01

TOOKE ENGINEERING

P.O. BOX 3300
CASPER, WYOMING

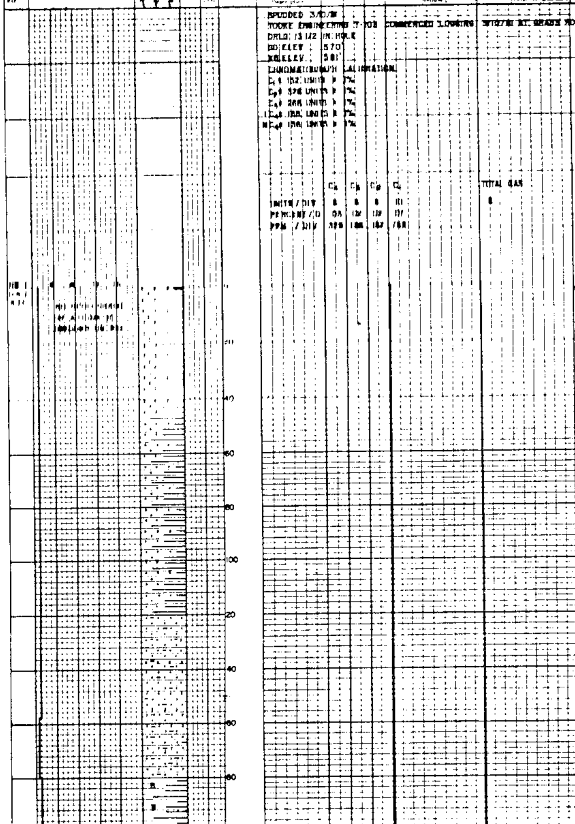
COMPANY DIAMOND SHAMROCK CORPORATION
WELL BOISE CASCADE # 11-14
SEC. 14 T. 7N R. 7 W
COUNTY CLATSOP STATE OREGON
SUPERVISOR EZEKIEL & CARTER
UNIT MICHELLE MILLER DATE 3-10-81

Wt	LAT - Logged After Trip	SAND	▦	SALT	▦
Vis	CO - Circulated Out	LIME	▦	DOLOMITE	▦
WL	NR - No Returns	SHALE BROWN	▦	SILTSTONE	▦
FC	DST - Drill Stem Test	CLAY	▦	ANHYDRITE	▦
pH	NB - New Bit				
Cl					

CHROMATOGRAPH
MUD GAS ANALYSIS

Butanes .03 % / Div 5 UNITS
Propanes .02 % / Div 5 UNITS
Ethanes .02 % / Div 5 UNITS
Methane .07 % / Div 10 UNITS
Nitrogen
Total Gas 5U/DIV

Mud Data Etc | DRILLING RATE Min / Ft | LITHOLOGY % In Sample | % Fluo | Depth & Core Record | CUTTINGS Gas Analysis Formation Description | LITHOLOGICAL DESCRIPTION and other Pertinent Data



SPUDDED 3/10/81
TOOKE ENGINEERING T-703 COMMENCED LOGGING 3/10/81 AT GRASS ROOTS
DRLG. 13 1/2 IN. HOLE
GD. ELEV. 570'
KB. ELEV. 581'

CHROMATOGRAPH CALIBRATION
C_1 = 152 UNITS = 1%
C_2 = 376 UNITS = 1%
C_3 = 288 UNITS = 1%
I C_4 = 188 UNITS = 1%
N C_4 = 156 UNITS = 1%

	C_1	C_2	C_3	C_4	TOTAL GAS
UNITS / DIV	5	5	5	10	5
PERCENT / D	.03	.02	.02	.07	
PPM / DIV	329	186	187	758	

NB 1
[illegible]

[illegible]

SH-DK BRN ABNT VFGR SD NCALC SOME FGR GLAU FRM

SH-DK BRN ABNT VFGR SD NCALC SOME FGR GLAU VFGR MICA BENT FRM SFT

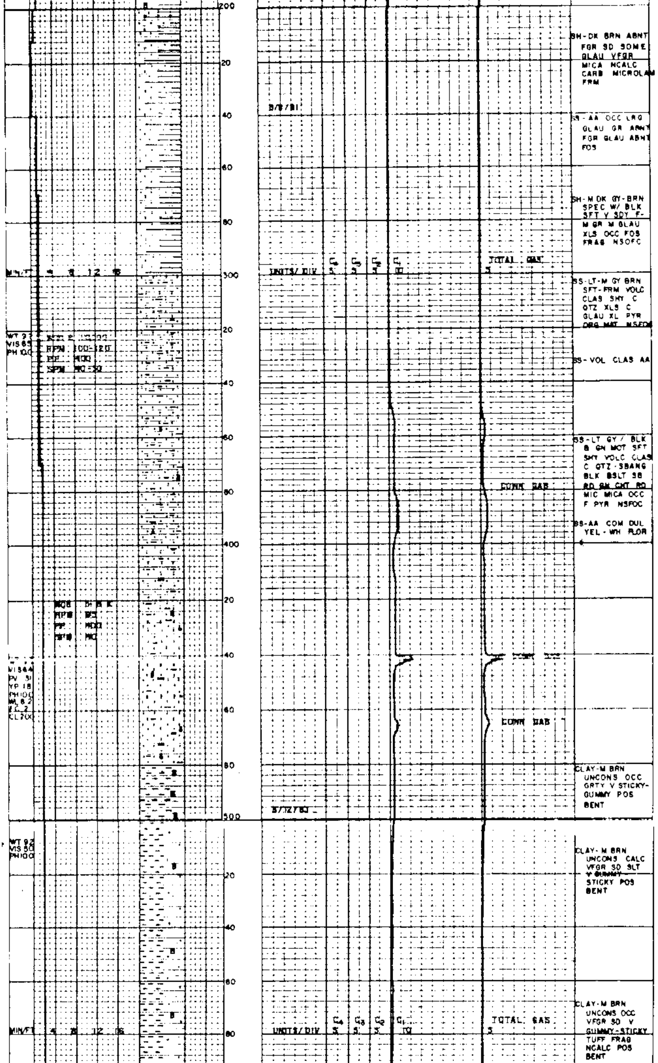
SH-DK BRN AA BCM LESS BENT MORE FRM LESS MICA

