**WELL** Patton #.32-9 &Sidetrack#1 (API# 36-007-00[illegible])

**COMPANY** OREGON NATURAL GAS CORP.

**AREA** Olney gas

**LOCATION** 2068.78'S & 1380.1'W of NE cor, Sec 9, T7N, R8W, WB&M

**COUNTY, STATE** Clatsop, Oregon

RECEIVED

SEP 28 1982

DEPT OF GEOLO

# - WEGE -
# WESTERN GEO-ENGINEERS

*"A SERVICE TO THE OIL AND GAS INDUSTRY"*

**LITHOLOGY SYMBOLS**

| ⊡ | ☐ | ⊟ | ⊡ | ◙ | ▣ | V | X | ⌟ | ▢ | A | t |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sand | Clay and Shale | Siltst. | Sandy Siltst. | Conglomerate | Lignite or Coal | Volcanic | Intrusive | Salt | Limest. | Chert | tuff |

**REMARKS**

WELL ELEV. GL. 731' KB. 752'(Datum)

SALINITY IN ppm Cl⁻

FILTRATE IN cc/ 30 MIN.

GAS TRAP Agitator type

MUD Lignosulfate (Magcobar)

ROVER 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**

| | | |
|---|---|---|
| 13 3/8 | TO | 402' |
| 9 5/8 | TO | 2946' |
| 7" Liner | TO | 9358' |

DATE 6/12/82 TO 8/13/82 DEPTH 405' TO 10,055'

9/13/82 9/17/82 9360' 9470'

ENGINEERS Kolarik Thomas Butler

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- 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

CUTTING ANALYSIS

TOTAL GAS

PET. VAP. – –

REMARKS

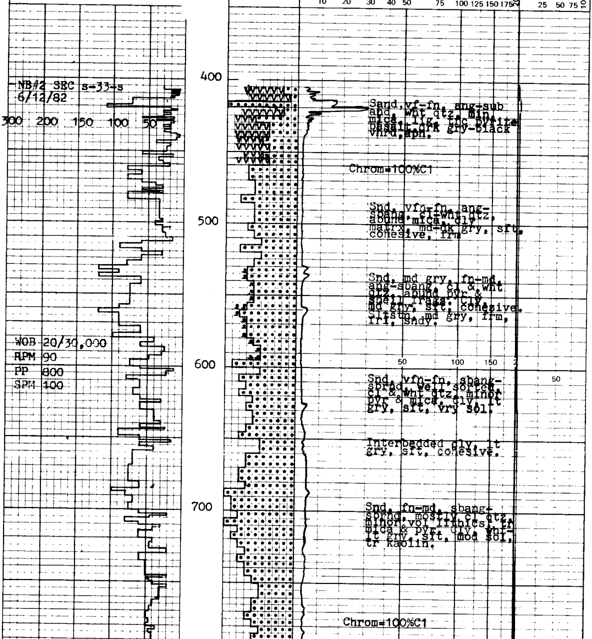
Mud Data

Formation Tests

Core Analysis

Surveys

E Logs



NB#2 SEC s-33-s 6/12/82

WOB 20/30,000

RPM 90

PP 800

SPM 100

Sand,vf-fn, ang-sub and, wht qtz, min. mica, lig, tnc pyrite basalt,drk gry-black vhrd,aph.

Chrom=100%C1

Snd, vfn-fn, ang-sbang, cl-wht qtz, abund mica, cly matrx, md-dk gry, sft, cohesive, frm

Snd, md gry, fn-md, ang-sbang, cl & wht qtz, abund pyr & shell frags. Cly, md gry, sft, cohesive. Sltstn, md gry, frm, frl, sndy.

Snd, vfn-fn, sbang-sbrnd, well sorted, cl & wht qtz, minor pyr & mica. Cly, lt gry, sft, vry sol.

Interbedded cly, lt gry, sft, cohesive.

Snd, fn-md, sbang-sbrnd, mostly cl qtz, minor vol lithics, tr mica & pyr. Cly, wht-lt gry, sft, mod sol, tr kaolin.

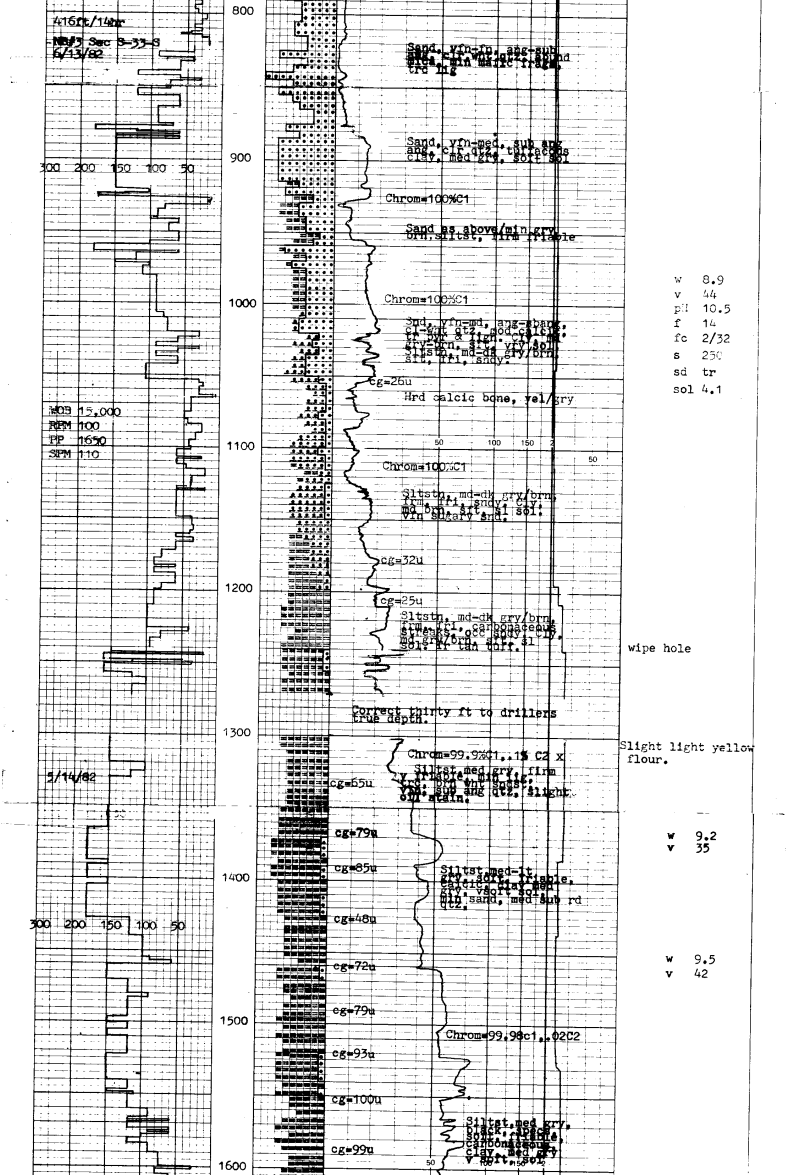
Chrom=100%C1

13 3/8 casing set to 402'

Drilling ahead w/ 12¼" bit

w 8.9

v 45



416ft/14hr

NB#3 Sec S-33-S
6/13/82

WOB 15,000
RPM 100
PP 1650
SPM 110

6/14/82

Sand, vfn-fn, ang-sub ang, clr wht qtz, abund mica, min mafic frags, trc lig

Sand, vfn-med, sub ang ang, clr qtz, tuffacous clay, med gry, soft sol

Chrom=100%C1

Sand as above/min gry brn, siltst, firm friable

Chrom=100%C1

Snd, vfn-md, ang-sbang, cl-wht qtz, mod calcic, tr pyr & lign. Cly, md gry-brn, sft, vry sol. Sltstn, md-dk gry/brn, sft, fri, sndy.

Hrd calcic bone, yel/gry

Chrom=100%C1

Sltstn, md-dk gry/brn, frm, fri, sndy. Cly, md brn, sft, sl sol. Vfn sugary snd.

Sltstn, md-dk gry/brn, frm, fri, carbonaceous streaks, occ sndy. Cly, md gry/brn, sft, sl sol. Fr tan tuff.

wipe hole

Correct thirty ft to drillers true depth.

Chrom=99.9%C1, .1% C2 x

Siltst med gry, firm v friable, min lig, trc. brn wht spots, vfn. sub ang qtz, slight oil stain.

Slight light yellow flour.

Siltst, med-lt gry, soft, friable, calcic, clay med gry, vsoft sol, min sand, med sub rd qtz.

