



EXPLORATION LOGGING

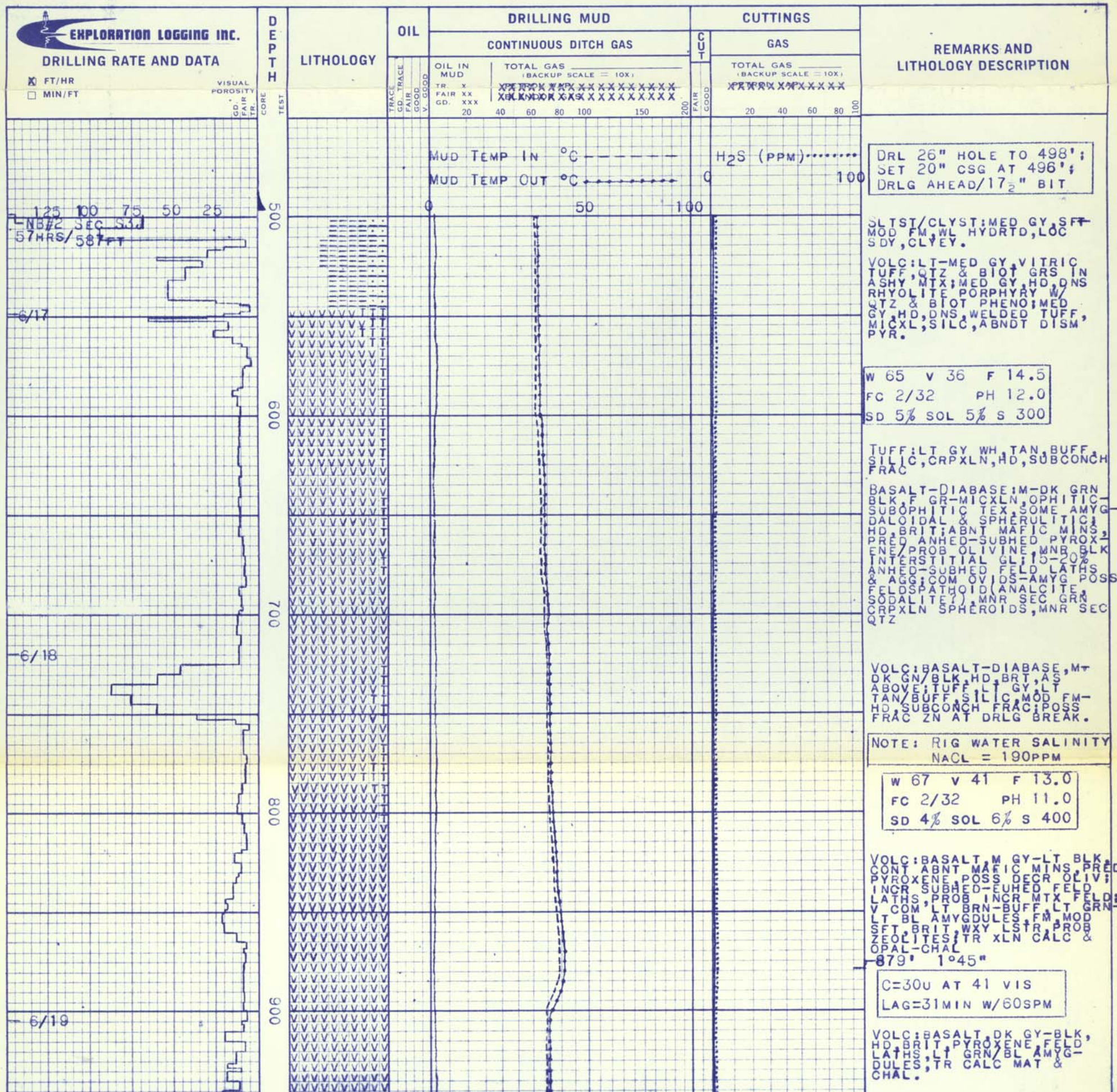
A GEOLOGICAL - ENGINEERING SERVICE

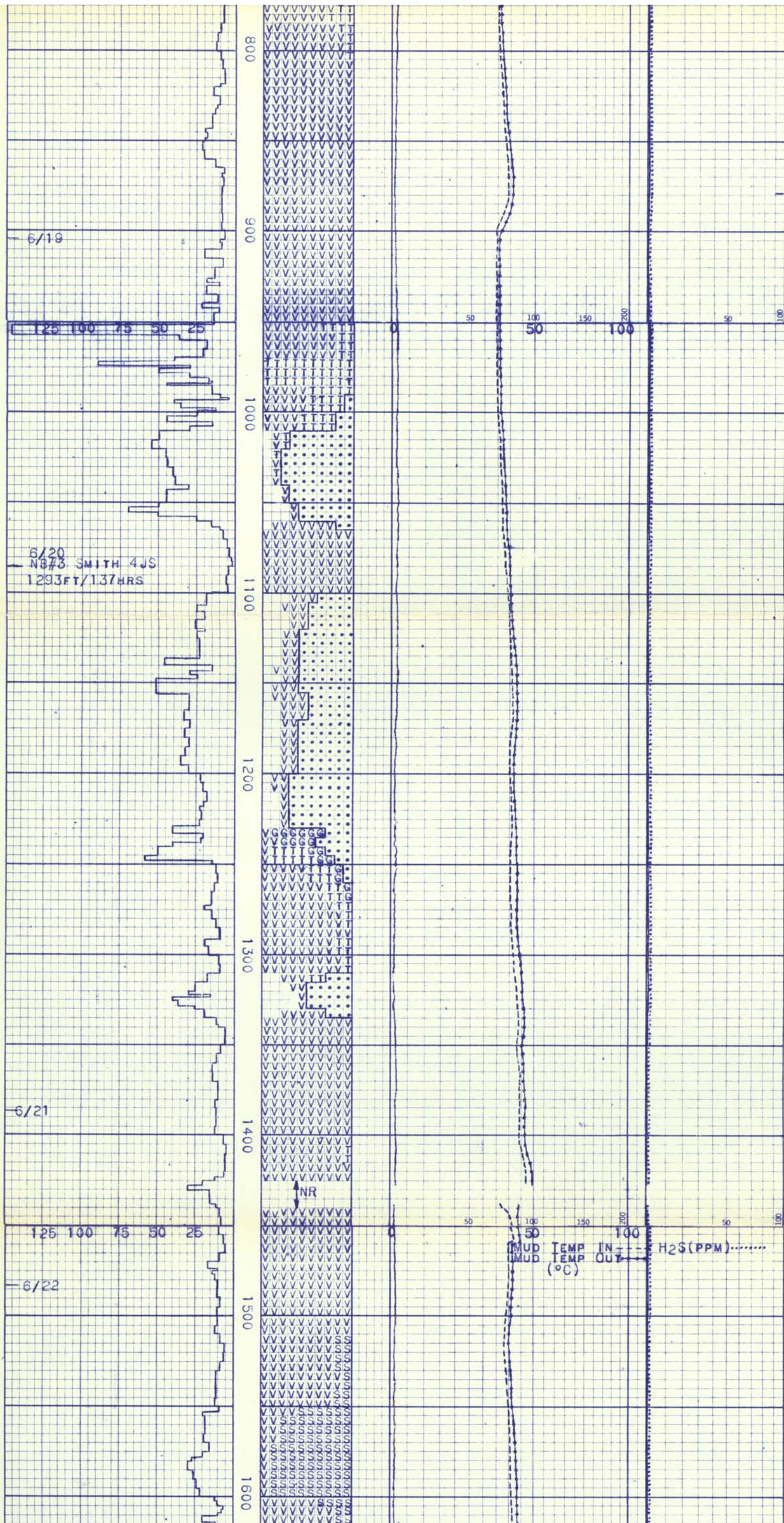
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GEO. DIV.