SH-GY BRN ABNT F-VFGR SD NCALC GLAU ABNT BLK CARB MAT SOME LT PK & CRM FRAG

SS-GY FGR W SRTD SBRDD V ARG FRM NSFOC GLAU ABNT CARB MAT

SS-AA BCM MORE SLTY & ARG

SH-BRN V BENT CALC V SFT



SH-DK BRN ABNT FGR SD SOME GLAU VFGR MICA NCALC CARB MICROLAM FRM

SS-AA OCC LRG GLAU GR ABNT FGR GLAU ABNT FOS

SH-M DK GY-BRN SPEC W/ BLK SFT V SDY F-M GR M GLAU XLS OCC FOS FRAG NSOFC

SS-LT-M GY BRN SFT-FRM VOLC CLAS SHY C QTZ XLS C GLAU XL PYR ORG MAT NSFOC

SS-VOL CLAS AA

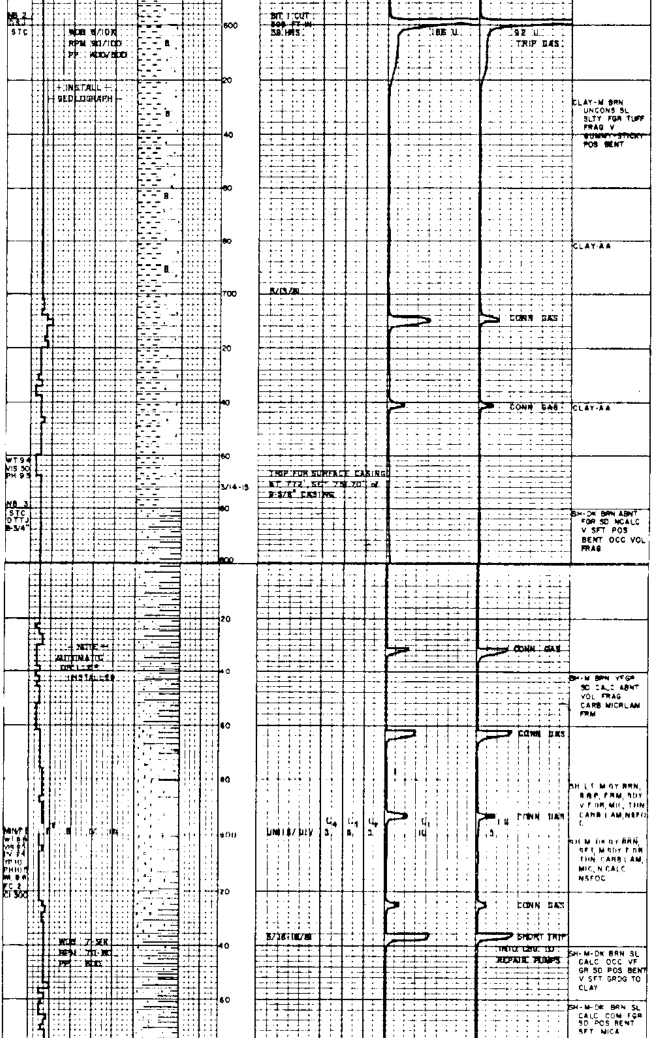
SS-LT GY / BLK & GN MOT SFT SHY VOLC CLAS C QTZ-SBANG BLK BSLT SB RD GN CHT RD MIC MICA OCC F PYR NSFOC

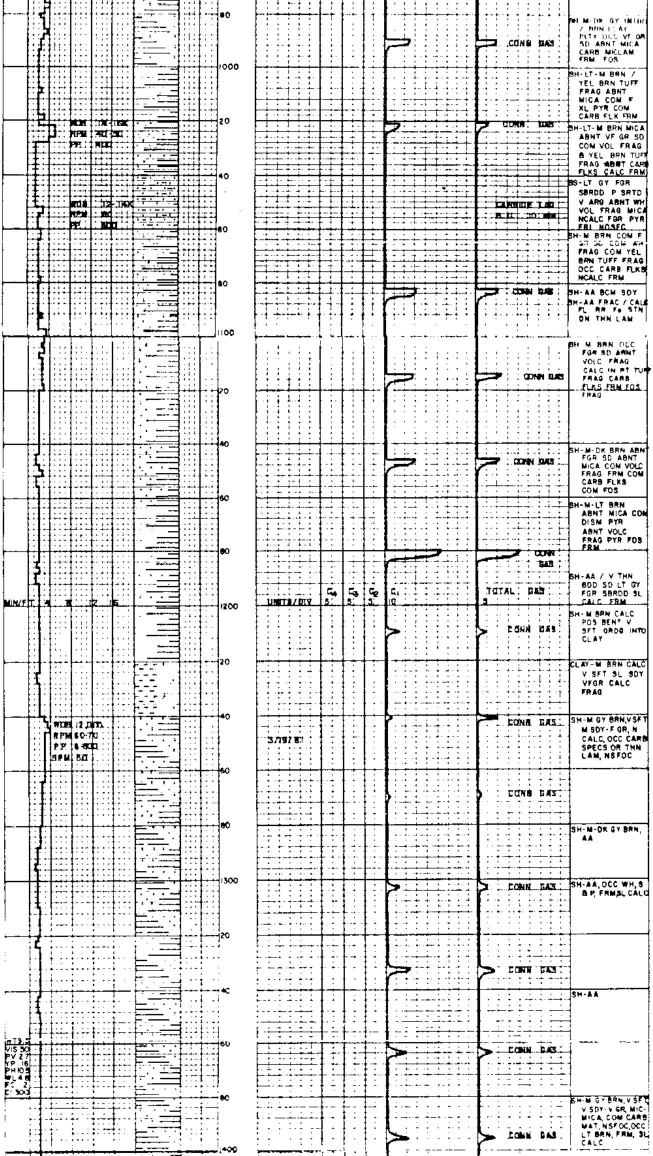
SS-AA COM DUL YEL-WH FLOR

CLAY-M BRN UNCONS OCC GRTY V STICKY-GUMMY POS BENT

CLAY-M BRN UNCONS CALC VFGR SD SLT ~~V GUMMY~~ STICKY POS BENT

CLAY-M BRN UNCONS OCC VFGR SD V GUMMY-STICKY TUFF FRAG NCALC POS BENT)





