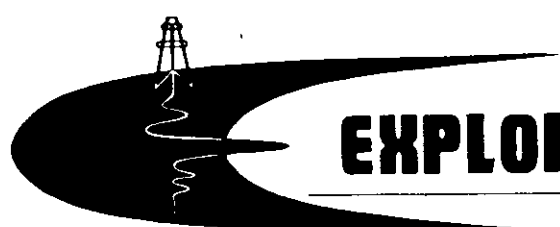
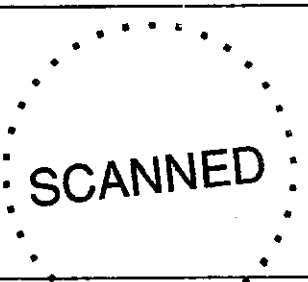


0001



EXPLORATION LOGGING

A GEOLOGICAL - ENGINEERING SERVICE



REMARKS

DRILLING CONTRACTOR
PAUL GRAHAM DRILLING

RIG NO.
1

SPUD DATE
AUG 29, 1977 (7:30AM)

TYPE MUDS
CMC & LIGNITE

CASING RECORD

CONDUCTOR(12") AT **30FT**

7" AT **359FT**

HOLE SIZE

9 7/8" TO **364FT**

6 1/4" TO **3111FT**

ABBREVIATIONS

NB NEW BIT	W MUD WEIGHT
RRB RERUN BIT	V MUD VISCOSITY
CB CORE BIT	F MUD FILTRATE <input checked="" type="checkbox"/> CC/30 MIN
CR CIRCULATE RETURNS	FC FILTER CAKE
NR NO RETURNS	SD SAND CONTENT
PR POOR RETURNS	S SALINITY <input type="checkbox"/> G.G
LAT LOGGED AFTER TRIP	<input checked="" type="checkbox"/> PPM <input type="checkbox"/> CL
TG TRIP GAS	R RESISTIVITY OF MUD
CG CONNECTION GAS	RF RESISTIVITY MUD FILTRATE
C CARBIDE	
DST DRILL STEM TEST	
J DST INTERVAL	
I CORE INTERVAL	

COMPANY **REICHOLD ENERGY CORP.**

WELL **COLUMBIA COUNTY NO.1**

FIELD **NEHALEM BASIN, MIST AREA**

LOCATION **SEC 11, T6N-R5W**

COUNTY, STATE **COLUMBIA, OREGON**

API WELL INDEX NO.

ELEVATION **G.L. 1021FT, K.B. 1031.5**

DATE FROM **AUG 29, 1977 TO SEP 3, 1977**

DEPTH FROM **30FT TO 3111FT**

UNIT NO. **20**

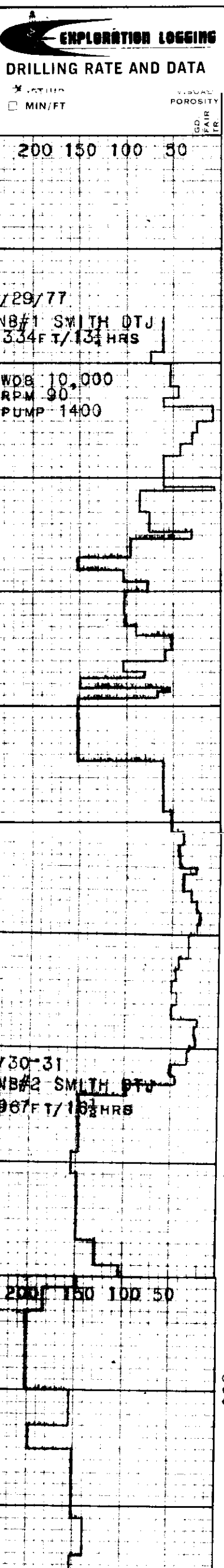
LOGGING GEOLOGISTS **DOUG CRAIG
RON SEVER**

OIL Based on live oil in unwashed cuttings and percentage staining of washed cuttings.