REMARKS		ABBREVIATIONS		COMPANY THERMAL POWER COMPANY	
DRILLING CONTRACTOR HUNNICUTT & CAMP		RIG NO. 3		WELL "O'CONNOR RANCH" NO. 1	
SPUD DATE 6/13/76		TYPE MUDS GEL-WATER MUD		FIELD	
CASING RECORD		NB NEW BIT		LOCATION Sec.35, T40S-R9E; WB&M	
20" AT 496'		RRB RERUN BIT		COUNTY, STATE KLAMATH, OREGON	
13" AT 2378'		CB CORE BIT		API WELL INDEX NO.	
HOLE SIZE		CR CIRCULATE RETURNS		ELEVATION 4221' K.B.	
26" TO 498'		NR NO RETURNS		DATE FROM 6/16/76 TO 7/27/76	
17 1/2" TO 2378'		PR POOR RETURNS		DEPTH FROM 500' TO 5842'	
12 1/4" TO 5265'		LAT LOGGED AFTER TRIP		UNIT NO. 19	
11" TO 5842'		TG TRIP GAS		LOGGING GEOLOGISTS HOWARD KARABEL TOM TARNOWSKI	
CG CONNECTION GAS		C CARBIDE			
		DST DRILL STEM TEST			
		J DST INTERVAL			
		I CORE INTERVAL			
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					
LIME- DOLO- GYPSUM SALT COAL CLAY SHALE SILT- SANDY SAND CONGL- CHERT VOL- INTRU- TUFF VOLC- STONE MITE AND ANHYDRITE AND LIGNITE STONE SILTST. OMERATE CANICS SIVE GLASS					





W 67 V 41 F 13.0
FC 2/32 PH 11.0
SD 4% SOL 6% S 400

VOLC: BASALT, M GY-LT BLK, PRE
CONT ABNT, MAFIC, MIN, OLIV,
PYROXENE, POSS, DECR, FELD,
INCR, SUBHED, INC, MTX, FELD,
LATHS, PROB, INCR, MTX, FELD,
V COM, LT BRN-BUFF, LT GRN,
LT BL AMYGDULES, FM, MOD,
SFT, BRIT, WXY, LST, R, PROB,
ZEOLITES, TR XLN CALC &
OPAL-CHAL

879' 1°45'

C=30U AT 41 VIS
LAG=31MIN W/60SPM

VOLC: BASALT, DK GY-BLK,
HD, BRIT, PYROXENE, FELD,
LATHS, LT GRN, BL AMYGD-
ULES, TR CALC MAT &
CHAL.

TUFF: LT GY-BUFF, SILIC,
MICXL-CRPXL, MOD, FM-HD,
TUFF: GY WH-M GY, LT BRN-
AMB, V CHTY-LIKE, SILIC, FRAG,
CRPXLN, HD-V HD, MICROFRAG,
PRED, DOLL LSTR, SOME VIT,
GLASSY, SOME SUC, TEX, COM,
V F-F DISS, PYR & IRON,
ORE MINS, POSS GLASS SHARDS

VOLC SS: M GY, GY BRN, SOME
GRN, PRED, VF-F, OCC, M, MOD,
P CONSOL, V FRI, ANG-SUBRD,
ABNT, CLR, QTZ/SOME, FRSTD,
SMKY, GY, GRN & RED, SILIC,
VOLC, GRS, PROB, CLAYEY, ASH,
DETRITAL, MTX, COM XLN, PYR,
OCC, LT-M GRN, MOD, FM, WXY,
ASH-TUFF MAT

W 65 V 39 F 10.4
FC 2/32 PH 11.5
SD 3% SOL 6% S 200

VOLC: BASALT, M-DK GY, HD-
V HD, MIXL, ABNT, DISM, RED,
MINR, ZTN, POSS, CINNABAR,
OR HEMATITE, DISM, PYR,
VOLC SS: M GY, GY BL, PRED,
VF, OCC, M, CSE, P, COSOL,
ANG-SUBANG, CLR & SMKY,
QTZ/GY, GRN, BL, RED VOLC,
GRS, ASHY MTX

VOLC SS: M GY, M GRN/GY, M
RED/GY, PRED, VF, OCC, MED,
MOD-P, CONSOL, PRED, CLR,
SOME FROS & SMKY, ANG-SB-
RND, QTZ, GRS/GY, GRN, RED,
VOLC GRS IN CLAYEY-ASH
MTX

W 70 V 47 F 10.0
FC 2/32 PH 11.0
SD 3% SOL 7% S 190

VOLC SS: AS LAST ABV/SL
INCR GR SZ, M-P, SRIG, SOME
INCR CPCT, SL HARDER, THAN
ABV

VOLC GLASS: M BRN-AMB, SIL,
CRPXLN, VITR, ABNT MICRO-
FRAC, IRREG SHARP FRAC, OCC
BLKY

TUFF: GY WH-LT TAN, APHAN/
DK, MICXLN, GRS OF BLK GL,
SHARDS & DISS, PYR, XLS, SFT
-FM, PRED MAS/OCC MICROLAM

VOLC: BASALT, ANDESITE: M GY
GY, GRN, PRED, MAS, MICXLN,
MNR, BL-GRN, ZEOLITE, MAT,
OCC, XLN, SEC, PARTIAL FL,
OF VES (POSS QTZ, ANALCITE)

VOLC SS: M GY, PRED, VF,
SCAT, MED & CSE, MOD, CON-
SOL, PRED, CLR, ANG-SBANG,
QTZ/TR GY, GRN, RED VOLC
FRAGS.

VOLC: BASALT, M-DK GY, HD,
MICXLN, MAS, GRN, ZEOLITE,
MAT, COM AMYGDULE (POS,
QTZ, ANALCITE), COM RED,
MINERALZTN (HEMATITE?),
TR OPAL-CHAL

CARB = 35U AT 44VIS
LAG = 47MIN/52SPM

1400' 2°00'

NOTE: LOST CIRCULATION
AT APPROX 1435'

