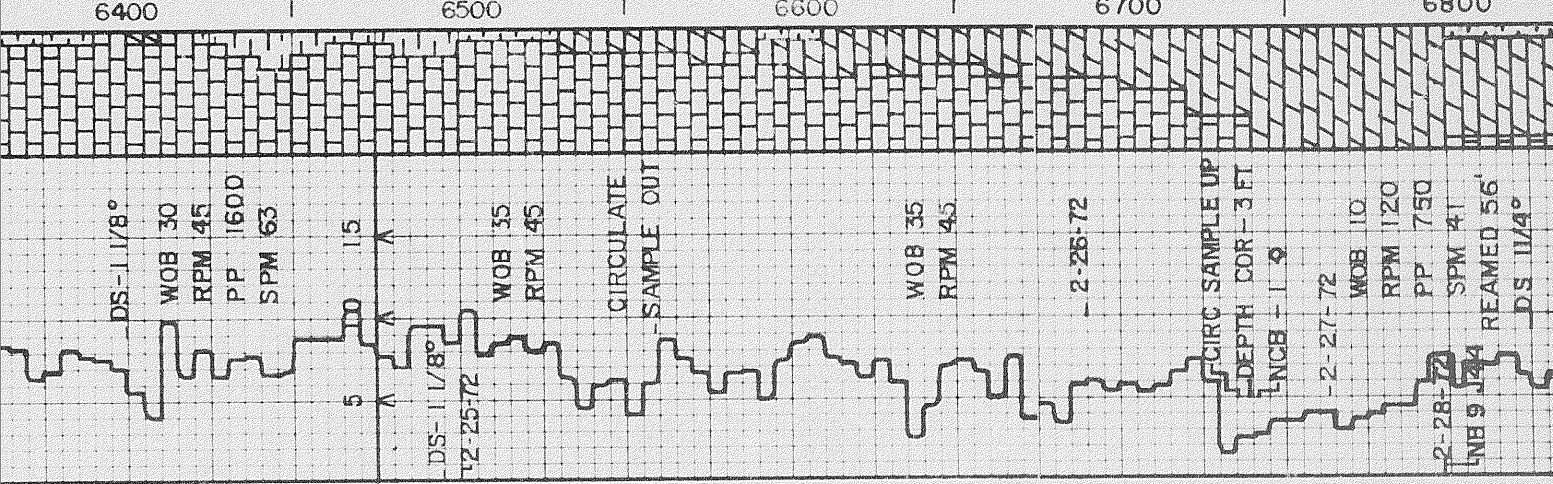
DOL-LT-M BRN, HD, VE
-F XLN, F VUG
POR.

DOL-LT-M BRN, HD, VE
F XLN, VUG - INT
XLN POR, Y SL
FLOR, NO OUT.

DOL-A/A - DK GY, MIC-
XLN I/P, TR POR
PYR I/P, CALC
VEINS, NO FLOR.



NOTE: SHAKER BY-
PASSED : NO
HOT WIRE - FAC---



DS-1 1/8°
WOB 30
RPM 45
PP 1600
SPM 63

DS-1 1/8°
2-25-72
WOB 35
RPM 45
CIRCULATE - SAMPLE OUT

WOB 35
RPM 45
2-26-72

CIRC SAMPLE UP
DEPTH CDR - 3 FT
LNCE - 1.9
2-27-72
WOB 10
RPM 120
PP 750
SPM 41
2-28-72
WOB 9
REAMED 56
DS 11/4°

POR.

DOL-LI-M BRN, HD, VF
F XLN, VUG-INT
XLN POR, V SL
FLOR, NO CUT.

DOL-A/A -DK GY, MIC-
XLN 1/P, TR POR
PYR 1/P, CALC
VEINS, NO FLOR.

DOL-DK GY-M-DK BRN
HD, MIC-F XLN,
SL ARG, PYR 1/P,
ABNT CALCITE
VEINS, TR VUG.B
INT XLN POR,
NO FLOR, NO
CUT.