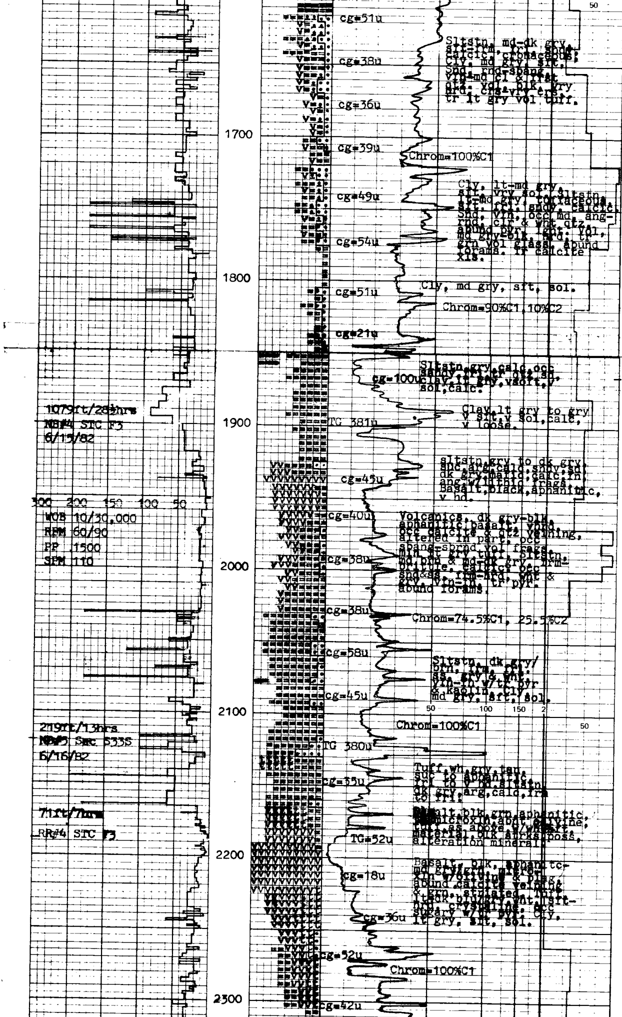
Chrom=99.98c1, .02C2

Siltst, med gry, black specks, soft, friable, carbonaceous, clay, med gry v soft, sol.

w 8.9
v 44
pH 10.5
f 14
fc 2/32
s 250
sd tr
sol 4.1

w 9.2
v 35

w 9.5
v 42



Sltstn, md-dk gry, sft-frm, frl, sndy, calcic, carbonaceous; Cly, md gry, sft, Snd, rnd-sbang, vfg-md cl & frst qtz, vol, blk, vry hrd, cns vry crs, tr lt gry vol tuff.

Cly, lt-md gry, sft, vry sol; Sltstn, lt-md gry, tuffaceous, sft, frl, sndy, calcic, Snd, vfn, occ md, ang-rnd, clr & wht qtz, abund pyr, lgnt, vol, md gry-blk, hrd, tr grn vol glass, abund forams, tr calcite xls.

Cly, md gry, sft, sol.

Sltstn,gry,calc,occ sandy,frl,tr qtz sd, clay,lt gry,vsoft,v sol,calc.

Clay,lt gry to gry v slt,v sol,calc, v loose.

sltstn,gry to dk gry, sbc,arg,calc,sndy,sd dk gry,mafic,calc,fn, ang w/lithic frags. Basalt,black,aphanitic, v hd.

Volcanics, dk gry-blk, aphanitic basalt, vhrd, occ calcite & qtz veining, altered in part, occ sbang-sbrnd vol frags, min lt gry tuff, Sltstn, md brn & md-dk gry, frm-brittle, calcic, occ snd&ss, frm-hrd, wht & gry, vfn-fn, tr pyr, abund forams.

Sltstn, dk gry/brn, frm, frl, ss, gry & wht, vfn-fn w/tr pyr & kaolin, Cly, md gry, sft, sol.

Tuff,wh,gry,tan, suc to aphanitic, frl to v hd,sltstn, dk gry,arg,calc,frm to frl.

Basalt,blk,grn,aphanitic, microxln,abdt olivine, tuff,as above w/wht sft material,blk strks,poss, alteration mineral.

Basalt, blk, aphanitc-md gry/grn, micro-xln w/olivine & plag, abund calcite veining & grn, striated, tuff lt-dk blu/gry/wht, sft-hrd, crystalline, occ sugary w/tr pyr, Cly, lt gry, sft, sol.

w 9.9
v 44

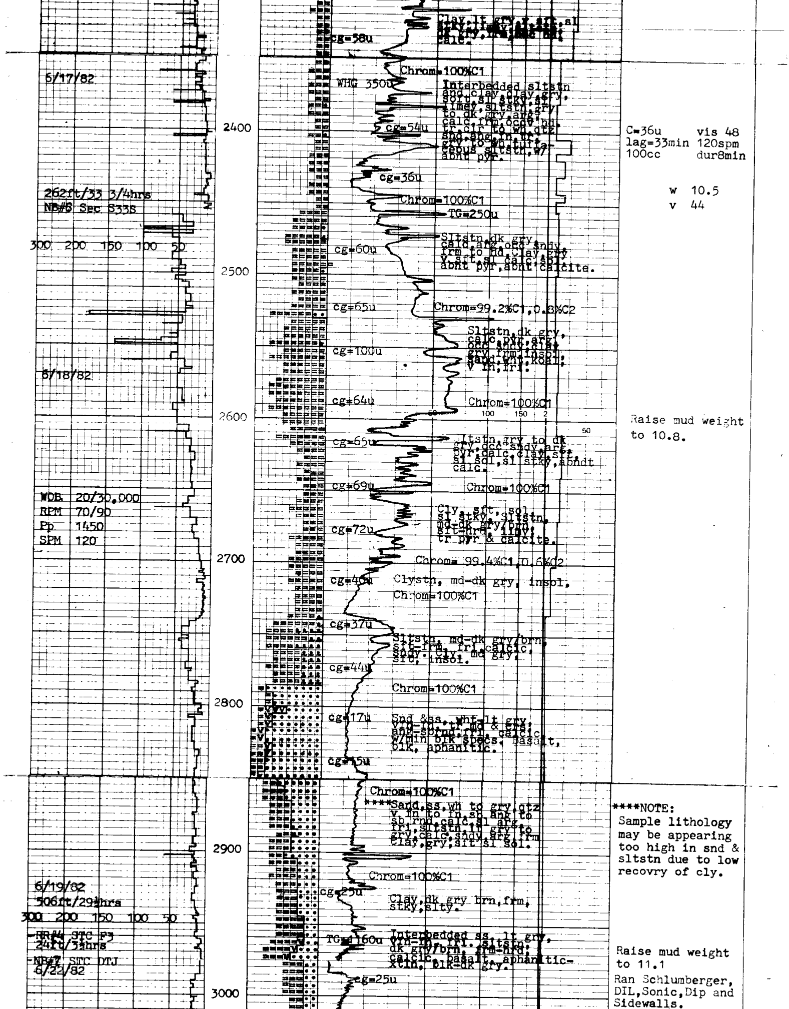
w 10.0
v 45

Note: No circulation for 1hr. Shut down to work on pumps.

w 10.6
v 52
pH 10.0
f 7.6
fc 2/32
s 250
sd tr
sol 15

C=24u vis 52
lag=26min 118spm
100cc dur9min

w 10.6
v 44
pH 11.6
f 7.2
fc 2/32
s 800
sd tr
sol 14



Clay,lt gry,v sft,sl stky,[illegible] dk gry,frm,[illegible] calc.

Chrom=100%C1

Interbedded sltstn and clay,clay,gry, soft,sl stky,sl limey,sltstn,gry to dk gry,arg, calc,frm,occ hd, tr,clr to wh,qtz snd,ang,fn,tr, gry to wh,tuffaceous sltstn,w/ abnt pyr.

Chrom=100%C1

Sltstn,dk gry, calc,arg,occ sndy, frm to hd,Clay,gry v sft,sl calc,sol, abnt pyr,abnt calcite.

Chrom=99.2%C1,0.8%C2

Sltstn,dk gry, calc,pyr,arg, occ sndy,clay gry,frm,insol; sand,wht,koal; v fn,fri.

Chrom=100%C1

Sltstn,gry to dk gry,occ sndy,arg, pyr,calc,clay,sft, sl sol,sl stky,abndt calc.

Chrom=100%C1

Cly, sft, sol sl stky, sltstn, md-dk gry/brn, sft-hrd, limy, tr pyr & calcite.

