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GEOLOGIST'S WELL REPORT

COMPANY Staab Oil Company (6037)
WELL Haines West
FIELD Webster View Southeast
LOCATION (legal) E2-NE-SW-NE 1650 F NL 1630 FEL
Section 7 TWP 8 S RGE 18 W
(Map) Plainville - 9 North, West 1/2 S, 2 1/4 W, 1/4 N
COUNTY Books STATE Kansas
ELEVATION: 1969 K.B., 1964 G.L.

Depths measured from Kelly Bushing

A. P. I. NUMBER 15-163-24362-00
GEOLOGY BY Janel Staab

PERTINENT WELL DATA

CONTRACTOR Shields Drilling Company (5184)

RIG 1 HYDRAULICS Beth 225 6X14

DRILL PIPE 4 1/2" x H COLLARS 6 1/4" 232

CASING: SURFACE 8 5/8" @ 208' w/150 SX common

PRODUCTION 5 1/2" @ 3476' w/150 SX common

DRILLING FLUID: COMPANY Mud Co./Service Mud Inc

TYPE: Chemical

REMARKS: Full Service

DRILLSTEM TESTS: COMPANY Trilobite Testing Inc

NUMBER OF TESTS 3

ELECTIC LOGS: COMPANY ELI

DETAIL (5") 2800' - RTD

TYPE D.I. Comp N.D. Micro

DRILLING TIME FROM 2850' TO RTD

SAMPLE TIME FROM 2850 TO 3460

SUPERVISION FROM 2850 TO RTD

VERTICAL DEVIATION 1/2" @ 3090

PLUGGING REPORT _____

RESERVE PIT _____

DRILL STEM TESTS

NO	INTERVAL	IFP/TIME	ISIP/TIME	FFP/TIME	FSIP/TIME	IHP/FHP	RECOVERY
1	Bottom of Tupoka 3057- 3090	18.39 5	1083 60	47.238 60	1073 90	1507 1447	460' MW
2	L-Sump 3345- 3405	16-16 5	184 60	17-17 30	— —	1709 1649	5' OSM
3	Arbuckle 3398- 3429	42.77 5	1110 60	83-260 60	1085 90	1737 1684	677' GSMCO 10% G 646' GIP
4							
5							
6							
7							

MUD RECORD

CHK	DEPTH	WT	VIS	FIL	CHL	YP	LCM
1	2239	9.4	29	NC	3200	—	Nil
2	2906	9.0	50	6.0	3000	26	2
3	3093	9.0	57	6.2	3300	25	2
4	3405	9.3	58	6.2	3300	29	2
5	3480	9.3	49	6.8	3200	21	1
6							
7							
8							
9							
10							
11							

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTHOUT	FEET	HOURS
1	12 1/4	Reed	MJ11	211'	211'	8
2	7 7/8	Reed	S-52	3480'	3296'	9 6 3/4
3						
4						
5						
6						
7						

FORMATION TOPS & STRUCTURAL GEOLOGY

REFERRED TO:

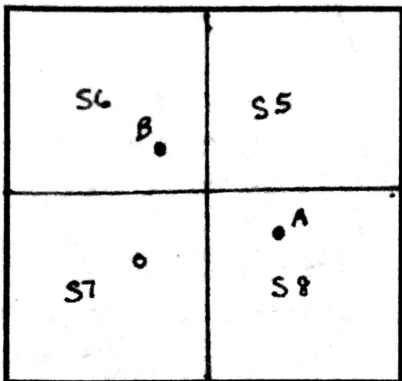
A: Haines #1 KB 1942

B: Hayes #1 KB 1965

C: _____

D: _____

E: _____



STRATIGRAPHIC

SUBJECT WELL

STRUCTURAL POSITION

<u>MARKERS</u>	<u>SAMPLE</u>	<u>E. LOG</u>	<u>DATUM</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
Anhydrite	1381'	1378	+591	+582	+595			
Base	1417'	1415	+554	+547	+562			
Topeka	2892'	2890'	-921	-927	-933			
Heeb Sh.	3099'	3097'	-1129	-1123	-1137			
Toronto	3124'	3120'	-1151	-1155	-1160			
LKC	3141'	3138'	-1169	-1174	-1178			
BKC	3361'	3360'	-1391	-1393	-1400			
Arbuckle	3392'	3392'	-1423	-1437	-1455			
TD	3480'	3479	-1510	-1502	-1514			

