WELL Johnson # 33-33

COMPANY Oregon Natural Gas Corp.

AREA Olney gas

LOCATION 2036 'N & 2020 'W of SE corner
Sec 33, T8N, R8W, WB&M

COUNTY, STATE Clatsop, Oregon

- WEGE -
WESTERN GEO-ENGINEERS

"A SERVICE TO THE OIL AND GAS INDUSTRY"

RECEIVED-PTLD
DEC 14 1981
DEPT OF GEOLOG

LITHOLOGY SYMBOLS

☐ Sand · ☐ Clay and Shale · ☐ Siltst. · ☐ Sandy Siltst. · ☐ Conglomerate · ☐ Lignite or Coal · ☒ Volcanic · ☒ Intrusive · ☐ Salt · ☐ Limest. · ☐ Chert · ☐

REMARKS

WELL ELEV. GL. 500 FT.
KB. 521' (DATUM)
SALINITY IN PPM Cl⁻
FILTRATE IN CC/30 MIN.
GAS TRAP Agitator type
MUD Lignite/Gel/Ligno (Baroid)
Rovor rig #1 (KB=21')

LEGEND

MUD DATA
W WEIGHT
V VISCOSITY
F FILTRATE
FC FILTER CAKE
SD SAND IN %

S SALINITY
R RESISTIVITY
RF FILTRATE RESISTIVITY

BIT DATA
NB NEW BIT
RRB RERUN BIT

CB CORE BIT
WLCB WIRE LINE CB

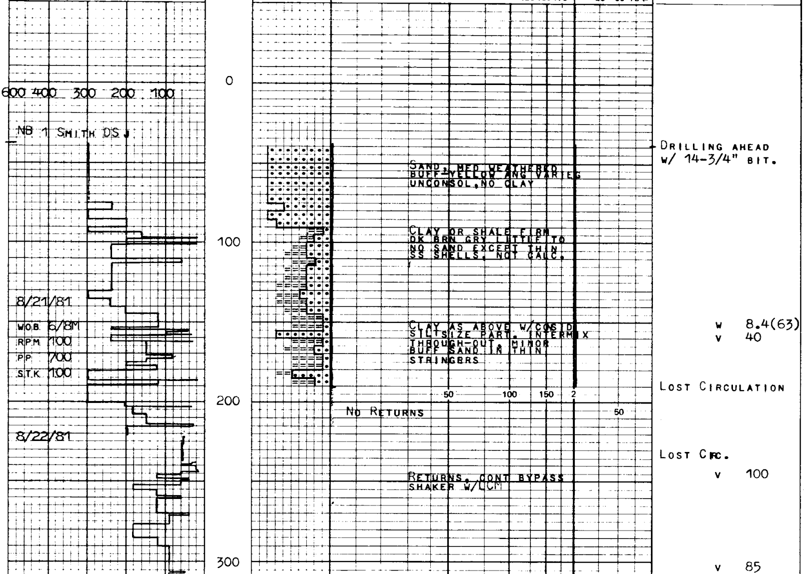
OTHER DATA
TG TRIP GAS
CG CONNECTION GAS
C CARBIDE GAS

CR CIRCULATE RETURNS
NR NO RETURN
DST DRILL STEM TEST
[DST INTERVAL
] CORE INTERVAL

CASING
10 3/4 TO 1018'
TO
TO

DATE 8/20/81 TO 11/17/81 **DEPTH** 38 TO 10006 **ENGINEERS** Napper
Converse
Thomas
Armstrong

- WEGE - WESTERN GEO-ENGINEERS Drilling Rate In FT/HR Bit Data	DEPTH	SAMPLE LITHOLOGY	OIL IN MUD or CUTTINGS Tr x Fair xx Good xxx V/Gd xxxx MUD ANALYSIS: TOTAL DITCH GAS ____ PET. VAP. – – – BLENDER GAS 10 20 30 40 50 75 100 125 150 175 200	CUTTING ANALYSIS: TOTAL GAS ____ PET. VAP. – – 25 50 75 100	REMARKS Mud Data Formation Tests Core Analysis Surveys E Logs



NB 1 Smith DS

8/21/81

W.O.B. 6/8M
R.P.M. 100
P.P. 700
S.T.K. 100

8/22/81

Sand, med weathered buff–yellow ang varieg unconsol, no clay

Clay or shale firm dk brn gry little to no sand except thin ss shells. Not calc.

Clay as above w/ consid silt size part. intermix through-out. Minor buff sand in thin stringers

No Returns

Returns, cont bypass shaker w/LCM

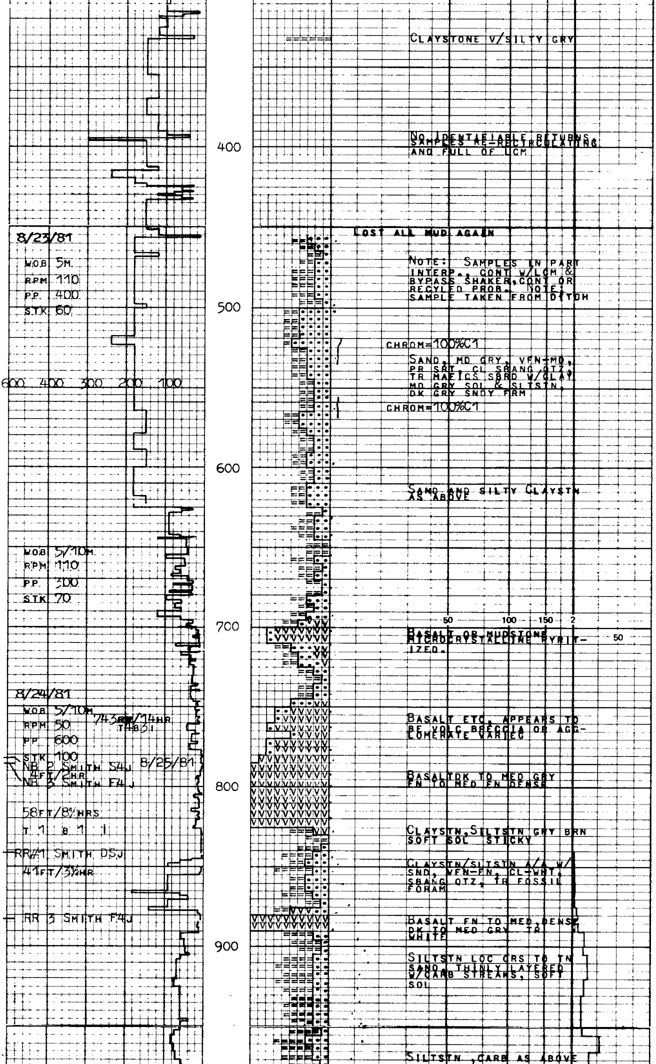
Drilling ahead w/ 14-3/4" bit.

W 8.4(63)
V 40

Lost Circulation

Lost Circ.
V 100

V 85



CLAYSTONE V/SILTY GRY

v 70

NO IDENTIFIABLE RETURNS. SAMPLES RE-RECIRCULATING AND FULL OF LCM

v 47

8/23/81

WOB 5M
RPM 110
PP 400
STK 60

LOST ALL MUD AGAIN

RETURNS, CONT. BY-PASS SHAKER W/ LCM

NOTE: SAMPLES IN PART INTERP., CONT W/LCM & BYPASS SHAKER, CONT OR RECYLED PROB. NOTE: SAMPLE TAKEN FROM DITCH

v 100

CHROM=100%C1

SAND, MD GRY, VFN-MD, PR SRT, CL SBANG QTZ, TR MAFICS SBRD W/CLAY MD GRY SOL & SLTSTN, DK GRY SNDY FRM

v 80

CHROM=100%C1

v 50

SAND AND SILTY CLAYSTN AS ABOVE

LOSS RETURNS @ 623 PARTIAL GAIN

v 100+

WOB 5/10M
RPM 110
PP 300
STK 70

v 80

BASALT OR MUDSTONE MICROCRYSTALLINE PYRITIZED.

v 47

8/24/81

LOST ALL MUD

WOB 5/10M
RPM 50
PP 600
STK 100

743~~FT~~/14HR
T4B3I

v 150

BASALT ETC, APPEARS TO BE VOLC BRECCIA OR AGGLOMERATE VARIEG

NB 2 SMITH S4J 8/25/81
4FT/2HR
NB 3 SMITH F4J

BASALT DK TO MED GRY FN TO MED FN DENSE

CONTINUING TO BY-PASS SHAKER AND TO USE LCM.

58FT/8½HRS

T 1 B 1 I

CLAYSTN, SILTSTN GRY BRN SOFT SOL STICKY

RR#1 SMITH DSJ
41FT/3½HR

CLAYSTN/SILTSTN A/A W/ SND, VFN-FN, CL-WHT, SBANG QTZ, TR FOSSIL FORAM

v 100

RR 3 SMITH F4J

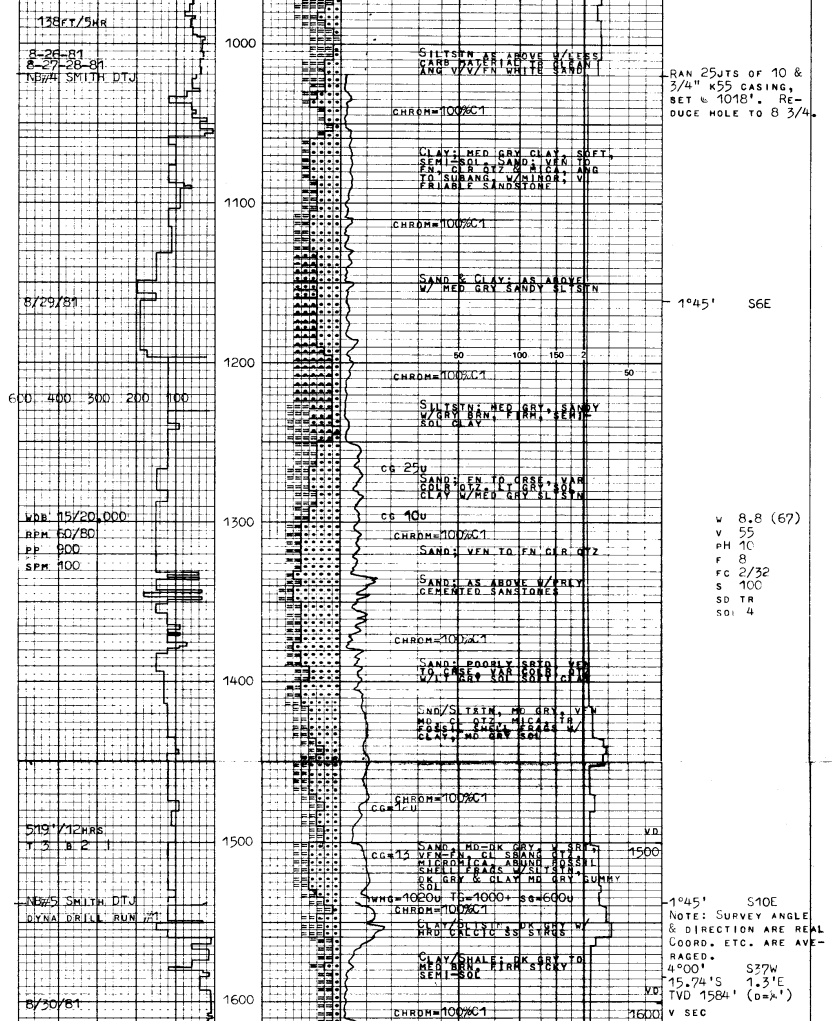
BASALT FN TO MED, DENSE DK TO MED GRY TR WHITE