SH M-DK GY INTBD / BRN CLAY PLTY OCC VF GR SD ABNT MICA CARB MICLAM FRM FOS

SH-LT-M BRN / YEL BRN TUFF FRAG ABNT MICA COM F XL PYR COM CARB FLK FRM

SH-LT-M BRN MICA ABNT VF GR SD COM VOL FRAG & YEL BRN TUFF FRAG ABNT CARB FLKS CALC FRM

SS-LT GY FGR SBRDD P SRTD V ARG ABNT WH VOL FRAG MICA NCALC FGR PYR FRI NOSFC

SH-M BRN COM F GR SD COM AH FRAG COM YEL BRN TUFF FRAG OCC CARB FLKS NCALC FRM

SH-AA BCM SDY

SH-AA FRAC / CALC FL RR Fe STN ON THN LAM

SH M BRN OCC FGR SD ABNT VOLC FRAG CALC IN PT TUFF FRAG CARB FLKS FRM FOS FRAG

SH-M-DK BRN ABNT FGR SD ABNT MICA COM VOLC FRAG FRM COM CARB FLKS COM FOS

SH-M-LT BRN ABNT MICA COM DISM PYR ABNT VOLC FRAG PYR FOS FRM

SH-AA / V THN BDD SD LT GY FGR SBRDD SL CALC FRM

SH-M BRN CALC POS BENT V SFT GRDG INTO CLAY

CLAY-M BRN CALC V SFT SL SDY VFGR CALC FRAG

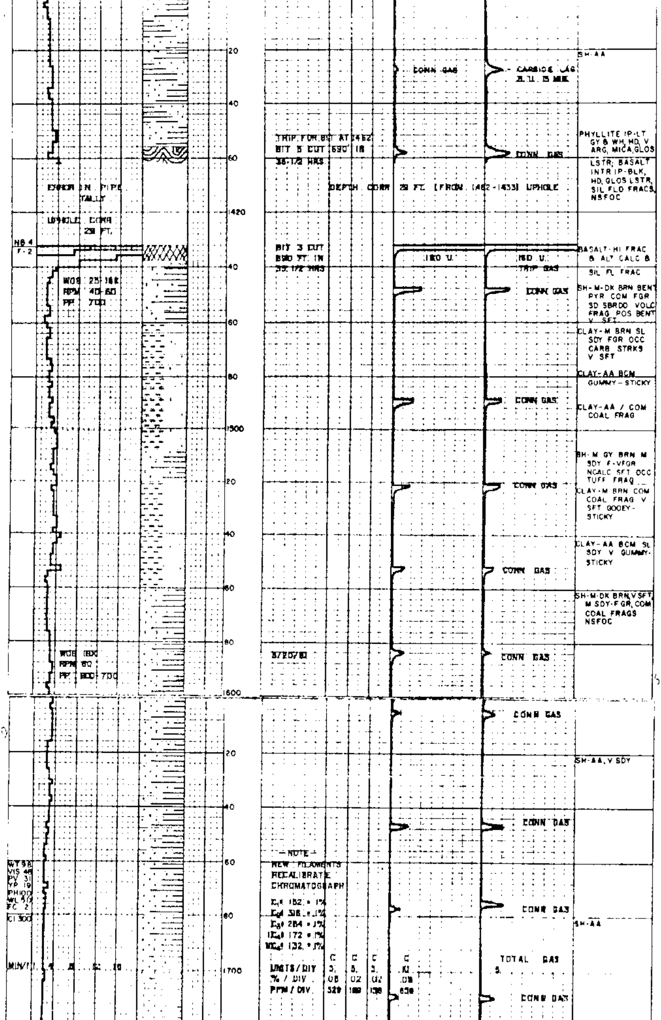
SH-M GY BRN, VSFT M SDY-F GR, N CALC, OCC CARB SPECS OR THN LAM, NSFOC

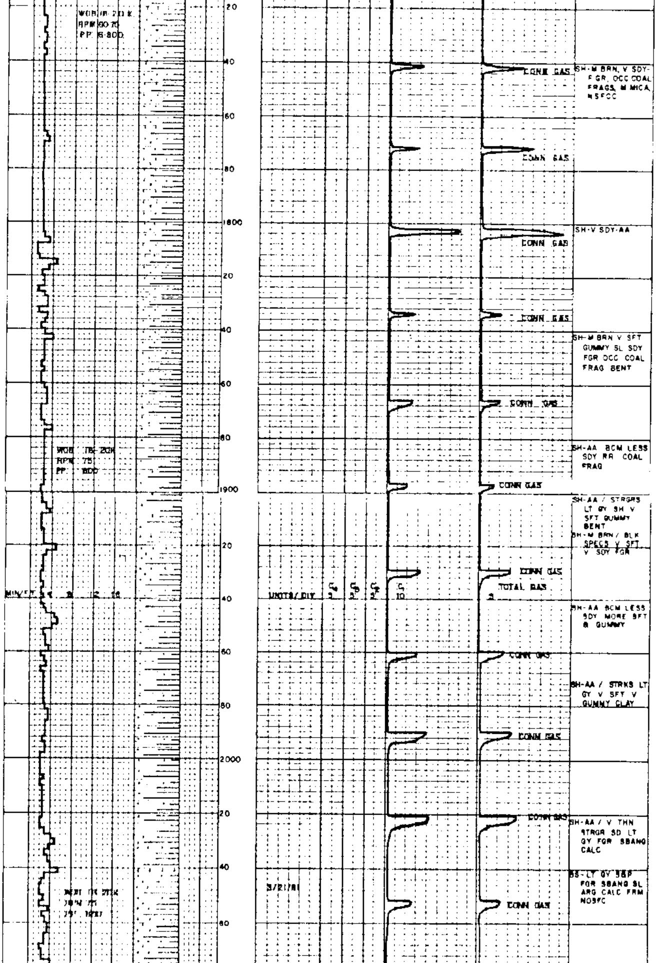
SH-M-DK GY BRN, AA

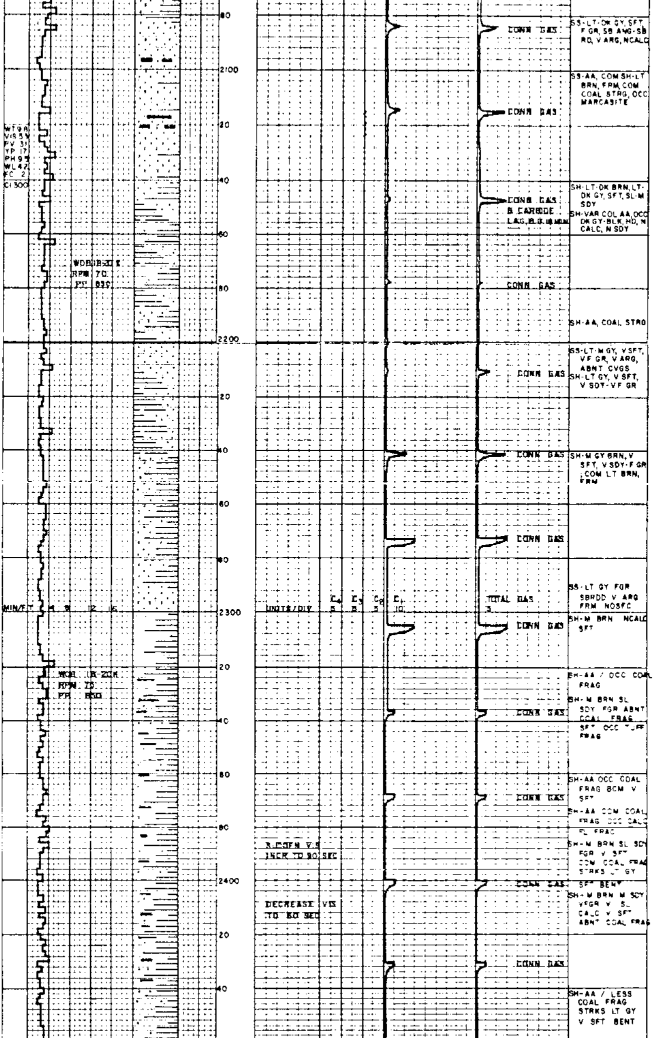
SH-AA, OCC WH, S & P, FRM SL CALC

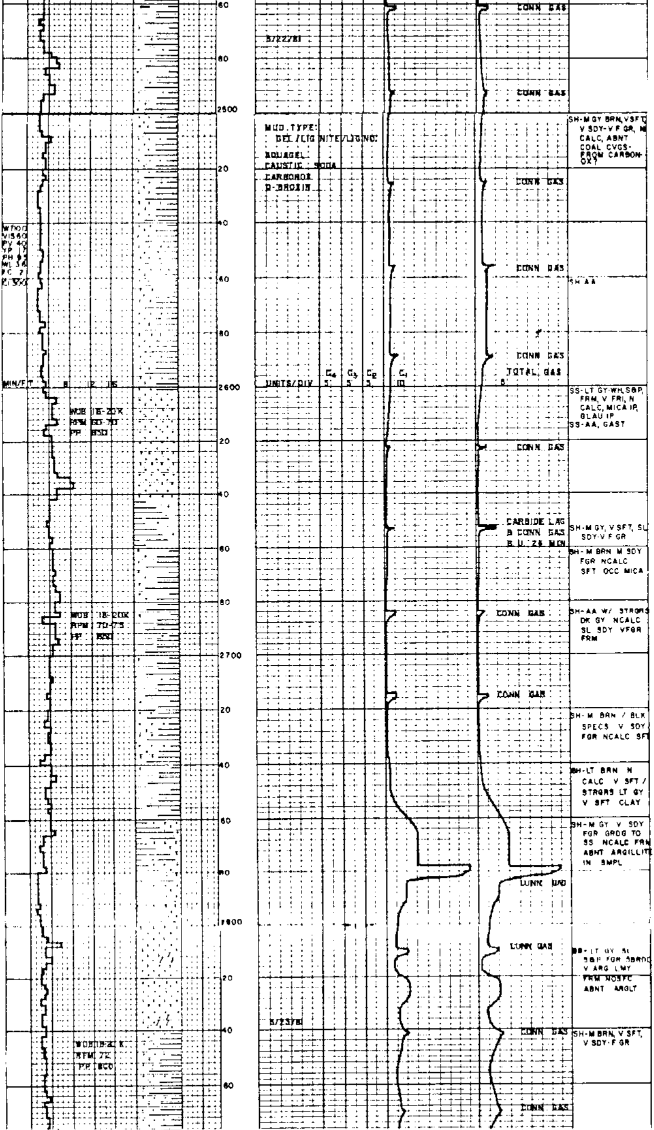
SH-AA

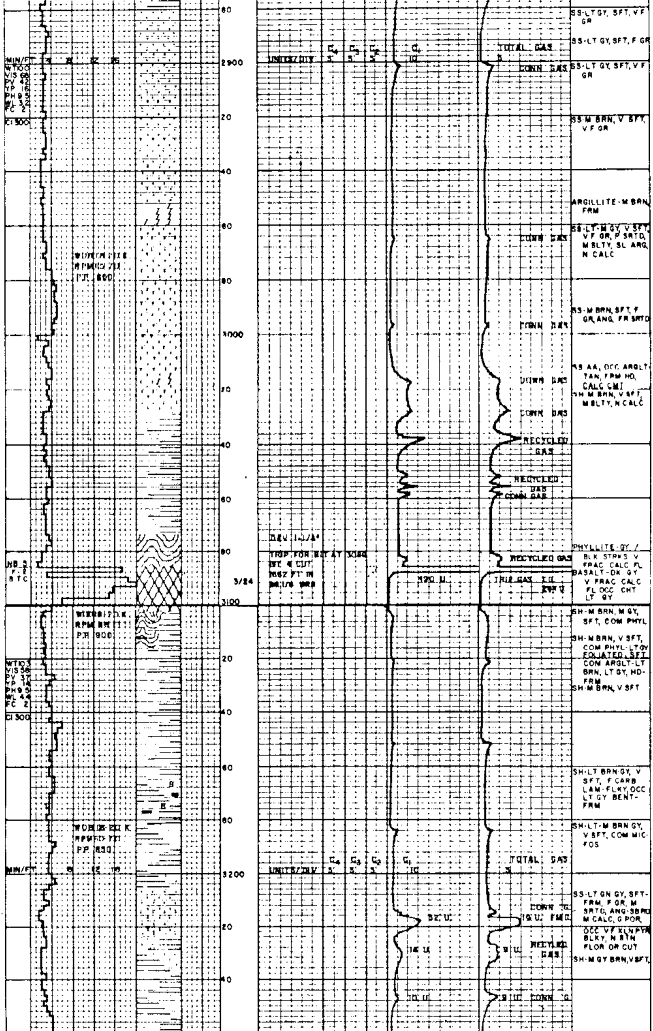
SH-M GY BRN, V SFT V SDY-V GR, MIC-MICA, COM CARB MAT, NSFOC, OCC LT BRN, FRM, SL CALC

