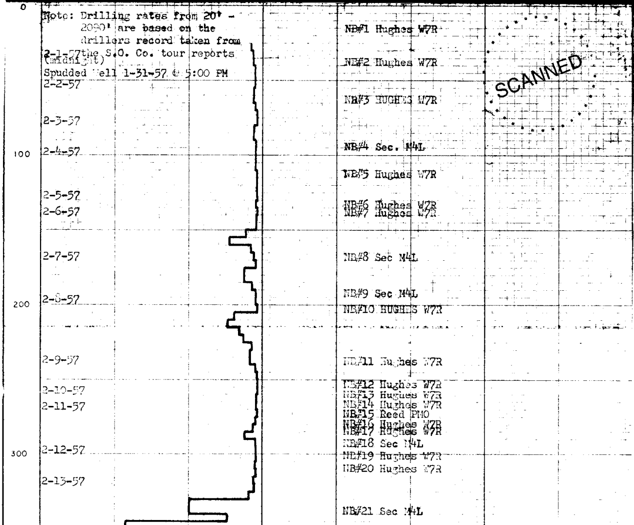


Note: Drilling rates from 20' – 2090' are based on the drillers record taken from the S.O. Co. tour reports

2-1-57 (midnight)

Spudded Well 1-31-57 @ 5:00 PM

2-2-57

2-3-57

2-4-57

2-5-57

2-6-57

2-7-57

2-8-57

2-9-57

2-10-57

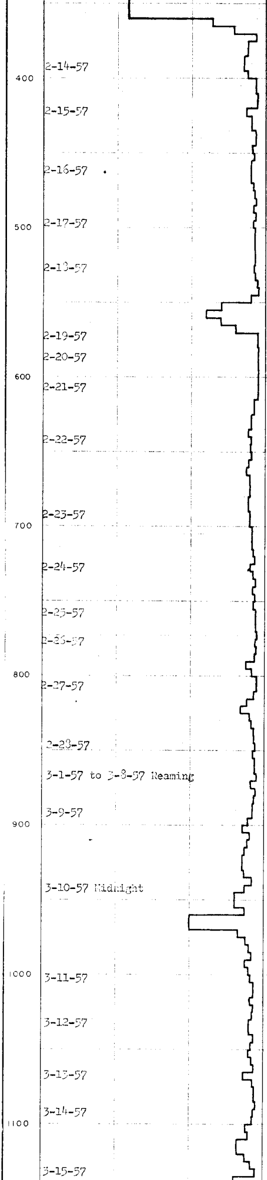
2-11-57

2-12-57

2-13-57

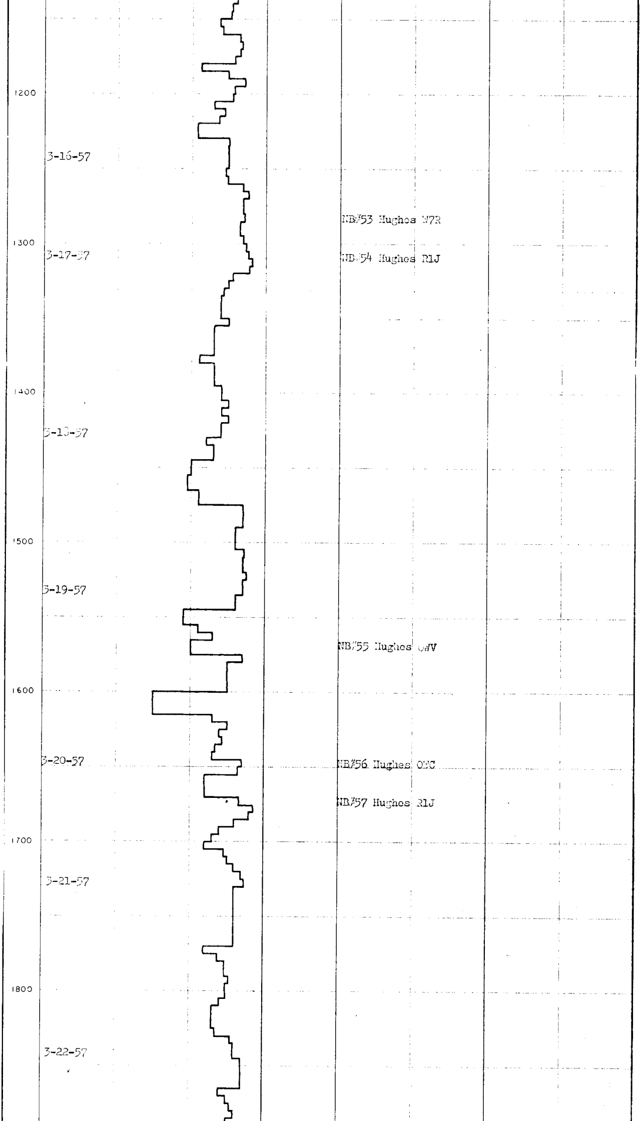
NB#1 Hughes W7R
NB#2 Hughes W7R
NB#3 HUGHES W7R
NB#4 Sec. M4L
NB#5 Hughes W7R
NB#6 Hughes W7R
NB#7 Hughes W7R
NB#8 Sec M4L
NB#9 Sec M4L
NB#10 HUGHES W7R
NB#11 Hughes W7R
NB#12 Hughes W7R
NB#13 Hughes W7R
NB#14 Hughes W7R
NB#15 Reed PMO
NB#16 Hughes W7R
NB#17 Hughes W7R
NB#18 Sec M4L
NB#19 Hughes W7R
NB#20 Hughes W7R
NB#21 Sec M4L