LS-WHT-BEIGE, SFT
-NHD, CHALKY
- XLN 1/P, SL
ARG, SOME CALC

DOL-A/A

LS-WH-LT GY-DK
GY, M HD, CRY-
MIC XLN, SL ARG
TIGHT, CHKY UP

NOTE: SHAKER BY-
PASSED : NO
HOT WIRE - FAC--

W 8.8
V 56
PV 12
YP 11
GEL 4/12
PH 9.0
WL 9.2
CL 300

FLOWLINE TEMP ---
70° 80° 90° 100° 110°

CONN GAS 175 UNITS
CONN GASES

6700

6800

6900

7000

7100

- 2-26-72

CIRC SAMPLE UP
DEPTH COR - 3 FT
NCB - 1.0

- 2-27-72

WOB 110
RPM 120
PP 750
SPM 41

- 2-28-72

REAMED 56'
D.S 11/4°

WOB 40
RPM 45

- DS - 1 3/4°

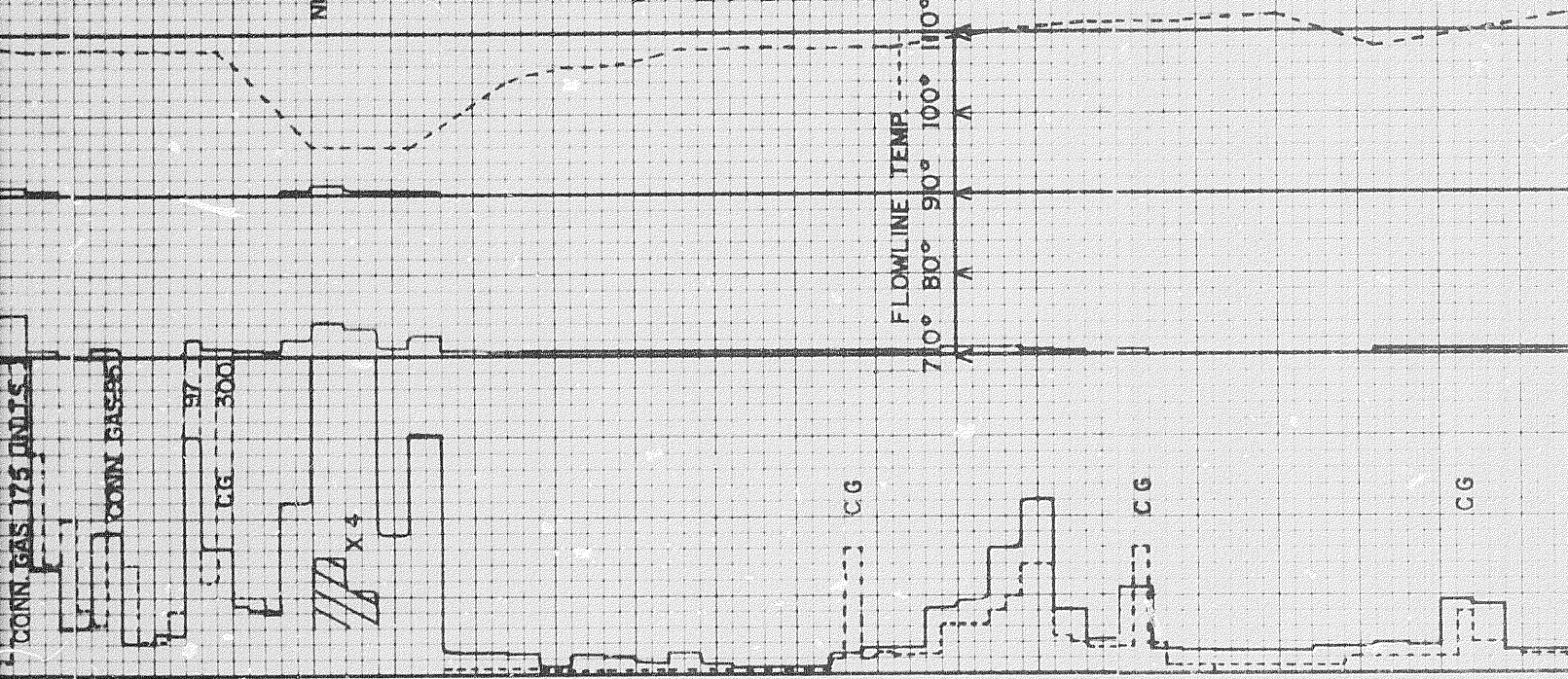
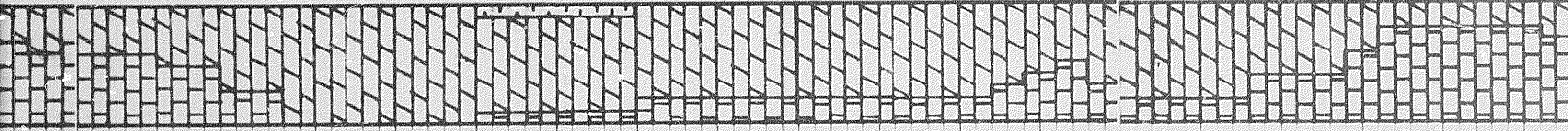
WOB 35
RPM 45

- 2-29-72

WOB 35
RPM 45
PP 1500
SPM 61

- DS - 1 3/4°

- DS - 1 3/4°



LS-A/A, BRN I/P, TR
VUG & INT XLN
POR, NO FLOR,
NO CUT

DOL-LT-DK BRN-DK
GY, HD, MIC-F
XLN, SL ARG, TR
VUG & INT XLN
POR, NO FLOR,
NO CUT

DOL-LT-DK BRN-DK
GY, HD, MIC-F-
M XLN I/P, VUG
& INT XLN POR,
G-F-P POR, NO
FLOR, NO CUT

TRANHY
WHT-CLR

SH-CAVINGS DUE
TO MUD
PROBLEMS

DOL-LI-M GY, M HD,
CRY XLN, LIMY,
SL ARG, PYR

W 8.8
V 6.0
PV 1.2
YP 8
GEL 3/20
PH 8.5
WL 9.8
CL 1500

W 8.7
V 4.5
PV 6
YP 8
GEL 4/16
PH 9
WL 25.6
CL 7500

7200 7300 7400 7500 7600

-3-1-72
-DS-2°
WOB 30
RPM 45

-DS-2°

-CIRC SAMPLE UP

-DS-21/8°
5 10 15

-3-2-72

NaCl - 30 - 40 bbls
H₂O - 150,000 ppm

MB-10 X55R

-3-3-72

WOB 30
RPM 45

6 of

SL ARG, PYR I/P.