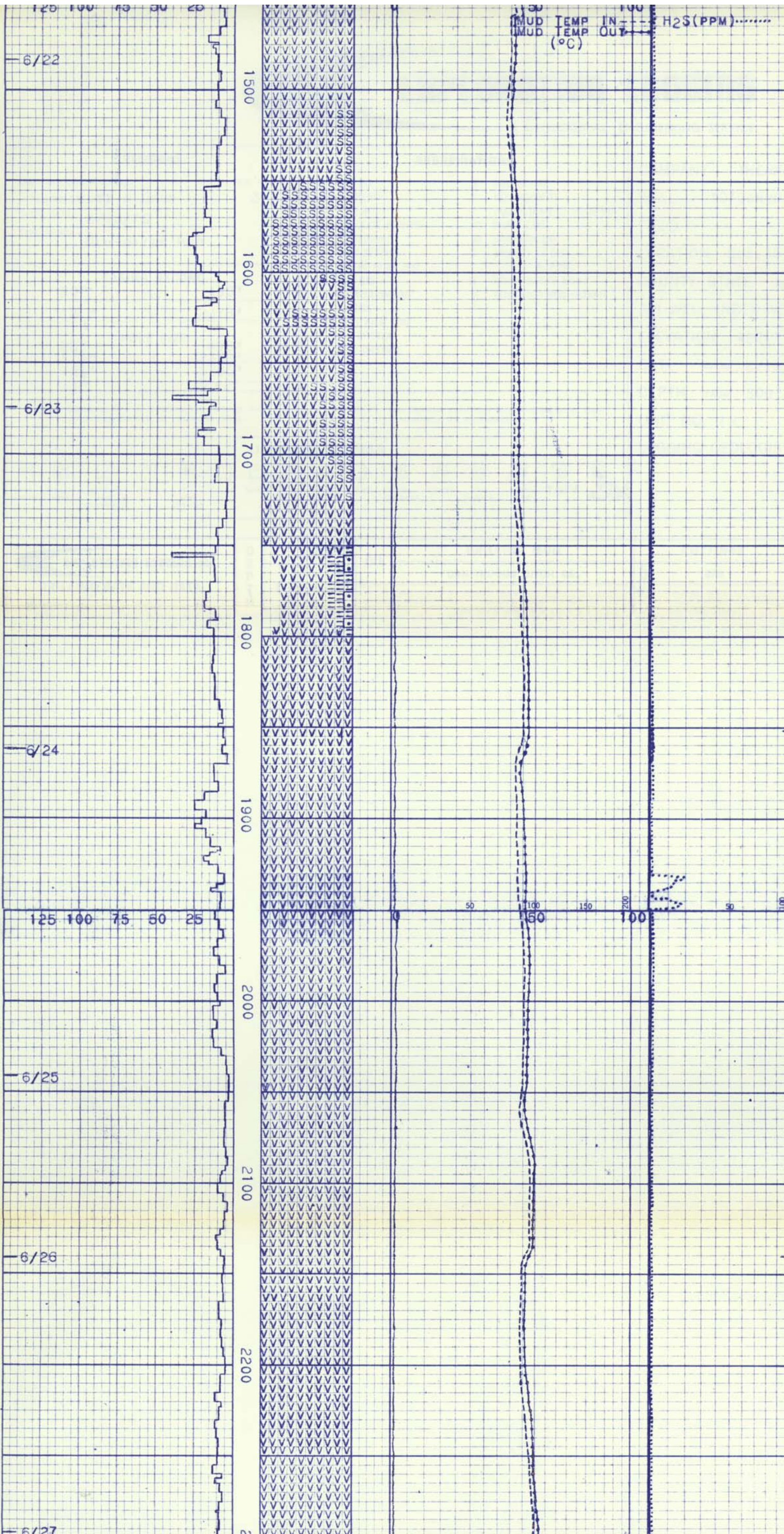
ADD LCM; BYPASS SHAKERS

VOLC: BASALT, ANDESITE: M GY
DK GY, MNR, RED/GY, HD, MIC
XLN, COM AMYGDULES (QTZ,
ANALCITE), COM CALCITE,
SCAT, ZEOLITES, RED MINER
ALZTN (HEMATITE?)

W 69 V 48 F 10.5
FC 2/32 PH 9.0
SD 3% SOL 7% S 190

C=35U AT 48 VIS
LAG=41 MIN AT 56SPM

VOLC SCORIA: BRI, RED-RED
BRN, VERMILION, SOME, DK
BRN, HIGHLY VESICULAR, FL/
PRED, PARTIAL VES, SEC, FL/
XLN, QTZ & MNR, CALC, OCC,
BL-GRN, ZEO, OR ALT, MIN,
RED GL, MTX/OCC, XLN, SUBHED,
VEHED, FELD, LATHS, ABNT,
VES, INCR, SILICA IN VES &
MICRO FRAC/DEPTH



VOLC: BASALT, ANDESITE: M-DK GY, MNR RED/GY, HD, MIC XLN, COM AMYGDULES (QTZ, ANALCITE), COM CALCITE, SCAT ZEOLITES, RED MINER ALZTN (HEMATITE?)

W 69 V 48 F 10.5
FC 2/32 PH 9.0
SD 3% SOL 7% S 190

C=35U AT 48 VIS
LAG=41 MIN AT 56SPM

VOLC: SCORIA: BRN, RED-RED BRN, VERMILION, SOME DK BRN, HIGHLY VESICULAR, PRED PARTIAL VES SEC FL/ XLN QTZ & MNR CALC, OCC BL-GRN ZEO OR ALT MIN, RED GL MTX/OCC XLN SUBHED -FEUHD FELD LATHS/ABNT VES INCR SILICA IN VES & MICRO FRAC/DEPTH

VOLC: SCORIA/BASALT: CONT RED/BRN SCORIA & DK GY BASALT AS LAST ABOVE

VOLC: BASALT: DK GY-BLK, V HD, MICXLN-CRPXLN, SCAT BL/GRN, ZEOLITIC MAT, SCAT AMYGDULES (PRED QTZ) & CALC

VOLC: BASALT AS LAST ABOVE & SCORIA: BRICK RED-RED/ BRN, GY/BRN, SFT-MOD HD, VES (PARTIAL FL/QTZ, CALC), COM CALC & QTZ IN FRAC

VOLC: BASALT: DK GY-BLK, H-V HD, MICXLN, MAS, DECR IN AMYGDULES, MNR BL/GRN ZEOLITIC MAT

W 70 V 54 F 8.5
FC 2/32 PH 9.0
SD 3% SOL 8% S 180

VOLC: SLTST/ASH FALL: RED BRN-ORNG BRN, CRPXLN/OCC VF ANG PYRCLAS EJECTA FRAGS, SFT-MSFT, NON VES, HYD TO CLAY MINS, ASHY, COM INTBD M GN TOFF MAT, OCC VF, ANG-SUBANG PYRCLAS SS(?)

SALINITY (NACL):
RIG WATER=60PPM
MUD = 130PPM

1852' 1°00'

VOLC: BASALT, DK GY-BLK, MAS, HD-V HD, DNS, APHAN, MICROXLN FELD, OCC BL-GRN ZEO MAT, TR CALC FRAC FL

W 70 V 45 F 8.8
FC 2/32 PH 9.0
SD 4.5% SOL 6% S 180

NOTE: H2S KICK FROM APROX 1933'; SECOND KICK POSS RECIRCULATED

VOLC: BASALT: DK GY-BLK, M GY/BRN, HD-V HD, DNS, APHAN, MICXLN, FELD LATHS, SCAT BL/GRN, SFT, WAXY, ZEOLITIC MAT, TR CALC FL FRAC

VOLC: BASALT: M GY-DK GY, HD, DNS, APHAN, MICXLN, FELD, SCAT BL-GRN ZEO MAT, SCOR 2 IA: M GY/BRN-RED/BRN, HD COM VES, AMYGDULES (PARTIAL FL/QTZ), OCC BL/GRN ZEO MAT