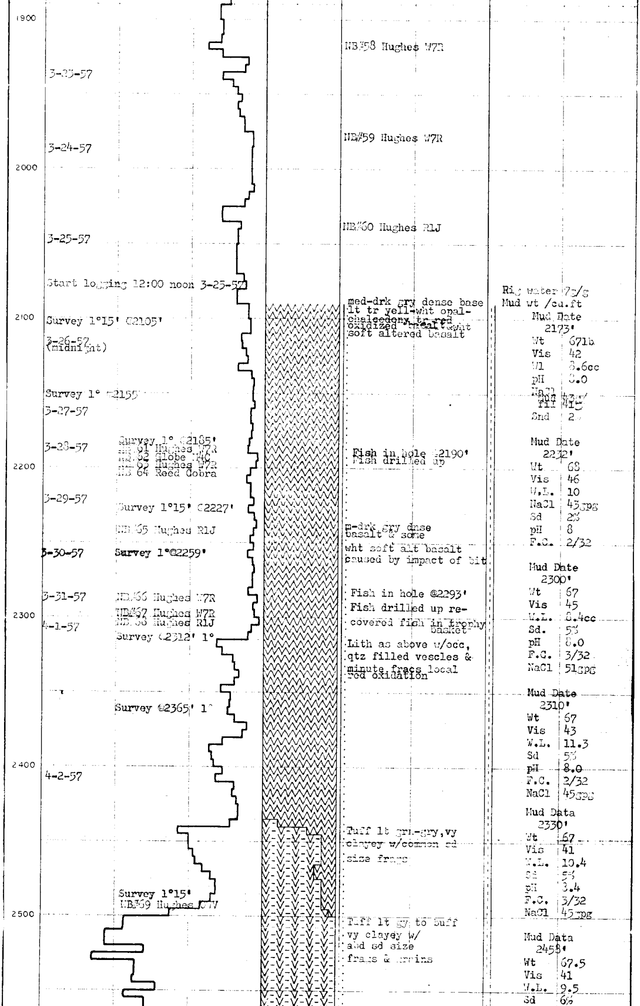
SCANNED



2-14-57
2-15-57
2-16-57
2-17-57
2-18-57
2-19-57
2-20-57
2-21-57
2-22-57
2-23-57
2-24-57
2-25-57
2-26-57
2-27-57
2-28-57
3-1-57 to 3-8-57 Reaming
3-9-57
3-10-57 Midnight
3-11-57
3-12-57
3-13-57
3-14-57
3-15-57

NB#22 Hughes W7R
NB#23 Hughes W7R
NB#24 Hughes W7R
NB#25 Hughes W7R
NB#26 Hughes W7R
NB#27 Hughes W7R
NB#28 Hughes W7R
NB#29 Hughes OWC
NB#30 Hughes W7R
NB#31 Hughes W7R
NB#32 Hughes W7R
NB#33 Hughes W7R
NB#34 Hughes OWC
NB#35 Hughes OWC
NB#36 Hughes OWV
NB#37 Hughes W7
NB#38 Hughes W7R
NB#39 Hughes OWC
NB#40 Hughes W7R
NB#41 Hughes W7R
NB#42 Hughes W7R
NB#43 Hughes W7
NB#44 Hughes W7
NB#45 Hughes W7
NB#46 Hughes W7R
NB#47 Hughes W7R
NB#48 Hughes W7R
NB#49 Hughes W7R
NB#50 Hughes W7R
NB#51 Hughes W7R
NB#52 Hughes R1J





3-23-57

3-24-57

3-25-57

Start logging 12:00 noon 3-25-57

Survey 1°15' @2105'

3-26-57 (midnight)

Survey 1° @2155'

3-27-57

3-28-57

Survey 1° @2185'
NB #61 Hughes W7R
NB #62 Globe M4C
NB #63 Hughes W7R
NB 64 Reed Cobra

3-29-57

Survey 1°15' @2227'

NB #65 Hughes R1J

3-30-57

Survey 1°@2259'

3-31-57

NB #66 Hughes W7R

NB#67 Hughes W7R
NB #68 Hughes R1J

4-1-57

Survey @2312' 1°

Survey @2365' 1°

4-2-57

Survey 1°15'
NB#69 Hughes OWV

NB#58 Hughes W7R

NB#59 Hughes W7R

NB#60 Hughes R1J

med-drk gry dense base lt tr yell-wht opal-chalcedony tr red oxidized basalt & wht soft altered basalt

Fish in hole @2190'
Fish drilled up

m-drk gry dnse basalt & some wht soft alt basalt caused by impact of bit

Fish in hole @2293'
Fish drilled up recovered fish in trophy basket

Lith as above w/occ, qtz filled vescles & minute fracs local red oxidation

Tuff lt grn-gry, vy clayey w/common sd size fracs

Tuff lt gy to buff vy clayey w/ abd sd size fracs & grains

Rig water 75/s
Mud wt /cu.ft

Mud Date
2173'

Wt	67lb
Vis	42
Wl	8.6cc
pH	8.0
NaCl	43gp/
Mud fil	41[illegible]
Snd	2[illegible]

Mud Date
2232'

Wt	68
Vis	46
W.L.	10
NaCl	43gpg
Sd	2%
pH	8
F.C.	2/32

Mud Date
2300'

Wt	67
Vis	45
W.L.	8.4cc
Sd.	5%
pH	8.0
F.C.	3/32
NaCl	51gpg

Mud Date
2310'