LS - WHT-BEIGE-LT GN, SFT-HD, CHKY I/P, SILICIFIED & CHTY I/P, PYRIC.

LS - LT GY - GY BRN, M-HD, CRY - F XLN I/P, DOL, SIL I/P, PYR I/P.

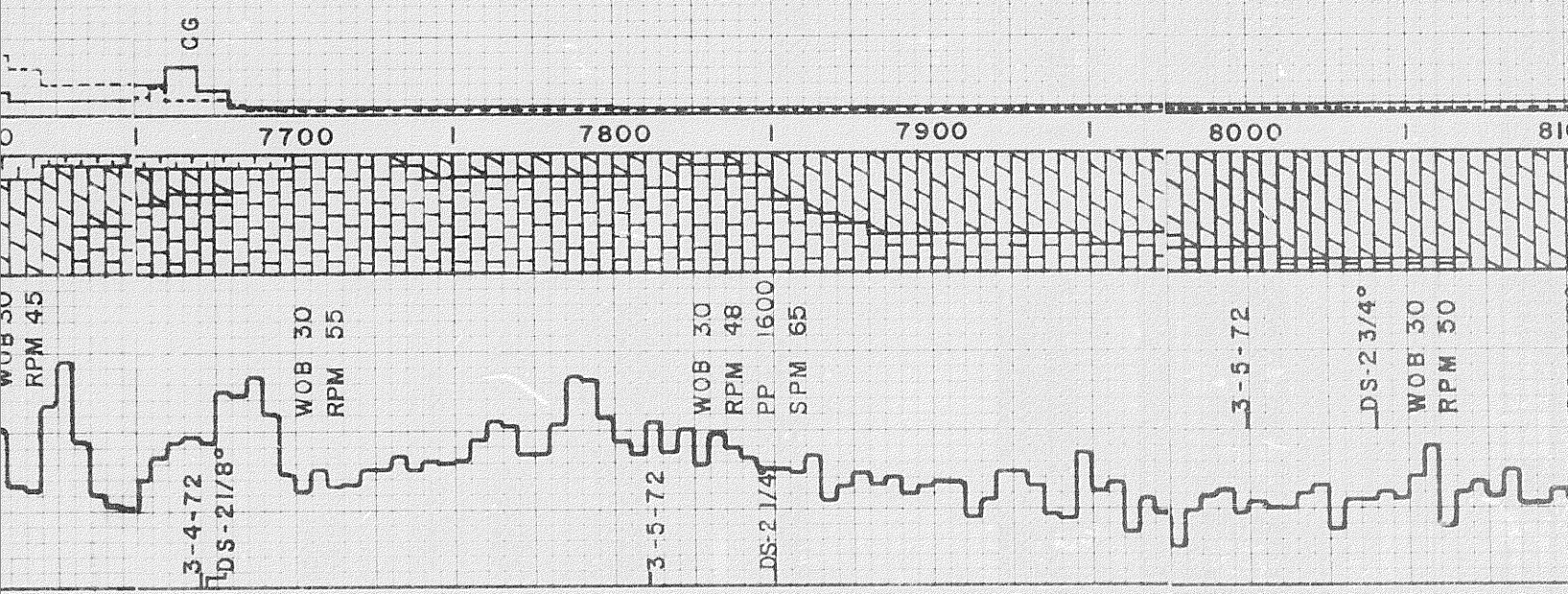
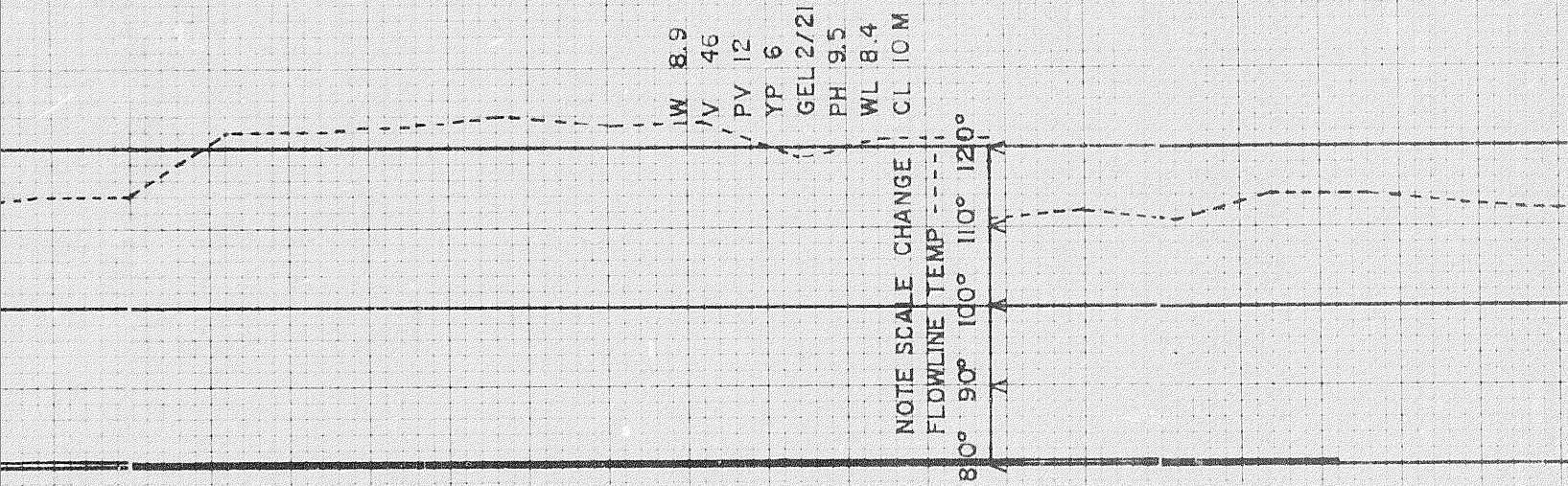
DOL - LT GY - GY BRN, M-HD, CRY XLN, LIMY, SIL I/P, PYR I/P.