Chrom= 99.4%C1,0.6%C2

Clystn, md-dk gry, insol,

Chrom=100%C1

Sltstn, md-dk gry/brn, sft-frm, fri,calcic, sndy. Cly, md gry, sft, insol.

Chrom=100%C1

Snd &ss, wht-lt gry, vfn-fn, tr md & crs, ang-sbrnd,fri, calcic w/min blk specs. Basalt, blk, aphanitic.

Chrom=100%C1

****Sand,ss,wh to gry,qtz v fn to fn,sb ang to sb rnd,calc,sl arg, fri,sltstn,lt gry to gry,calc,sndy,arg,frm clay,gry,sft sl sol.

Chrom=100%C1

Clay,dk gry brn,frm, stky,slty.

Interbedded ss, lt gry, vfn-fn, fri. sltstn, dk gry/brn, frm-hrd, calcic, basalt, aphanitic-xtln, blk-dk gry.

C=36u vis 48
lag=33min 120spm
100cc dur8min

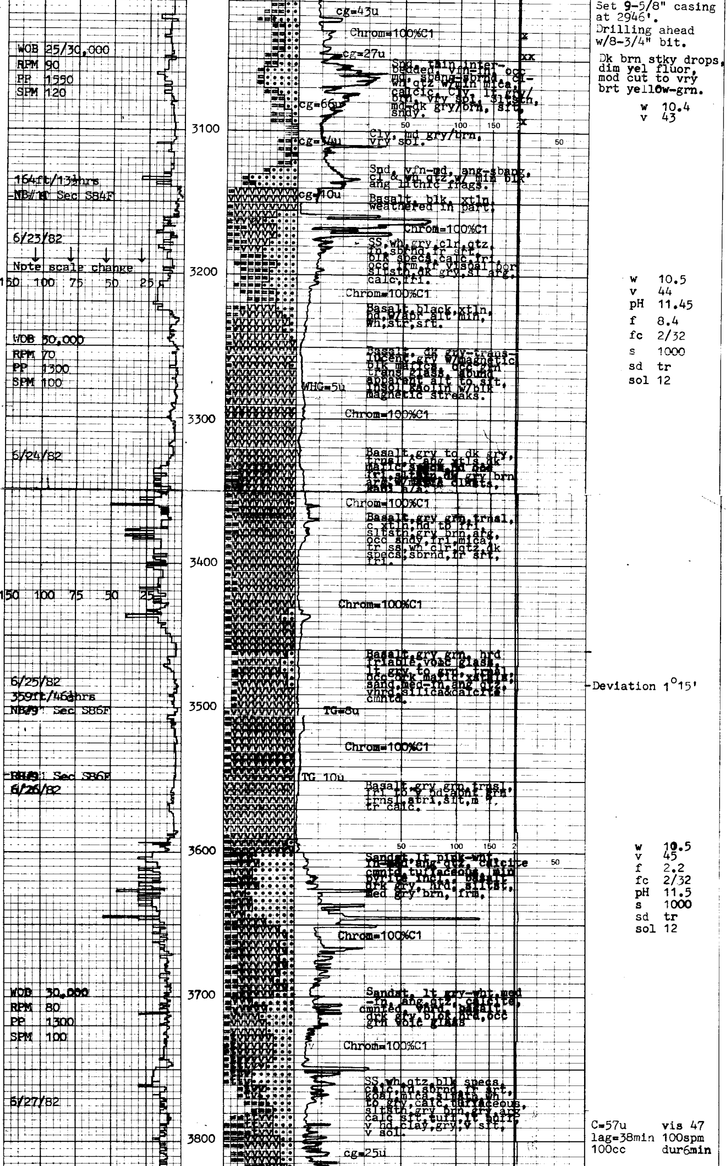
w 10.5
v 44

Raise mud weight to 10.8.

****NOTE:
Sample lithology may be appearing too high in snd & sltstn due to low recovry of cly.

Raise mud weight to 11.1

Ran Schlumberger, DIL,Sonic,Dip and Sidewalls.



WOB 25/30,000
RPM 90
PP 1550
SPM 120

164ft/13½hrs
NB#10 Sec S84F

6/23/82

Note scale change

WOB 30,000
RPM 70
PP 1300
SPM 100

6/24/82

6/25/82
359ft/46½hrs
NB#9" Sec S86F

RR#9 Sec S86F
6/26/82

WOB 30,000
RPM 80
PP 1300
SPM 100

6/27/82

Set 9-5/8" casing at 2946'.
Drilling ahead w/8-3/4" bit.

Dk brn stky drops, dim yel fluor, mod cut to vry brt yellow-grn.

w 10.4
v 43

Chrom=100%C1

Snd, thin interbedded, vfn-fn, occ md, sbang-sbrnd, cl-wh qtz w/min mica, calcic. Cly, lt gry/brn, vry sol. Sltstn, md-dk gry/brn, sft, sndy.

Cly, md gry/brn, vry sol.

Snd, vfn-md, ang-sbang, cl & wh qtz w/ min blk ang lithic frags.

Basalt, blk, xtln, weathered in part.

Chrom=100%C1

SS, wh, gry, clr, qtz, fn, sbrnd, fr srt, blk specs, calc, fri, occ frm, fr visual por sltstn, dk gry, sl arg, calc, fri.

Chrom=100%C1

w 10.5
v 44
pH 11.45
f 8.4
fc 2/32
s 1000
sd tr
sol 12

Basalt, black, xtln, hd, w/abr alt min, wh, str, sft.

Basalt, dk gry-translucent gry w/magnetic blk mafics, occ grn trans glass, abund apparent alt to sft, insol kaolin w/blk magnetic streaks.

Chrom=100%C1

Basalt, gry to dk gry, trnsl, c ang xtls, dk mafic [illegible], hd occ fri, sltstn, dk gry brn arg, w/[illegible] clasts, Basl a/a.

Chrom=100%C1

Basalt, gry grn, trnsl, c xtln, hd to fri, sltstn, gry brn, arg, occ sndy, fri, mica, tr ss, wh clr qtz, dk specs, sbrnd, fr srt, fri.

Chrom=100%C1

Basalt, gry grn, hrd friable, volc glass, lt gry to grn, trnsl, occ drk mafic xstals; sand, med-fn, ang qtz, vhrd, silica&calcite cmntd.

Deviation 1°15'

Chrom=100%C1

Basalt, gry grn, trnsl, fri to v hd, abnt grn trnsl, stri, sft, m [illegible], tr calc.

Sandst, lt pink-wht, fn-[illegible] ang qtz, calcite cmntd, tuffaceous, min pyrite incl., basalt, drk gry, hrd, siltst, med gry brn, frm.