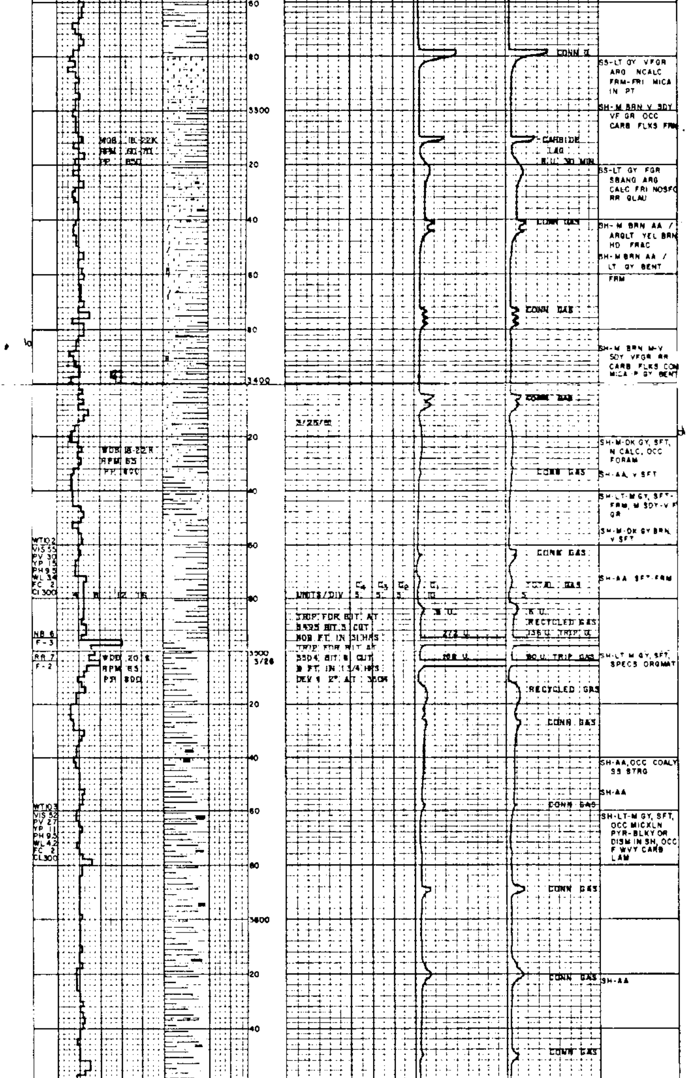












WOB 18-22K
RPM 60-70
PP 850

3/25/81

WOB 18-22 K
RPM 65
PP 800

WT 10.2
VIS 55
PV 30
YP 15
PH 9.5
WL 3.4
FC 2
CI 300

NB 6
F-3

RR 7
F-2

WOB 20 K
RPM 65
PP 800

TRIP FOR BIT AT
3495 BIT 5 CUT
108 FT. IN 31 HRS
TRIP FOR BIT AT
3504 BIT 6 CUT
9 FT. IN 13/4 HRS
DEV 1 1/2° AT 3504

WT 10.3
VIS 52
PV 27
YP 11
PH 9.5
WL 4.2
FC 2
CL 300

SS-LT GY VFGR
ARG NCALC
FRM-FRI MICA
IN PT

SH-M BRN V SDY
VF GR OCC
CARB FLKS FRM

SS-LT GY FGR
SBANG ARG
CALC FRI NOSFC
RR GLAU

SH-M BRN AA /
ARGLT YEL BRN
HD FRAC

SH-M BRN AA /
LT GY BENT
FRM

SH-M BRN M-V
SDY VFGR RR
CARB FLKS COM
MICA P GY BENT

SH-M-DK GY, SFT,
N CALC, OCC
FORAM

SH-AA, V SFT

SH-LT-M GY, SFT-
FRM, M SDY-V F
GR

SH-M-DK GY BRN,
V SFT

SH-AA SFT-FRM

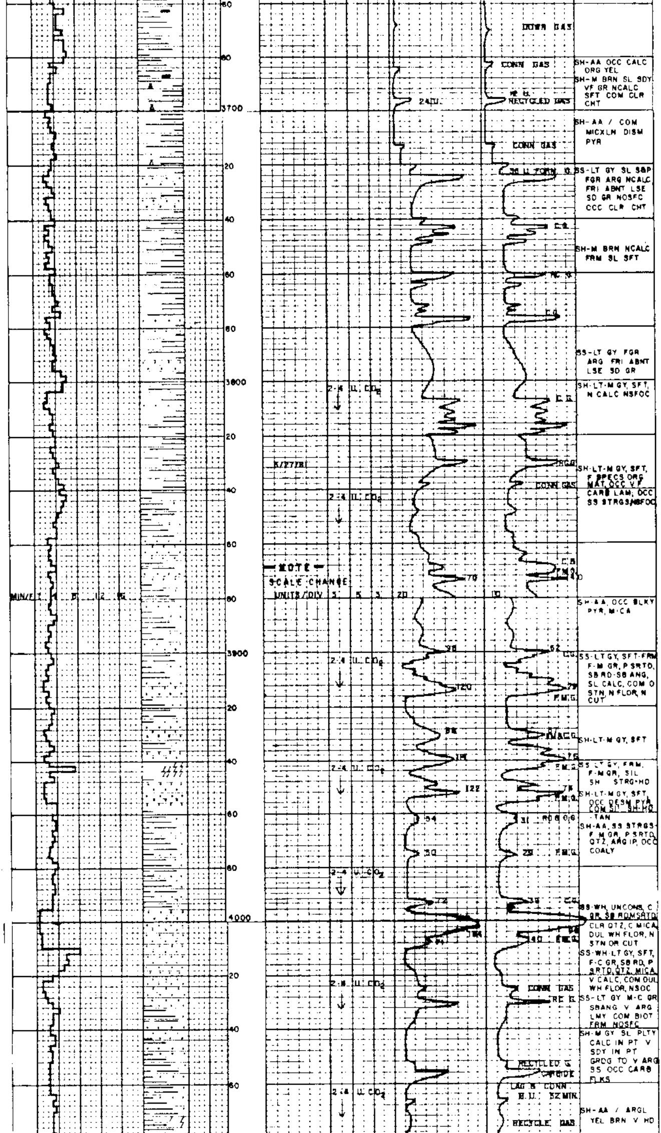
SH-LT M GY, SFT,
SPECS ORGMAT

SH-AA, OCC COALY
SS STRG

SH-AA

SH-LT-M GY, SFT,
OCC MICXLN
PYR-BLKY OR
DISM IN SH, OCC
F WVY CARB
LAM

SH-AA



SH-AA OCC CALC ORG YEL

SH-M BRN SL SDY VF GR NCALC SFT COM CLR CHT

SH-AA / COM MICXLN DISM PYR

SS-LT GY SL S&P FGR ARG NCALC FRI ABNT LSE SD GR NOSFC OCC CLR CHT

SH-M BRN NCALC FRM SL SFT