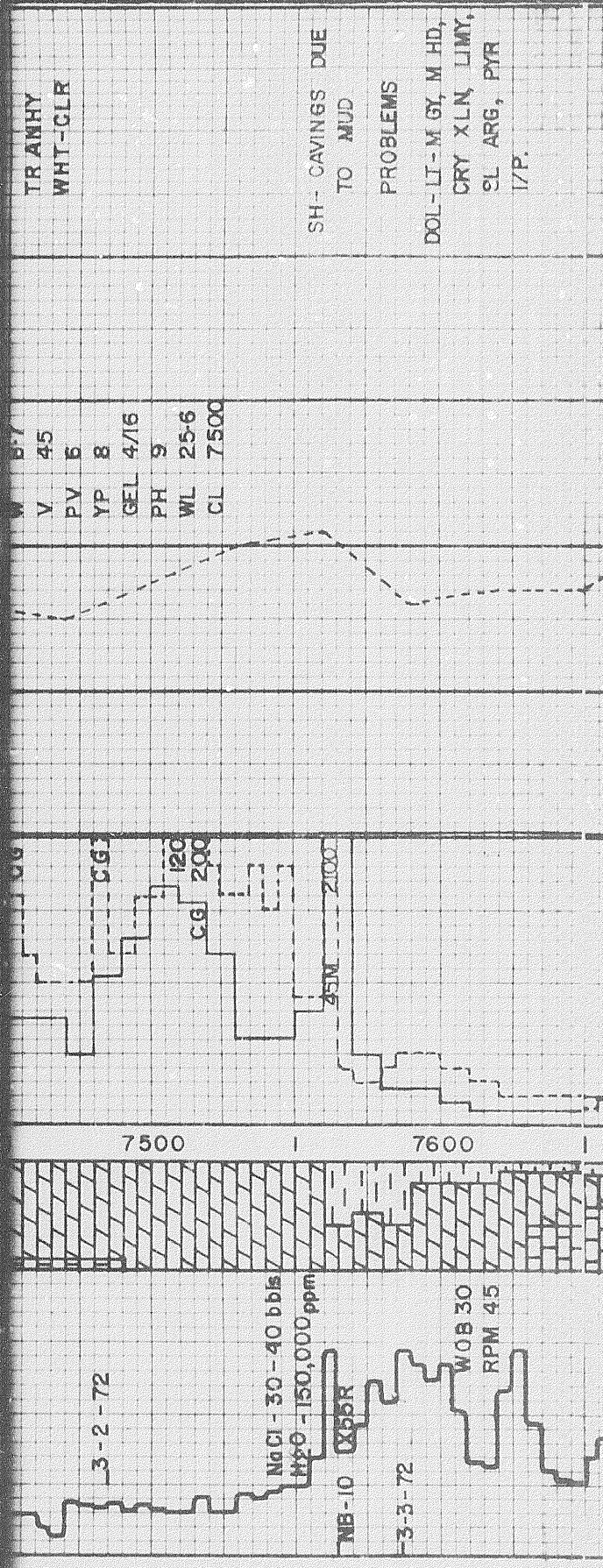
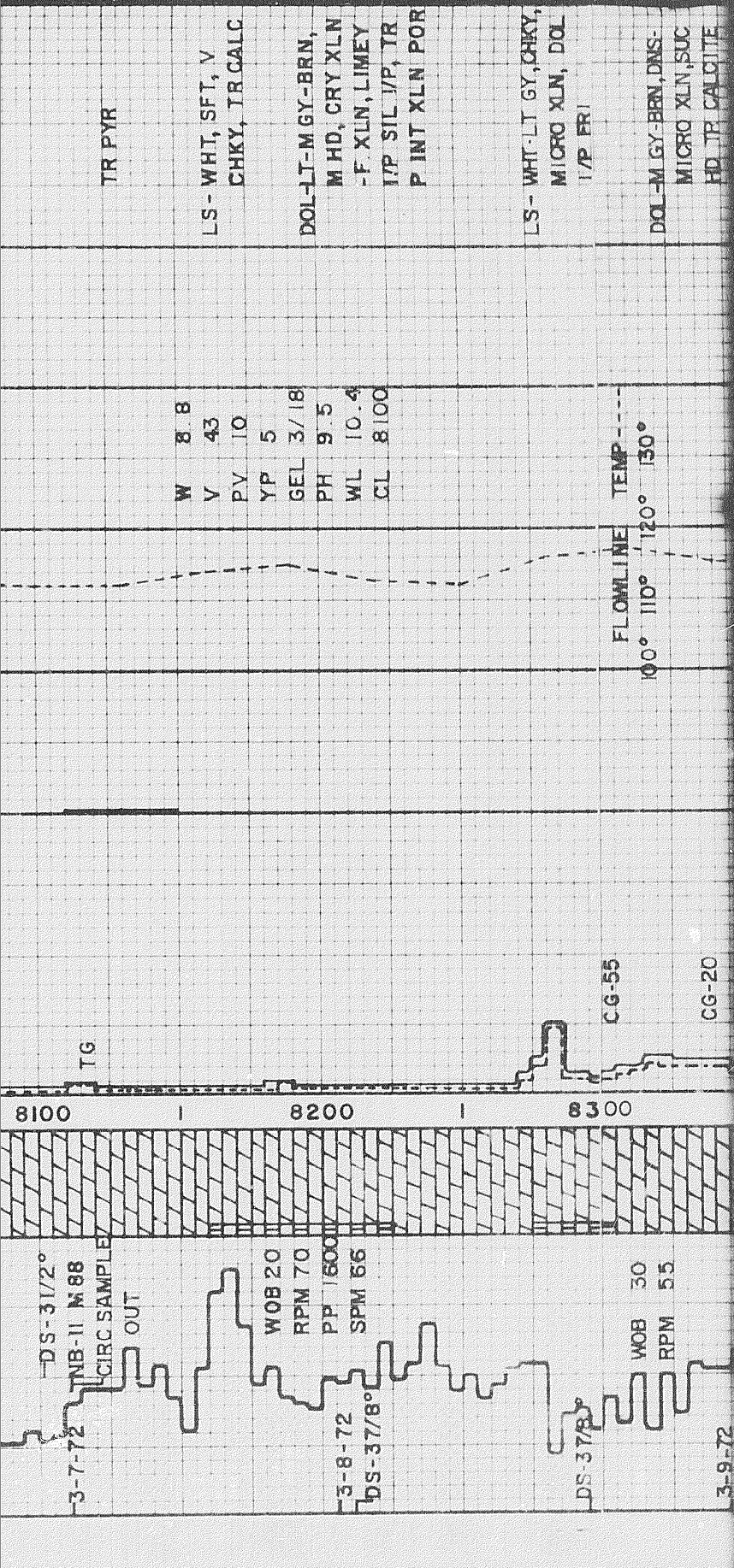
LS - LT GY - WHT I/P M HD, CRY XLN, V DOLIC, SIL I/P, GRDG - LIMEY DOL, TR PYR.