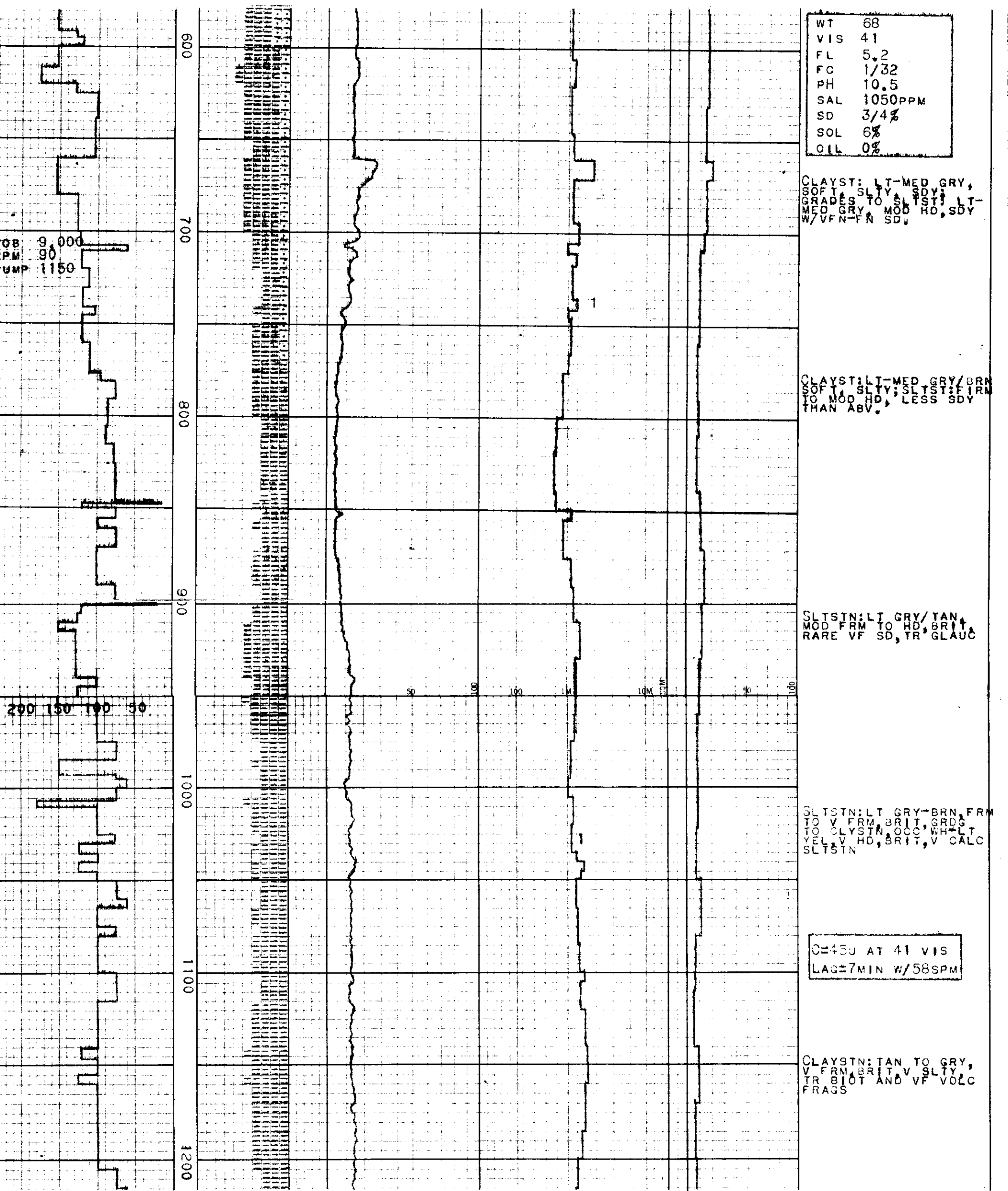
GAS UNITS Gas Detector calibrated to record 100 units with a mixture of 2% methane-in-air.