w 10.5
v 45
f 2.2
fc 2/32
pH 11.5
s 1000
sd tr
sol 12

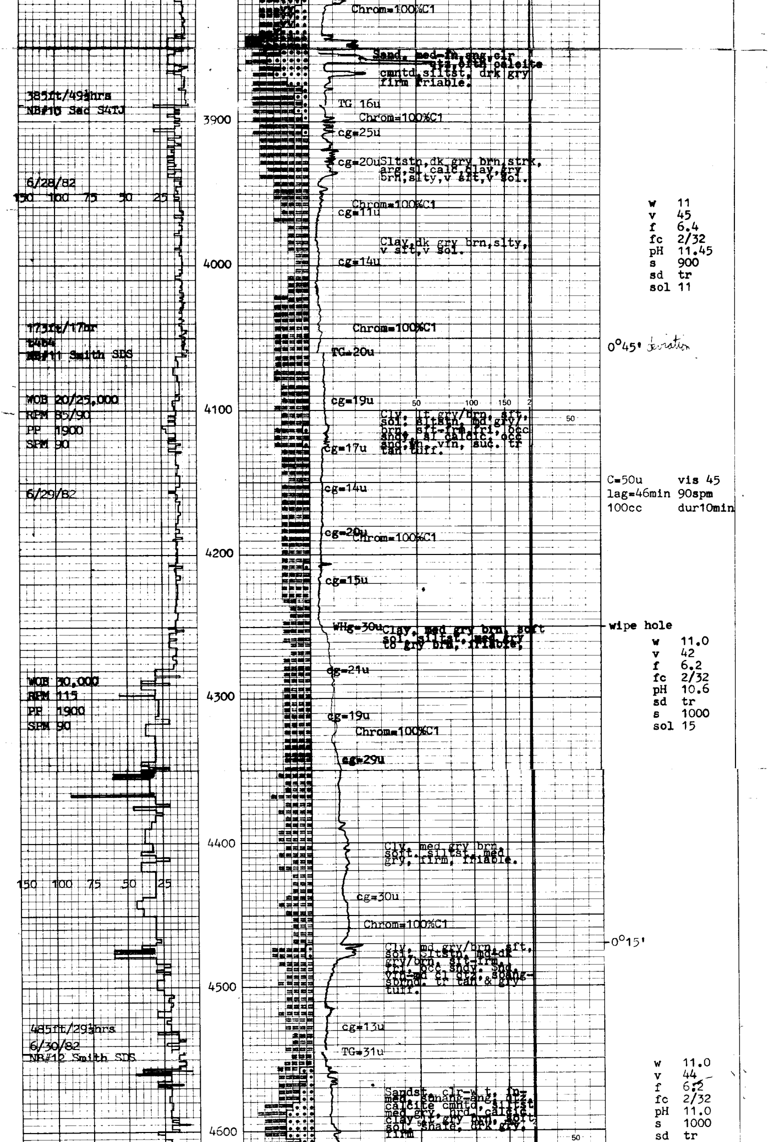
Chrom=100%C1

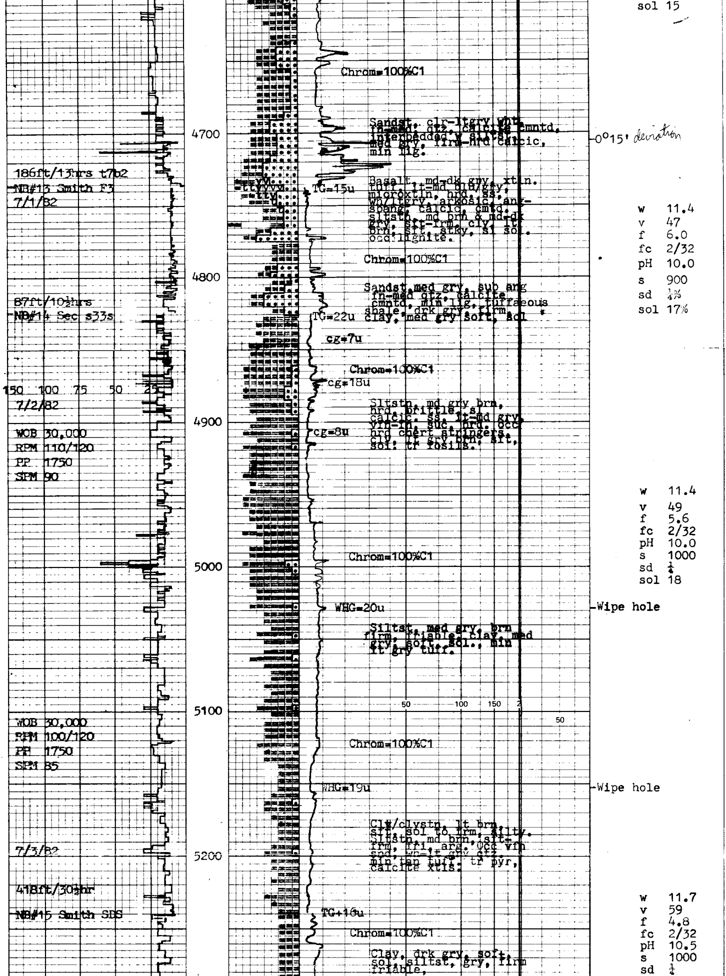
Sandst, lt gry-wht, med-fn, ang qtz, calcite, cmnted, vhrd, basalt, drk gry, blck, hrd, occ grn volc glass

Chrom=100%C1

SS, wh, qtz, blk specs, calc, fn, sbrnd, fr srt, koal, mica, sltstn, wh to gry, calc, tuffaceous, sltstn, gry brn, gry, arg calc sft, tuff, lt buff, v hd, clay, gry, v sft, v sol.

C=57u vis 47
lag=38min 100spm
100cc dur6min





sol 15

Sandst, clr-ltgry wht, fn-med, qtz, calcite cmntd, interbedded w siltst, med gry, firm-hrd calcic, min lig.

-0°15' deviation

186ft/13hrs t7b2
NB#13 Smith F3
7/1/82

Basalt, md-dk gry, xtln. tuff, lt-md blu/gry, microxtln, hrd, ss, wh/ltgry, arkosic, ang-sbang, calcic, cmtd. sltstn, md brn & md-dk gry, sft-frm, cly, lt brn, sft, stky, sl sol. occ lignite.

w 11.4
v 47
f 6.0
fc 2/32
pH 10.0
s 900
sd ¼%
sol 17%

Sandst, med gry, sub ang fn-med qtz, calcite cmntd, min lig, tuffaeous shale, drk gry, firm, clay, med gry soft, sol

87ft/10½hrs
NB#14 Sec s33s

7/2/82

Sltstn, md gry brn, hrd, brittle, sl calcic, ss, lt-md gry, vfn-fn, suc, hrd, occ hrd chert stringers, cly, lt gry brn, sft, sol; tr fosils.

WOB 30,000
RPM 110/120
PP 1750
SPM 90

w 11.4
v 49
f 5.6
fc 2/32
pH 10.0
s 1000
sd ¼
sol 18

-Wipe hole

Siltst, med gry, brn firm, friable, clay, med gry, soft, sol., min lt gry tuff.

WOB 30,000
RPM 100/120
PP 1750
SPM 85

-Wipe hole

Cly/clystn, lt brn, sft, sol to frm, silty. Sltstn, md brn, sft-frm, fri, arg, occ vfn snd, wh-lt gry qtz, min tan tuff; tr pyr, calcite xtls.

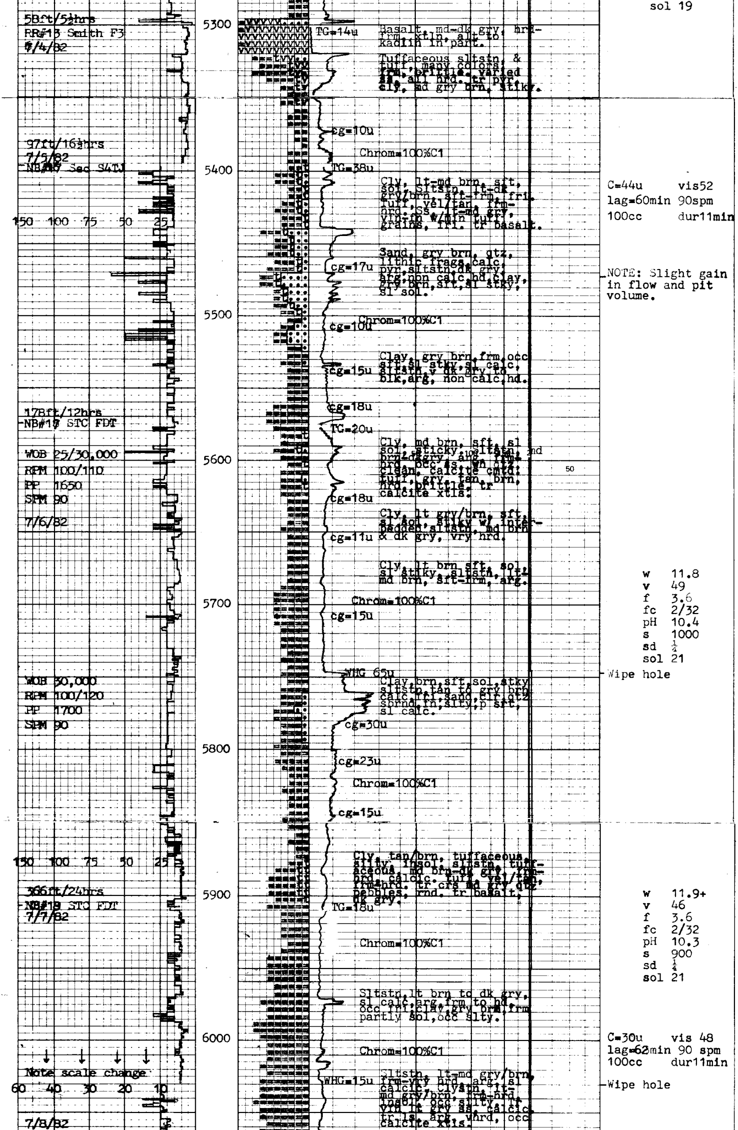
7/3/82

418ft/30½hr

NB#15 Smith SDS

w 11.7
v 59
f 4.8
fc 2/32
pH 10.5
s 1000
sd ¼

Clay, drk gry, soft, sol, siltst, gry, firm friable,



sol 19

58ft/5½hrs
RR#13 Smith F3
7/4/82

TG=14u

Basalt, md-dk gry, hrd-frm, xtln, alt to kadlin in part.