SILTSTN LOC CRS TO FN SAND, THINLY LAYERED W/CARB STREAKS, SOFT SOL

v 53

CONT. TO BY-PASS SHAKER

SILTSTN, CARB AS ABOVE



138FT/5HR

8-26-81
8-27-28-81
NB#4 SMITH DTJ

8/29/81

WOB 15/20,000
RPM 60/80
PP 900
SPM 100

519'/12HRS
T 3 B 2 1

NB#5 SMITH DTJ
DYNA DRILL RUN #1

8/30/81

SILTSTN AS ABOVE W/LESS CARB MATERIAL TR CLEAN ANG V/V/FN WHITE SAND

CHROM=100%C1

CLAY; MED GRY CLAY, SOFT, SEMI-SOL. SAND: VFN TO FN, CLR QTZ & MICA, ANG TO SUBANG, W/MINOR; V FRIABLE SANDSTONE

CHROM=100%C1

SAND & CLAY: AS ABOVE W/ MED GRY SANDY SLTSTN

CHROM=100%C1

SILTSTN: MED GRY, SANDY W/GRY BRN, FIRM, SEMI-SOL CLAY

CG 25u

SAND; FN TO CRSE, VAR COLR QTZ. LT GRY SOL CLAY W/MED GRY SLTSTN

CG 10u

CHROM=100%C1

SAND; VFN TO FN CLR QTZ

SAND; AS ABOVE W/PRLY CEMENTED SANSTONES

CHROM=100%C1

SAND: POORLY SRTD, VFN TO CRSE, VAR COLR, QTZ W/LT GRY SOL SOFT CLAY

SND/SLTSTN, MD GRY, VFN MD CL QTZ, MICA, TR FOSSIL SHELL FRAGS W/ CLAY, MD GRY SOL

CHROM=100%C1
CG=1cu

CG=13

SAND, MD-DK GRY, W SRT, VFN-FN, CL SBANG QTZ, MICROMICA, ABUND FOSSIL SHELL FRAGS W/SLTSTN, DK GRY & CLAY MD GRY GUMMY SOL

WHG=1020u TG=1000+ SG=600u

CHROM=100%C1

CLAY/SLTSTN, DK GRY W/ HRD CALCIC SS STRGS

CLAY/SHALE; DK GRY TO MED BRN, FIRM STCKY SEMI-SOL

CHROM=100%C1

RAN 25JTS OF 10 & 3/4" K55 CASING, SET @ 1018'. REDUCE HOLE TO 8 3/4.

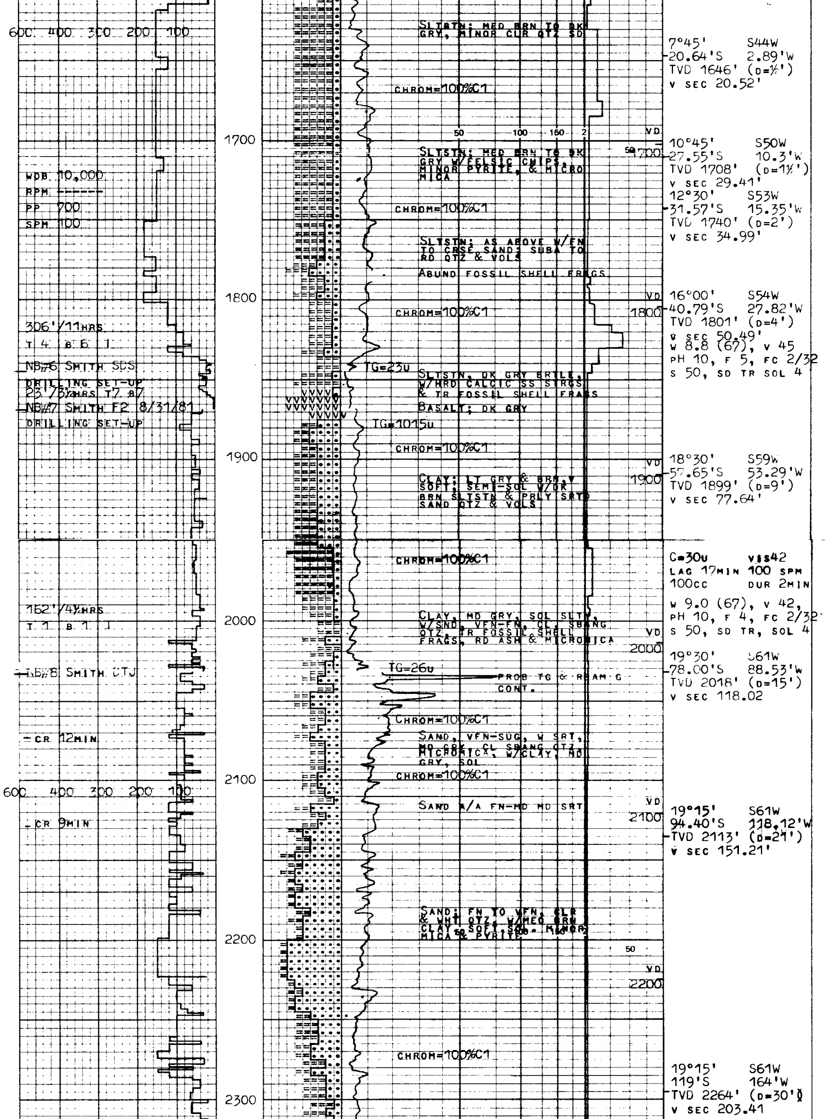
1°45' S6E

W 8.8 (67)
V 55
pH 10
F 8
FC 2/32
S 100
SD TR
SOL 4

1°45' S10E

NOTE: SURVEY ANGLE & DIRECTION ARE REAL COORD. ETC. ARE AVERAGED.

4°00' S37W
15.74'S 1.3'E
TVD 1584' (D=¼')
V SEC



SLTSTN: MED BRN TO DK GRY, MINOR CLR QTZ SD

7°45' S44W
20.64'S 2.89'W
TVD 1646' (D=½')
V SEC 20.52'

CHROM=100%C1

10°45' S50W
27.55'S 10.3'W
TVD 1708' (D=1½')
V SEC 29.41'

SLTSTN: MED BRN TO DK GRY W/FELSIC CHIPS, MINOR PYRITE, & MICRO MICA

WOB 10,000
RPM ------
PP 700
SPM 100

CHROM=100%C1

12°30' S53W
31.57'S 15.35'W
TVD 1740' (D=2')
V SEC 34.99'

SLTSTN: AS ABOVE W/FN TO CRSE SAND; SUBA TO RD QTZ & VOLS

ABUND FOSSIL SHELL FRAGS

16°00' S54W
40.79'S 27.82'W
TVD 1801' (D=4')
V SEC 50.49'
W 8.8 (67), V 45
pH 10, F 5, FC 2/32
S 50, SD TR SOL 4

CHROM=100%C1

306'/11HRS
T 4 B 6 1
NB#6 SMITH SDS

TG=23U

SLTSTN, DK GRY BRTLE, W/HRD CALCIC SS STRGS & TR FOSSIL SHELL FRAGS

DRILLING SET-UP
23'/3½HRS T7 B7
NB#7 SMITH F2 8/31/81
DRILLING SET-UP

BASALT; DK GRY

TG=1015U

CHROM=100%C1

18°30' S59W
57.65'S 53.29'W
TVD 1899' (D=9')
V SEC 77.64'

CLAY; LT GRY & BRN, V SOFT; SEMI-SOL W/DK BRN SLTSTN & PRLY SRTD SAND QTZ & VOLS

CHROM=100%C1

C=30U VIS42
LAG 17MIN 100 SPM
100CC DUR 2MIN

W 9.0 (67), V 42,
pH 10, F 4, FC 2/32
S 50, SD TR, SOL 4

162'/4½HRS
T 1 B 1 I

CLAY, MD GRY, SOL SLTY, W/SND, VFN-FN, CL, SBANG QTZ, TR FOSSIL SHELL FRAGS, RD ASH & MICROMICA

19°30' S61W
78.00'S 88.53'W
TVD 2018' (D=15')
V SEC 118.02

NB#8 SMITH DTJ

TG=26U
PROB TG & REAMING CONT.