LITHOLOGY SYMBOLS

<input type="checkbox"/> LIME-STONE	<input type="checkbox"/> DOLO-MITE	<input type="checkbox"/> GYPSUM AND ANHYDRITE	<input type="checkbox"/> SALT	<input type="checkbox"/> COAL AND LIGNITE	<input type="checkbox"/> CLAY	<input type="checkbox"/> SHALE	<input type="checkbox"/> SILT-STONE	<input type="checkbox"/> SANDY SILTST.	<input type="checkbox"/> SAND	<input type="checkbox"/> CONGL-OMERATE	<input type="checkbox"/> CHERT	<input type="checkbox"/> VOL-CANICS	<input type="checkbox"/> INTRU-SIVE
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DEPTH	LITHOLOGY	DRILLING MUD				CUTTINGS		REMARKS AND LITHOLOGY DESCRIPTION
		OIL	CONTINUOUS DITCH GAS		CHROMATOGRAPHIC ANALYSIS		GAS	
			TR. X FAIR XX GO XXX	TOTAL GAS BACKUP SCALE 10X1 PETROL VAP	METHANE ETHANE 2 PROPANE 3	BUTANES PENTANES 4		
0								
30							SET CONDUCTOR PIPE AT 30FT. DRILLING 9-7/8" HOLE.	
100							SANDST/SLTST: TAN, LT-DK BRN, CLAYEY, VERY WEATHERED. SANDST: LT-MED GRY, FN VFN, SLTY, QTZ, MOD HD-HD, CARBON SPECKS, GRADES TO SLTST. SLTST: LT-MED GRY, MOD HD, CLAYEY, ABNT BLK SPECKS, TR-MINOR GLAU, GRADES TO CLAYST. SANDST: LT GRY, VFN-FN, QTZ, CLAYEY, SLTY, MOD GLAU, MOD HD.	
150							C= 50U AT 30VIS LAGE 2MIN W/60SPM	
200							SLTST: LT GRY, MOD HD, CLAYEY, TR GLAU. SANDST: LT GRY, VFN-FN, QTZ, MOD HD, SL-MOD GLAU, CLAYEY, SLTY.	
250							LOST CIRCULATION NO SAMPLES; SHAKER & GAS TRAP BY-PASSED	
300							W 69 V 50	
350							SET 7" CSG AT 359FT DRILL AHEAD 6 1/4" HOLE	
400							0°15' CLAYST: LT-MED GRY, SOFT-FIRM, V SLTY, SDY, TR GLAU.	
450								
500							CLAYST: LT-MED GRY, SOFT-FIRM, V SLTY, SDY WITH VFN QTZ, SD, GRADES TO SLTST; LT-MED GRY, FIRM, MOD HD IN PLACES, SDY.	
550							C= 80U AT 40VIS LAGE 4MIN. W/62SPM	



WT 68
 VIS 41
 FL 5.2
 FC 1/32
 PH 10.5
 SAL 1050PPM
 SD 3/4%
 SOL 6%
 OIL 0%

CLAYST: LT-MED GRY,
 SOFT SLTY, SDY;
 GRADES TO SLTST: LT-
 MED GRY, MOD HD, SDY
 W/VFN-FN SDY

CLAYST: LT-MED GRY/BRN
 SOFT SLTY, SLTST: FIRM
 TO MOD HD, LESS SDY
 THAN ABV.