Tuffaceous sltstn, & tuff, many colors, frm, brittle, varied ss, all hrd, tr pyr, cly, md gry brn, stiky.

cg=10u

97ft/16½hrs
7/5/82
NB#10 Sec S4TJ

Chrom=100%C1

TG=38u

Cly, lt-md brn, sft, sol, Sltstn, lt-dk gry/brn, sft-frm, fri. Tuff, yel/tan, frm-hrd. Ss, lt-md gry, vfn-fn w/min tuff grains, fri. tr basalt.

C=44u vis52
lag=60min 90spm
100cc dur11min

Sand, gry brn, qtz, lithic frags, calc, pyr, sltstn, dk gry, arg, non calc, hd, clay, gry brn, sft, sl stky, sl sol.

cg=17u

NOTE: Slight gain in flow and pit volume.

Chrom=100%C1

cg=10u

Clay, gry brn, frm, occ sft, sl stky, sl calc, sltstn, v dk gry to blk, arg, non calc, hd.

cg=15u

cg=18u

178ft/12hrs
NB#17 STC FDT

TG=20u

Cly, md brn, sft, sl sol, sticky, Sltstn, md brn-dk gry, arg, frm-hrd, occ ss, wh qtz, clean, calcite cmtd. tuff, gry, tan, brn, hrd, brittle, tr calcite xtls.

WOB 25/30,000
RPM 100/110
PP 1650
SPM 90

cg=18u

Cly, lt gry/brn, sft, sl sol, stiky w/ inter-bedded sltstn, md brn & dk gry, vry hrd.

7/6/82

cg=11u

Cly, lt brn sft, sol, sl stiky, sltstn, lt-md brn, sft-frm, arg.

w 11.8
v 49
f 3.6
fc 2/32
pH 10.4
s 1000
sd ¼
sol 21

Chrom=100%C1

cg=15u

WHG 65u

Wipe hole

Clay, brn, sft, sol, stky sltstn, tan to gry brn calc, fri, sand, clr, qtz sbrnd, fn, slty, p srt, sl calc.

WOB 30,000
RPM 100/120
PP 1700
SPM 90

cg=30u

cg=23u

Chrom=100%C1

cg=15u

Cly, tan/brn, tuffaceous, silty, insol, sltstn, tuff-aceous, md brn-dk gry, frm-hrd, calcic. tuff, yel/tan, frm-hrd, tr crs md gry qtz pebbles, rnd. tr basalt, dk gry.

366ft/24hrs
NB#19 STC FDT
7/7/82

TG=18u

w 11.9+
v 46
f 3.6
fc 2/32
pH 10.3
s 900
sd ¼
sol 21

Chrom=100%C1

Sltstn, lt brn to dk gry, sl calc, arg, frm to hd, occ fri, clay, gry brn, frm partly sol, occ slty.

C=30u vis 48
lag=62min 90 spm
100cc dur11min

Chrom=100%C1

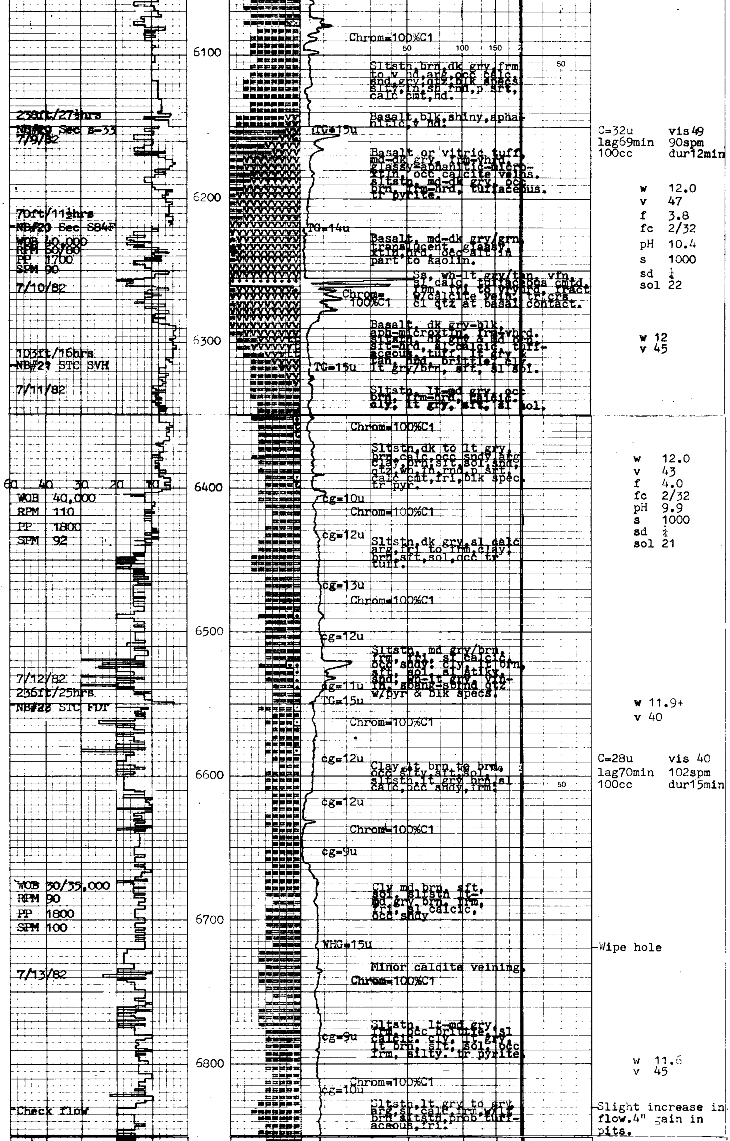
↓ ↓ ↓ ↓
Note scale change

WHG=15u

Sltstn, lt-md gry/brn, frm-vry hrd, arg, sl calcic, Clystn, lt-md gry/brn, frm-hrd, insol, occ silty, tr vfn lt gry ss, calcic, tr ls, arg, vhrd, occ calcite xtls.

Wipe hole

7/8/82



238ft/27½hrs
NB#19 Sec s-33
7/9/82

70ft/11½hrs
NB#20 Sec S84F
WOB 40,000
RPM 50/80
PP 1700
SPM 90
7/10/82

103ft/16hrs
NB#21 STC SVH
7/11/82

WOB 40,000
RPM 110
PP 1800
SPM 92

7/12/82
236ft/25hrs
NB#22 STC FDT

WOB 30/35,000
RPM 90
PP 1800
SPM 100

7/13/82

Check flow

Sltstn,brn,dk gry,frm to v hd,arg,occ calc, snd,gry,qtz,blk specs, slty,fn,sb rnd,p srt, calc cmt,hd.

Basalt,blk,shiny,aphanitic,v hd.

Basalt or vitric tuff, md-dk gry, frm-vhrd, glassy-aphanitic-microxtln, occ calcite veins. sltstn, md-dk gry, occ brn, frm-hrd, tuffaceous. tr pyrite.

Basalt, md-dk gry/grn, translucent, glassy, xtln,hrd, occ alt in part to kaolin.

Ss, wh-lt gry/tan, vfn, sl calc, tuffaceous cmtd, frm, fri to vryhrd, fract w/calcite vein, tr crs cl qtz at basal contact.

Basalt, dk gry-blk, aph-microxtln, frm-vhrd. sltstn, dk gry & md brn, sft-hrd, sl calcic, tuffaceous, tuff, lt gry & tan, hrd, brittle; cly, lt gry/brn, sft, sl sol.

Sltstn, lt-md gry, occ brn, frm-hrd, calcic. cly, lt gry, sft, sl sol.

Sltstn,dk to lt gry, brn,calc,occ sndy,arg clay,brn,sft,sol,snd, qtz,wh,fn,rnd,p srt, calc cmt,fri,blk spec, tr pyr.

Sltstn,dk gry,sl calc arg,fri to frm,clay, brn,sft,sol,occ tr tuff.

Sltstn, md gry/brn, frm, fri, sl calcic, occ sndy; cly, lt brn, sft, sol, sl stiky, snd; wh-lt gry, vfn-fn, sbang-sbrnd qtz w/pyr & blk specs.

Clay,lt brn to brn, occ slty,sft,sol, sltstn,lt gry,brn,sl calc,occ sndy,frm.

Cly md brn, sft, sol, sltstn lt-md gry brn, frm, fri, sl calcic, occ sndy

Minor calcite veining.

Sltstn, lt-md gry, frm, occ brittle, sl calcic. cly, lt gry, lt brn, sft, sol, occ frm, silty. tr pyrite.