SS-LT GY FGR ARG FRI ABNT LSE SD GR

SH-LT-M GY, SFT, N CALC NSFOC

SH-LT-M GY, SFT, F SPECS ORG MAT, OCC V F CARB LAM, OCC SS STRGS, NSFOC

SH-AA, OCC SLKY PYR, MICA

SS-LT GY, SFT-FRM F-M GR, P SRTD, SB RD-SB ANG, SL CALC, COM O STN, N FLOR, N CUT

SH-LT-M GY, SFT

SS-LT GY, FRM, F-M GR, SIL SH STRG-HD

SH-LT-M GY, SFT, OCC DESM PYR COM SIL SH-HD -TAN

SH-AA, SS STRGS-F M GR, P SRTD, QTZ, ARG IP, OCC COALY

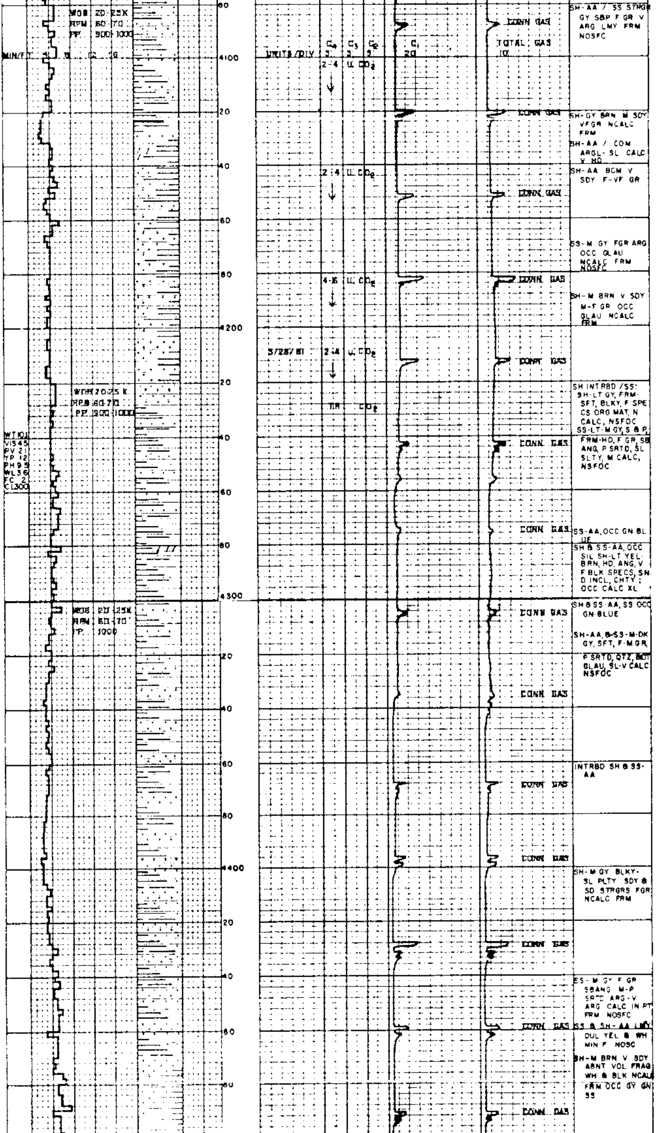
SS-WH, UNCONS, C GR, SB RDMSRTD CLR QTZ, C MICA, DUL WH FLOR, N STN OR CUT

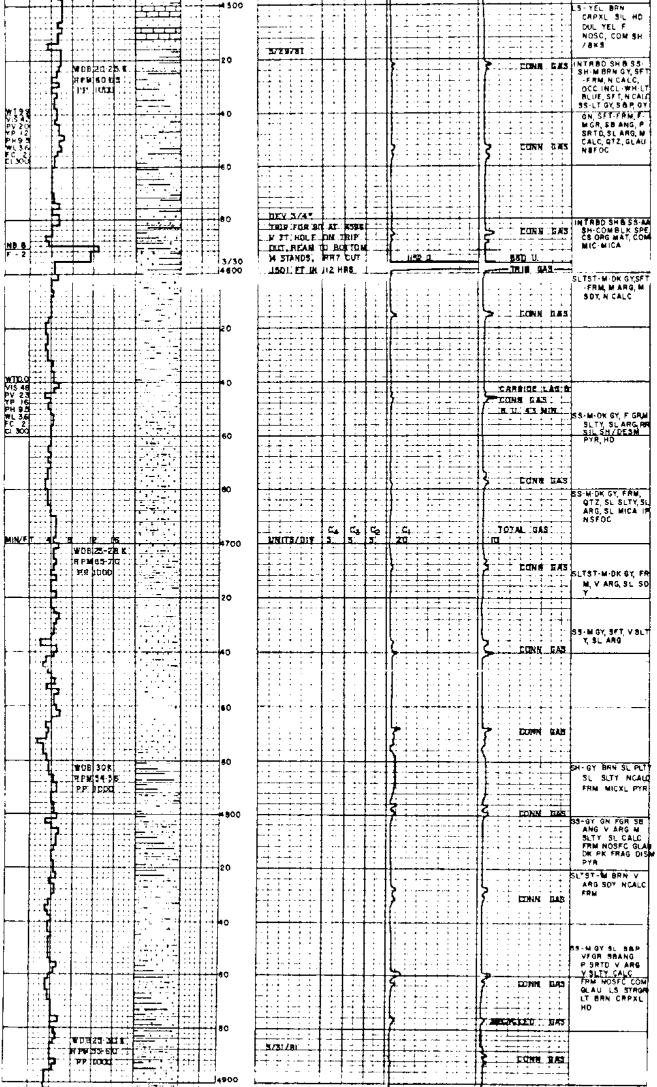
SS-WH-LT GY, SFT, F-C GR, SB RD, P SRTD, QTZ, MICA, V CALC, COM DUL WH FLOR, NSOC

SS-LT GY M-C GR SBANG V ARG LMY COM BIOT FRM NOSFC

SH-M GY SL PLTY CALC IN PT V SDY IN PT GRDG TO V ARG SS OCC CARB FLKS

SH-AA / ARGL YEL BRN V HD





5/29/81

DEV 3/4°
TRIP FOR BIT AT 4596
W 3T. HOLE ON TRIP
OUT, REAM TO BOTTOM
14 STANDS, RR7 CUT
1501 FT IN 112 HRS

5/31/81

LS- YEL BRN CRPXL SIL HD DUL YEL F NOSC, COM SH /BKS

INTRBD SH & SS- SH-M BRN GY, SFT -FRM, N CALC, OCC INCL-WH-LT BLUE, SFT, N CALC SS-LT GY, S&P, GY GN, SFT-FRM, F-MGR, SB ANG, P SRTD, SL ARG, M CALC, QTZ, GLAU NSFOC