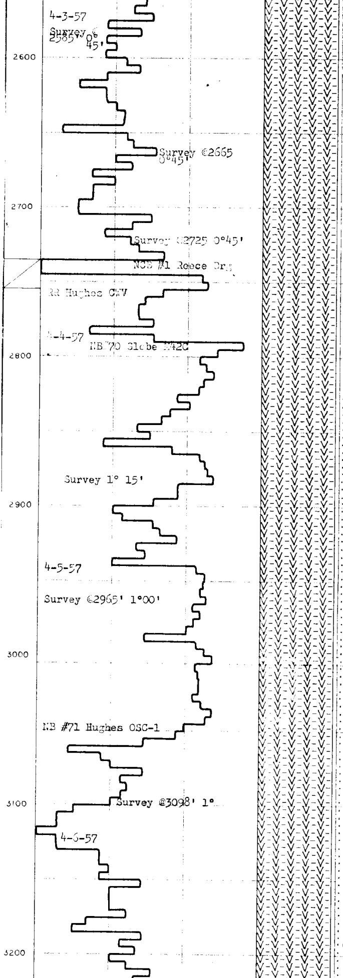
Wt	67
Vis	43
W.L.	11.3
Sd	5%
pH	8.0
F.C.	2/32
NaCl	45gpg

Mud Data
2330'

Wt	67
Vis	41
W.L.	10.4
Sd	5%
pH	8.4
F.C.	3/32
NaCl	45gpg

Mud Data
2458'

Wt	67.5
Vis	41
W.L.	9.5
Sd	6%



pH	7.9
F.C.	2/32
NaCl	44gpg
Temp	95°

Tuff, as above but becoming pale green in color

Mud Data
2655'

Wt	69
Vis	57
W.L.	7.8
NaCl	45gpg
pH	8.3
Sd	1½%
F.C.	2/32

Core #1 2737'-56' rec19'
Tuff, gy grn, v firm, v clayey, pbd frags & grains to crse sd size
No shows 11°Dip

Mud Data
2815'

Wt	69.2
Vis	44
W.L.	7.8
NaCl	37gpg
pH	8.2
Sd	1.2%
F.C.	2/32

Tuff, as above but buff in color

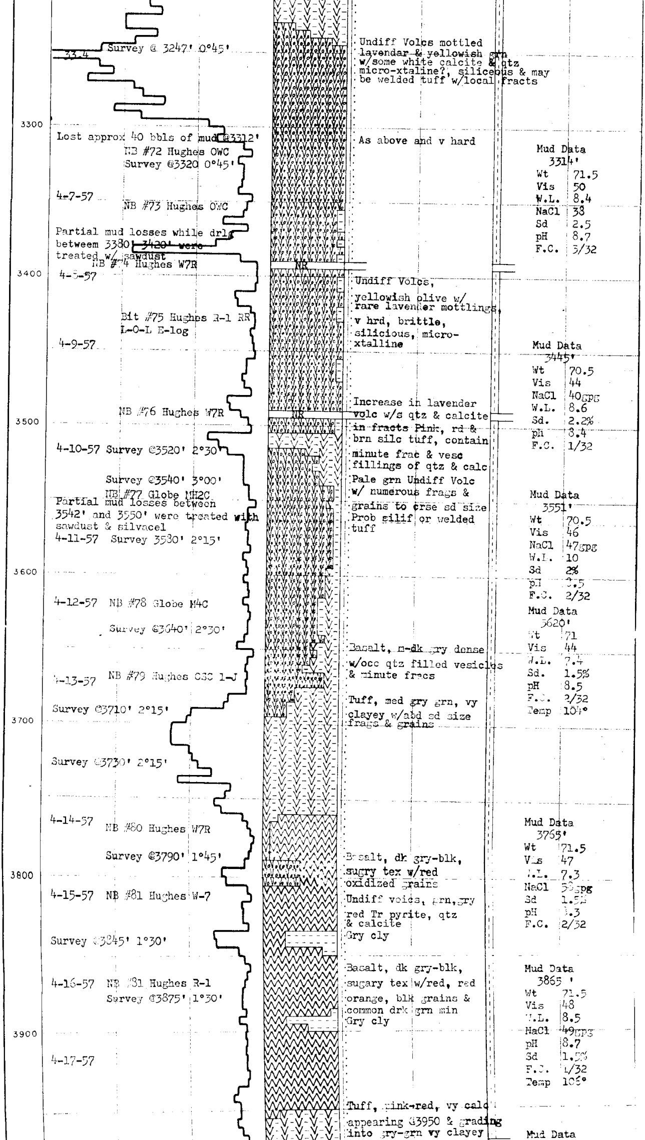
Tuff lt gry to buff

Mud Data
3040'

Wt	71
Vis	62
W.L.	7.5
NaCl	41gpg
Sd	1.6%
pH	8.4
F.C.	2/32

Tuff rust red

Tuff gry grn buff



Survey @ 3247' 0°45'

Undiff Volcs mottled lavendar & yellowish grn w/some white calcite & qtz micro-xtaline?, siliceous & may be welded tuff w/local fracts

Lost approx 40 bbls of mud @3312'

NB #72 Hughes OWC
Survey @3320 0°45'

As above and v hard

Mud Data
3314'