Sltstn,lt gry to gry, arg,sl calc,frm,w/lt brn sltstn,prob tuffaceous,fri.

| | |
|---|---|
| C=32u | vis 49 |
| lag69min | 90spm |
| 100cc | dur12min |

w 12.0
v 47
f 3.8
fc 2/32
pH 10.4
s 1000
sd ¼
sol 22

w 12
v 45

w 12.0
v 43
f 4.0
fc 2/32
pH 9.9
s 1000
sd ¼
sol 21

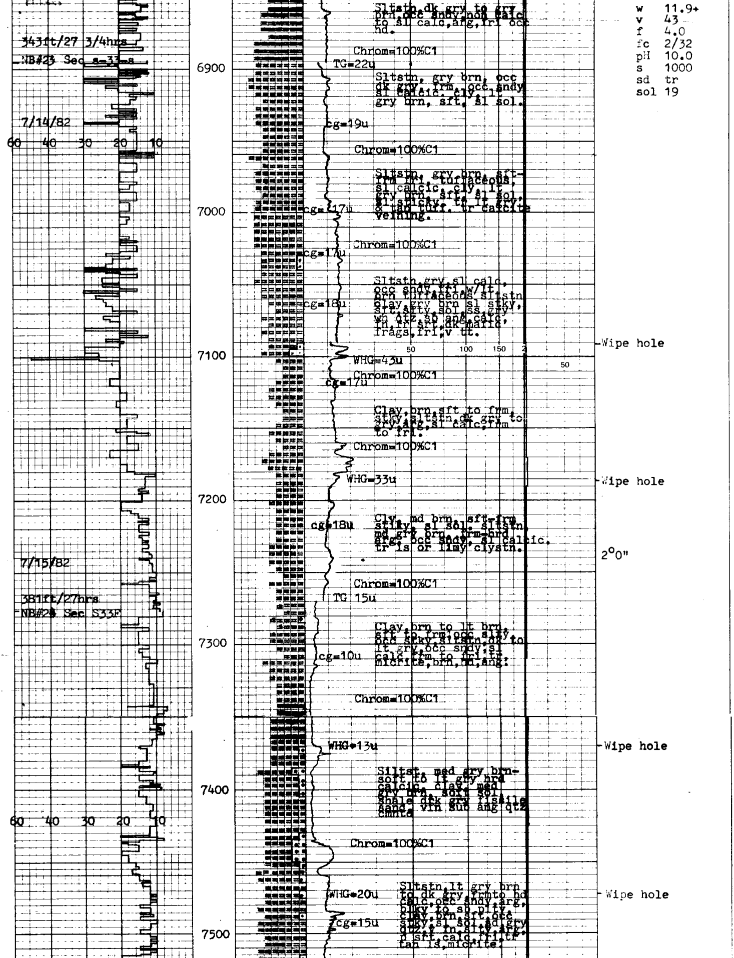
w 11.9+
v 40

| | |
|---|---|
| C=28u | vis 40 |
| lag70min | 102spm |
| 100cc | dur15min |

-Wipe hole

w 11.6
v 45

-Slight increase in flow.4" gain in pits.



w 11.9+
v 43
f 4.0
fc 2/32
pH 10.0
s 1000
sd tr
sol 19

Sltstn,dk gry to gry brn,occ sndy,non calc to sl calc,arg,fri occ hd.

Sltstn, gry brn, occ dk gry, frm, occ sndy sl calcic, cly, lt gry brn, sft, sl sol.

Sltstn, gry brn, sft-frm fri, tuffaceous, sl calcic, cly, lt gry brn, sft, sl sol, sl sticky, tr lt gry & tan tuff, tr calcite veining.

Sltstn,gry,sl calc, occ sndy,fri,w/lt brn tuffaceous sltstn clay,gry brn sl stky, sft,slty,sol,ss,gry wh qtz,sb ang,calc, fn,fr srt,dk mafic frags,fri,v tt.

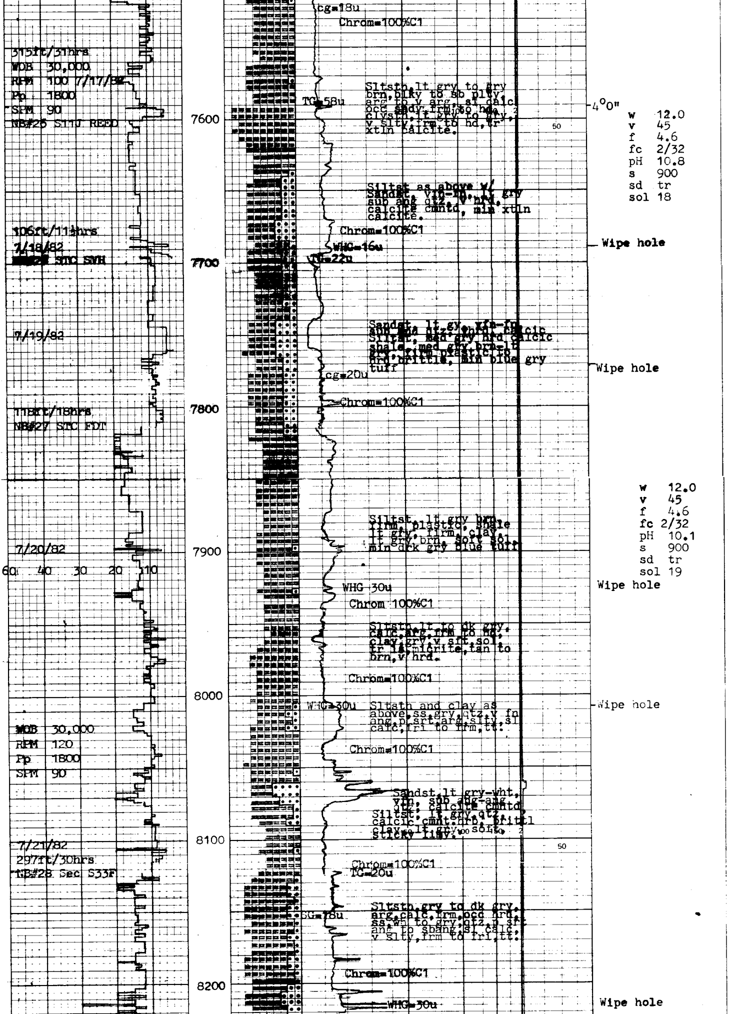
Clay,brn,sft to frm, stky,sltstn,dk gry to gry,arg,sl calc,frm to fri.

Cly, md brn, sft-frm stiky, sl sol. sltstn, md gry brn, frm-hrd arg, occ sndy, sl calcic. tr ls or limy clystn.

Clay,brn to lt brn, sft to frm,occ slty, occ stky,sltstn,dk to lt gry,occ sndy,sl calc,frm to fri,tr micrite,brn,hd,ang.

Siltst, med gry brn-soft to lt gry hrd calcic, clay, med gry brn, soft sol. shale dk gry fissile sand, vfn sub ang qtz cmntd

Sltstn,lt gry brn to dk gry,frmto hd calc,occ sndy,arg, blky to sb plty, clay,brn,sft,occ stky,sl sol,sd,gry qtz,v fn,slty,arg, p srt,calc,fri,tr tan ls,micrite.



315ft/31hrs
WOB 30,000
RPM 100 7/17/82
Pp 1800
SPM 90
NB#25 S11J REED

Sltstn,lt gry to gry brn,blky to sb plty, arg to v arg, sl calc occ sndy,frm to hd, clystn,lt gry to gry, v slty,frm to hd,tr xtln calcite.

4°0"

| | |
|---|---|
| w | 12.0 |
| v | 45 |
| f | 4.6 |
| fc | 2/32 |
| pH | 10.8 |
| s | 900 |
| sd | tr |
| sol | 18 |

Siltst as above w/ Sandst, vfn-fn, lt gry sub ang qtz, v hrd, calcite cmntd, min xtln calcite.

106ft/11½hrs
7/18/82
[illegible] STC SVH

Wipe hole

7/19/82

Sandst, lt gy, vfn-fn sub ang qtz, v hrd, calcic Siltst, med gry hrd calcic shale, med gry,brn-lt gry, firm plastic to hrd brittle, min blue gry tuff

Wipe hole

118ft/18hrs
NB#27 STC FDT

| | |
|---|---|
| w | 12.0 |
| v | 45 |
| f | 4.6 |
| fc | 2/32 |
| pH | 10.1 |
| s | 900 |
| sd | tr |
| sol | 19 |

Siltst, lt gry brn, firm, plastic, shale lt gry, firm, clay, lt gry brn, soft sol, min drk gry blue tuff

7/20/82

Wipe hole

Sltstn,lt to dk gry, calc,arg,frm to hd, clay,gry,v sft,sol, tr ls,micrite,tan to brn,v hrd.