DOL-LT - M GY - GY BRN MHD, CRY XLN, LIMEY - V LIMEY I/P, PYR I/P, SIL I/P.

DOL-LT - M GY - BRN, M HD, CRY XLN - F XLN, LIMEY - V LIMEY I/P, SIL I/P, TR INT XLN POR.

DOL-A/A TR CALC





LS - WHT-BEIGE-LT
 GN, SFT-HD,
 CHKY I/P,
 SILICIFIED &
 CHTY I/F, PYRIC

LS - LI GY - GY BRN,
 M-HD, CRY-F
 XLN I/P, DOL,
 SIL I/P, PYR I/P

DOL-LT GY-GY BRN,
 M-HD, CRY XLN,
 LIMY, SIL I/P,
 PYR I/P

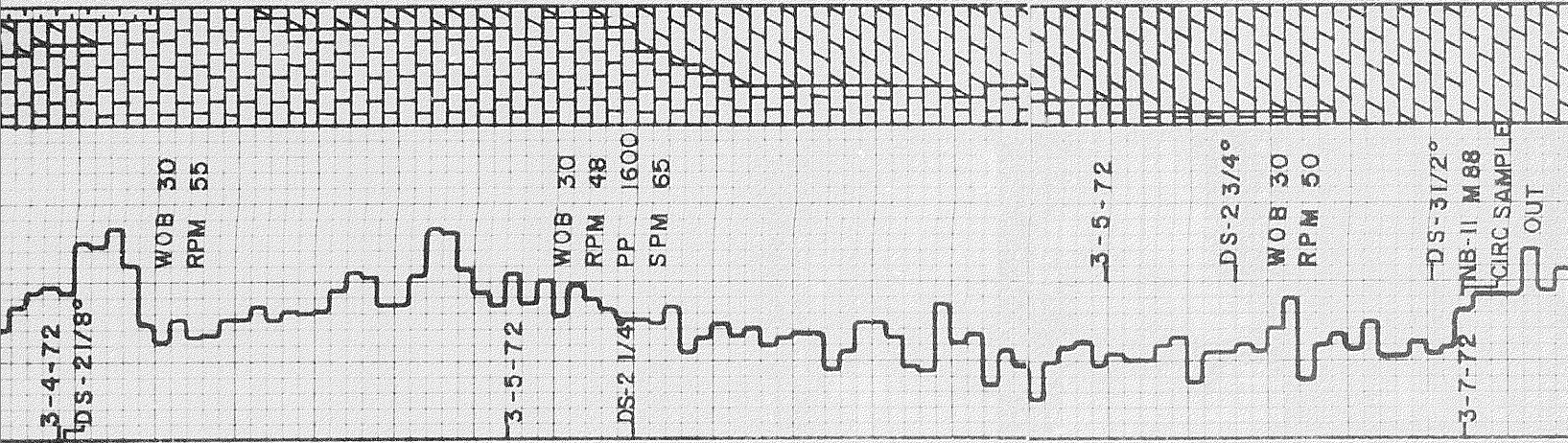
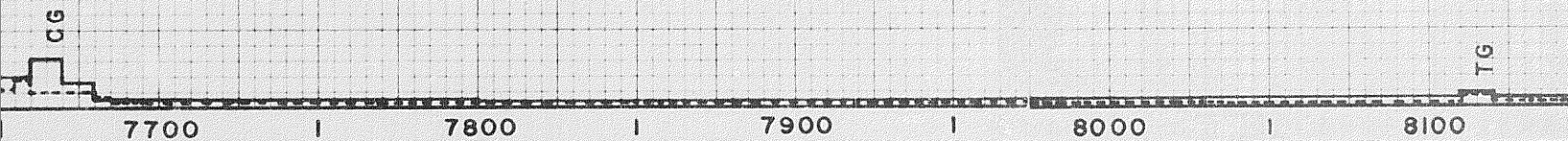
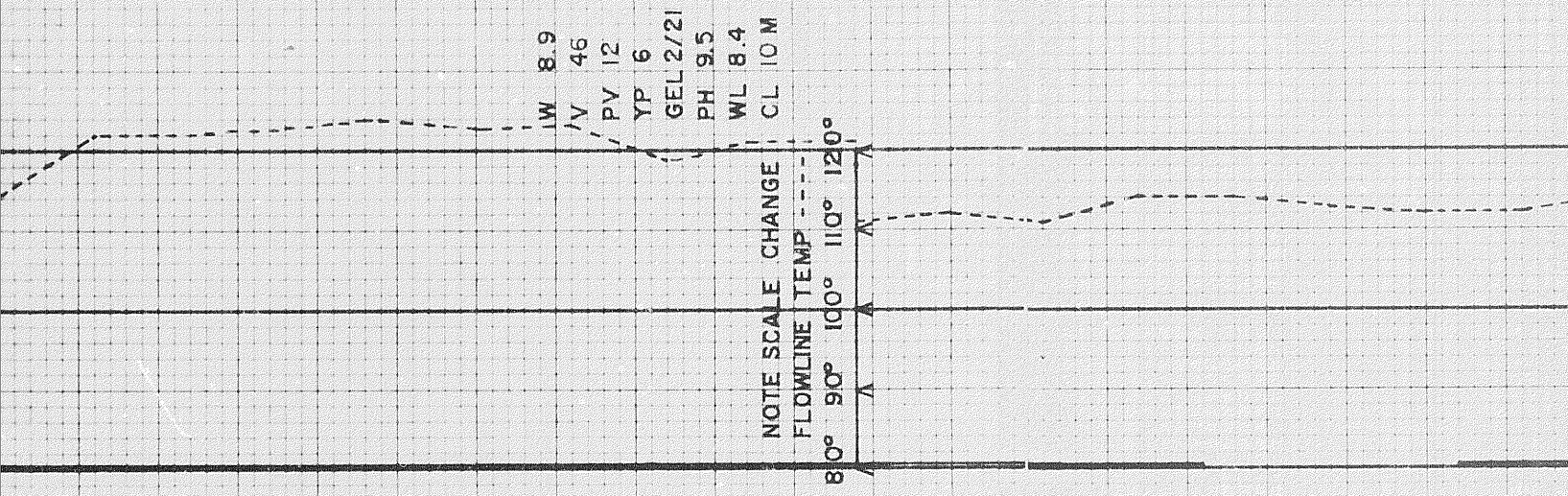
LS-LT GY-WHT I/P
 M HD, CRY XLN,
 V DOLIC, SIL I/P,
 BRDG - LIMEY
 DOL, TR PYR