CHROM=100%C1

CR 12MIN

SAND, VFN-SUG, W SRT, MD GRY, CL SBANG QTZ, MICROMICA, W/CLAY, MD GRY, SOL

CHROM=100%C1

SAND A/A FN-MD MD SRT

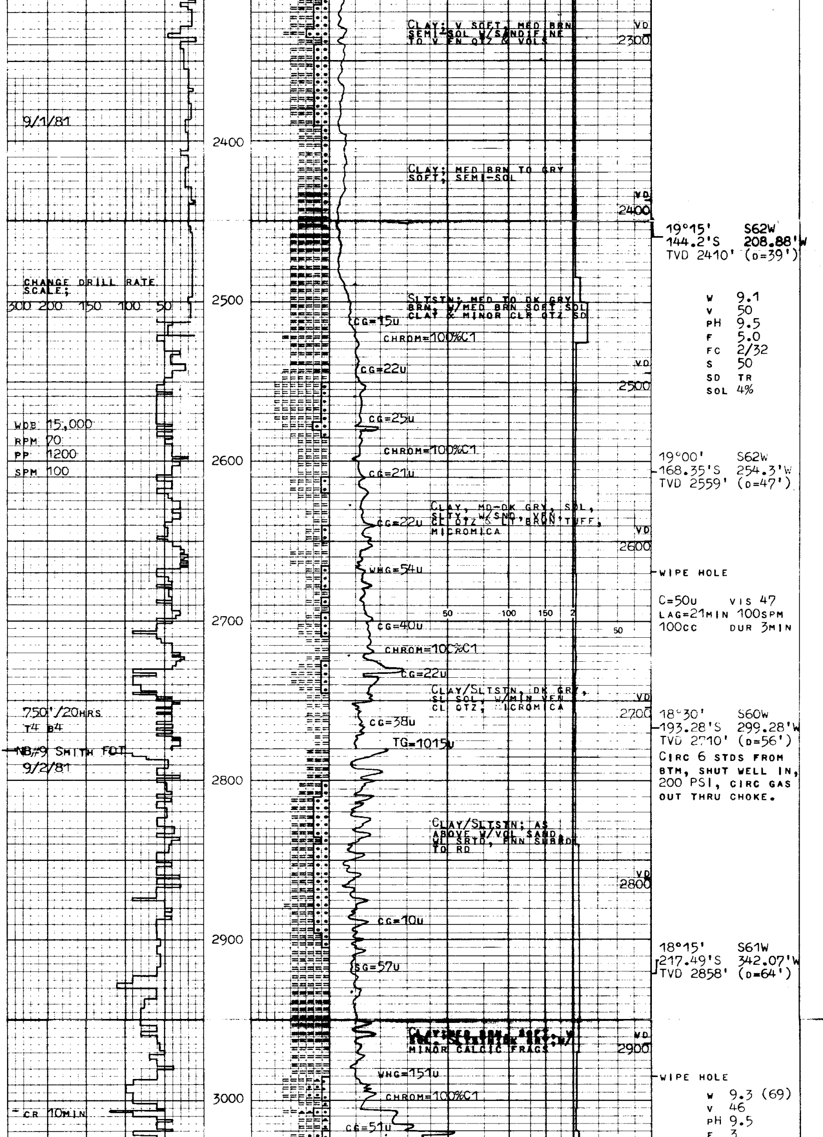
CR 9MIN

19°15' S61W
94.40'S 118.12'W
TVD 2113' (D=21')
V SEC 151.21'

SAND: FN TO VFN, CLR & WHT QTZ, W/MED BRN CLAY, SOFT, SOL. MINOR MICA & PYRITE

CHROM=100%C1

19°15' S61W
119'S 164'W
TVD 2264' (D=30')
V SEC 203.41



9/1/81

CHANGE DRILL RATE SCALE;

WOB 15,000
RPM 70
PP 1200
SPM 100

750'/20HRS
T4 B4

NB#9 SMITH FDT
9/2/81

CR 10MIN

CLAY; V SOFT, MED BRN SEMI-SOL W/SAND; FINE TO V FN QTZ & VOLS

CLAY; MED BRN TO GRY SOFT, SEMI-SOL

SLTSTN; MED TO DK GRY BRN, W/MED BRN SOFT SOL CLAY & MINOR CLR QTZ SD

CLAY, MD-DK GRY, SOL, SLTY, W/SND, VFN, CL QTZ & LT BRWN TUFF, MICROMICA

CLAY/SLTSTN, DK GRY, SL SOL, W/MIN VFN CL QTZ; MICROMICA

CLAY/SLTSTN; AS ABOVE W/VOL SAND, WL SRTD, FNN SUBRD TO RD

CLAY; MED BRN, SOFT, W SOL, SLTSTN; DK GRY; W/ MINOR CALCIC FRAGS

19°15' S62W
144.2'S 208.88'W
TVD 2410' (D=39')

W 9.1
V 50
PH 9.5
F 5.0
FC 2/32
S 50
SD TR
SOL 4%

19°00' S62W
168.35'S 254.3'W
TVD 2559' (D=47')

WIPE HOLE

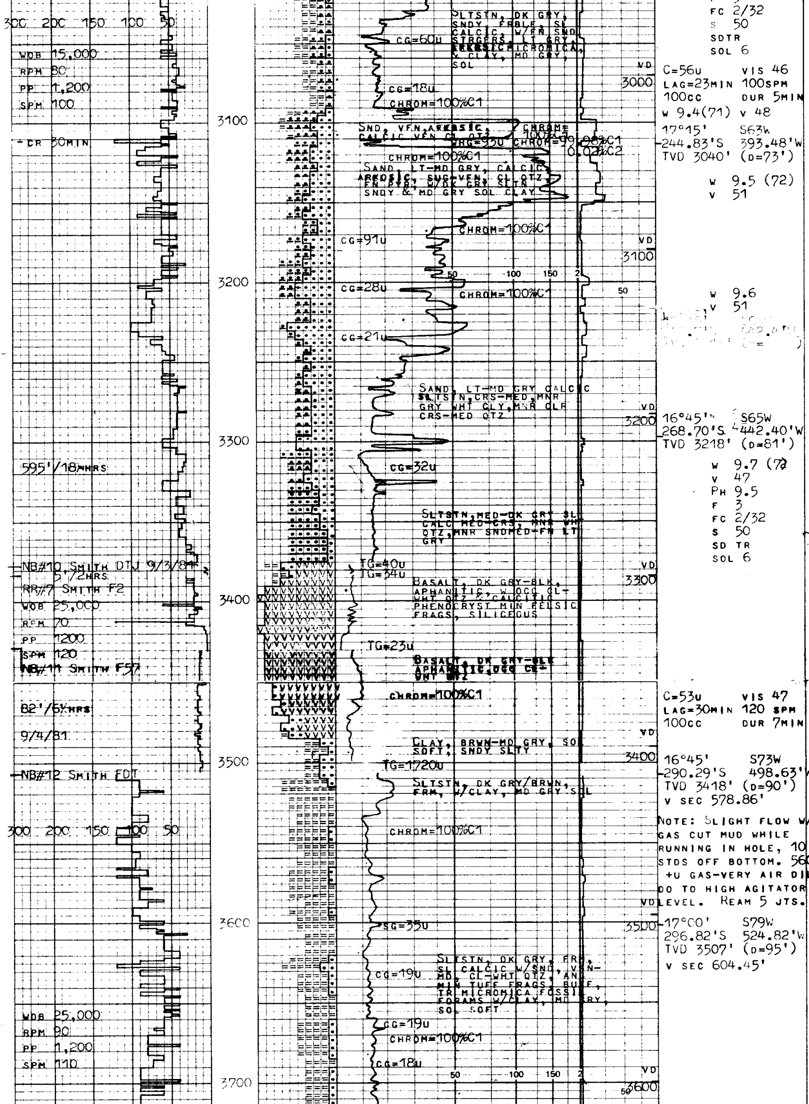
C=50u VIS 47
LAG=21MIN 100SPM
100CC DUR 3MIN

18°30' S60W
193.28'S 299.28'W
TVD 2710' (D=56')
CIRC 6 STDS FROM BTM, SHUT WELL IN, 200 PSI, CIRC GAS OUT THRU CHOKE.

18°15' S61W
217.49'S 342.07'W
TVD 2858' (D=64')

WIPE HOLE

W 9.3 (69)
V 46
PH 9.5
F 3



WOB 15,000
RPM 80
PP 1,200
SPM 100

CR 30MIN

595'/18HRS

NB#10, SMITH DTJ 9/3/81
5'/2HRS
RR#7 SMITH F2
WOB 25,000
RPM 70
PP 1200
SPM 120
NB#11 SMITH F57

82'/6½HRS

9/4/81

NB#12 SMITH FDT

WOB 25,000
RPM 90
PP 1,200
SPM 110

SLTSTN, DK GRY, SNDY, FRBLE, SL CALCIC, W/FN SND STRGERS, LT GRY, ARKOSIC MICROMICA, & CLAY, MD GRY, SOL

SND, VFN, ARKOSIC, CALCIC VFN CL QTZ

SAND, LT-MD GRY, CALCIC, ARKOSIC, SUG-VFN, CL QTZ FN PYR, W/DK GRY SLTN SNDY & MD GRY SOL CLAY

SAND, LT-MD GRY CALCIC SLTSTN, CRS-MED, MNR GRY WHT CLY, MNR CLR CRS-MED QTZ

SLTSTN, MED-DK GRY SL CALC MED-CRS, MNR WHT QTZ, MNR SNDMED-FN LT GRY

BASALT, DK GRY-BLK, APHANITIC, W OCC CL-WHT QTZ & CALCITIC PHENOCRYST MIN FELSIC FRAGS, SILICEOUS

BASALT, DK GRY-BLK APHANITIC, OCC CL-WHT QTZ

CLAY, BRWN-MD GRY, SOL SOFT, SNDY SLTY

SLTSTN, DK GRY/BRWN, FRM, W/CLAY, MD GRY SOL

SLTSTN, DK GRY, FRM, SL CALCIC W/SND, VFN-MD, CL-WHT QTZ, AND MIN TUFF FRAGS, BUFF, TR MICROMICA FOSSIL FORAMS W/CLAY, MD GRY, SOL SOFT

FC 2/32
S 50
SDTR
SOL 6

C=56u VIS 46
LAG=23MIN 100SPM
100cc DUR 5MIN
W 9.4(71) V 48
17°15' S63W
244.83'S 393.48'W
TVD 3040' (D=73')

W 9.5 (72)
V 51

W 9.6
V 51

[illegible]

16°45' S65W
268.70'S 442.40'W
TVD 3218' (D=81')