Sltstn and clay as above,ss,gry,qtz,v fn ang,p srt,arg,slty,sl calc,fri to frm,tt.

Wipe hole

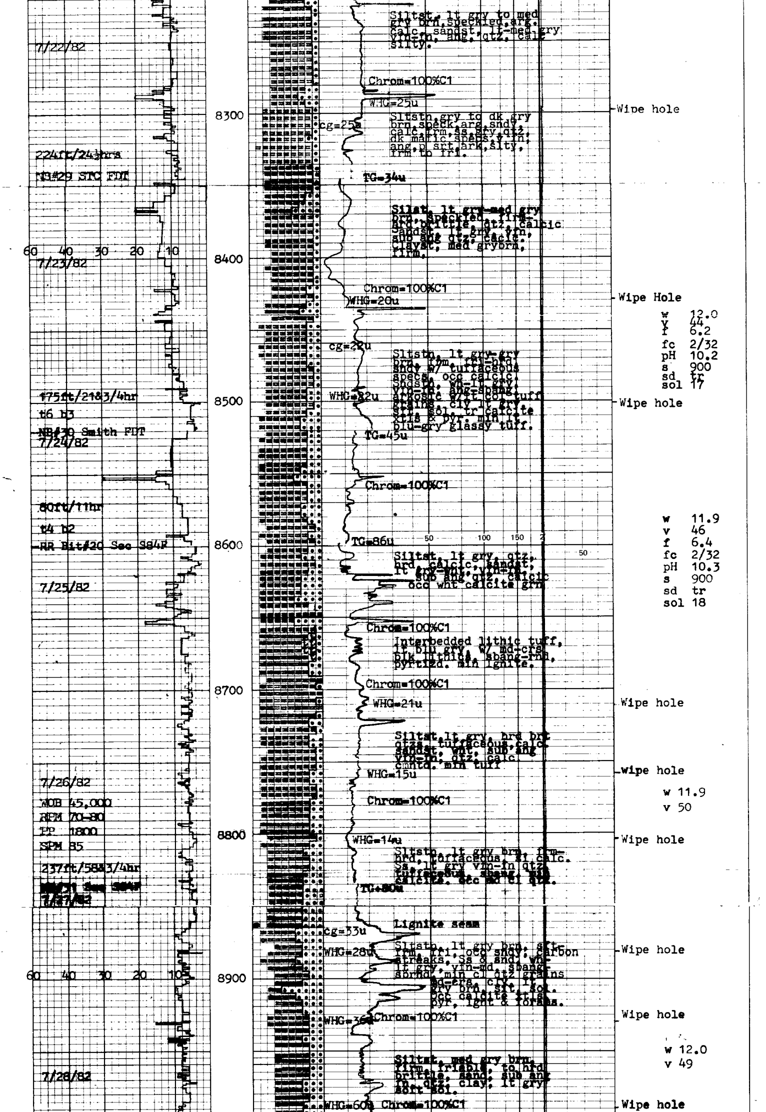
WOB 30,000
RPM 120
Pp 1800
SPM 90

Sandst,lt gry-wht, vfn, sub ang-ang qtz; calcite cmntd, Siltst; lt gry,qtz, calcic cmnt.brb, brittl clay, lt gry, soft, sticky limy.

7/21/82
297ft/30hrs
NB#28 Sec S33F

Sltstn,gry to dk gry, arg,calc,frm,occ hrd, ss,wh to gry,qtz,p srt ang to sbang,sl calc, v slty,frm to fri,tt.

Wipe hole



Siltst, lt gry to med gry brn, speckled, arg. calc, sandst, lt-med gry vfn-fn, ang, qtz, calc silty.

Sltstn, gry to dk gry brn, speck, arg, sndy, calc, frm, ss, gry, qtz, dk mafic specs, vfn, ang, p srt, ark, slty, frm to fri.

Siltst, lt gry-med gry brn, speckled, firm-hrd brittle, qtz, calcic Sandst, lt gry, vfn, sub ang qtz, calc. Clayst, med grybrn, firm.

w 12.0
v 44
f 6.2
fc 2/32
pH 10.2
s 900
sd tr
sol 17

Sltstn, lt gry-gry brn, frm, fri-hrd, sndy w/ tuffaceous specs, occ calcic. Sndstn, wh-lt gry, vfn-fn, ang-sbang, arkosic w/ lt col tuff grains, cly lt gry, sft, sol, tr calcite xtls & pyr. min lt blu-gry glassy tuff.

w 11.9
v 46
f 6.4
fc 2/32
pH 10.3
s 900
sd tr
sol 18

Siltst, lt gry, qtz, hrd, calcic, sandst, lt gry-wht, vfn-fn, sub ang qtz, calcic occ wht calcite grn

Interbedded lithic tuff, lt blu gry, w/ md-crs blk lithics, sbang-rnd, pyrtizd. min lignite.

Siltst, lt gry, hrd brt qtzs, tuffaceous, calc. sandst, wht, sub ang vfn-fn, qtz, calc cmntd. min tuff

w 11.9
v 50

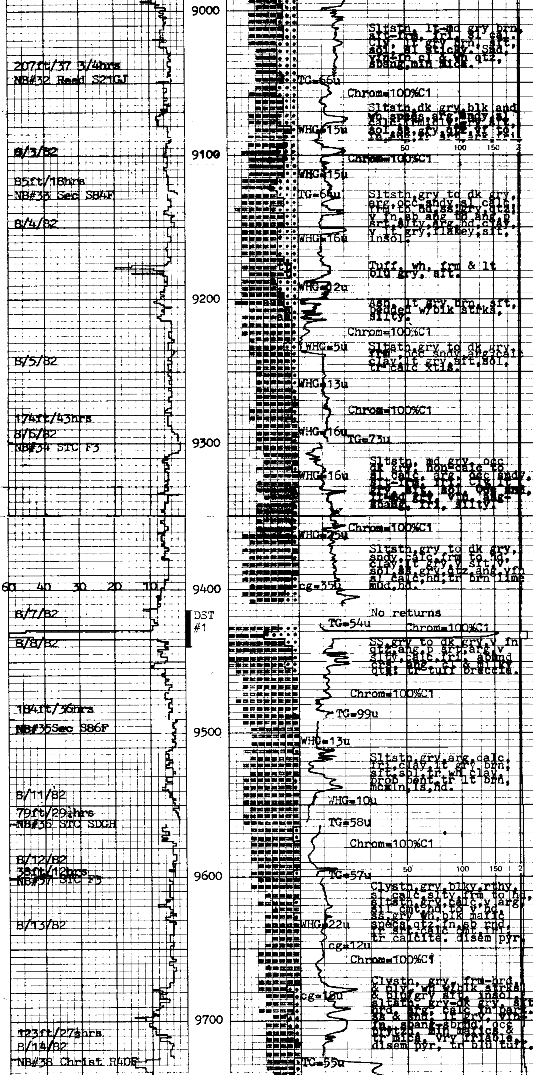
Sltstn, lt gry brn, frm-hrd, tuffaceous, sl calc. Ss, lt gry vfn-fn qtz, tuffaceous, sbang, w/ calcite. occ md cl qtz.

Lignite seam

Sltstn, lt gry brn, sft-frm, fri, occ sndy; carbon streaks. Ss & snd, wh-lt gry, vfn-md, sbang-sbrnd, min cl qtz grains md-crs. cly, lt gry brn, sft, sol. occ calcite xtls pyr, lgnt & forams.

w 12.0
v 49

Siltst, med gry brn, firm, friable, to hrd brittle, sand, sub ang fn, qtz, clay, lt gry soft sol.



Sltstn, lt-md gry brn, sft-frm, fri, sl cal. Cly, lt gry brn, sft, sol, sl sticky. Snd, vfg-fn cl & wh qtz, sbang,min mica.

Chrom=100%C1

Sltstn,dk gry,blk and wh specs,arg,sndy,sl calc,frm,cly,gry,sft, sol,ss,gry,qtz,vf to fn,ang,[illegible]

Chrom=100%C1

Sltstn,gry to dk gry, arg,occ sndy,sl calc, frm to hd,ss,gry,qtz, v fn,sb ang to ang,p srt,silty,arg,hd,clay, v lt gry,flakey,sft, insol.

Tuff, wh, frm & lt blu gry, sft.