DOL-LT - M GY-GY BRN
 MHD, CRY XLN,
 LIMEY - V LIMEY
 I/P, PYR I/P,
 SIL I/P

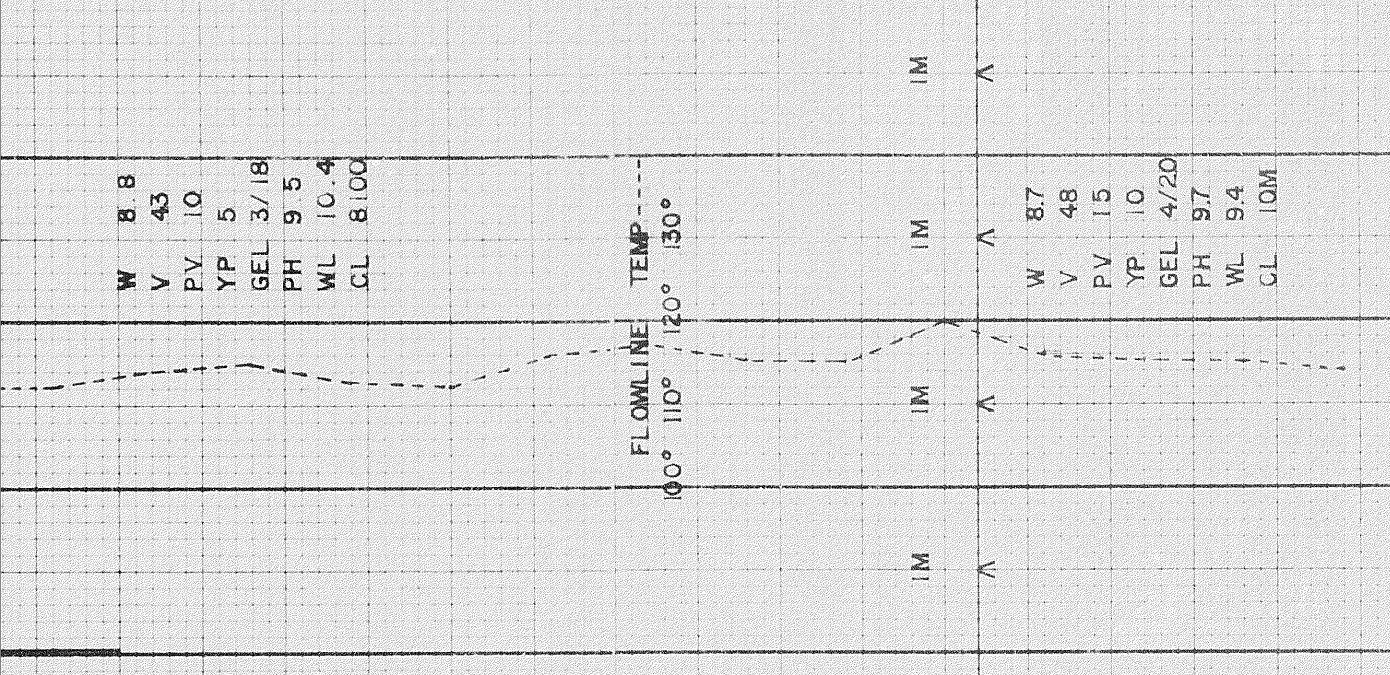
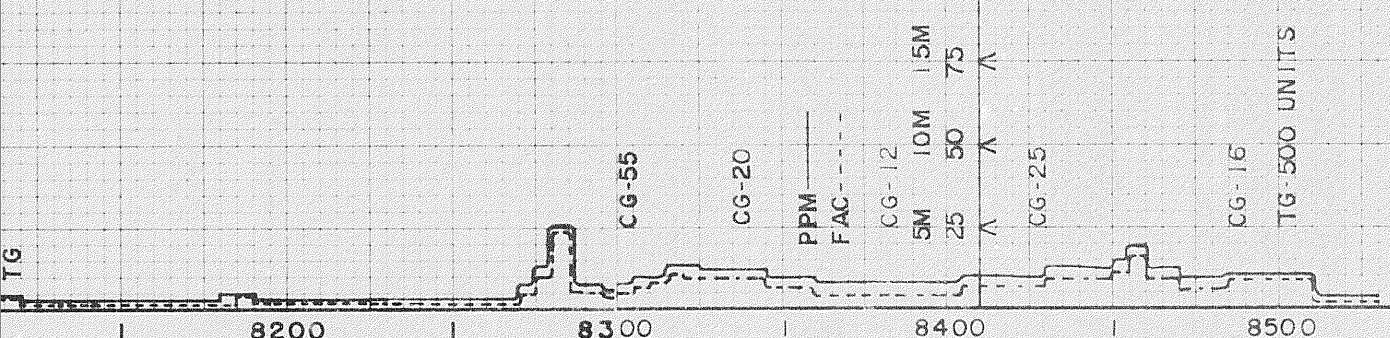