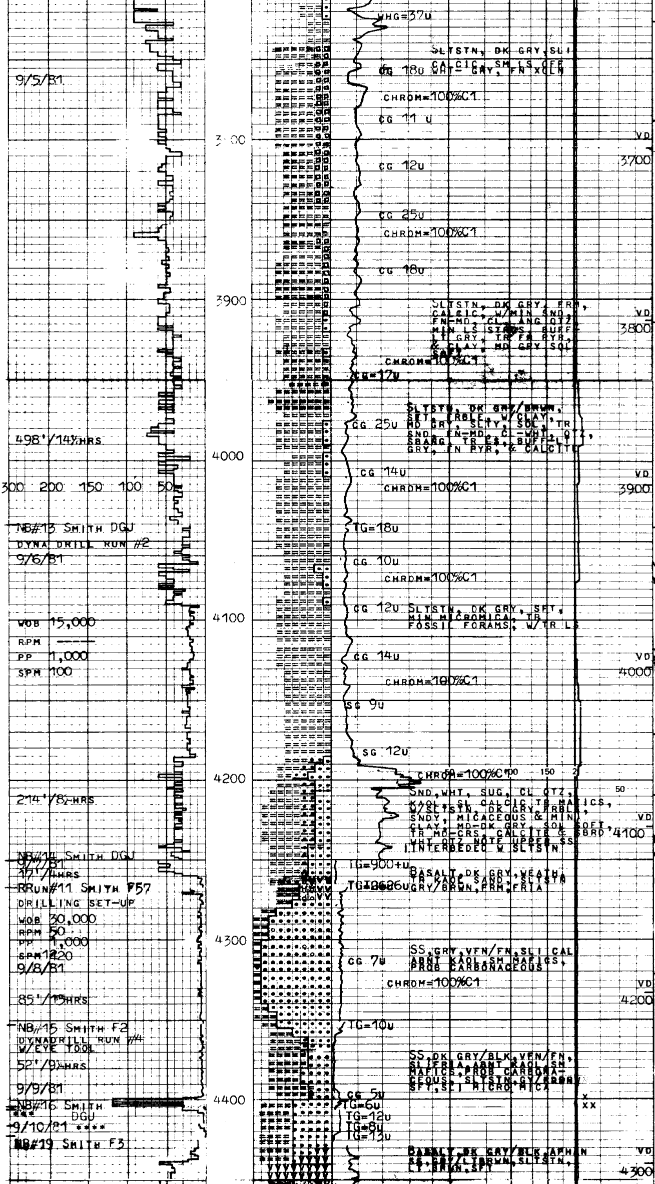
W 9.7 (72)
V 47
PH 9.5
F 3
FC 2/32
S 50
SD TR
SOL 6

C=53u VIS 47
LAG=30MIN 120 SPM
100cc DUR 7MIN

16°45' S73W
290.29'S 498.63'W
TVD 3418' (D=90')
V SEC 578.86'

NOTE: SLIGHT FLOW W/ GAS CUT MUD WHILE RUNNING IN HOLE, 10 STDS OFF BOTTOM. 560 +U GAS-VERY AIR DIL. DO TO HIGH AGITATOR LEVEL. REAM 5 JTS.

17°00' S79W
296.82'S 524.82'W
TVD 3507' (D=95')
V SEC 604.45'



9/5/81

498'/14½HRS

NB#13 SMITH DGJ
DYNA DRILL RUN #2
9/6/81

WOB 15,000
RPM ——
PP 1,000
SPM 100

214'/8½HRS

NB#14 SMITH DGJ
9/7/81
17'/4HRS
RRUN#11 SMITH F57
DRILLING SET-UP
WOB 30,000
RPM 50
PP 1,000
SPM 120
9/8/81

85'/15HRS

NB#15 SMITH F2
DYNADRILL RUN #4
W/EYE TOOL
52'/9¼HRS

9/9/81
NB#16 SMITH DGJ
9/10/81
NB#19 SMITH F3

WHG=37u

SLTSTN, DK GRY, SLI CALCIC, SM LS OFF WHT- GRY, FN XCLN

CG 18u

CHROM=100%C1

CG 11 u

CG 12u

CG 25u

CHROM=100%C1

CG 18u

SLTSTN, DK GRY, FRM, CALCIC, W/MIN SND, FN-MD, CL, ANG QTZ, MIN LS STRGS, BUFF-LT GRY, TR FN PYR, & CLAY, MD GRY SOL SAFT

CHROM=100%C1

CG=17u

SLTSTN, DK GRY/BRWN, SFT, FRBLE, W/CLAY, MD GRY, SLTY, SOL, TR SND, FN-MD, CL-WHT, QTZ, SBANG, TR LS, BUFF-LT GRY, FN PYR, & CALCITE

CG 25u

CG 14u

CHROM=100%C1

TG=18u

CG 10u

CHROM=100%C1

CG 12u

SLTSTN, DK GRY, SFT, MIN MICROMICA, TR FOSSIL FORAMS, W/TR LS

CG 14u

CHROM=100%C1

SG 9u

SG 12u

CHROM=100%C1

SND, WHT, SUG, CL QTZ, KAOL, SL CALCIC TR MAFICS, W/SLTSTN, DK GRY, FRBLE, SNDY, MICACEOUS & MIN CLAY, MD-DK GRY, SOL SOFT, TR MD-CRS, CALCITE & SBRD WHT QTZ NOTE UPPER SS INTERBEDED W SLTSTN

TG=900+u

BASALT, DK GRY, WEATH, TR KAOL SAND, SLTSTN GRY/BRWN, FRM, FRIA

TG=626u

CG 7u

SS, GRY, VFN/FN, SLI CAL ABNT KAOL, SM MAFICS, PROB CARBONACEOUS

CHROM=100%C1

TG=10u

SS, DK GRY/BLK, VFN/FN, SLI FRIA, ABNT KAOL, SM MAFICS, PROB CARBONACEOUS, SLTSTN, GY/BRWN SFT, SLI MICRO MICA

CG 5u
TG=6u
TG=12u
TG=8u
TG=13u

BASALT, DK GRY/BLK, APHAN SS, GRY/LT BRWN, SLTSTN, LT BRWN, SFT

18°45' S84W
302.54'S 563.07'W
TVD 3626' (D=101')
V SEC 641.30'

20°15 S85W
304.52'S 583.67
TVD 3685.7 (D=104)
V SEC 662.0

W 9.9 (74), V 60, PH 9.5, F 3.2, FC 2/32, S 50, SD TR, SOL 8

21°00' S86W
307.99'S 627.82'W
TVD 3802' (D=112')
V SEC 701.55'

W 9.7 (72), V 55, PH 9.5, F 3, FC 2/32, S 50, SD TR, SOL 8

21°30' S88W
310.40'S 673.79'W
TVD 3920' (D=121')
V SEC 742.62'
NOTE: REAMED 5 JTS TO BOT. TIGHT HOLE

17°45' S89W
311.07'S 699.31'W
TVD 3992' (D=125')
V SEC 765.57

C=21u VIS 48
LAG=38MIN 100SPM

17°30' S83W
310.29'S 718.2'W
TVD 4053' (D=128')
V SEC 784'

W 9.7 (72) V 48

18°45' N84W
309.25'S 727.31'W
TVD 4082' (D=130')

NOTE: SL FLOW W/GAS CUT MUD WHILE RUNNING IN HOLE 1 JT OFF BOT. 900+U.

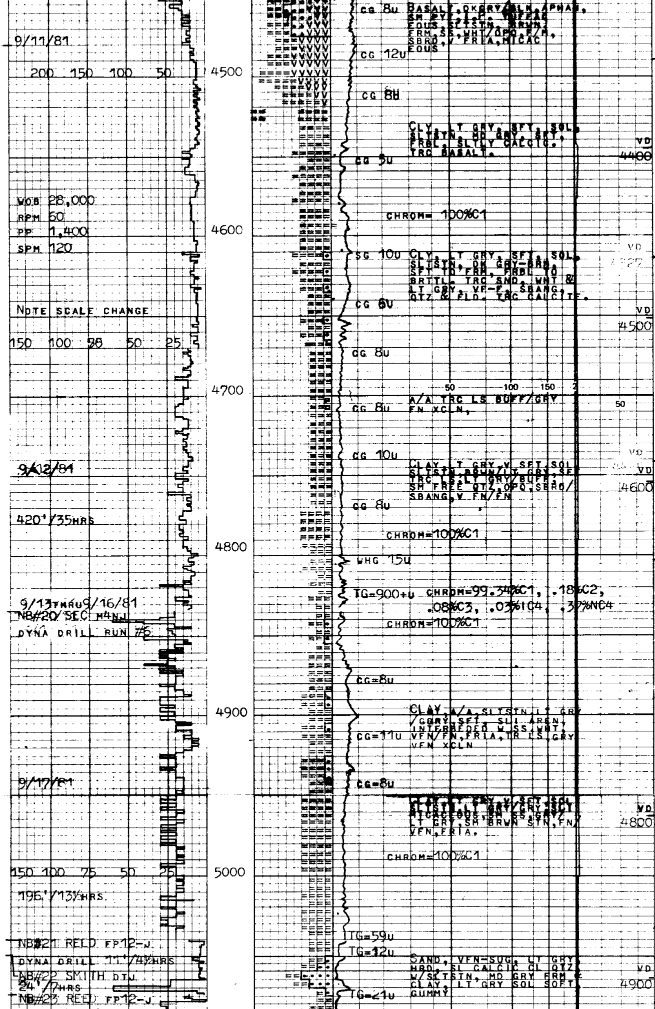
W 9.9 (74), V 48

18°45' S81W
310.63'S 761.58'W
TVD 4188' (D=133')
V SEC 825.44'

W 10.0 (74), V 58

NOTE: FLUOR IN CUTTINGS, BRT YEL. CUTS RAPID, STRONG BRT YEL. IS PROB ASPHALT: BLK, SEMI SOLID, LIQUEFIES WHEN HEATED.

NB#17 SMITH DTU
NB#18 SMITH DGJ



9/11/81

200 150 100 50

4500

WOB 28,000
RPM 60
PP 1,400
SPM 120

4600

NOTE SCALE CHANGE

150 100 50 50 25

4700

9/12/81

420'/35HRS

4800

9/13THRU9/16/81
NB#20 SEC M4NJ
DYNA DRILL RUN #6

4900

9/17/81

5000

150 100 75 50 25

196'/13½HRS.

NB#21 REED FP12-J
DYNA DRILL 11'/4½HRS
NB#22 SMITH DTJ
24'/7HRS
NB#23 REED FP12-J

CG 8u BASALT, DK GRY/BLK, APHAN, SM PYT, L.P. TUFFAC EOUS, SLTSTN, BRWN, FRM, SS, WHT/OPQ, F/M, SBRD, V FRIA, MICAC EOUS

CG 12u

CG 8u

CLY, LT GRY, SFT, SOL, SLTSTN, MD GRY, SFT, FRBL, SLTLY CALCIC, TRC BASALT.

VD 4400

CG 5u

CHROM= 100%C1

SG 10u CLY, LT GRY, SFT, SOL, SLTSTN, DK GRY-BRN, SFT TO FRM, FRBL TO BRTTL, TRC SND, WHT & LT GRY, VF-F, SBANG, QTZ & FLD, TRC CALCITE.