W 70 V 45 F 8.5
FC 2/32 PH 9.0
SD 3% SOL 6% S 170

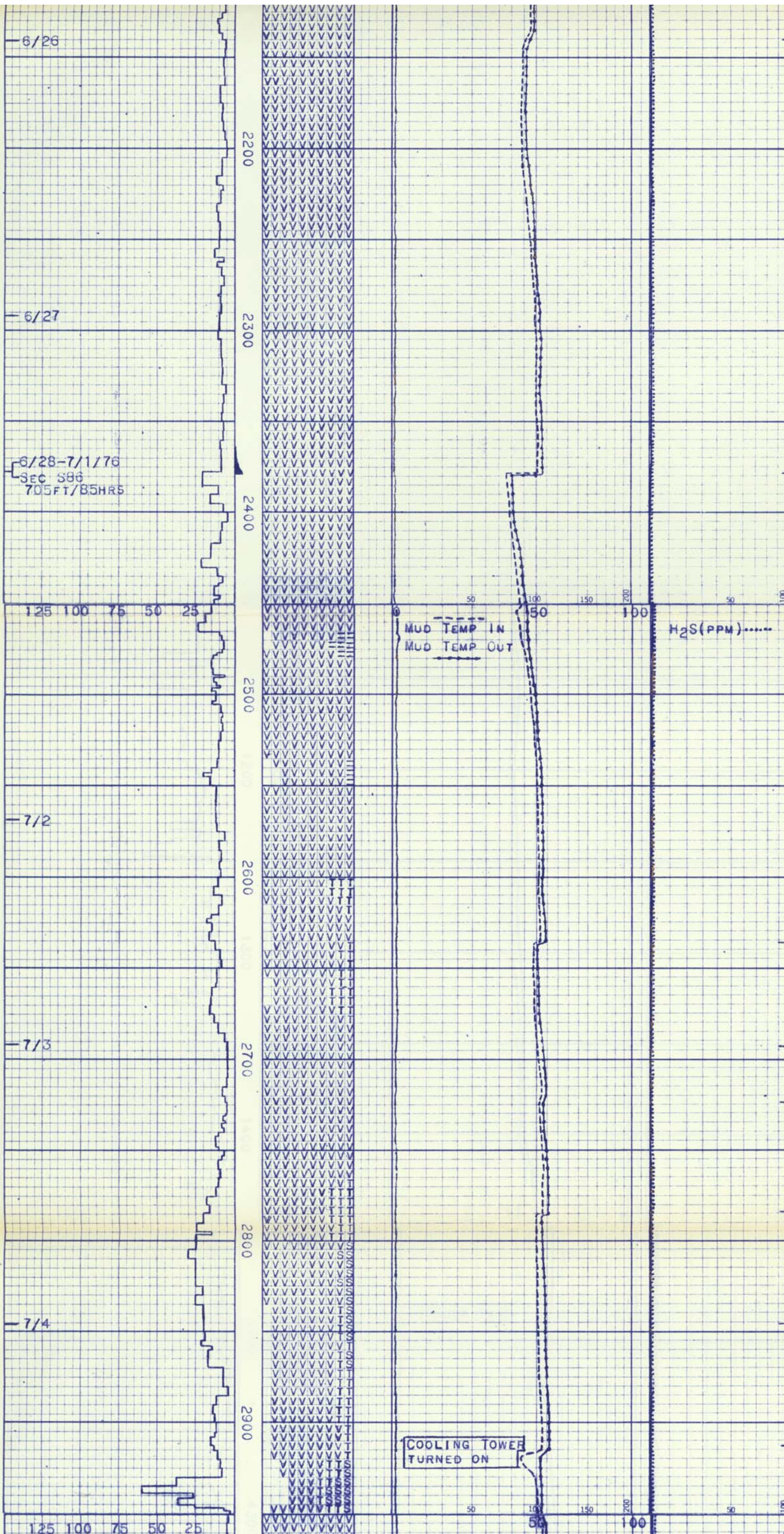
VOLC: BASALT-DIABASE, MIC XLN, SL INCR GR SZ, APHAN, VF, OCC F COM EQUIGRANULAR TEX, APR SILIC, GRS (POSS QTZ, OR FELDST), OCC LT-M GN ALT MINS/SERP IN MIC FRACS

W 69 V 44 F 8.4
FC 2/32 RH 9.0
SD 3% SOL 7% S 180

2141' 2°00'

VOLC: BASALT: AS ABV, MAS, APHAN-MICXLN, OCC ZNS OF REDDISH BRN ALT-MNRLIZA TION?, SOME/OCC VES

VOLC: BASALT: M-DK GY/BLK, HD, DNS, APHAN-MICXLN, EQUI GRAN (POS QTZ, FELD), OCC LT GRN ALT MAT, POS, ALT-MNRLIZATION ZONES: M RED/BRN, SFT-FM, SOME CLAYEY, OCC VES, SCAT LT-M GRN ALT MAT, POS QTZ & FELD GRS IN MATRIX



W 69 V 44 F 8.4
FC 2/32 RH 9.0
SD 3% SOL 7% S 180

2141' 2°00'

VOLC: BASALT: AS ABV MAS
APHAN-MICXLN: OCC ZNS OF
REDDISH BRN ALT-MNRLIZA-
TION?, SOME OCC VES

VOLC: BASALT: M-DK GY/BLK
HD, DNS, APHAN-MICXLN, EQUI
GRAN (POS QTZ FELD), OCC
LT GRN ALT MAT, POS ALT-
MNRLIZATION ZONES: M RED/
BRN, SFT-FM, SOME CLAYEY,
OCC VES, SCAT LT-M GRN
ALT MAT, POS QTZ & FELD
GRS IN MATRIX

W 71 V 43 F 8.7
FC 2/32 PH 9.0
SD 3% SOL 7% S 170

TWISTED OFF AT 2378';
RECOVERED TOTAL FISH

RAN SCHLUMBERGER LOGS:
TEMP SURVEY, DIL, S/NIC,
TEMP SURVEY, DRL, 17 1/2"
HOLE TO 2378'; SET 213 3/4"
CSG AT 2378'; DRLG AHEAD
WITH 12 1/4" BIT

VOLC: ASH FALL: VOLC SLIST;
RED BRN, M HD-SFT, KINDERS,
SOME VF, DK ANG GAS OF
VOLC EJECTA V W HYDRATED
TO CLAY MINS

VOLC: BASALT: M-DK GY/BLK,
HD, MAS, APHAN-MICXLN, SCAT
LT, DK, GN ALT MAT, TR, DISM
RED MAT

VOLC: ASH: LT GY, SFT-MOD FM
PRED F-M GR, CL, FROS, SB-
ANG QTZ/SCAT, GN & BLK
VOLCS, IN W HYDRTD CLY/ASH
PRTLY, SLTY MTRX

VOLC: BASALT-ANDESITE?: M
GY, FM-HD POS ALT, OISM
RED MINERAL, SCAT, SFT GN
ALT MAT, QTZ/FELD GROUND-
MASS, LOC LT GY, SOFT, CLYEY
ASH AS ABOVE

W 69 V 43 F 9.8
FC 2/32 PH 9.5
SD 2.5% SOL 6% S 180

2636' 7°00'

VOLC TUFF-ASH: LT GY-BUFF,
LT GN, LT RED/BRN, SFT W
HYDRTD, CLYEY-ASHEY MTRX,
SLTY-MED GR QTZ, GN, BLK,
VCL, TR RED VOLC GR &
GLASS

2693' 7°15'

2724' 7°15'

VOLC: BASALT-ANDESITE: M GY
- GNISH GY, MICXLN, MAS
EQUIGRANULAR, PRED, ANHD
MINS, OCC SUBHED-EUHD
FELD, LATH, V ABNT, RED-RED
BRN ALT/MNRLIZATION (POSS
ALT IRON ORE MIN?); OCC-
COM ALT OF MAFIC MINS TO
LT-M GN, SFT, WXY, SERP/TALC
MINS, COMLY IN MIC-FRACS

VOLC: ASH-TUFF: BR ORG RED,
MAS, APHAN, CINDER MAT, M
HD-SFT, HYDR TO CLAY MINS

2784' 7°00'

C = 100 AT 43VIS
LAG = 41MIN/56SPM

VOLC: BASALT-ANDESITE &
ASH-TUFF AS ABOVE, SCORIA
RED/BRN-MBRN VESTICULAR,
PARTIAL VES FL/QTZ

2846' 7°00'