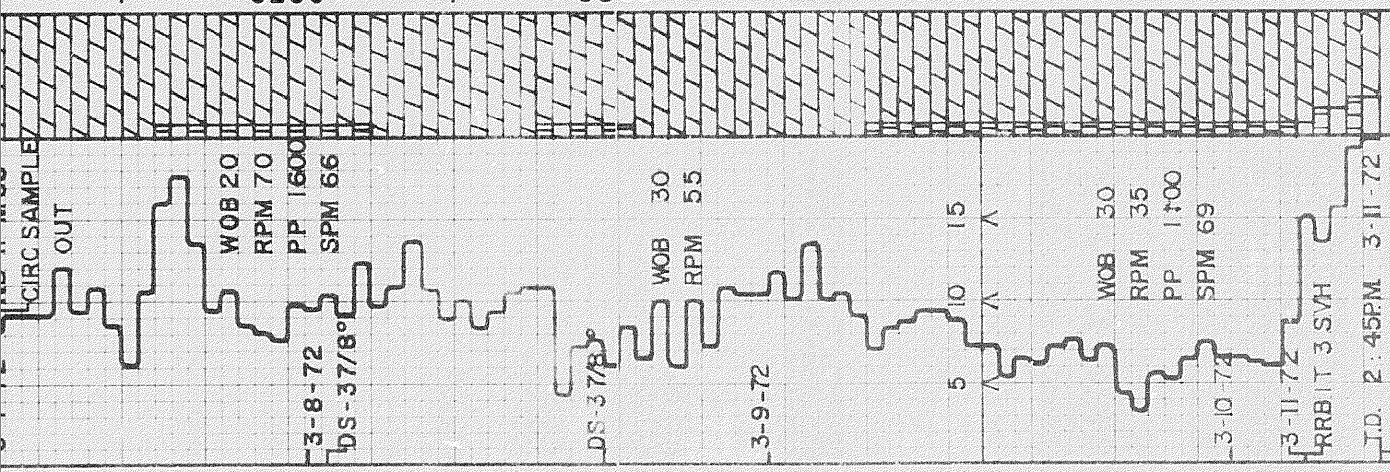
DOL-LT - M GY-BRN,
 MHD, CRY XLN -
 F XLN, LIMEY -
 V LIMEY I/P,
 SIL I/P, TR INT
 XLN POR