Wt	71.5
Vis	50
W.L.	8.4
NaCl	38
Sd	2.5
pH	8.7
F.C.	3/32

4-7-57

NB #73 Hughes OWC

Partial mud losses while drlg betweem 3380'-3420' were treated w/ sawdust

NB #74 Hughes W7R

4-8-57

Undiff Volcs, yellowish olive w/ rare lavender mottlings, v hrd, brittle, silicious, micro-xtalline

Bit #75 Hughes R-1 RR
L-O-L E-log

4-9-57

Mud Data
3445'

Wt	70.5
Vis	44
NaCl	40gpg
W.L.	8.6
Sd.	2.2%
pH	8.4
F.C.	1/32

NB #76 Hughes W7R

Increase in lavender volc w/s qtz & calcite in fracts Pink, rd & brn silc tuff, contain minute frac & vesc fillings of qtz & calc

4-10-57 Survey @3520' 2°30'

Pale grn Undiff Volc w/ numerous frags & grains to crse sd size Prob silif or welded tuff

Survey @3540' 3°00'
NB #77 Globe MH2C

Partial mud losses between 3542' and 3550' were treated with sawdust & silvacel

Mud Data
3551'

Wt	70.5
Vis	46
NaCl	47gpg
W.L.	10
Sd	2%
pH	8.5
F.C.	2/32

4-11-57 Survey 3580' 2°15'

4-12-57 NB #78 Globe M4C

Mud Data
3620'

Wt	71
Vis	44
W.L.	7.4
Sd.	1.5%
pH	8.5
F.C.	2/32
Temp	104°

Survey @3640' 2°30'

Basalt, m-dk gry dense w/occ qtz filled vesicles & minute fracs

4-13-57 NB #79 Hughes OSC 1-J

Tuff, med gry grn, vy clayey w/abd sd size frags & grains

Survey @3710' 2°15'

Survey @3730' 2°15'

4-14-57 NB #80 Hughes W7R

Mud Data
3765'

Wt	71.5
Vis	47
W.L.	7.3
NaCl	53gpg
Sd	1.5%
pH	8.3
F.C.	2/32

Survey @3790' 1°45'

Basalt, dk gry-blk, sugry tex w/red oxidized grains

4-15-57 NB #81 Hughes W-7

Undiff volcs, grn, gry red Tr pyrite, qtz & calcite
Gry cly

Survey @3845' 1°30'

Basalt, dk gry-blk, sugary tex w/red, red orange, blk grains & common drk grn min
Gry cly

4-16-57 NB #81 Hughes R-1
Survey @3875' 1°30'

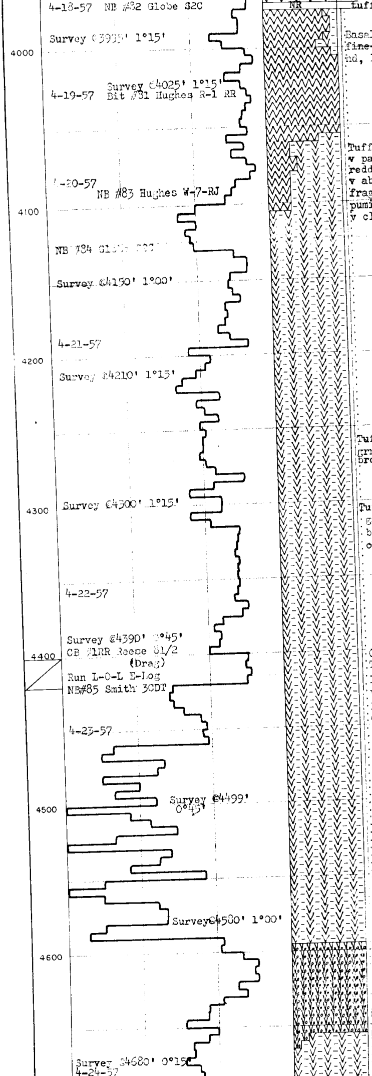
Mud Data
3865'

Wt	71.5
Vis	48
W.L.	8.5
NaCl	49gpg
pH	8.7
Sd	1.5%
F.C.	1/32
Temp	105°

4-17-57

Tuff, pink-red, vy calc appearing @3950 & grading into gry-grn vy clayey

Mud Data



4-18-57 NB #82 Globe S2C

Survey @3995' 1°15'

Survey @4025' 1°15'
4-19-57 Bit #81 Hughes R-1 RR

4-20-57 NB #83 Hughes W-7-RJ

NB #84 Gl[illegible]

Survey @4150' 1°00'

4-21-57

Survey @4210' 1°15'

Survey @4300' 1°15'

4-22-57

Survey @4390' 0°45'
CB #1RR Reese 81/2
(Drag)
Run L-O-L E-Log
NB#85 Smith 3CDT

4-23-57

Survey @4499' 0°45'

Survey@4580' 1°00'

Survey @4680' 0°15'
4-24-57

Basalt, dk gry, fine-med xtalline, hd, locally vesicular

Tuff, cream gry to v pale purple and reddish choc brown, v abundnt altered frags of glass & pumice, etc, in a v clayey matrix

Tuff predomint gry / grn and reddish choc brown

Tuff predomint gry grn and reddish choc brown, w/ altered frag of glass and pumice, etc.