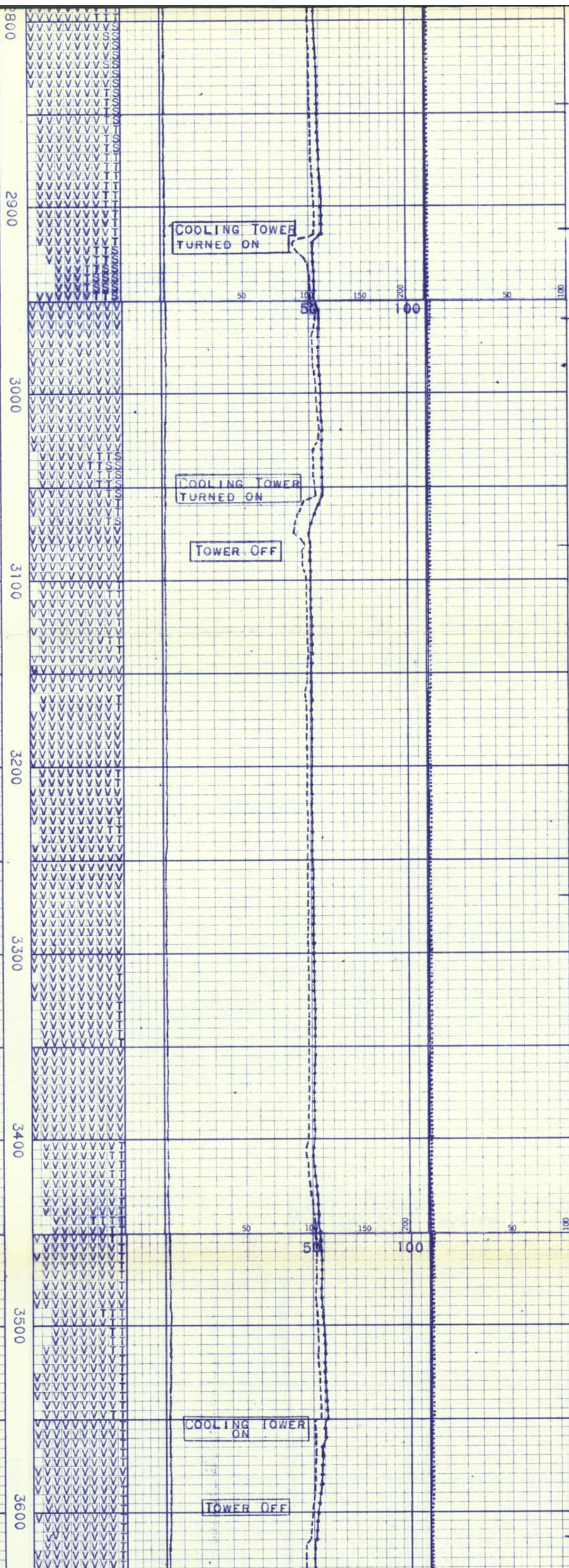
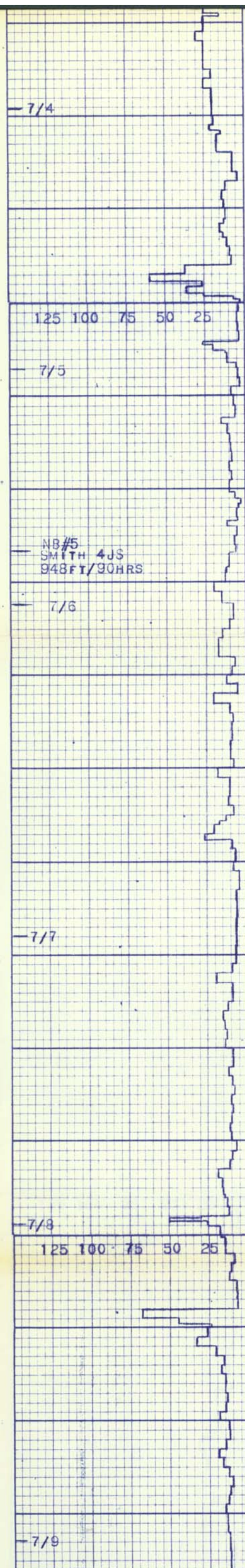
VOLC: ASH FALL-TUFF: M-DK
GY, SFT-MOD FM, CLYEY/SLTY/
ASHEY MTRX/VF, MED GR QTZ/
BLK, RED, WH & BL, VCL, GRS

W 70 V 43 F 8.3
FC 2/32 PH 10.5
SD 2% SOL 6.5% S 170

2913' 7°15'

VOLC: ASH FALL-TUFF: RED
BRN-ORG BRN, M BRN, CINDER/
ASH/CLAY, OCC SCORIA MAT,
COM APHAN/VF, MKY, WH-CL,
EJECTA & VES FL, W HYDRTD
INCR BL-GN AMYG/ZEO MAT

2961' 7°15'



2846' 7°00'
VOLC: BASALT-ANDESITE & ASH-TUFF AS ABOVE SCORIA RED/BRN-MBRN VESICULAR, PARTIAL VES FL/QTZ
W 70 V 43 F 8.3
FC 2/32 PH 10.5
SD 2% SOL 6.5% S 170

2913' 7°15'
VOLC: ASH FALL-TUFF: RED BRN-ORG BRN M BRN CINDER/ASH/CLAY OCC SCORIA MAT COM APHAN/VF MKY WH-CLR EJECTA & VES FL W HYDRO INCR BL-GN AMYG/ZEO MAT
W 69 V 43 F 9.2
FC 2/32 PH 10.0
SD 2% SOL 7% S 180

2961' 7°15'
VOLC: BASALT-ANDESITE: M-DK GY, HD, MAS, MICXLN, EQUI GRANULAR, PRED ANHED, COM SUBHED FELD LATHS, SCAT RED-RED/BRN MNRLIZATION (POS FE MAT) TR AMYGDULE & MICFRAC (FL/LT GN, SFT, WXY ALT MAT)
W 69 V 43 F 9.2
FC 2/32 PH 10.0
SD 2% SOL 7% S 180

3083' 6°30'
VOLC: BASALT-ANDESITE AS LAST ABOVE TUFF-ASH: M GY, GY/GN, GY/BRN, SFT, CLYEY-ASH, VF-MED VCOL VOLC GRS
W 70 V 38 F 9.0
FC 2/32 PH 10.0
SD 2% SOL 6% S 180

3270' 5°30'
VOLC: BASALT: M-DK GY, HD, MAS, APHAN-MICXLN, OCC VIS SUBHED-EUHD FELD XLS, OCC FRAGS OF SEC QTZ/AGATE/CHAL LITTLE-NO RED-BRN ALT MNRLIZATION, OCC ZNS OF TUFF-ASH, M GY, GY GN-GN, SFT CLYEY, SOME PROB CVGS
W 70 V 40 F 9.0
FC 2/32 PH 9.8
SD 2% SOL 6% S 170

3614' 1°30'
VOLC: BASALT: M GY, MAS, HD, APHAN AS LAST ABOVE TR NONE RED BRN MNRLIZATION, CONT TUFFACEOUS/CLYEY ASH MAT
W 71 V 37 F 9.4
FC 2/32 PH 10.0
SD 1.5% SOL 6% S 180