DOL-A/A TR CALC

TR PYR



Handwritten signature



TR PYR

LS - WHT, SFT, V
CHKY, TR CALC

DOL-LT-M GY-BRN,
M HD, CRY XLN
-F XLN, LIMEY
1/P SIL 1/P, TR
P INT XLN POR

LS - WHT-LT GY, CHKY,
MICRO XLN, DOL
1/P FRI

DOL-M GY-BRN, DNS-
MICRO XLN, SUC
HD TR CALCITE

DOL-M BRN-M GY, CRY
XLN, FRAG, ARG
LS - WH, CHKY
TR CALCITE

DOL-A/A

LS - M BRN-DK BRN
DNS, CRY XLN, SLI
ARG TR SH



WELL ARCTIC RED C-60
 COMPANY SKELLY OIL CO.
 COUNTY ARCTIC RED R.
 STATE YUKON T.

DRILLING RATE
 PER HOUR
 MIN PER FT
 2 4 6
 VISUAL
 POROSITY
 GST

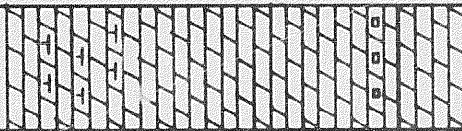
CORE NO 1

NOTE: DEPTH COR - 3 FT
 PRIOR TO CORING

NCB - 10

2-27-72

LITHOLOGY



6740 6760 6780 6800

LEGEND
 DEPTH CORRESPONDS TO DRILL
 PIPE MEASUREMENTS
 NB NEW BIT
 NCB NEW CORE BIT
 DST DRILL STEM TEST
 MR NO RETURNS
 TG TRIP GAS
 CO CIRCULATE OUT RETURNS

LITHOLOGY
 GRANITE WASH
 SAND
 SHALE
 GYP ANHYDRITE
 LIME STONE
 DOLOMITE
 CHERT
 LIGNITE

ppm HYDROCARBONS IN MUD M=1000

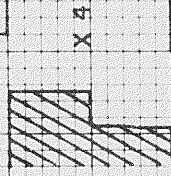
0 5M 10M 15M C1 IM C2 IM C3 IM C4 IM C5+ IM

OIL TSG

NOTE: SHAKER BY
 PASSED: NO
 HOT WIRE

FLOW TEMP

PPM



NOTE: 56 FT CUT,
 54 FT REC

CUTTINGS ANALYSIS

TOTAL GAS
 METHANE
 LIQUID HYDROCARBONS
 (C₆+)

DOL-BRN - DK GY,
 MICROXLN, SOME
 WHT CALC BLEB
 OCC SMALL VUGS
 -FAIR VUGGY
 POR
 LS - BRN - GY, MICRO
 XLN, INTERGRO
 N CALC, IR SH
 TR VUGS
 DOL-DK BRN - DK GY
 -BLK, CRYPTO
 XLN - MICROXLN
 SL CRINOIDAL
 -BRECCIATED
 WITH FRACTURE
 S FILLED WITH
 LARGE CALC
 BLEBS, MUCH
 PYR