VD

CG 6u

VD 4500

CG 8u

50 100 150 2

A/A TRC LS BUFF/GRY FN XCLN,

CG 8u

50

CG 10u

CLAY, LT GRY, V SFT, SOL SLTSTN, BRWN/LT GRY, SF TRC LS, LT GRY/BUFF, SM FREE QTZ, OPQ, SBRD/SBANG, V FN/FN

VD

VD 4600

CG 8u

CHROM=100%C1

WHG 15u

TG=900+u CHROM=99.34%C1, .18%C2, .08%C3, .03%IC4, .37%NC4

CHROM=100%C1

CG=8u

CLAY, A/A, SLTSTN, LT GRY /GRY, SFT, SLI AREN, INTERBEDED W SS, WHT, VFN/FN, FRIA, TR LS, GRY VFN XCLN

CG=11u

CG=8u

CLAY, LT GRY, V SFT, SOL SLTSTN, LT GRY/GRY, SCT MICACEOUS, SM SS, GRY/LT GRY, SM BRWN STN, FN/VFN, FRIA.

VD 4800

CHROM=100%C1

TG=59u

TG=12u

SAND, VFN-SUG, LT GRY, HRD, SL CALCIC CL QTZ, W/SLTSTN, MD GRY FRM & CLAY, LT GRY SOL SOFT GUMMY

VD 4900

TG=21u

17°15' S76W
320.44'S, 783.44'W
TVD 4346' (D=141)
V SEC

NOTE SEAM OF LIGNITE

C=45u VIS 45
LAG=45MIN 120SPM
100cc DUR14MIN

17°15' S77W
329.16'S 819.77'W
TVD 4467' (D=147')
V SEC 912.7

W 10 (75)
V 63
PH 9.5
F 3
FC 2/32
S 50
SD TR
SOL 8

17°00' S79W
336.94'S 856.35'W
TVD 4588' (D=153)
V SEC 948.77

WIPE HOLE

POH FOR BIT CHANGE,
STUCK AT 4555'
REAM BACK TO BOTTOM
9/13 THRU 9/16

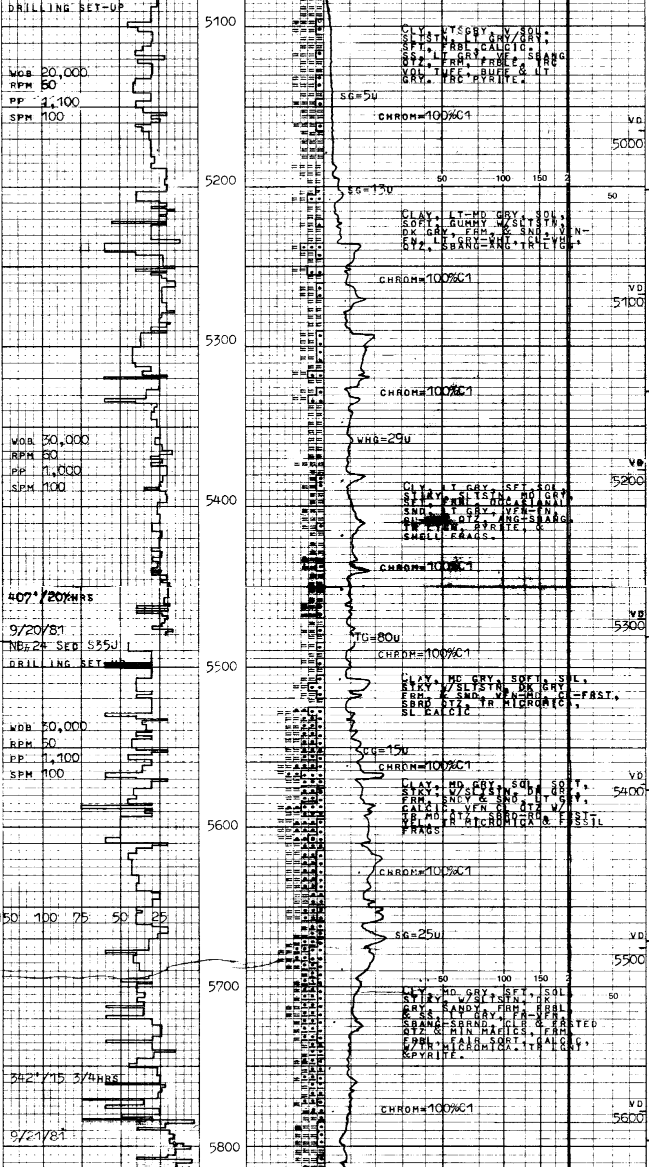
15°00' S82W
343.52'S 903.97'W
TVD 4746' (D=160)
V SEC

12°15' S78W
346.16'S 918.27'W
TVD 4807' (D=161')
V SEC 1011.92'

W 9.9 (74), V 55,
PH 9.5, F 3.2,
FC 2/32, S 50,
SD TR, SOL 10

NOTE REAMED 6 JNTS
WHILE POH
9/18/81

9/19/81



DRILLING SET-UP

WOB 20,000
RPM 60
PP 1,100
SPM 100

CLY, LTSGRY, V SOL.
SLTSTN, LT GRY/GRY,
SFT, FRBL, CALCIC.
SS, LT GRY, VF, SBANG
QTZ, FRM, FRBLE, TRC
VOL TUFF, BUFF & LT
GRY. TRC PYRITE.

CHROM=100%C1

CLAY, LT-MD GRY, SOL,
SOFT, GUMMY W/SLTSTN,
DK GRY, FRM, & SND, VFN-
FN, LT GRY-WHT, CL-WHT,
QTZ, SBANG-ANG TR LTGN

CHROM=100%C1

CHROM=100%C1

WOB 30,000
RPM 60
PP 1,000
SPM 100

CLY, LT GRY, SFT, SOL,
STIKY, SLTSTN, MD GRY,
SFT, FRBL, OCCASIONAL
SND, LT GRY, VFN-FN,
CL-[illegible] QTZ, ANG-SBANG,
TR LTGN, PYRITE, &
SHELL FRAGS.

CHROM=100%C1

407'/20½HRS

9/20/81
NB#24 SEC S35J
DRILLING SET-UP

CHROM=100%C1

CLAY, MD GRY, SOFT, SOL,
STKY W/SLTSTN, DK GRY,
FRM, & SND, VFN-MD, CL-FRST,
SBRD QTZ, TR MICROMICA,
SL CALCIC

WOB 30,000
RPM 50
PP 1,100
SPM 100

CHROM=100%C1

CLAY, MD GRY, SOL, SOFT,
STKY; W/SLTSTN, DK GRY,
FRM, SNDY & SND, LT GRY,
CALCIC, VFN CL QTZ W/
TR MD QTZ, SBRD-RD, FRST-
YEL, TR MICROMICA & FOSSIL
FRAGS

CHROM=100%C1

CLY, MD GRY, SFT, SOL
STIKY, W/SLTSTN, DK
GRY, SANDY, FRM, FRBL
& SS, LT GRY, FN-VFN,
SBANG-SBRND, CLR & FRSTED
QTZ & MIN MAFICS, FRM
FRBL, FAIR SORT, CALCIC,
W/TR MICROMICA. TR LGNT
&PYRITE.

342'/15 3/4HRS

CHROM=100%C1

9/21/81

C=7U VIS 48
LAG=74MIN 120SPM
100CC DUR17MIN
W 9.9 (74), V 46,
PH 9.5, F 3.6,
FC 2/32, S 50,
SD TR, SOL 10

9°45' S50W
366.35'S 984.32'W
TVD 5037' (D=165')
V SEC 1051.90'

C=14U VIS 46
LAG=75MIN 120 SPM
100CC DUR 20MIN

10°15' S51W
380.16'S 1001.07'W
TVD 5160' (D=167')
V SEC 1071.36'

W 10 (74.8)
V 65
PH 9.5
F 3.6
FC 2/32
SD TR
SOL 10

10°45' S46W
398.44'S 1021.73'W
TVD 5311'(D=170')
V SEC 1096.67'

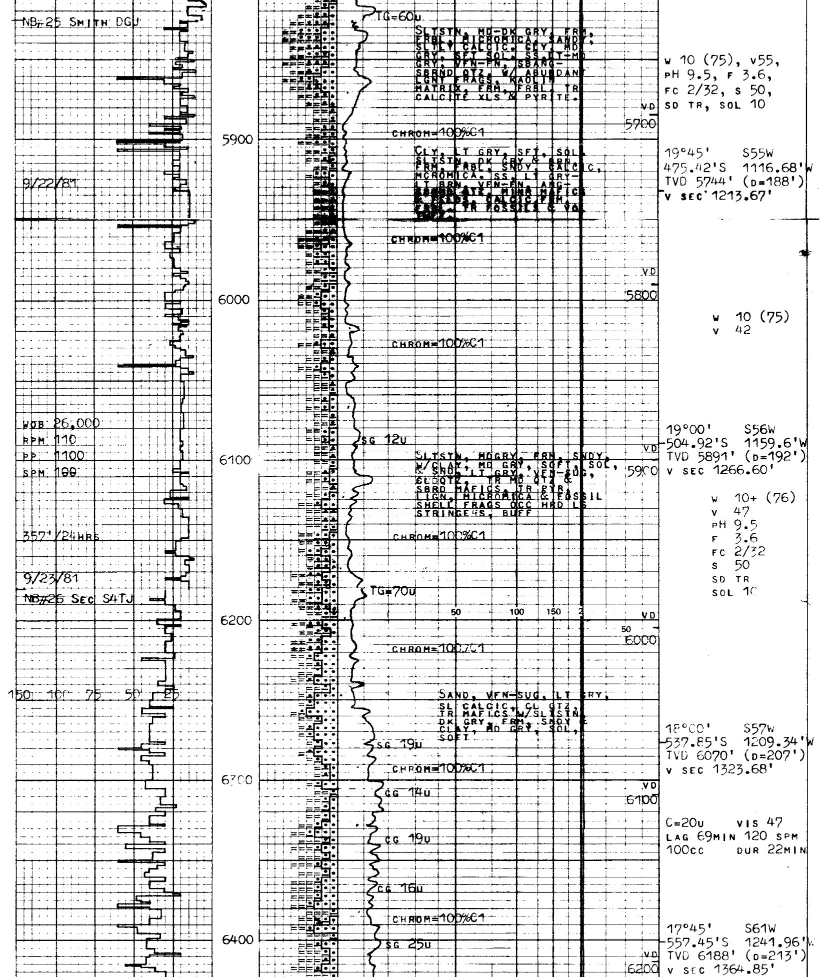
12°45' S47W
411.76'S 1035.76'W
TVD 5404' (D=172')
V SEC 1115.61'

W 10 (75), V 65,
PH 9.5, F 3.6,
FC 2/32, S 40,
SD TR, SOL 10

15°15' S50W
426.99'S 1052.97'W
TVD 5497' (D=174')
V SEC 1139.23'

C=10U VIS 48
LAG=75MIN 100SPM
100CC DUR20MIN

18°15' S53W
449.24'S 1080.94'W
TVD 5615' (D=180')
V SEC 1170.58'



SLTSTN, MD-DK GRY, FRM, FRBL, MICROMICA, SANDY; SLTLY CALCIC, CLY, MD GRY, SFT SOL, SS LT-MD GRY, VFN-FN, SBANG-SBRND QTZ, W/ ABUNDANT LGNT FRAGS, KAOLIN MATRIX, FRM, FRBL, TR CALCITE XLS & PYRITE.

w 10 (75), v55, pH 9.5, F 3.6, FC 2/32, S 50, SD TR, SOL 10

CLY, LT GRY, SFT, SOL, SLTSTN, DK GRY & BRN, FRM, FRBL, SNDY, CALCIC, MCROMICA. SS, LT GRY-LT BRN, VFN-FN, ANG-SBRND QTZ, MINR MAFICS & FRAGS, CALCIC, FRM, FRBL. TR FOSSILS & VOL TUFF.