Core #2 4405'-22' rec 17' Tuff, lt gry to grn & occ lt tan, vy clayey & locally vy calc, similar to core 1
Extremely questionable dips of 5°-10°

Agglomerate?
20-70% Basalt, dk grn, hrd, sugary tex
80-30% Tuff, as before

Tuff, as before, predom. rust brn to choc brn

3968'

Wt	72.0
Vis	44
W.L.	7.4
NaCl	52
pH	8.5
Sd	1%
F.C.	2/32

Mud Data
4044'

Wt	72.0
Vis	44
W.L.	3.0
NaCl	45
pH	8.5
Sd	1%
F.C.	2/32

Mud Data
4150'

Wt	72.5
Vis	46
pH	8.5
Sd	1%
NaCl	49
F.C.	2/32

Mud Data
4235'

Wt	71.5
Vis	40
pH	8.7
Sd	1%
W.L.	8.0
NaCl	47
F.C.	2/32

Note: all previous NaCl readings are tot salt as NaCl equiv future salinities wil be NaCl only

Mud Data
4400'

Wt	71
Vis	44
pH	8.9
Sd	1%
W.L.	8.0cc
F.C.	2/32
NaCl	10gpg

Mud Data
4440'

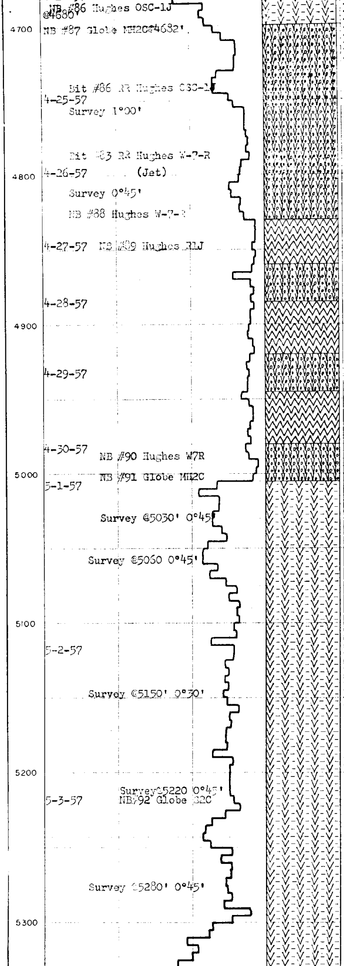
Wt	71.5
Vis	45
W.L.	7
NaCl	12gpg
pH	8.6
Sd	1%
F.C.	2/32

Mud Data
4530'

Wt	71
Vis	43
W.L.	7.4
NaCl	13gpg
pH	8.5
Sd	1.5%
F.C.	2/32

Mud Data
4680'

Wt	72
Vis	57
pH	8.5
Sd	1 ½%
W.L.	7.4



NB #86 Hughes OSC-1J @4680'

NB #87 Globe MH2C@4632'

Bit #86 RR Hughes OSC-1J

4-25-57

Survey 1°00'

Bit #83 RR Hughes W-7-R (Jet)

4-26-57

Survey 0°45'

NB #88 Hughes W-7-R

4-27-57 NB #89 Hughes RLJ

4-28-57

4-29-57

4-30-57 NB #90 Hughes W7R

NB #91 Globe MH2C

5-1-57

Survey @5030' 0°45'

Survey @5060 0°45'

5-2-57

Survey @5150' 0°30'

Survey@5220 0°45'
NB#92 Globe S2C

5-3-57

Survey @5280' 0°45'

Agglomerate?
20-50% Basalt, as last above & also brnish gy & v fn sugary texture
80-50% Tuff, as before

Agglomerate?
30-60% Basalt as above
70-40% Tuff as above

Basalt, med gry v hrd, finely-xtalline to glassy w/ abnt scattered-xtals

Basalt, as last above

Agglomerates, as last above

Tuff, gry wht, vy clayey w/abnt sd size grains & frags

Tuff, as above but increasingly gry blue in color

Tuff as last above

F.C. 4/32
NaCl 13gpg

Mud Data
4770'

Wt	71
Vis	46
W.L.	7.3
NaCl	12gpg
Sd	1%
pH	8.5
F.C.	2/32
Temp	108°

Mud Data
4898'

Wt	72
Vis	48
W.L.	7.2
NaCl	11gpg
Sd	1%
pH	8.5
F.C.	1/32
Temp	117°F

Mud Data
5075'

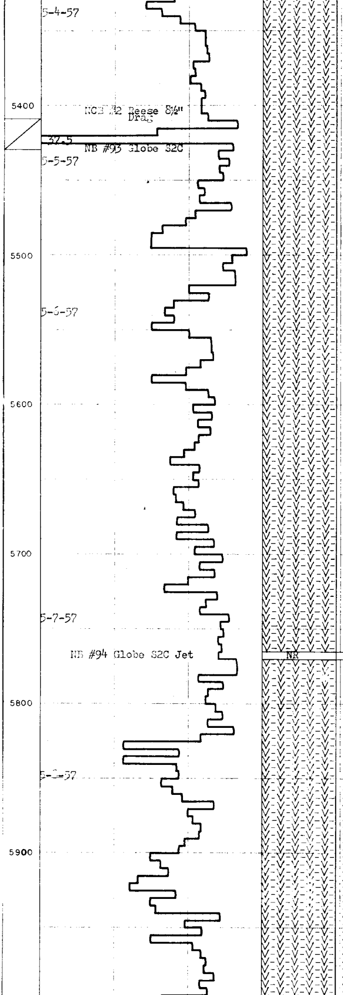
Wt	71
Vis	45
W.L.	7.0
NaCl	13gpg
Sd	3%
pH	8.5
F.C.	2/32
Temp	116°F

Mud Data
5215'

Wt	72
Vis	49
W.L.	7.4
NaCl	12gpg
pH	8.7
F.C.	2/32
Sd	1%

Mud Data
5315'