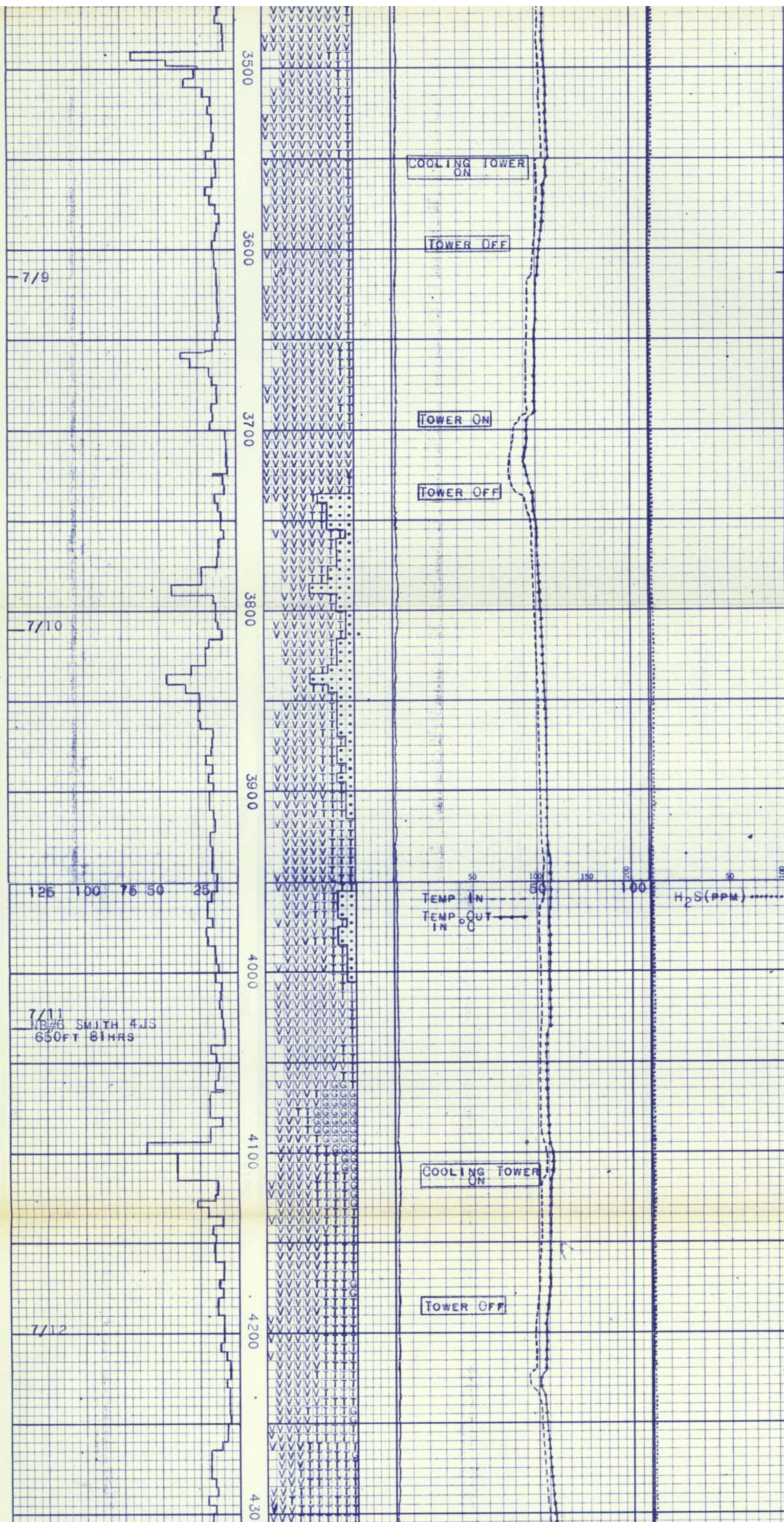
COOLING TOWER TURNED ON

COOLING TOWER TURNED ON

TOWER OFF

COOLING TOWER ON

TOWER OFF



FC 2/32 PH 10.0
SD 1.5% SOL 6% S 180

VOLC: BASALT: M-DK GY, HD, DNS, TR, RED/BRN MNRLIZATION
ALT, OCC, SBHED-EUHEO, FELD
XTLS, NAPHAN-MICXLN GRND-
MASS, TUFF-ASH FALL, LT-
MED, GY, GY/GN, SFT ASHEY/
CLAYEY, COM GN MNRLIZATION
OR ALT

VOLC: BASALT: M GY, MAS, HD,
APHAN, AS LAST ABV, TR, NONE
RED, BRN MNRLIZATION, CONT
TUFFACEOUS/CLAYEY ASH MAT

3614' 1°30'

W 70 V 36 F 10.5
FC 2/32 PH 9.8
SD 1.5% SOL 6% S 170

VOLC: BASALT: M-DK GY, GY/BK
HD, MAS, APHAN, OCC, SBHED-
EUHEO, FELD LATHS-XTLS, INC
RED/BRN ALT-MNRL MAT, LOC
BRI, RED/BRN SCORIA, M HD,
PROB TUFF SLOUGH

VOLC SS: PROB TUFF-ASH &
VOLC DTAL MAT, M GY, GY/BRN
P, CONSOL, SFT, CLAYEY, MIX
VF-MED, ANG-SBANG, CLA, FROS
QTZ & VOL VOLC FRAGS (GN,
BLK, RED, GY, BRN)

W 74 V 39

VOLC SS: TUFF-ASH, BREC, V
PLY, SRTD, COM BAS&SCORIA
VOLC DETAL MAT, ANG, FROS
QTZ & VOL VOLC FRAGS

W 70 V 39 F 10.0
FC 2/32 PH 9.8
SD 2% SOL 6% S 180

3911' 1°00'

VOLC SS: PRED VF-F, SCAT, M,
ANG-SBANG, P, CONSOL, TUFF-
ASH, BASALT, SCORIA, DTAL
MAT, TUFF-ASH FALL, M GY,
GY/GN, GN, VOL GRS IN SFT
CLAYEY MIX

VOLC: BASALT: M GY/BLK, HD,
APHAN, OCC, SBHED-EUHEO,
FELD XTLS, COM, RED/BRN,
DISM ALT-MNRL (FE ORE)

4030' 2°00'