SLTSTN: LT GRY/TAN,
 MOD FRM TO HD, BRIT,
 RARE VF SD, TR GLAUC

SLTSTN: LT GRY-BRN, FRM
 TO V FRM, BRIT, GRDS
 TO CLYSTN, OCC, WHLT
 YEL, V HD, BRIT, V CALC
 SLTSTN

C=45U AT 41 VIS
 LAG=7MIN W/58SPM

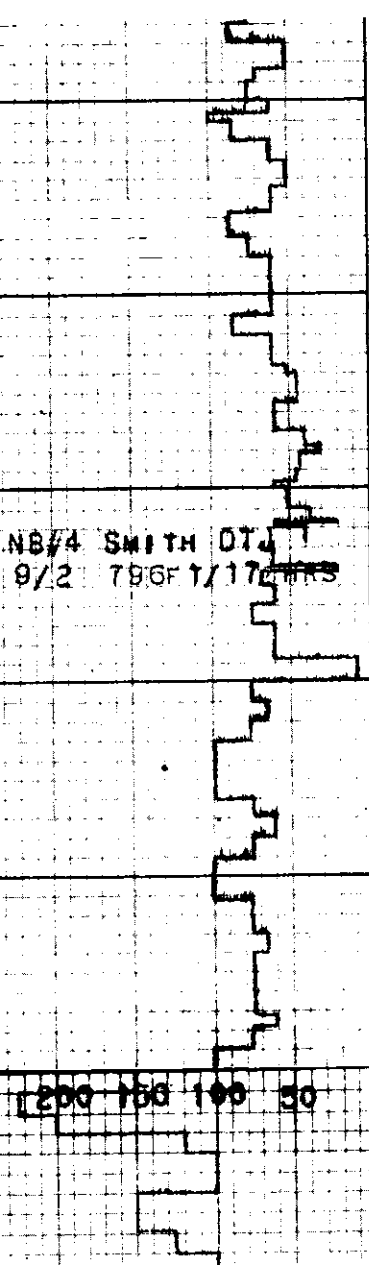
CLAYSTN: TAN TO GRY,