19°45' S55W
475.42'S 1116.68'W
TVD 5744' (D=188')
V SEC 1213.67'

w 10 (75)
v 42

19°00' S56W
504.92'S 1159.6'W
TVD 5891' (D=192')
V SEC 1266.60'

SLTSTN, MDGRY, FRM, SNDY, W/CLAY, MD GRY, SOFT, SOL, & SND, LT GRY, VFN-SUG, CLDQTZ, TR MD QTZ & SBRD MAFICS, TR PYR, LIGN, MICROMICA & FOSSIL SHELL FRAGS OCC HRD LS STRINGERS, BUFF

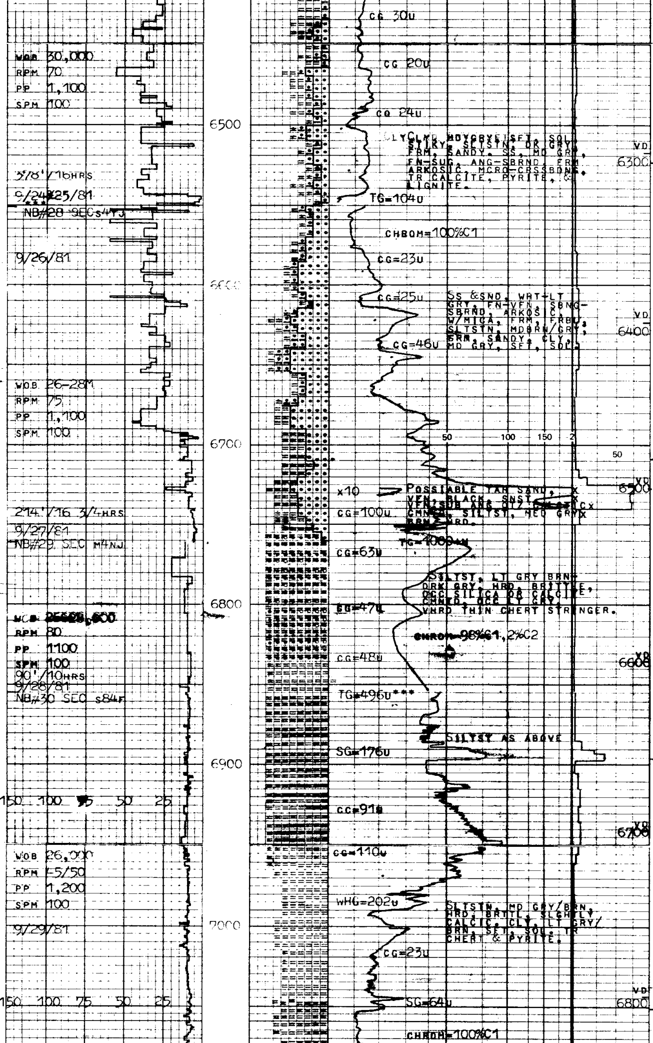
w 10+ (76)
v 47
pH 9.5
F 3.6
FC 2/32
S 50
SD TR
SOL 10

SAND, VFN-SUG, LT GRY, SL CALCIC, CL QTZ, TR MAFICS W/SLTSTN, DK GRY, FRM, SNDY & CLAY, MD GRY, SOL, SOFT

18°00' S57W
537.85'S 1209.34'W
TVD 6070' (D=207')
V SEC 1323.68'

C=20u VIS 47
LAG 69MIN 120 SPM
100cc DUR 22MIN

17°45' S61W
557.45'S 1241.96'W
TVD 6188' (D=213')
V SEC 1364.85'



WOB 30,000
RPM 70
PP 1,100
SPM 100

378'/16HRS
9/24&25/81
NB#28 SEC s4TJ

9/26/81

WOB 26-28M
RPM 75
PP 1,100
SPM 100

214'/16 3/4HRS
9/27/81
NB#29 SEC M4NJ

WOB 26,000
RPM 80
PP 1100
SPM 100
90'/10HRS
9/28/81
NB#30 SEC s84F

WOB 26,000
RPM 75/50
PP 1,200
SPM 100

9/29/81

CLY, MD GRY, SFT, SOL, STIKY. SLTSTN, DK GRY, FRM, SANDY. SS, MD GRY, FN-SUG, ANG-SBRND, FRM ARKOSIC, MCRO-CRSSBDNG. TR CALCITE, PYRITE, & LIGNITE.

SS & SND, WHT-LT GRY, FN-VFN, SBNG-SBRND, ARKOSIC, W/MICA, FRM, FRBL; SLTSTN, MDBRN/GRY, FRM, SANDY. CLY, MD GRY, SFT, SOL.

POSSIABLE TAR SAND, VFN, BLACK, SNST, VFN, SUB ANG QTZ [illegible] CMNTD, SILTYST, MED GRY BRN & HRD.

SILTYST, LT GRY BRN-DRK GRY, HRD, BRITTLE, OCC SILICA OR CALCITE CMNTD, OCC LT GRY, VHRD THIN CHERT STRINGER.

SILTYST AS ABOVE

SLTSTN, MD GRY/BRN, HRD, BRTTL, SLGHTLY CALCIC. CLY, LT GRY/BRN, SFT, SOL. TR CHERT & PYRITE.

18°00' S59W
576.34'S 1274.66'W
TVD 6305' (D=219')
V SEC 1401.90'

***NB#27 REED FP12-J NO FOOTAGE, WIPE HOLE PRIOR TO E-LOG. RAN WELEX-NO RESULTS, EQUIPMENT MALFUNCTION

C=19u VIS 43
LAG 66MIN 100SPM
100cc DUR25MIN

NOTE: CUTTINGS HIGH DUE TO DIESEL IN MUD.

W 9.7 (73), V 53, pH 9.5, F 4, FC 2/32, S 50, SD TR, SOL 10

18°30' S59W
606'S 1324'W
TVD 6480' (D=228)

TRC BRIGHT YELLOW FLUOR.

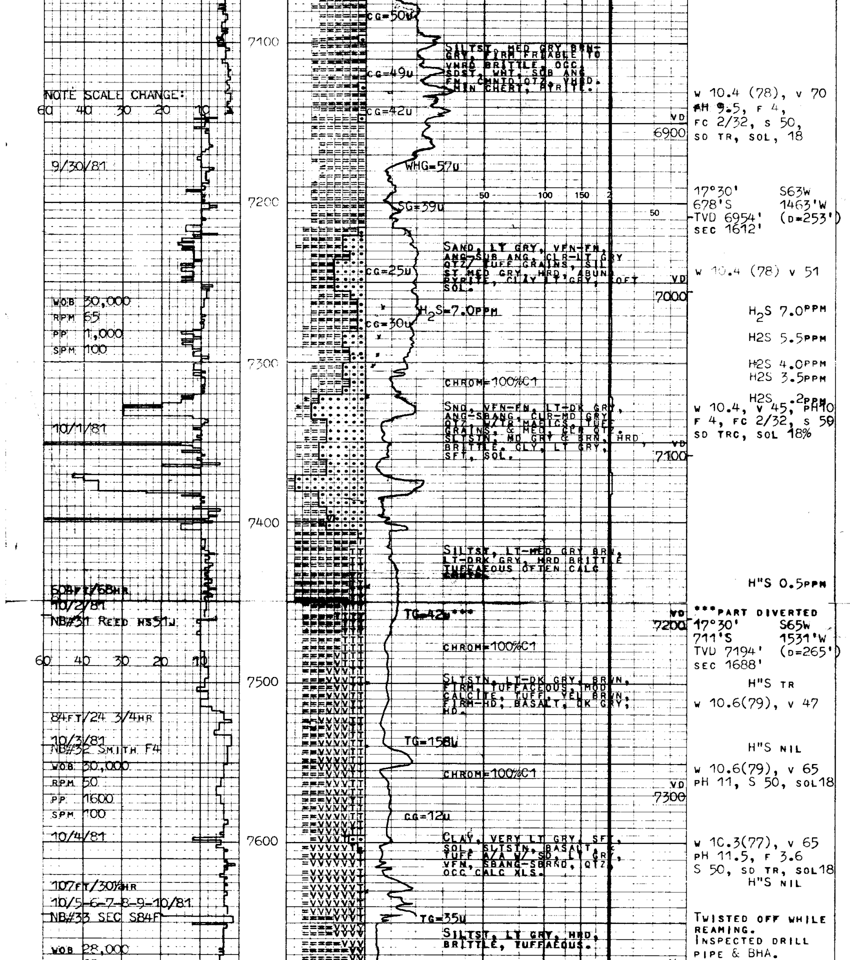
W10.5(79), V 80, PH9.5, F 3, FC 2/32 S 50, SD TRC, SO 16

***
NOTE: TG NOT TOTALLY RECORDED; SHAKER BEING WASHED&FLOW OF MUD DIVERTED.

18°45' S64W
635'S 1377'W
TVD=6658' (D=238)
V SEC 1516'

W 10.2 (76), V 60, pH 9.5, F 4, FC 2/32, S 50, SD TR, SOL 18

18°00' S63W
656'S 1421'W
TVD 6805' (D=246)
SEC 1565'



9/30/81

WOB 30,000
RPM 65
PP 1,000
SPM 100

10/1/81

508FT/68HR
10/2/81
NB#31 REED HS51J

84FT/24 3/4HR

10/3/81
NB#32 SMITH F4
WOB 30,000
RPM 50
PP 1600
SPM 100

10/4/81

107FT/30½HR
10/5-6-7-8-9-10/81
NB#33 SEC S84F

WOB 28,000

SILTST, MED GRY BRN-GRY, FIRM FRIABLE TO VHRD BRITTLE, OCC. SDST, WHT, SUB ANG FN, CMNTD QTZ, VHRD. MIN CHERT, PYRITE.