INTRBD SH & SS-AA SH-COM BLK SPECS ORG MAT, COM MIC-MICA

SLTST-M-DK GY,SFT -FRM, M ARG, M SDY, N CALC

SS-M-DK GY, F GRM SLTY, SL ARG,RR SIL SH/DESM PYR, HD

SS-M-DK GY, FRM, QTZ, SL SLTY,SL ARG, SL MICA IP NSFOC

SLTST-M-DK GY, FRM, V ARG, SL SDY

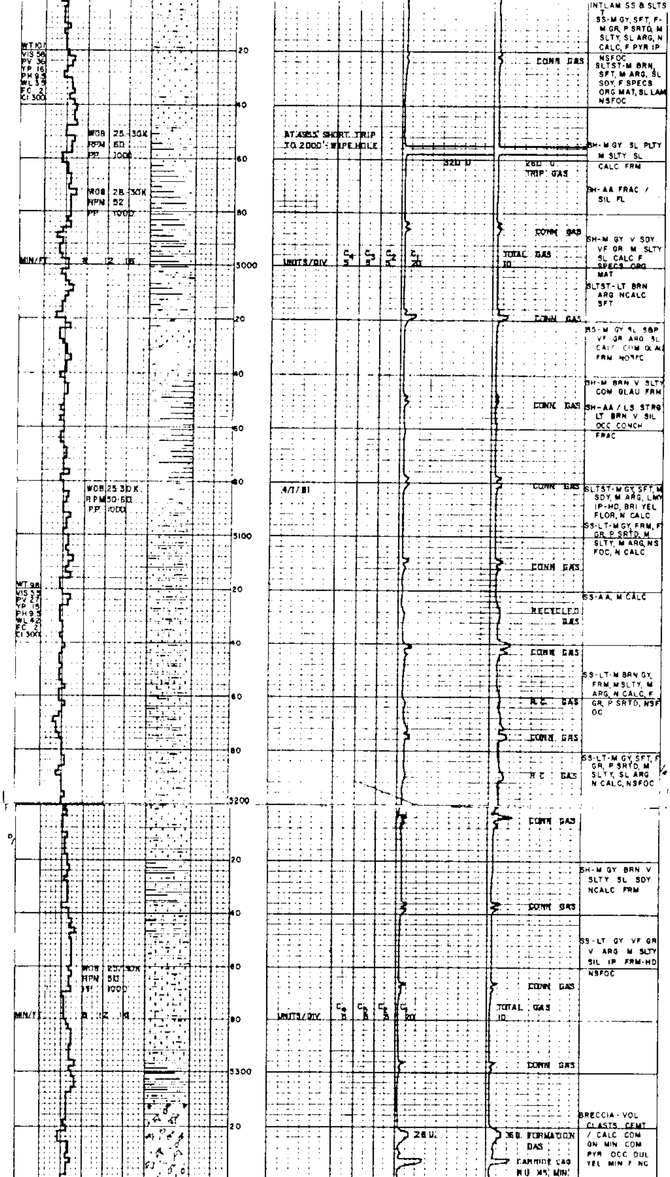
SS-M GY, SFT, V SLTY, SL ARG

SH- GY BRN SL PLTY SL SLTY NCALC FRM MICXL PYR

SS-GY GN FGR SB ANG V ARG M SLTY SL CALC FRM NOSFC GLAU DK PK FRAG DISM PYR

SLTST-M BRN V ARG SDY NCALC FRM

SS-M GY SL S&P VFGR SBANG P SRTD V ARG V SLTY CALC FRM NOSFC COM GLAU LS STRGR LT BRN CRPXL HD



INTLAM SS & SLTST
SS-M GY, SFT, F-M GR, P SRTD, M SLTY, SL ARG, N CALC, F PYR IP NSFOC
SLTST-M BRN, SFT, M ARG, SL SDY, F SPECS ORG MAT, SL LAM NSFOC

SH-M GY SL PLTY M SLTY SL CALC FRM

SH-AA FRAC / SIL FL

SH-M GY V SDY VF GR M SLTY SL CALC F SPECS ORG MAT

SLTST-LT BRN ARG NCALC SFT

SS-M GY SL SBP VF GR ARG SL CALC COM GLAU FRM NOSFC

SH-M BRN V SLTY COM GLAU FRM

SH-AA / LS STRG LT BRN V SIL OCC CONCH FRAC

SLTST-M GY, SFT, M SDY, M ARG, LMY IP-HD, BRI YEL FLOR, N CALC

SS-LT-M GY, FRM, F GR, P SRTD, M SLTY, M ARG, NSFOC, N CALC

SS-AA, M CALC

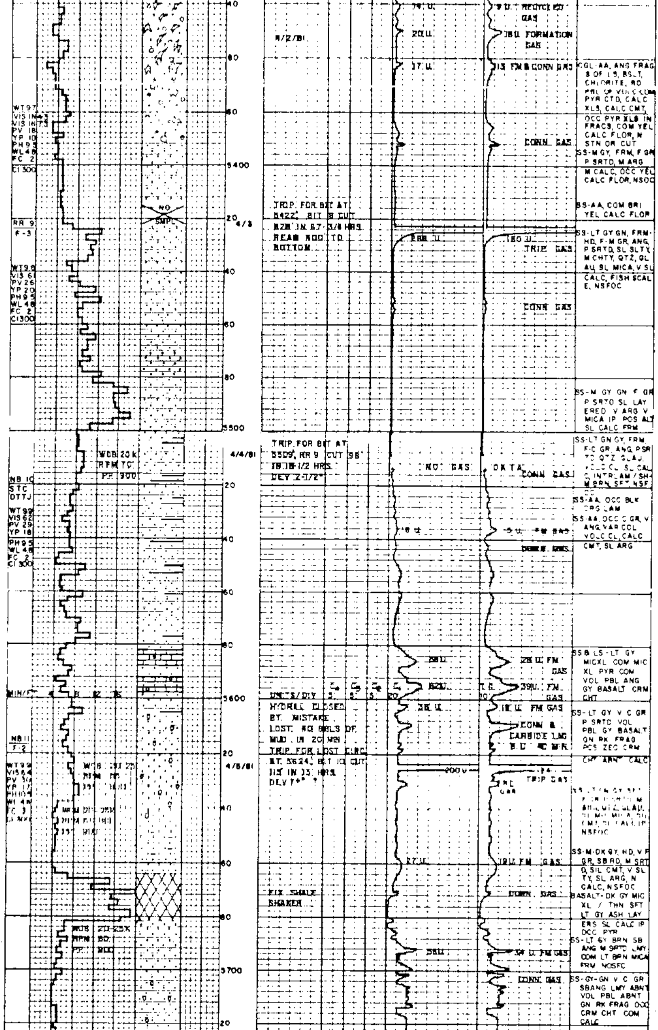
SS-LT-M BRN GY, FRM, M SLTY, M ARG, N CALC, F GR, P SRTD, NSFOC

SS-LT-M GY, SFT, F GR, P SRTD, M SLTY, SL ARG N CALC, NSFOC

SH-M GY BRN V SLTY SL SDY NCALC FRM

SS-LT GY VF GR V ARG M SLTY SIL IP FRM-HD NSFOC

BRECCIA - VOL CLASTS CEMT / CALC COM GN MIN COM PYR OCC OUL YEL MIN F NC



4/2/81

TRIP FOR BIT AT 5422', BIT 9 CUT 828' IN 67-3/4 HRS. REAM 100' TO BOTTOM.

TRIP FOR BIT AT 5509', RR 9 CUT 88' IN 18-1/2 HRS. DEV 2-1/2°

HYDRILL CLOSED BY MISTAKE. LOST 40 BBLS OF MUD IN 20 MIN. TRIP FOR LOST CIRC AT 5624', BIT 10 CUT 115' IN 15 HRS. DEV 7+° ?