 V FRM, BRIT, V SLTY,
 TR BIOT AND VF VOLC
 FRAGS

OB 99.000
 P.M. 90
 UMP 1150

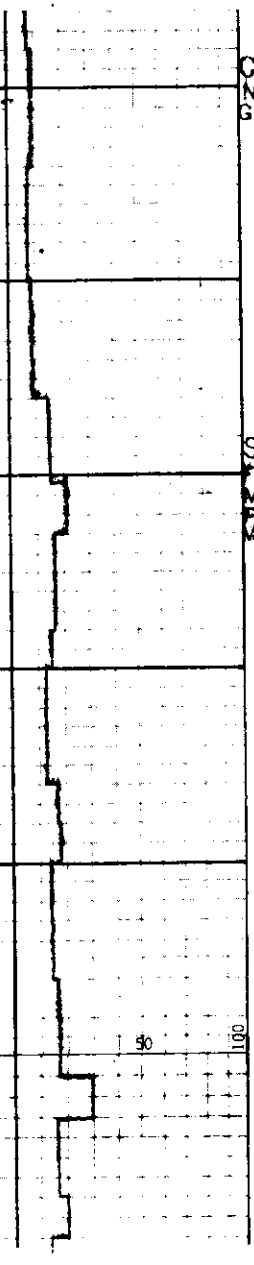
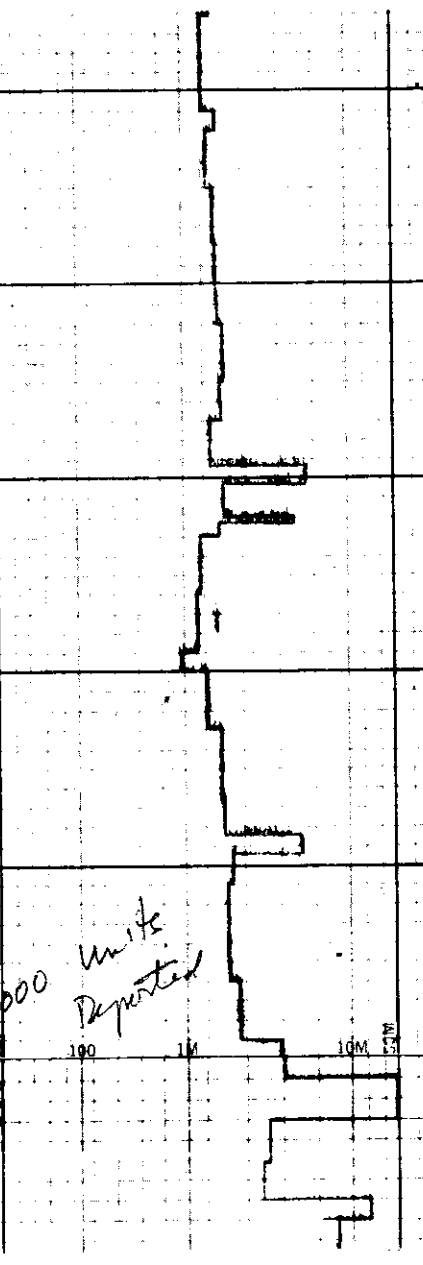
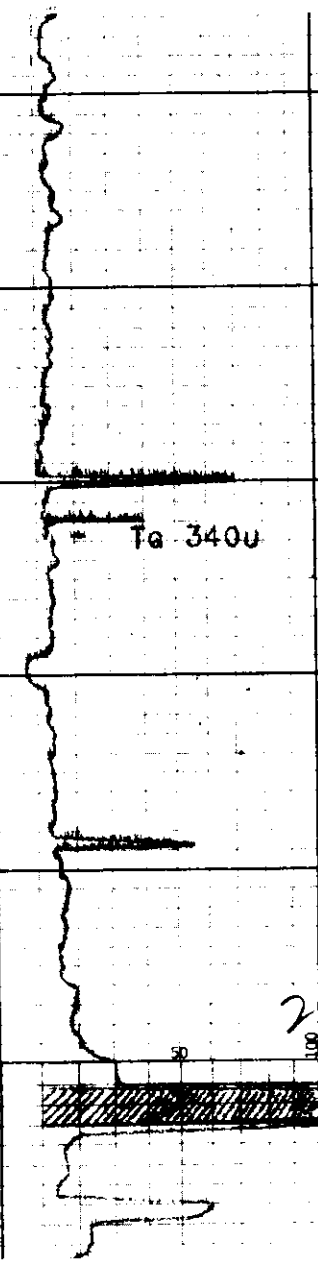
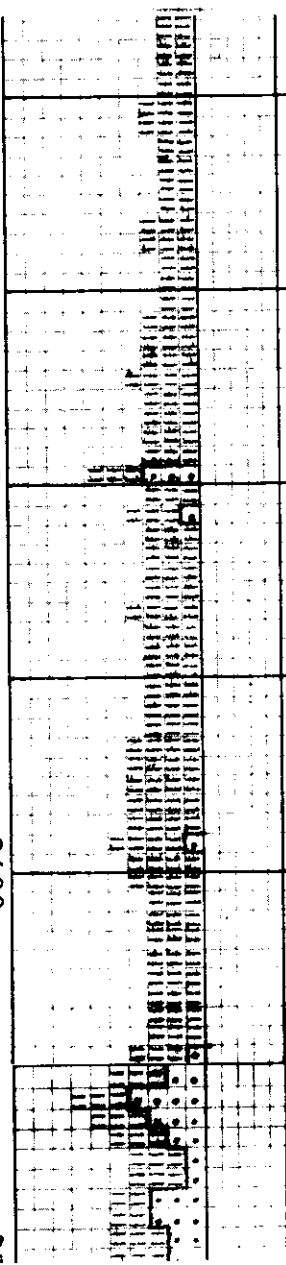
200 150 100 50