Ash, lt gry brn, sft, bedded w/blk strks, silty.

Chrom=100%C1

Sltstn,gry to dk gry, frm,occ sndy,arg,calc clay,lt gry,sft,sol, tr calc xtls.

Chrom=100%C1

Sltstn, md gry, occ dk gry, non-calc to sl calc, arg, occ sndy, sft-frm, fri. Cly, lt gry, sft, sol. Occ snd, vfg-md grn, vfn, ang-sbang, fri, silty.

Chrom=100%C1

Sltstn,gry to dk gry, sndy,calc,frm to hd, clay,lt gry,v sft,v sol,ss,gry,qtz,ang,vfn sl calc,hd,tr brn lime mud,hd.

No returns

Chrom=100%C1

SS,gry to dk gry,v fn qtz,ang,p srt,arg,v slty,calc,fri, abund crs, ang, cl & milky qtz; tr tuff breccia.

Chrom=100%C1

Sltstn,gry,arg,calc, fri,clay,lt gry brn, sft,sol,tr wh clay, prob bent,tr lt brn, mcxln,ls,hd.

Chrom=100%C1

Clystn,gry,blky,rthy, sl calc,slty,frm to hd, sltstn,gry,calc,v arg, sil cmt,hd to v hd, ss,gry wh,blk mafic specs,qtz,fn,sb rnd, tr srt,calc cmt,fri, tr calcite. disem pyr.

Chrom=100%C1

Clystn, gry, frm-hrd, & cly, wh w/blk strks & blu/gry sft, insol. sltstn, gry-dk gry, sft-hrd, arg, calc in part. ss & snd, lt gry, vfn-fn, sbang-sbrnd, occ brytzd, min mafics & tr mica, vry friable, disem pyr, tr blu tuff.

Increase mud weight to 12.3

Ran SCHLUMBERGER dual induction, sonic, neutron density, cyberlook, & repeat formation tester.

Wipe hole

Wipe hole

w 12.5
v 48

Wipe hole

Wipe hole

Wipe hole

Wipe hole

w 12.4
v 47

Wipe hole

Wipe hole

w 12.5
v 47

Wipe hole

Lost circulation

Note: Lith. highly interp. due to LCM in mud.

DST#1 see bottom of log. *

Down for 36 hrs to repair compound bearing.

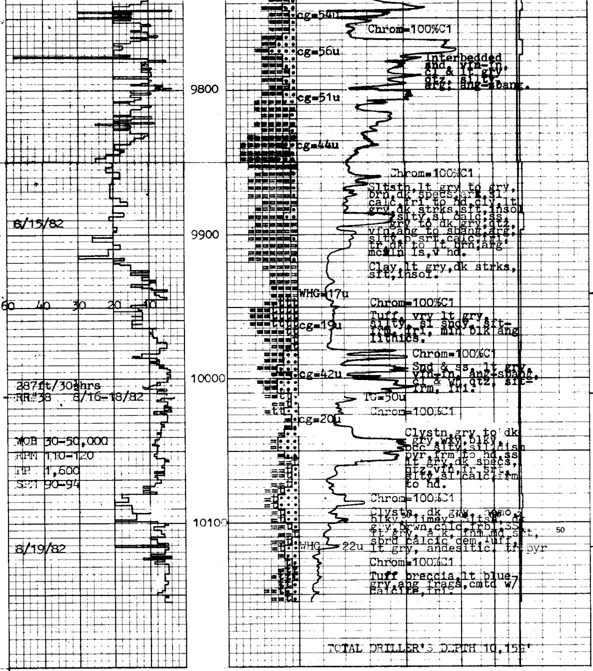
Wipe hole

Wipe hole

| | |
|---|---|
| C=10u | vis 42 |
| lag112min | 90spm |
| 100cc | dur15min |

Wipe hole

w 11.8
v 47



NOTE: Lith highly interp due to hole sloughing & experimental wt & rpm variations of new bit #38.

Wipe hole

w 11.7
v 50
f 6.0
fc 2/32
pH 10.05
s 900
sd ¼
sol 20

Wipe hole

Ran SCHLUMBERGER DIL, Sonic, Neutron Density, RFT, Dipmeter.

C=12u vis 48
lag 98min 93 spm
10 cc dur 25min

sl sloughing

Wipe hole

* DST#1 9415'-9440'. no gas to surface thru Lyle stradcle tester. Stuck tool.

**8/20** DST #1 9415-9440, straddle test, IF 62min, IS 62min, li light steady blow, slight decrease at end, no gas to surface, 3107' water cushsion, tool stuck 1:30pm.

IH 6000 FH 5928'
IF 1716 FF 1904
SIP 2433

**8/21** Jar stuck tool, circ around top packer with hydrill open to1700 psi, open reverse sub at 9185, circ, release DST tool, top of fish 9397'. cond and circ, work pipe, POH.

**8/22-23** Fish for DST tool, tight hole, ream and circ, POH.

**8/24** Make up wash over pipe, ream 25 feet of fill, wash over top of fish, stuck pipe at 4559'.

**8/25** Free stuck pipe, POH, RIH w/bit, bridge at 9127' ream to top of fish, tight spot at 4432',

**8/26** Ream 4438' to 4666', POH for 10" hole opener, RIH, begin 10" hole at 4197'.

**8/27** POH, RIH, hit bridge at 3663, open hole expander, open hole to 4567, clean hole to top of fish, make up fishing tools,

**8/28** RIH, hit bridge at 4660', POH, tight RIH, w/RR#28, ream 4579' to 4952'. [illegible]

**8/29** Continue to ream, heavy sloughing and tight hole.

**8/30** Ream to 5455, POH, RIH w/ RR#22, Ream 5161' to 6654'.

**8/31** Ream to 7148', gas increase to 75u w/slight flow during conn. POH for bit. RIH w/RR#17 STC FDT.

9/1 TG = 120u Ream to 9200'. 460u at 8500,

9/2 Stuck pipe at 9200', 300,000+ drag, packed off RIH w/RR#17. TG=194u.

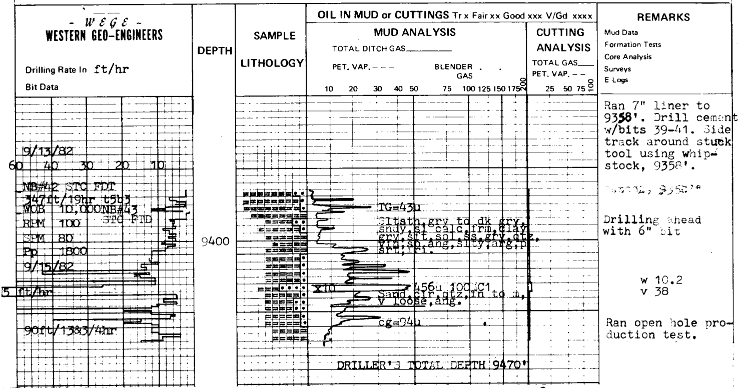
9/3 Circ hole clean, wipe hole, RIH Ream 4584 to 5675', ream 5675 to 5715, TG=120u.

9/4 Circ hole clean, POH for casing run 7" to 9[illegible].

9/5 Hang liner from bottom of intermediate casing, pump cement, run five more joints casing, try to displace, displacement fails,

9/6-12 Standby while drilling cement and recementing.

9/13 Drill out at 2:00 PM. 9356, [illegible]



Ran open tubing & production packer & set @ shoe of 7" casing @ 93[illegible]. No measurable flow after repeated swabbing of tubing. Considerable "tar like" black oil was found on & in swab. The material is sticky, black, dark brn smear, has a slight "sweet oil" odor, and has a Sp.G. of 1.12 which equals an API -5°. The sample appears to be fibrous although it is not.

The uncut sample shows very slight spotty orange fluorescence. Cut is med fast cloudy brown with orange fluor. and bright orange ring on dish, leaving a small non-soluble residue on the bottom.

A 3mm ball heated in an open tube releases sweet oil fumes &condensation droplets 25 to 50mm up the tube. Condensate is clear "water like" with milky cream fluor. A similar sample in a test tube shows condensate to give a slick smoth oily feel on fingers. Definitely not a "dead oil".

Vapors boiled off - cooled - & run through a gas chromatograph show no $C_1$ thru $C_5$.

Sample must be mixed with drilling mud or clay to have such a high Sp.G. and still exibit fluor., cuts, etc of 25° API gravity oil.

OREGON NATURAL GAS AND DEVELOPMENT CORP. PATTON 32-9 Olney Sec 9;T7N;8W;WB&M Clatsop,Oregon