Wt	71.5



Vis 46
W.L. 6.3
NaCl 12gpg
pH 8.6
F.C. 2/32
Sd. 1%

Tuff becoming lt red to brick red in color, locally

Mud Data
5400'
Wt 71.5
Vis 46
W.L. 5.8
NaCl 10gpg
pH 8.5
F.C. 2/32
Sd. 1%

Core #3 5409'-29' rec 20'
Tuff to tuffaceous clystx, drk brn to drk blue gry & lt grenish gry firm, soapy, local streaks containing snd size frags rather crumbly No shows
Dips of 0°-5°

Mud Data
5499'
Wt 71.5
Vis 47
Sd 1%
W.L. 7.2
NaCl 14gpg
pH 8.6
F.C. 2/32
Temp 115°F

Tuff as above with some increase in gry/wh-wh cly

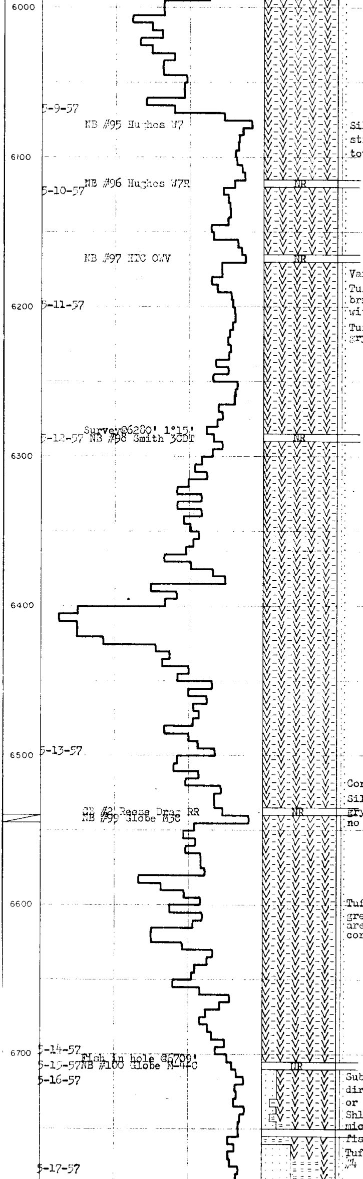
Tuff similar to core #3 w/s increase in gry wh-wh tuff

Mud Data
5680'
Wt 71.5
Vis 43
W.L. 6.6
NaCl 11gpg
Sd 1%
pH 8.7
Temp 120°F
F.C. 2/32

Mud Data
5777'
Wt 72.0
Vis 38
W.L. 6.6
NaCl 8gpg
Sd .75%
pH 8.5
F.C. 2/32

Tuff as last above

Mud Data
5899'
Wt 72
Vis 40
W.L. 7.6
NaCl 10gpg
pH 8.3
Sd 1%
F.C. 2/32



Mud Data	6098'
Wt	73.5
Vis	55
W.L.	8.6
NaCl	6 gpg
pH	8.0
Sd	1.5%
F.C.	2/32
Temp	124°

Sil Tuff, mottled & streaked lt-med gy, hd, tough, occ qtz grains

Mud Data	6104'
Wt	72.5
Vis	58
W.L.	7.1
NaCl	10gpg
pH	8.4
Sd	1½%
F.C.	2/32

Varing amounts (to 60 %) Tuffs, dk blue to grn & rust brn, similar to core #3 above with (to 100%) Tuff, wht to lt greenish gry, similar to core #4 below

Mud Data	6210'
Wt	72.5
Vis	46
W.L.	7.8
NaCl	10gpg
pH	8.4
Sd	1¼%
F.C.	2/32

Mud Data	6290'
Wt	72.5
Vis	40
W.L.	7.6
NaCl	11gpg
pH	8.8
Sd	1%
F.C.	2/32

Mud Data	6385'
Wt	72.5
Vis	47
W.L.	8.4
NaCl	11gpg
pH	8.4
Sd	1.5%
F.C.	2/32

Mud Data	6480'
Wt	72.5
Vis	46
W.L.	9.0
NaCl	13gpg
pH	8.5
Sd	.75%
F.C.	2/32

Core #4 6542'-45 Rec 3'
Siliceous tuff? pale lt grnish gry hrd, microtex highly contorted no shows

Mud Data	6575'
Wt	73.5
Vis	50
W.L.	8.8
NaCl	14gpg
pH	8.4
Sd	2%
F.C.	2/32

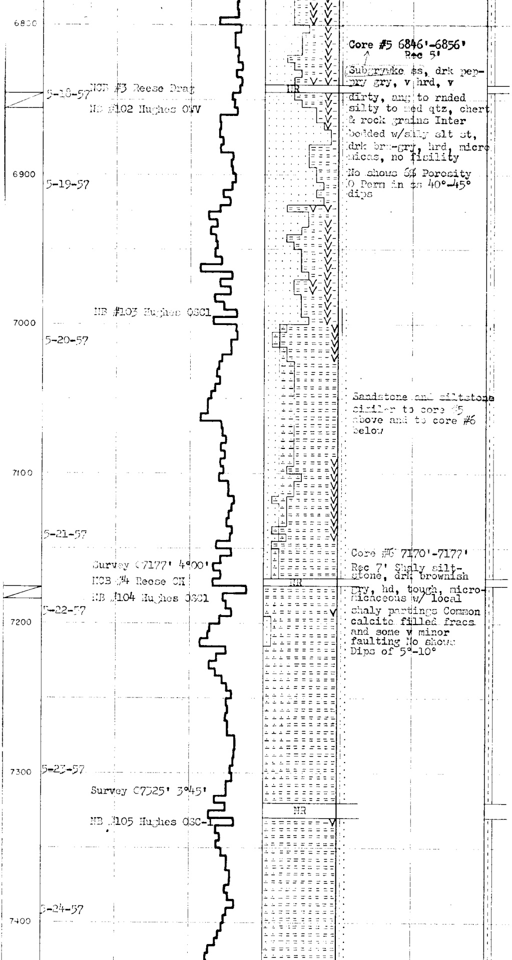
Tuff, white to lt pale green, silhty calcareous, similar to core #4 above