SAND, LT GRY, VFN-FN, ANG-SUB ANG, CLR-LT GRY QTZ/ TUFF GRAINS, SILT ST MED GRY, HRD, ABUND PYRITE, CLAY LT GRY, SOFT SOL.

SND, VFN-FN, LT-DK GRY, ANG-SBANG, CLR-MD GRY QTZ, W/TR MAFICS, TUFF GRAINS, & MED, CLR QTZ. SLTSTN, MD GRY & BRN, HRD BRITTLE, CLY, LT GRY, SFT, SOL.

SILTST, LT-MED GRY BRN, LT-DRK GRY, HRD BRITTLE TUFFAEOUS OFTEN CALC

SLTSTN, LT-DK GRY, BRWN, FIRM, TUFFACEOUS, MOD CALCITE, TUFF, YEL BRWN, FIRM-HD; BASALT, DK GRY; HD.

CLAY, VERY LT GRY, SFT, SOL, SLTSTN, BASALT, & TUFF A/A W/ SD, LT GRY, VFN, SBANG-SBRND, QTZ, OCC CALC XLS.

SILTST, LT GRY, HRD, BRITTLE, TUFFAEOUS.

w 10.4 (78), v 70
pH 9.5, F 4,
FC 2/32, S 50,
SD TR, SOL, 18

17°30'	S63W
678'S	1463'W
TVD 6954'	(D=253')
SEC 1612'	

w 10.4 (78) v 51

H_2S 7.0PPM

H2S 5.5PPM

H2S 4.0PPM
H2S 3.5PPM

H2S .2PPM
w 10.4, v 45, pH 10
F 4, FC 2/32, S 59
SD TRC, SOL 18%

H"S 0.5PPM

***PART DIVERTED

17°30'	S65W
711'S	1531'W
TVD 7194'	(D=265')
SEC 1688'	

H"S TR

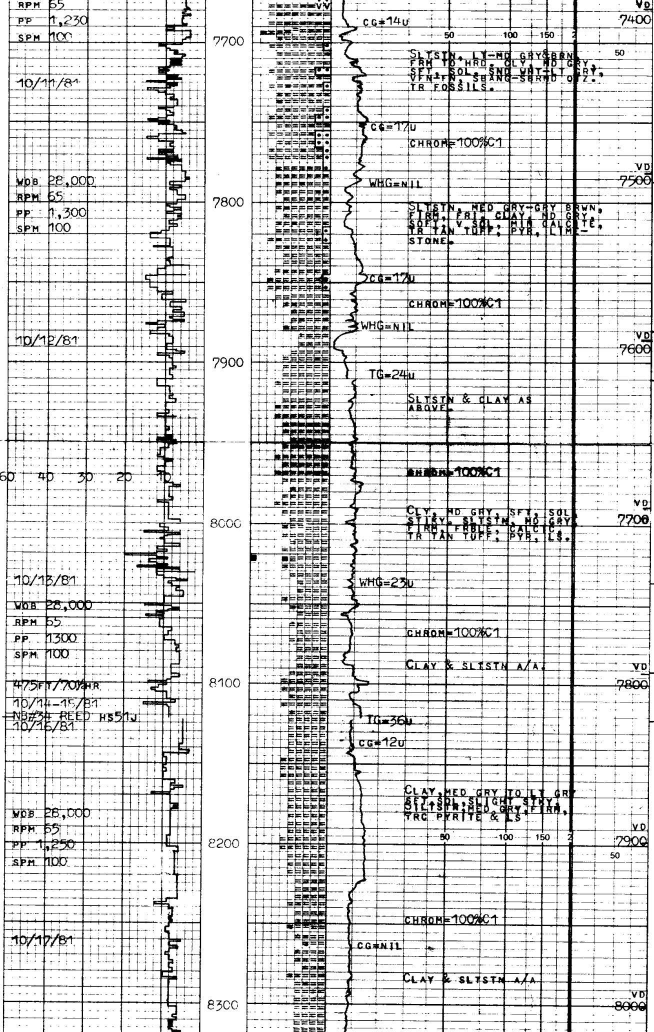
w 10.6(79), v 47

H"S NIL

w 10.6(79), v 65
pH 11, S 50, SOL18

w 10.3(77), v 65
pH 11.5, F 3.6
S 50, SD TR, SOL18
H"S NIL

TWISTED OFF WHILE REAMING.
INSPECTED DRILL PIPE & BHA.



RPM 65
PP 1,230
SPM 100

10/11/81

WOB 28,000
RPM 65
PP 1,300
SPM 100

10/12/81

10/13/81

WOB 28,000
RPM 65
PP 1300
SPM 100

475FT/70½HR
10/14-15/81
NB#34 REED HS51J
10/16/81

WOB 28,000
RPM 65
PP 1,250
SPM 100

10/17/81

CG=14U

SLTSTN, LT-MD GRY&BRN, FRM TO HRD. CLY, MD GRY, SFT, SOL. SND WHT-LT GRY, VFN-FN, SBANG-SBRND QTZ. TR FOSSILS.

CG=17U

CHROM=100%C1

WHG=NIL

SLTSTN, MED GRY-GRY BRWN, FIRM, FRI. CLAY, MD GRY, SOFT, V SOL, MIN CALCITE, TR TAN TUFF; PYR, LIMESTONE.

CG=17U

CHROM=100%C1

WHG=NIL

TG=24U

SLTSTN & CLAY AS ABOVE.

[illegible]=100%C1

CLY, MD GRY, SFT, SOL, STIKY, SLTSTN, MD GRY, FIRM, FRBLE, CALCTC, TR TAN TUFF; PYR, LS.

WHG=23U

CHROM=100%C1

CLAY & SLTSTN A/A.

TG=36U

CG=12U

CLAY, MED GRY TO LT GRY SFT, SOL, SLIGHT STKY, SILTSTN, MED GRY, FIRM, TRC PYRITE & LS

CHROM=100%C1

CG=NIL

CLAY & SLTSTN A/A

W 10.9 (82), V 110, pH 11, F 4, S 100, SD TR, SOL 10

W 10.6(79), V 45
pH 11, F 4.2,
S 100, SD TR, SOL10

WIPE HOLE

WIPE HOLE

TRIP 24 STANDS FOR WASHED PIPE.

W 10.6(79), V 60, pH 11, F 4, S 100, SD TR, SOL 10

NOTE LIGNITE SEAM

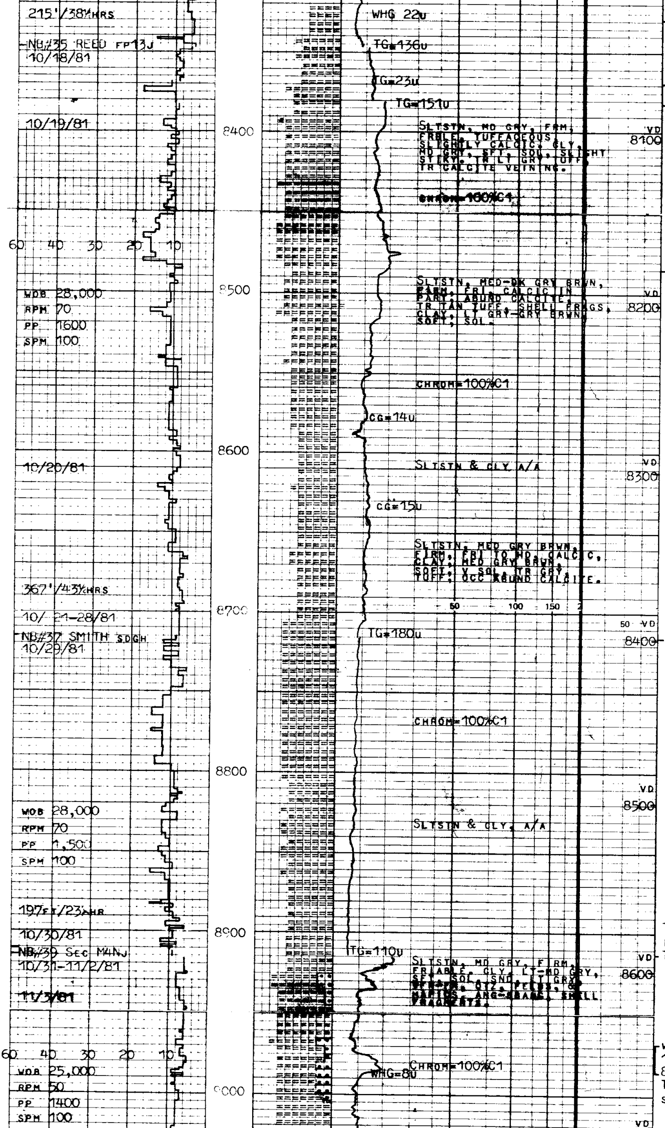
WIPE HOLE

C=8U VIS 60
LAG 95MIN 97SPM
100CC DUR 38MIN

W 10.6(79), V 59
16°30' S67W
787'S 1699'W
TVD 7800' (D=292')
SEC 1872'
RAN WELEX DIL & SONIC LOGS.

W 10.6(79) V 45

W 10.6(79) V 64



215'/38¼HRS

NB#35 REED FP13J
10/18/81

10/19/81

WOB 28,000
RPM 70
PP 1600
SPM 100

10/20/81

367'/43½HRS

10/21-28/81

NB#37 SMITH SDGH
10/29/81

WOB 28,000
RPM 70
PP 1,500
SPM 100

197FT/23½HR

10/30/81

NB#39 SEC M4NJ
10/31-11/2/81

11/3/81

WOB 25,000
RPM 50
PP 1400
SPM 100

WHG 22u

TG=136u

TG=23u

TG=151u

SLTSTN, MD GRY, FRM, FRBLE, TUFFACEOUS, SLIGHTLY CALCIC. CLY, MD GRY, SFT, SOL, SLIGHT STIKY. TR LT GRY TUFF, TR CALCITE VEINING.

CHROM=100%C1

SLTSTN, MED-DK GRY BRWN, FIRM, FRI, CALCIC IN PART, ABUND CALCITE, TR TAN TUFF, SHELL FRAGS. CLAY, LT GRY-GRY BRWN, SOFT, SOL.