FIX SHALE SHAKER

CGL-AA, ANG FRAGS OF LS, BSLT, CHLORITE, RD PBL OF VOLC COM PYR CTD, CALC XLS, CALC CMT, OCC PYR XLS IN FRACS, COM YEL CALC FLOR, N STN OR CUT

SS-M GY, FRM, F GR P SRTD, M ARG M CALC, OCC YEL CALC FLOR, NSOC

SS-AA, COM BRI YEL CALC FLOR

SS-LT GY GN, FRM-HD, F-M GR, ANG, P SRTD, SL SLTY, M CHTY, QTZ, GLAU, SL MICA, V SL CALC, FISH SCALE, NSFOC

SS-M GY GN F GR P SRTD SL LAYERED V ARG V MICA IP POS ALT SL CALC FRM

SS-LT GN GY, FRM, F-C GR, ANG, P SRTD, QTZ, GLAU, VOLC CL, SL CALC, INTRLAM / SH-M BRN, SFT, NSFOC

SS-AA, OCC BLK CRB LAM

SS-AA, OCC C GR, V ANG, VAR COL VOLC CL, CALC CMT, SL ARG

SS & LS-LT GY MICXL COM MIC XL PYR COM VOL PBL ANG GY BASALT CRM CHT

SS-LT GY V C GR P SRTD VOL PBL GY BASALT GN RK FRAG PCS ZEO CRM CHT ABNT CALC

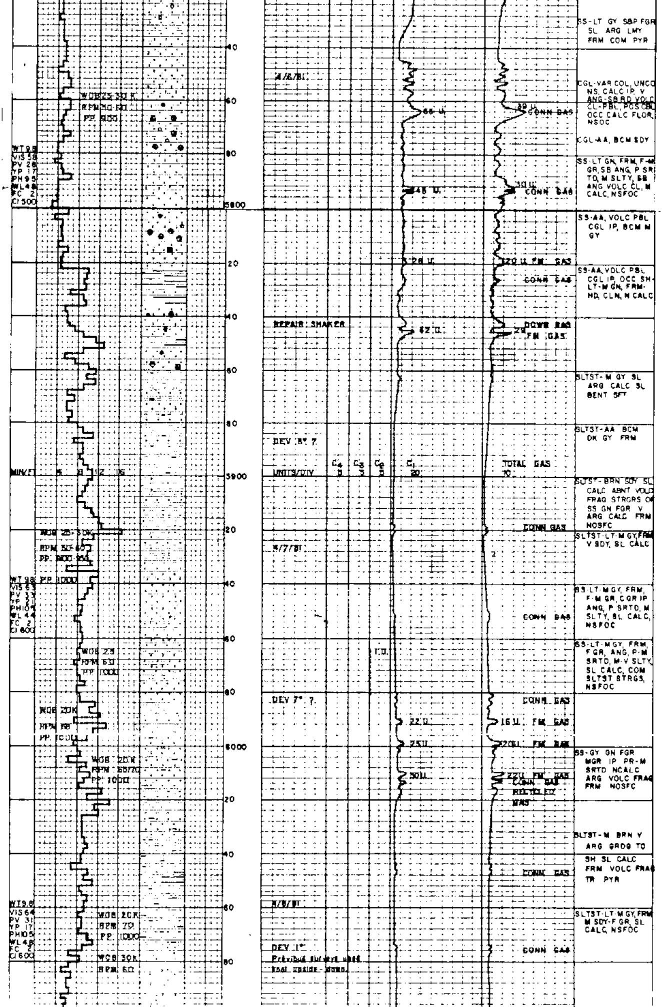
SS-LT GN GY SFT F-C GR CHTY M ANG, QTZ, GLAU, SL MICA, SIL CMT, SL CALC IP NSFOC