Subgrywkess, hrd, v dirty, no app perm or poros

Shlyslt st, v firm, micro-micaceous, no fisility

Tuffs, as core #3 & #4 above

Mud Data	6710'
Vis	41
Wt	72.5
pH	8.7
Sd	2%
W.L.	8.8cc
F.C.	2/32
NaCl	15gpg



Core #5 6846'-6856'
Rec 5'

Subgraywke ss, drk pepper gry, v hrd, v dirty, ang to rnded silty to med qtz, chert & rock grains Inter bedded w/silty slt st, drk brn-gry, hrd, micro micas, no fisility

No shows 6% Porosity 0 Perm in ss 40°-45° dips

Sandstone and siltstone similar to core #5 above and to core #6 below

Core #6 7170'-7177'
Rec 7' Shaly siltstone, drk brownish gry, hd, tough, micromicaceous w/ local shaly partings Common calcite filled fracs and some v minor faulting No shows Dips of 5°-10°

Mud Data	6767'
Wt	72.5
Vis	46
W.L.	7.8
pH	8.3
Sd	½%
NaCl	12gpg
F.C.	2/32

Mud Data	6947'
Wt	74.5
Vis	48
pH	8.4
Sd	1%
W.L.	8.7
NaCl	13gpg

Mud Data	7045'
Wt	74.5
Vis	51
pH	8.4
Sd	1%
W.L.	8.3
F.C.	2/32
NaCl	13gpg

Mud Data	7190'
Wt	74.0
Vis	49
pH	8.5
Sd	1%
W.L.	10.0
F.C.	2/32
NaCl	13gpg

Mud Data	7320'
Wt	74.0
Vis	49
pH	8.4
Sd	1%
W.L.	9.8
F.C.	2/32
NaCl	15gpg
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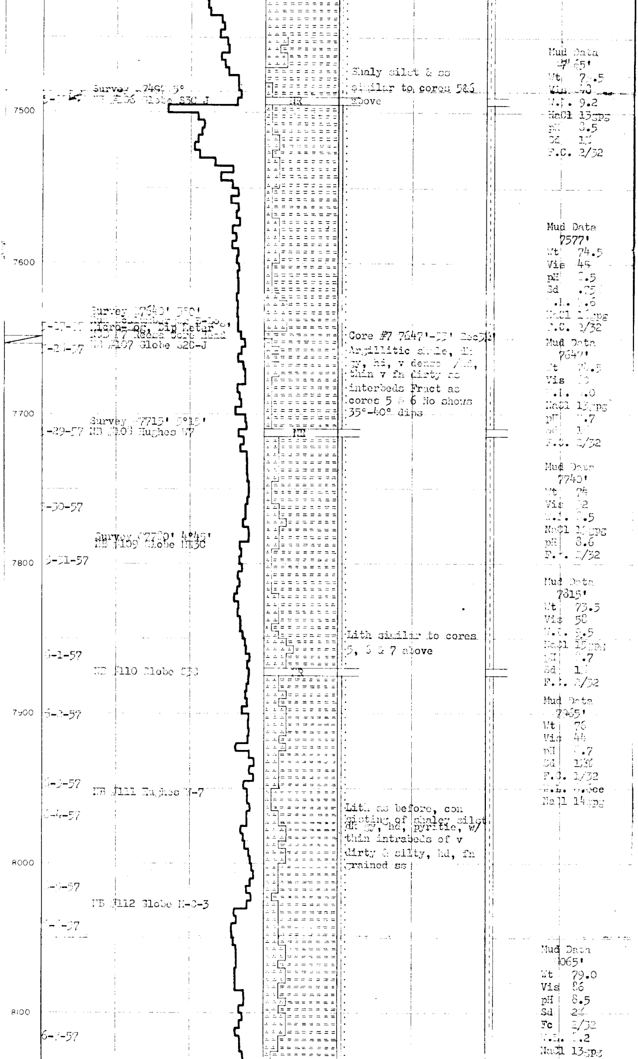


Shaly silst & ss similar to cores 5&6 above

Core #7 7647'-[illegible]' Rec[illegible]
Argillitic shale, [illegible] gy, hd, v dense [illegible], thin v fn dirty ss interbeds Fract as cores 5 & 6 No shows 35°-40° dips

Lith similar to cores 5, 6 & 7 above

Lith as before, consisting of shaley silst dk gy, hd, pyritic, w/ thin intrabeds of v dirty & silty, hd, fn grained ss

Mud Data
7[illegible]65'
Wt 7[illegible].5
Vis [illegible]8
W.L. 9.2
NaCl 13gps
pH 8.5
Sd 1[illegible]
F.C. 2/32

Mud Date
7577'
Wt 74.5
Vis 45
pH [illegible].5
Sd .75
W.L. [illegible].6
NaCl 1[illegible]gpg
F.C. 2/32