50 100 100 1M 10M 50 100

600
700
800
900
1000
1100
1200



2200
2300
2400
2500



NB/4 SMITH DT
9/2 796 1/17

To 340

*2000 units
Depleted*

200 150 100 50



CLAY: LT GRV SFT V BE
NT SLTY; SLTSTN: LT-MED
GRV, MOD TRM-V FRM, CLY

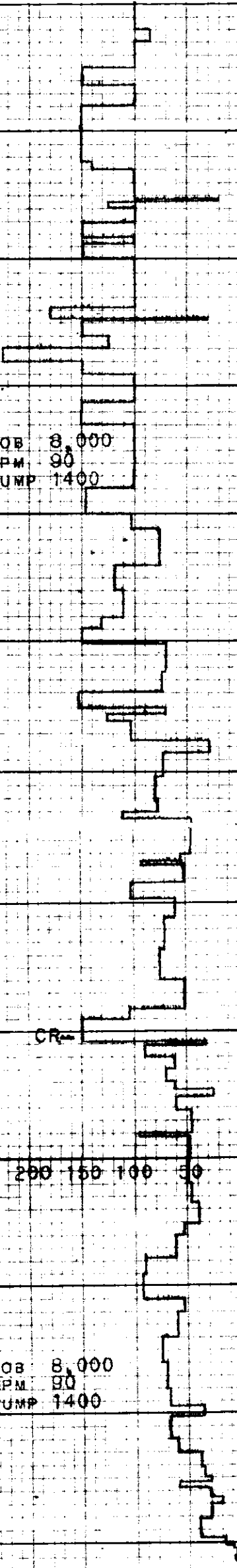
SS: WH TO LT GRV, VF-F,
FRI, CALC, PRED F CLR
MLKY QZ, W/MNR BIOT
PYR, RR SHELL FRAG, PYR
MICROS

SLTSTN: LT YEL-GRV
SFT TO SL FRM, SL CALC
CARB SLTY VOL, FRAGS
TR LIG

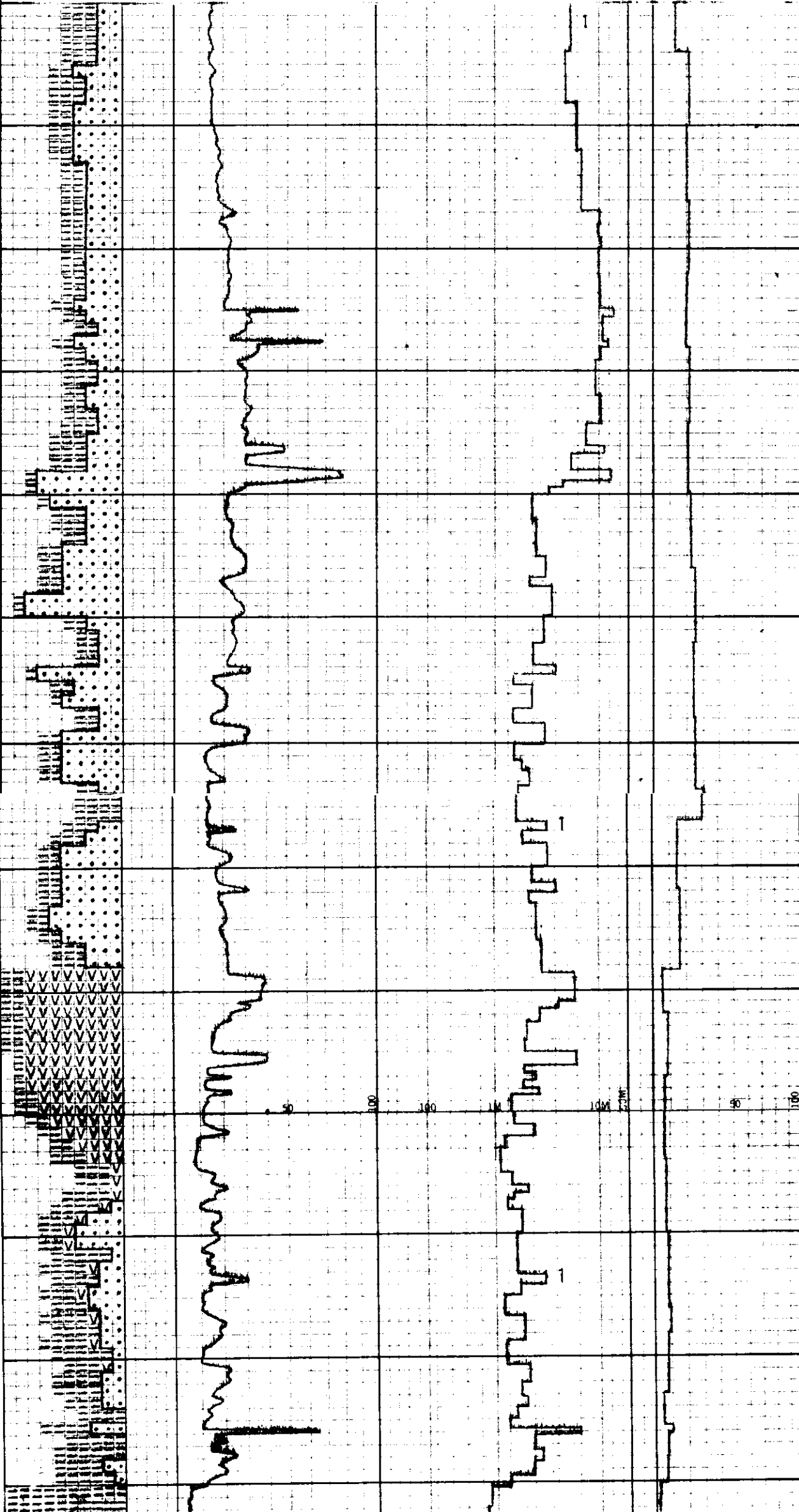
SS: WH VF-M, PRED CLR
F SUBANG QZ, MOD CALC
ABUND PYR