W 71 V 37 F 10.5
FC 2/32 PH 9.8
SD 1.5% SOL 5% S 160

VOLC: GLASS: DK BRN/BLK SIL
CRPXLN, VITR, CONCH FRAC,
GRDG TO CRPXLN MICLAM,
DK BRN/BLK, PLATY, GLASSY,
BRIT

C = 20U AT 37 VIS
LAG=60MIN AT 59SPM

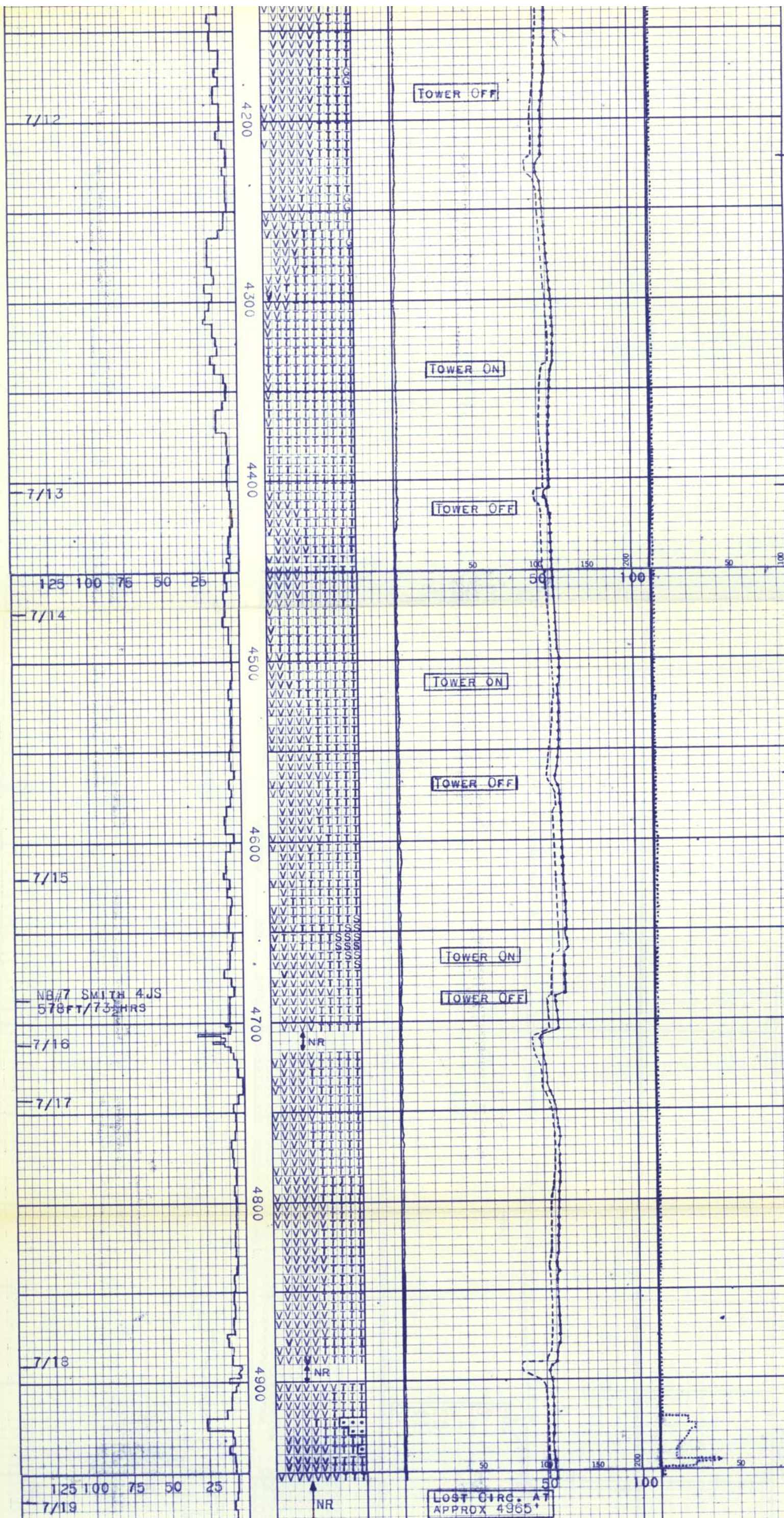
VOLC: BUFF-DK BRN, AMBER,
MOD FM-HD, SOME BRIT &
SLATY, CRPXLN, COM MICRO-
LAM, SOME CRT-LIKE &
CONCH FRAC, SILIC RSNS,
MNR SUC, COM QTZ FL FRACS

TUFF: WH-BF, LT-MGY-BLK, SFT
-V, HD, SME, AMYGDOLOIDAL,
POS, FLD, QTZ, CHALT, QTZ & CO,
VOLC GRS IN CRPXL, GDMASS,
QTZ FLD, MICROFRAC, MNR DISM,
PYR&CALC

4222' 2°45'

TUFF: DOM WH-LT, BF, FRM-M
HD, COM DISM, PYR, GIVING
MARBLED TEXT, SME DIST, VN-
LETS

W 71 V 37 F 10.0



SLATY, CRFALN, COM M, FLD
LAM, SOME CHR-LIKE &
CONCH, FRAC, SILIC, RSNS,
MNR SUC, COM QTZ FL FRACS

TUFF: WH-BF, LT-MGY-BLK, SFT
-V, HD, SME, AMYGDOL, OIDAL,
POS, FLD, QTZ, CHALT, QTZ&CC,
VOLC, GRS, IN, CRPXL, GDMASS,
QTZ, FLD, M, OFRAC, MNR, DISM,
PYR&CALC

4222' 2°45'

TUFF: DOM WH-LT, BF, FRM-M
HD, COM, DISM, PYR, GIVING
MARBLED TEXT, SME, DIST, VN-
LETS

W 71 V 37 F 10.0
FC 2/32 PH 9.8.
SD 1.5% SOL 6% S 180

TUFF: WELDED: CONT WH-LT, BF
PORC-LIKE, FM-HD, SILIC,
COM, DISM, PYR, INC, IN, QTZ&
PYR, IN, MIC-FRAC, & VNLETS,
LOC, SCAT, MICA, SCAT, ACIC-
RECTANGULAR, QTZ, LOC, LT
GY, SILIC, DISM, PYR (POS, VN
FL, MAT)

4405' 3°00'

VOLC: BASALT&MGY-DK, GY, GN
HD, MICXLN, CRIPXLN, SIL&FLD
IH, FRAC, OCC, RUNNING, SMPLE
COM, VING, CHLOR, PYR, POS
SERP&ALT-MINRLIZATION

TUFF: HD-V, HD, M-DKGY, ABOT
VCOL, GR, V, DIRTY, PLY, SRTO

W 71 V 37 F 10.0
FC 2/32 PH 9.8
SD 15% SOL 6% S 180

VOLC: BASALT-TUFF BRECCIA:
M-DK, GY, HD-V, HD, MICXLN-
CRPXLN, BASALT, FRAGS, SCAT
FLD, LATHS&DISM, PYR, LT-
M, GY, GY, BRN, SFT-V, FM, PRTY
WAXY, LSTR, TUFF-ASH, DISM,
PYR&VOL, VOLC, FRAGS, SCAT
PROB, SERP&TR, FE, ALT-MNRL-
IZATION

4565' 2°45'

W 72 V 42

SERP: LT, GNWH-M, BLU, GN, SFT
-V, HD, MNR, GRDING, TO, SOAP
ST, TR, CHLOR, FE, ALT-MINRL
IZATION, ABOT, DISM, PYR, IN
TUFF-BREC

W 71 V 40 F 10.3
FC 2/32 PH 9.8
SD 3% SOL 7% S 190

4687' 2°00'

NOTE: LOST CIRCULATION
APPROX 700 BBLs, ADD LCM,
BYPASS SHAKERS

POOR SAMPLES

W 70 V 70 F 12.5
FC 2/32 PH 8.2
SD 3.5% SOL 8% S 200

VOLC: BASALT-TUFF/ASH BREC
M-DK, GY, HD, MICXLN, BASALT
& M, GY, GY, BRN, TUFF/ASH
CONT AS ABOVE

4839' 2°00'