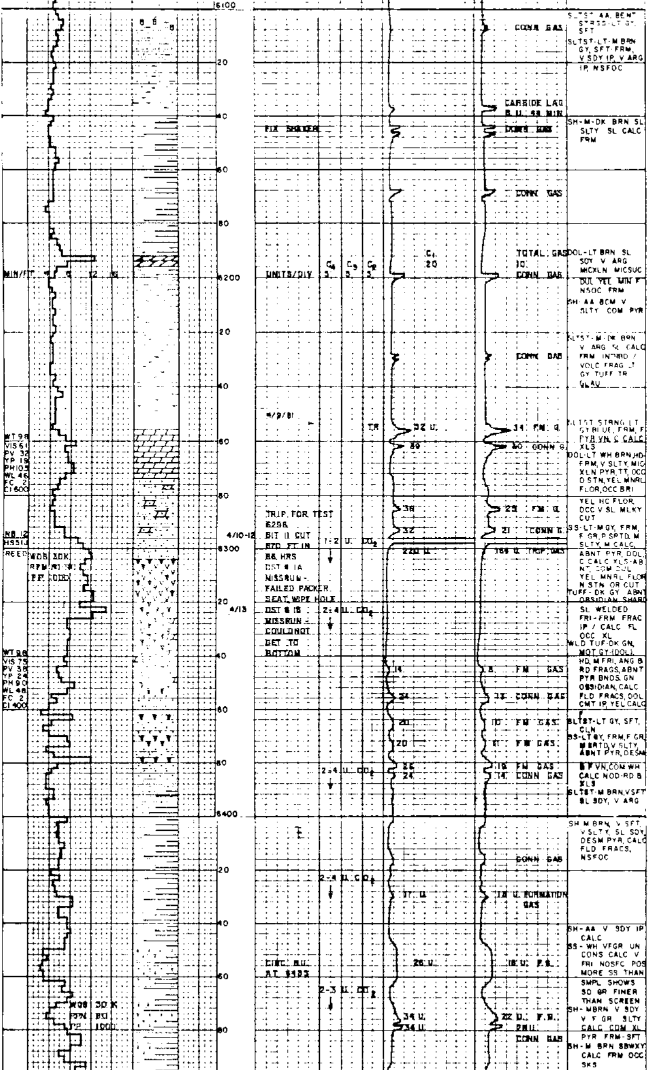
SS-M-DK GY, HD, V F GR, SBRD, M SRTD, SIL CMT, V SLTY, SL ARG, N CALC, NSFOC

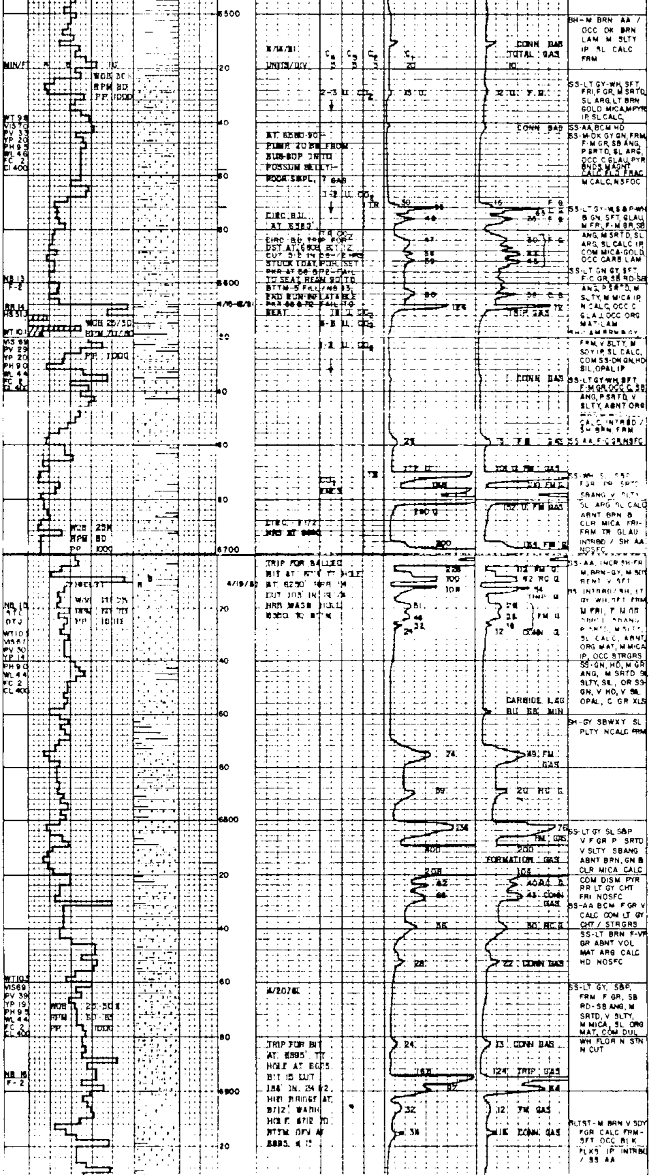
BASALT-DK GY MIC XL / THN SFT LT GY ASH LAYERS SL CALC IP OCC PYR

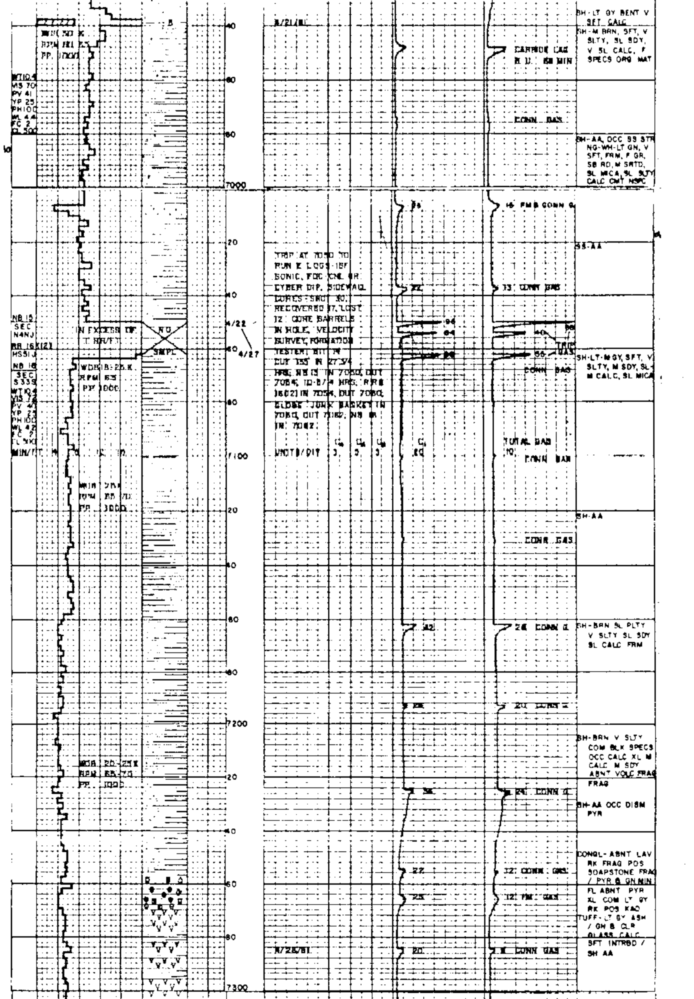
SS-LT GY BRN SB ANG M SRTD LMY COM LT BRN MICA FRM NOSFC

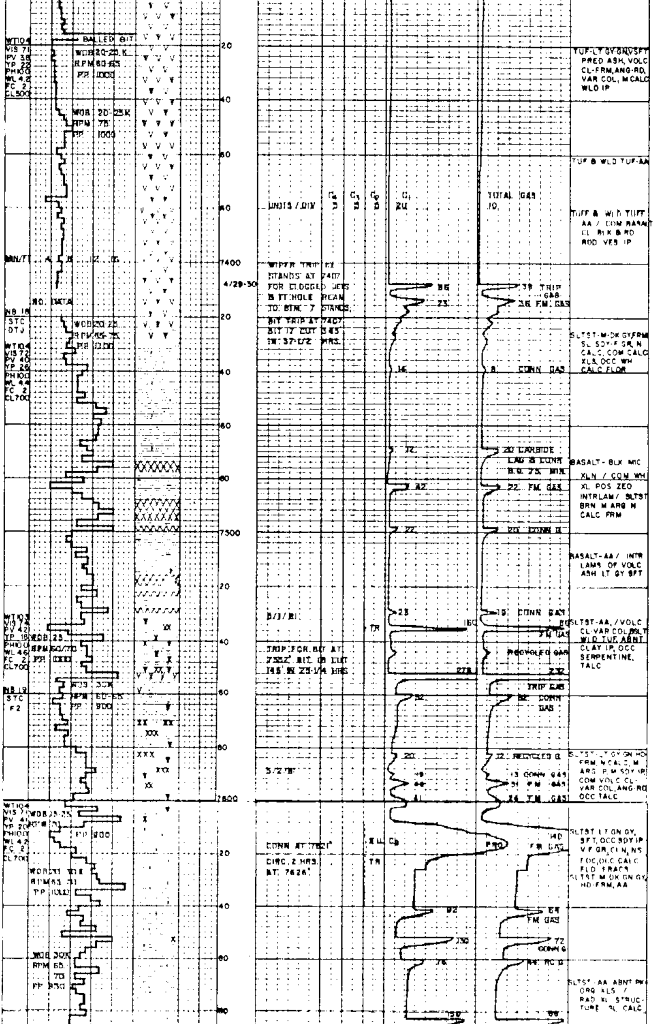
SS-GY-GN V C GR SBANG LMY ABNT VOL PBL ABNT GN RK FRAG OCC CRM CHT COM CALC











WIPER TRIP 7X STANDS AT 7407 FOR CLOGGED JETS & IT HOLE REAM TO BTM 7 STANDS.

BIT TRIP AT 7407 BIT 17 CUT 343 IN 37-1/2 HRS.

TRIP FOR BIT AT 7552' BIT 18 CUT 145' IN 25-1/4 HRS

CONN AT 7621'

CIRC. 2 HRS. AT 7626'

TUF-LT GY GN VSFT PRED ASH, VOLC CL-FRM, ANG-RD, VAR COL, M CALC WLD IP

TUF & WLD TUF-AA

TUFF & WLD TUFF AA / COM BASALT CL BLK & RD ROD VES IP

SLTST-M-DK GY FRM SL SDY-F GR, N CALC, COM CALC XLS, OCC WH CALC FLOR

BASALT - BLK MIC XLN / COM WH XL POS ZEO INTRLAM / SLTST BRN M ARG N CALC FRM

BASALT-AA / INTR LAMS OF VOLC ASH LT GY SFT

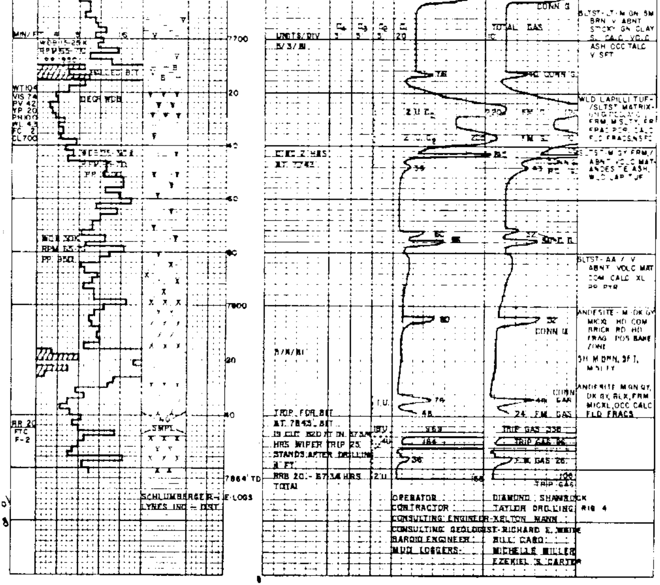
SLTST-AA, / VOLC CL-VAR COL, SLT WLD TUF, ABNT CLAY IP, OCC SERPENTINE, TALC

SLTST-LT GY GN HD FRM, N CALC, M ARG, P. M SDY IP COM VOLC CL-VAR COL, ANG-RD OCC TALC

SLTST LT GN GY, SFT, OCC SDY IP V F GR, CLN, NS FOC, OCC CALC FLD FRACS

SLTST M DK GN GY, HD-FRM, AA

SLTST-AA ABNT PW ORG XLS / RAD XL STRUCTURE SL CALC



OPERATOR DIAMOND SHAMROCK
CONTRACTOR TAYLOR DRILLING RIG 4
CONSULTING ENGINEER - KELTON MANN
CONSULTING GEOLOGIST - RICHARD E. WHITE
BAROID ENGINEER BILL CARO
MUD LOGGERS - MICHELLE MILLER
EZEKIEL S. CARTER