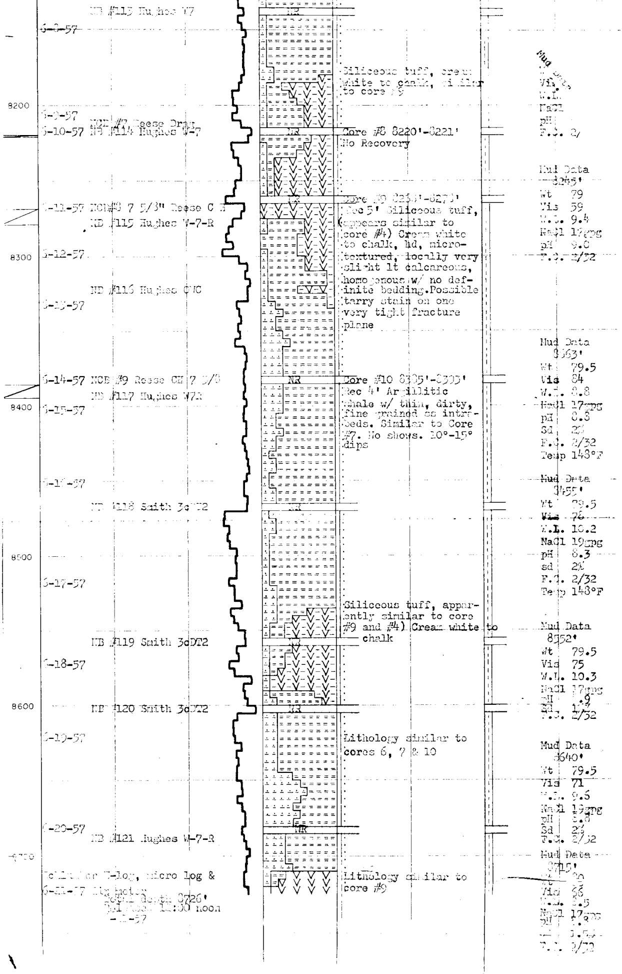
Mud Data
7642'
Wt 7[illegible].5
Vis [illegible]
W.L. [illegible].0
NaCl 13gpg
pH [illegible].7
Sd 1[illegible]
F.C. 2/32

Mud Data
7740'
Wt 74
Vis [illegible]2
W.L. [illegible].5
NaCl 1[illegible]gpg
pH 8.6
F.C. 2/32

Mud Data
7815'
Wt 73.5
Vis 58
W.L. 9.5
NaCl 15gpg
pH [illegible].7
Sd 1[illegible]
F.C. 2/32

Mud Data
7965'
Wt 76
Vis 44
pH [illegible].7
Sd 1[illegible]
F.C. 1/32
W.L. [illegible].5cc
NaCl 14gpg

Mud Data
8065'
Wt 79.0
Vis 86
pH 8.5
Sd 2[illegible]
Fc 2/32
W.L. [illegible].2
NaCl 13gpg



NB #113 Hughes W7

6-8-57

Siliceous tuff, cream white to chalk, similar to core #9

Mud Data
Wt
Vis
W.L.
NaCl
pH
F.C. 2/

6-9-57 NCB #7 Reese Drag

6-10-57 NB #114 Hughes W-7

Core #8 8220'-8221'
No Recovery

Mud Data
8245'
Wt 79
Vis 59
W.L. 9.4
NaCl 17gpg
pH 9.0
F.C. 2/32

6-11-57 NCB#8 7 5/8" Reese C H
NB #115 Hughes W-7-R

Core #9 8250'-8275'
Rec 5' Siliceous tuff, (appears similar to core #4) Cream white to chalk, hd, micro-textured, locally very slight lt calcareous, homogenous w/ no definite bedding. Possible tarry stain on one very tight fracture plane

6-12-57

NB #116 Hughes OWC

6-13-57

Mud Data
8363'
Wt 79.5
Vis 84
W.L. 8.8
NaCl 17gpg
pH 8.8
Sd 2%
F.C. 2/32
Temp 148°F

6-14-57 NCB #9 Reese CH 7 5/8
NB #117 Hughes W7R

Core #10 8395'-8395'
Rec 4' Argillitic shale w/ thin, dirty, fine grained ss intra-beds. Similar to Core #7. No shows. 10°-15° dips

6-15-57

6-16-57

Mud Data
8455'
Wt 79.5
Vis 76
W.L. 10.2
NaCl 19gpg
pH 8.3
sd 2%
F.C. 2/32
Temp 148°F

NB #118 Smith 3cDT2

6-17-57

Siliceous tuff, apparently similar to core #9 and #4) Cream white to chalk

Mud Data
8552'
Wt 79.5
Vis 75
W.L. 10.3
NaCl 17gpg
pH .9
Sd 1%
F.C. 2/32

NB #119 Smith 3cDT2

6-18-57

NB #120 Smith 3cDT2

6-19-57

Lithology similar to cores 6, 7 & 10

Mud Data
8640'
Wt 79.5
Vis 71
W.L. 9.5
NaCl 19gpg
pH 8.8
Sd 2%
F.C. 2/32

6-20-57

NB #121 Hughes W-7-R

Mud Data
8715'
Wt 80
Vis 56
W.L. 8.5
NaCl 17gpg
pH 8.8
Sd 1.5%
F.C. 2/32

Lithology similar to core #9

Schlumberger E-log, micro log &
6-21-57 Lip Motor
Total depth 8726'
Pull out 12:00 noon
6-21-57