NOTE: LOST CIRCULATION
APPROX 100 BBLs, ADD LCM
BYPASS SHAKERS

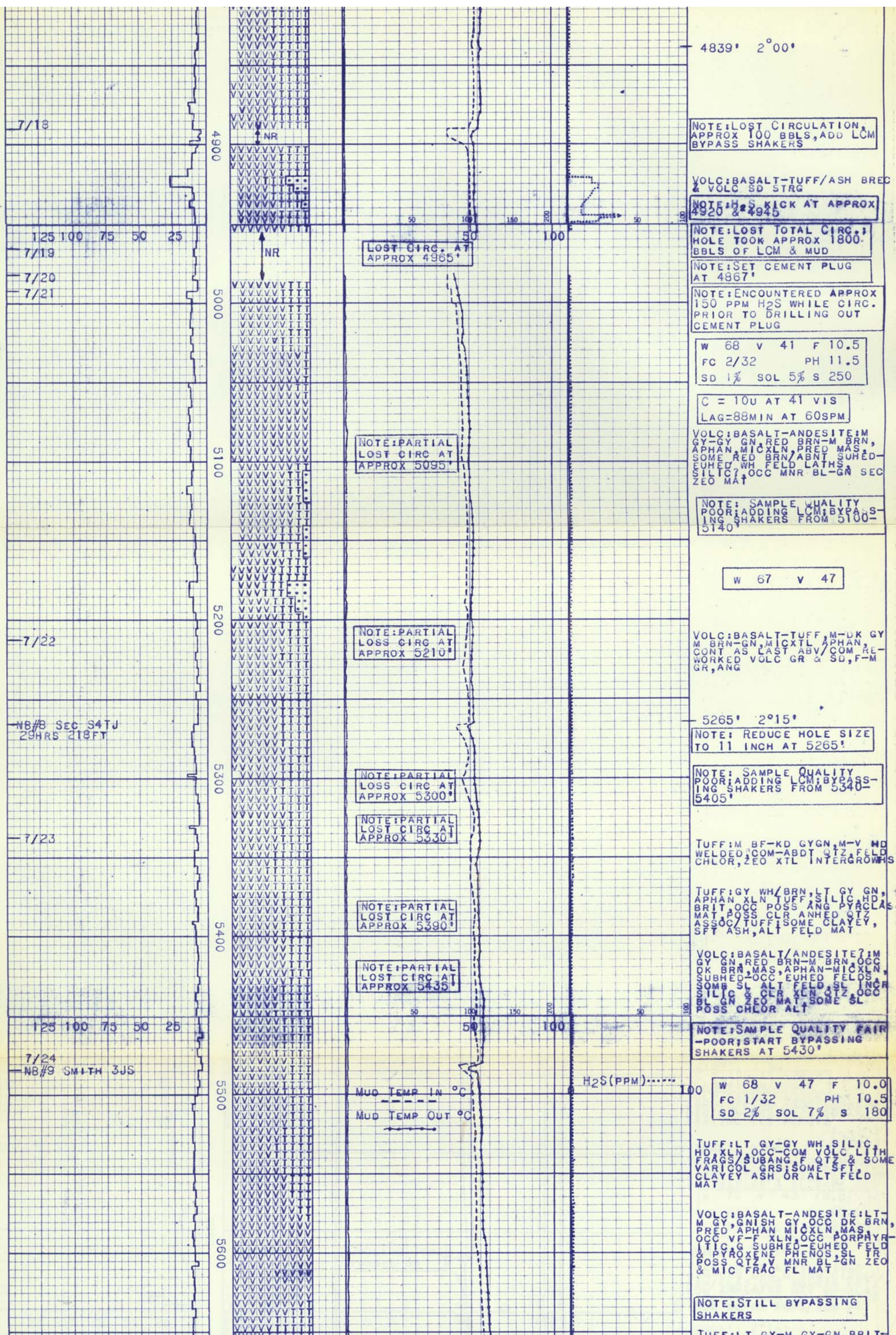
VOLC: BASALT-TUFF/ASH BREC
& VOLC, SD, STRG

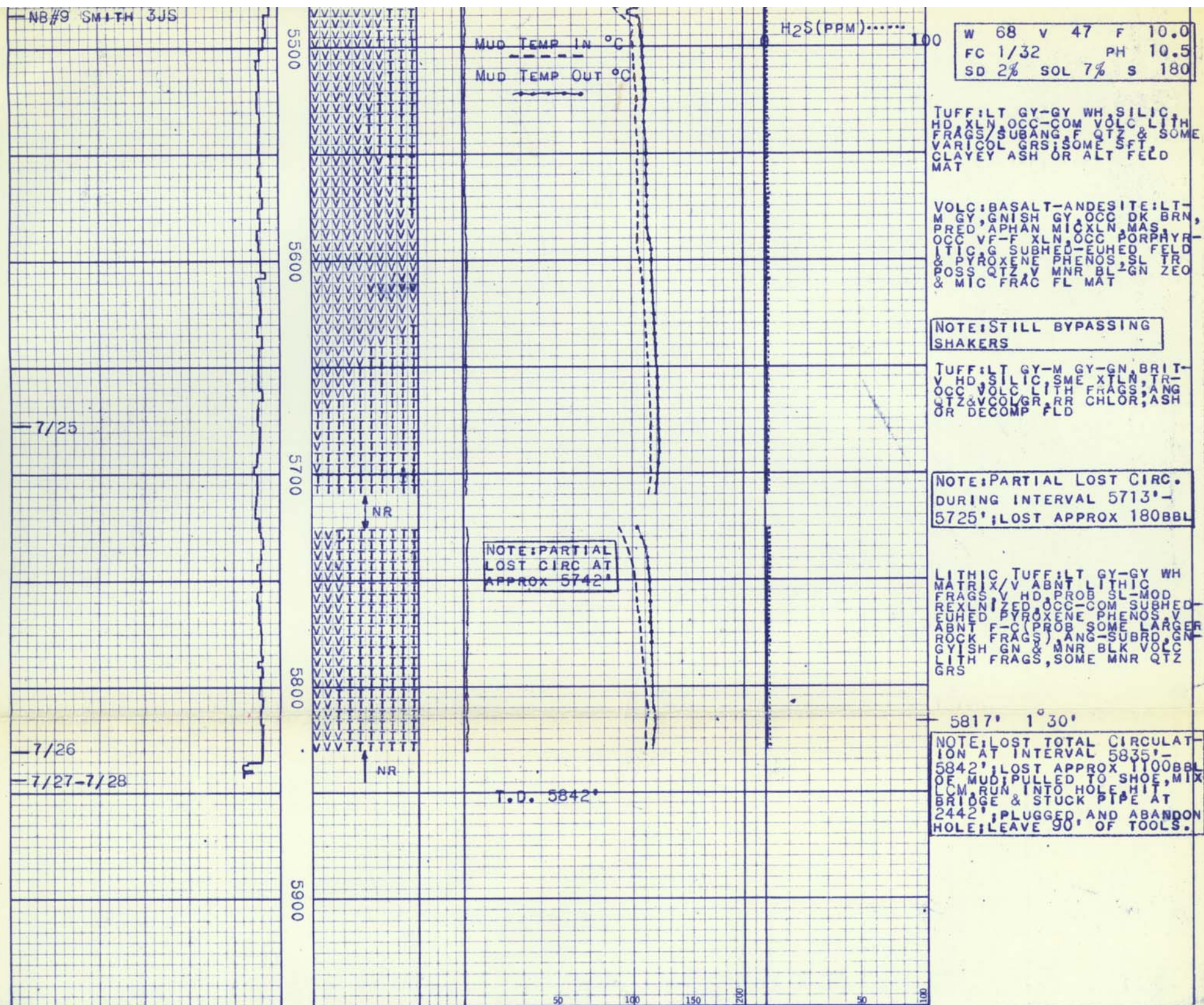
NOTE: H.S. KICK AT APPROX
4920 & 4945

NOTE: LOST TOTAL CIRC.:
HOLE TOOK APPROX 1800-
BBLs OF LCM & MUD

NOTE: SET CEMENT PLUG

LOST CIRC. AT
APPROX 4965'





TEMPERATURE SURVEYS

BOTTOM HOLE THERMOMETER RUNS: MAXIMUM TEMPERATURES ONLY; THREE THERMOMETERS PER RUN; SCHLUMBERGER THERMOMETERS ON TOTCO TOOL

DEPTH	MINUTES ON BOTTOM	MINUTES SINCE CIRC. STOPPED	READINGS (°F)
469'	5	2300	195/205/185
469'	60	2350	- /218/ -
469'	60	2450	118/158/138
879'	8	8	116/145/113
1400'	10	10	120/210/141
2636'	5	15	211/211/210
2784'	5	10	* 138/138/ -
2913'	5	20	138/ - /138
3083'	2	10	128/128/126
3270'	5	10	136/134/146
3614'	5	10	132/130/132
3911'	5	15	143/141/141
4031'	8	10	276/222/222
4222'	10	10	138/142/138
4405'	10	10	141/ - /142
4565'	8	8	146/146/146
4687'	9	10	150/150/150
4839'	8	20	138/138/138
5265'	5	10	133/134/132
5817'	10	10	144/144/154

* NOTE: START TO CENTRIFUGE THERMOMETERS