CHROM=100%C1

CG=14u

SLTSTN & CLY A/A

CG=15u

SLTSTN, MED GRY BRWN, FIRM, FRI TO HD, CALCIC, CLAY, MED GRY BRWN, SOFT, V SOL, TR GRY TUFF, OCC ABUND CALCITE.

TG=180u

CHROM=100%C1

SLTSTN & CLY A/A

TG=110u

SLTSTN, MD GRY, FIRM, FRIABLE, CLY, LT-MD GRY, SFT, SOL, SND, LT GRY, [illegible], QTZ, FELDS, & MAFICS, ANG-SBANG, SHELL FRAGMENTS.

WHG=8u

CHROM=100%C1

WIPE HOLE

TRIP 26 STDS FOR WASHED PIPE.
TRIP DP FOR WASHOUTS.

C=8u
LAG= 99MIN
100cc
16°15'
829'S
TVD 8177'
SEC 1983'

68VIS
94SPM
DUR 38M
S69W
1801'W
(D=308')

W 10.6 (79), V 68, pH 11, F 4, FC 2/32, S 250, SD TR, SOL 11

W 10.6(79), V 69, pH 11, F 4, FC 2/32, S 250, SD TR, SOL 10

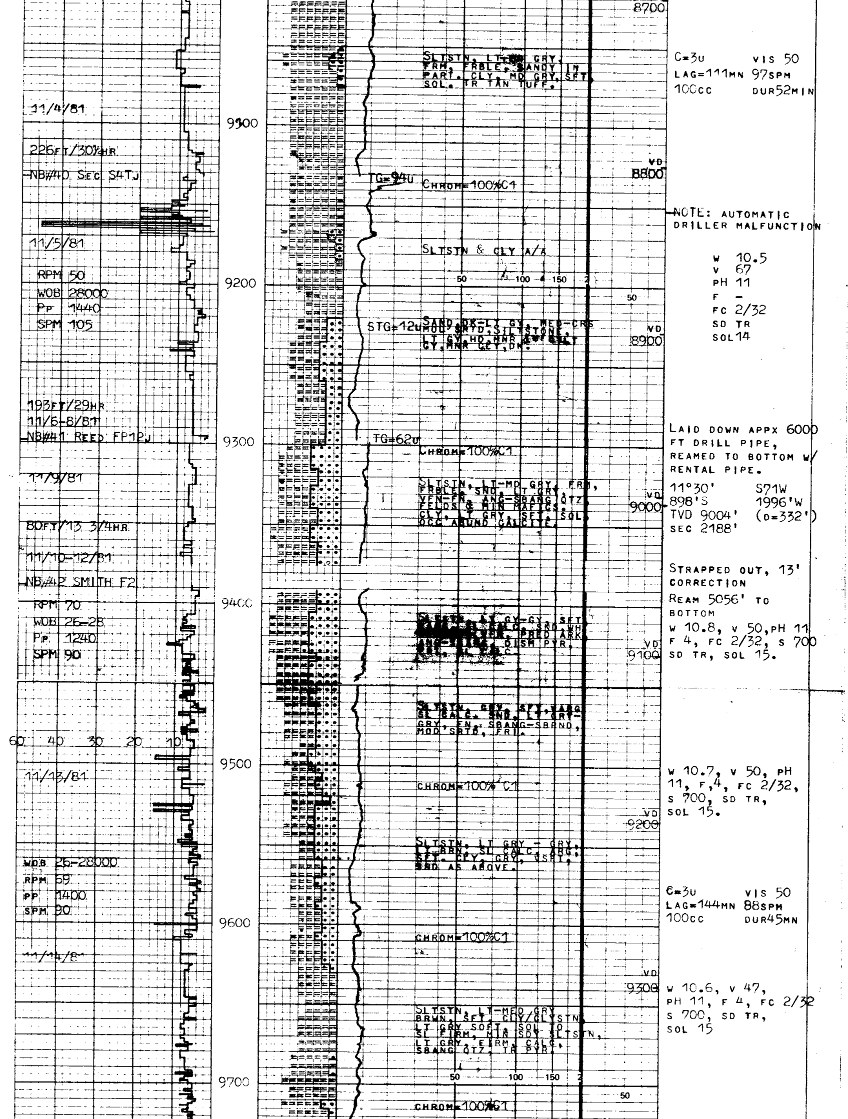
NB#36 REED FP13J USED REAMING OUT HOLE INBETWEEN NUMEROUS WASHOUTS, DRILLING AHEAD W/ PARTIAL RENTED DRILL STRING AFTER PIPE INSPECTION.

W 10.4(78), V 52, pH 11, F 4, FC 2/32, S 250, SD TR, SOL 15.

TWIST OFF W/ NB#38 IN HOLE ½HR. TWISTED OFF.

WIPE HOLE
14°00'
870'S
TVD 8622'
SEC 2103'

S71W
1914'W
(D=324')



11/4/81

226FT/30½HR

NB#40 SEC S4TJ

11/5/81

RPM 50
WOB 28000
PP 1440
SPM 105

193FT/29HR

11/6-8/81

NB#41 REED FP12J

11/9/81

80FT/13 3/4HR

11/10-12/81

NB#42 SMITH F2

RPM 70
WOB 26-28
PP 1240
SPM 90

11/13/81

WOB 26-28000
RPM 69
PP 1400
SPM 90

11/14/81

SLTSTN, LT-MD GRY, FRM, FRBLE, SANDY IN PART. CLY, MD GRY, SFT SOL. TR TAN TUFF.

TG=94U CHROM=100%C1

SLTSTN & CLY A/A

STG=12U SAND, DK-LT GY, MED-CRS MOD SRTD, SILTSTONE, LT GY, HD, MNR [illegible] GY, MNR CLY, DK.

TG=62U CHROM=100%C1

SLTSTN, LT-MD GRY, FRM, FRBLE, SND, LT GRY, VFN-FN, ANG-SBANG QTZ, FELDS & MIN MAFICS. CLY, LT GRY, SFT, SOL. OCC ABUND CALCITE.

[illegible] GY-GY, SFT, [illegible] C, SND, WH, [illegible] VFN, PRED ARK, ANG-[illegible], DISM PYR, [illegible] C.

SLTSTN, GRY, SFT, VARG SL CALC. SND, LT GRY-GRY, FN, SBANG-SBRND, MOD SRTD, FRI.

CHROM=100% C1

SLTSTN, LT GRY - GRY, LT BRN, SL CALC, ARG, SFT. CLY, GRY, VSFT, SND AS ABOVE.

CHROM=100%C1

SLTSTN, LT-MED GRY BRWN, SFT, CLY/CLYSTN LT GRY SOFT, SOL TO SL FIRM, MIN SDY SLTSTN, LT GRY, FIRM, CALC, SBANG QTZ, TR PYR.

CHROM=100%C1

C=3U VIS 50
LAG=111MN 97SPM
100CC DUR52MIN

NOTE: AUTOMATIC DRILLER MALFUNCTION

W 10.5
V 67
PH 11
F -
FC 2/32
SD TR
SOL 14

LAID DOWN APPX 6000 FT DRILL PIPE, REAMED TO BOTTOM W/ RENTAL PIPE.

11°30' S71W
898'S 1996'W
TVD 9004' (D=332')
SEC 2188'

STRAPPED OUT, 13' CORRECTION

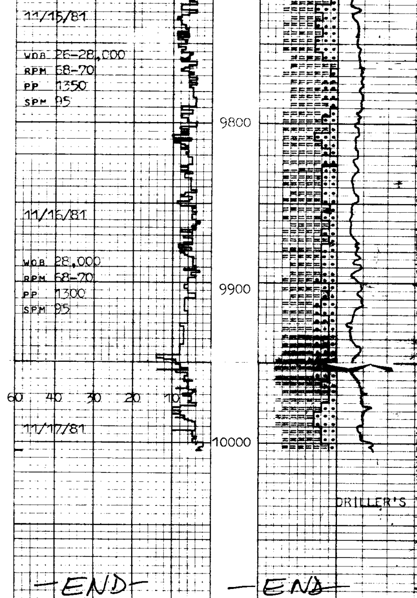
REAM 5056' TO BOTTOM

W 10.8, V 50, PH 11, F 4, FC 2/32, S 700 SD TR, SOL 15.

W 10.7, V 50, PH 11, F 4, FC 2/32, S 700, SD TR, SOL 15.

C=3U VIS 50
LAG=144MN 88SPM
100CC DUR45MN

W 10.6, V 47, PH 11, F 4, FC 2/32 S 700, SD TR, SOL 15



11/15/81

WOB 26-28,000
RPM 68-70
PP 1350
SPM 95

11/16/81

WOB 28,000
RPM 68-70
PP 1300
SPM 95

11/17/81

SLTSTN, LT-DK GRY, FRM-MOD HD, SL-NON CALC. SND, WH-GRY, OCC DK SPECS V FN, SBANG, MOD SRT, FRI, CALC. CLY A/A.

SLTSTN, LT-MED GRY & MED BRWN, FIRM, FRI, SDY IN PART, SD/SS, LT GRY-WH, CALC, VFN, SBANG, WL SRTD, CLAY; LT GRY, SOFT, V SOL.

CHROM=100%C1

SLTSTN, LT-DK GRY, BRN FRI, SL CALC, V ARG, OCC SNDY, CLY, GRY, V SFT, NONCALC, SND, GRY-WH, QTZ, OCC DK INCL V FN, MOD SRT, SBANG-ANG, CALC, FRI.

CHROM=100%C1

SLTSTN, LT-DK GRY, BLK SPECS, ARG, SNDY, CALC, FRI; CLY; LT GRY-WH, NON CALC, V SFT, SND; LT GRY-WH, QTZ, V FN, ANG-SBANG, MOD SRT, CALC, FRI.

DRILLER'S TOTAL DEPTH=10006

VD
9400

VD
9500

VD
9600

W 10.6+, V 50,
PH 11, F 4,
FC 2/32, S 700,
SD TR, SOL 15

C=4U 45VIS
LAG=152MN 88SPM
100CC DUR40MN

W 10.5+, V 45,
PH 11, F 4,
FC 2/32, S 700,
SD TR, SOL 16

15°45' S79W
939'S 2148'W
TVD 9655' (D=351')
SEC 2344'

RAN WELEX DIL, SONIC, DIPMETER, VELOCITY, [illegible]

SET CEMENT PLUG, 7000-7300'. RUN AND CEMENT 5 1/2" CASING TO 7000'.

—END— —END— —END— —END—