SD: VF-F, UNCONS CLR
SUBANG SUBRND QZ

50 100 150 200 250 300



3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
100



CLAY: LT GRY, SFT, HYD, BENT

SS: WH, VF-F, FRI, PRED
CL: CLR, MLKY, QTZ, MOD
CALC, ABUND, PYR

CLAY: L-M GRY: SFT, HYD
STICKY, BENT; SD: UNCON
CLR QTZ

WT	75
VIS	46
FL	4.4
FC	2/32
PH	9.0
SAL	1800PPM
SD	4%
SOL	12%
OIL	0%

SS: CL, WH, QTZ, VFN-FN
UNCONSOL GR IN LT
CLAYST: LT GRY, V
SOFT, V CALC, MINOR
SLTST: MED GRY, FIRM-
SF HD,

SS AS ABV; MINOR
UNCONSOL: LT GRY, FN GR
QTZ, MOD HD, CALC.

CLAYST: LT GRY/BRN,
SOFT, GUMMY, CALC

SS: LT GRY, WH, VFN-FN
QTZ, UNCONSOL GR IN A
WH-LT GRY CLAY MATRI
MOD-V CALC.

TUFF: LT BLU-LT GRY,
FRIABLE-MOD HD, SOFT
IN PART; UNCONSOL LT GRN
W/DEPTH; SLTST: MED
BRN/GRY, FIRM

CLAY: LT GRY/GRN, V
SOFT, TUFFACEOUS, V

C= 45U AT 46VIS
LAGE 16MIN W/53SPM

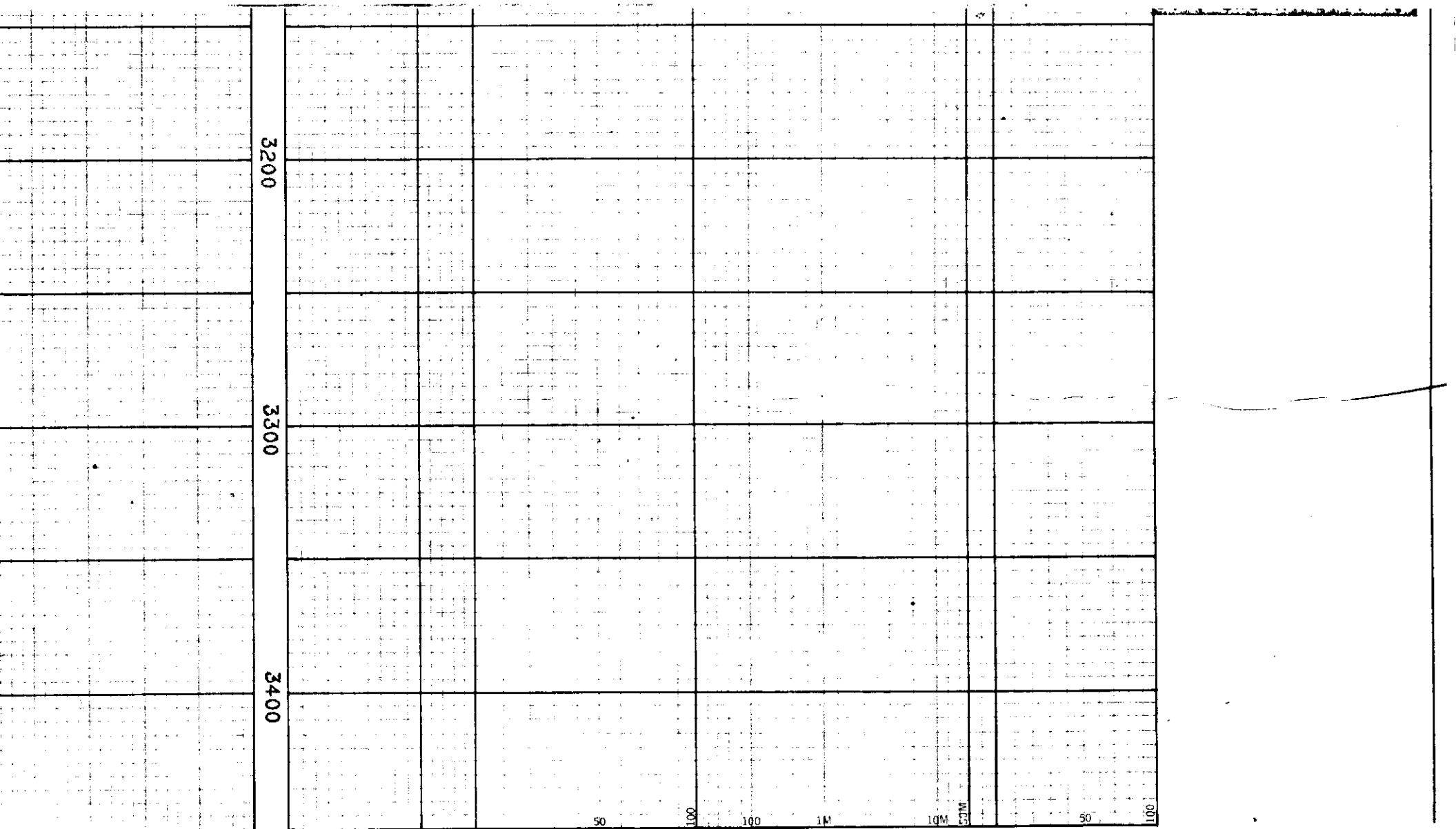
SS: CL QTZ GR, VFN-FN
IN A WH-LT GRY CLAY
MATRI, SOFT SOL
SLTST: MED BRN/GRY,
FIRM, GRADES TO
CLAYST SCATTERED
MODULES OF PYRITE
SLTST/CLAYST, TUFF
IN PART.

SLTST: MED BRN/GRY,
SOFT-FIRM: GRADES TO
FIRM CLAYST: SCAT
MODULES OF PYRITE IN
SMPL; SLTST TUF IN
PART.

3111FT: 2°00'

RAN VELEX TEL, AVL,
DIP. SWC AT 3111FT.

TOTAL DEPTH: 3111FT.



3200

3300

3400

50

100

100

1M

10M

INDS

50

100