Strap 1.05' short

SUMMARY

The Haines West was drilled using Shields Rig.
Location was S7, T8S, R18W in Books Co, Kansas.
Drilling started May 3 2018 and pipe was set on May 11, 18.
3-D Seismic indicated that this location was on the
same structure as the Hayes #1 and was high compared
to that location. We ran 3 DST's with #3 resulting
in a positive test. As a result production pipe were
run and focus area will be the Arbuckle

Paul Seal

DRILLING TIME (min/ft)

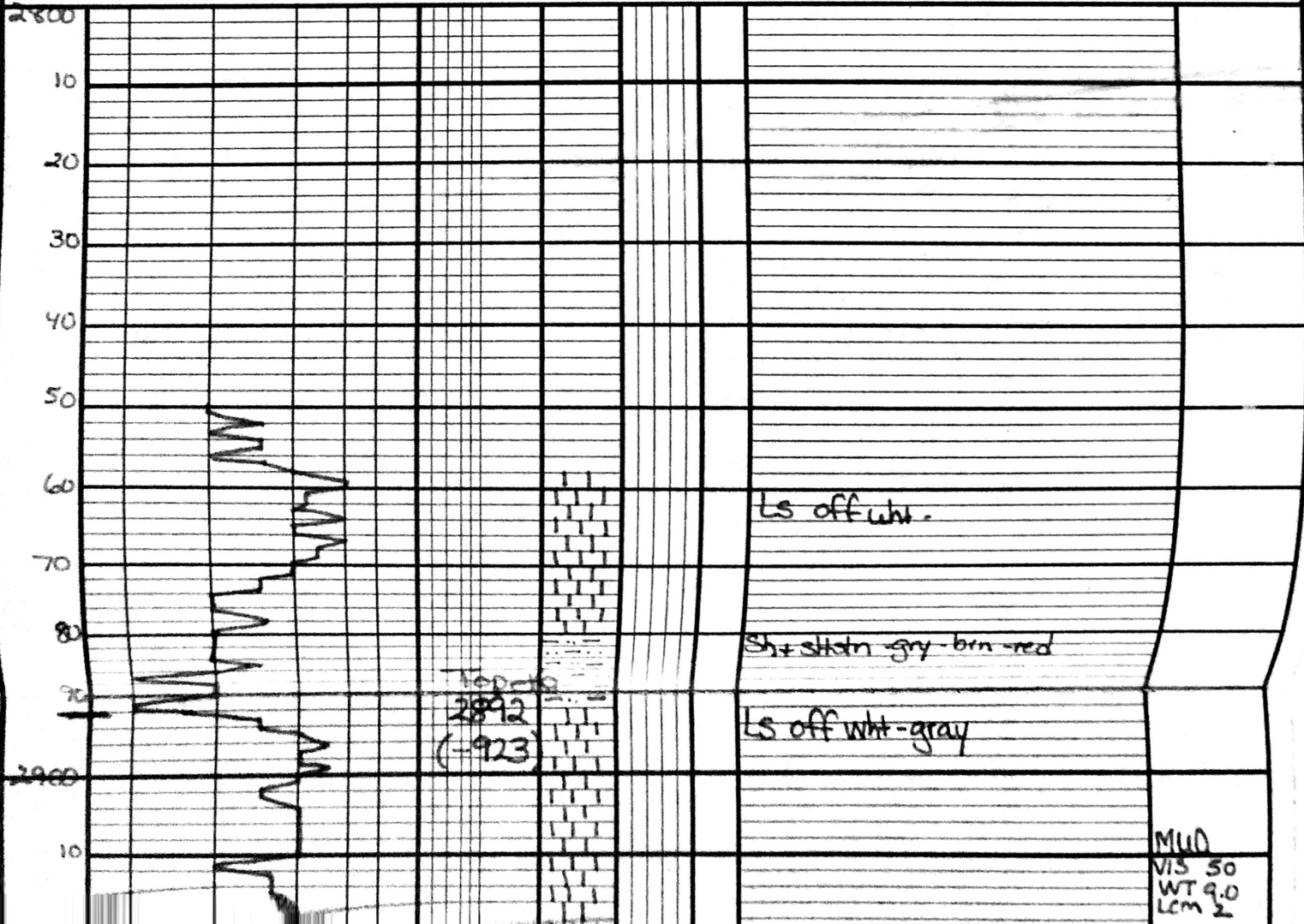
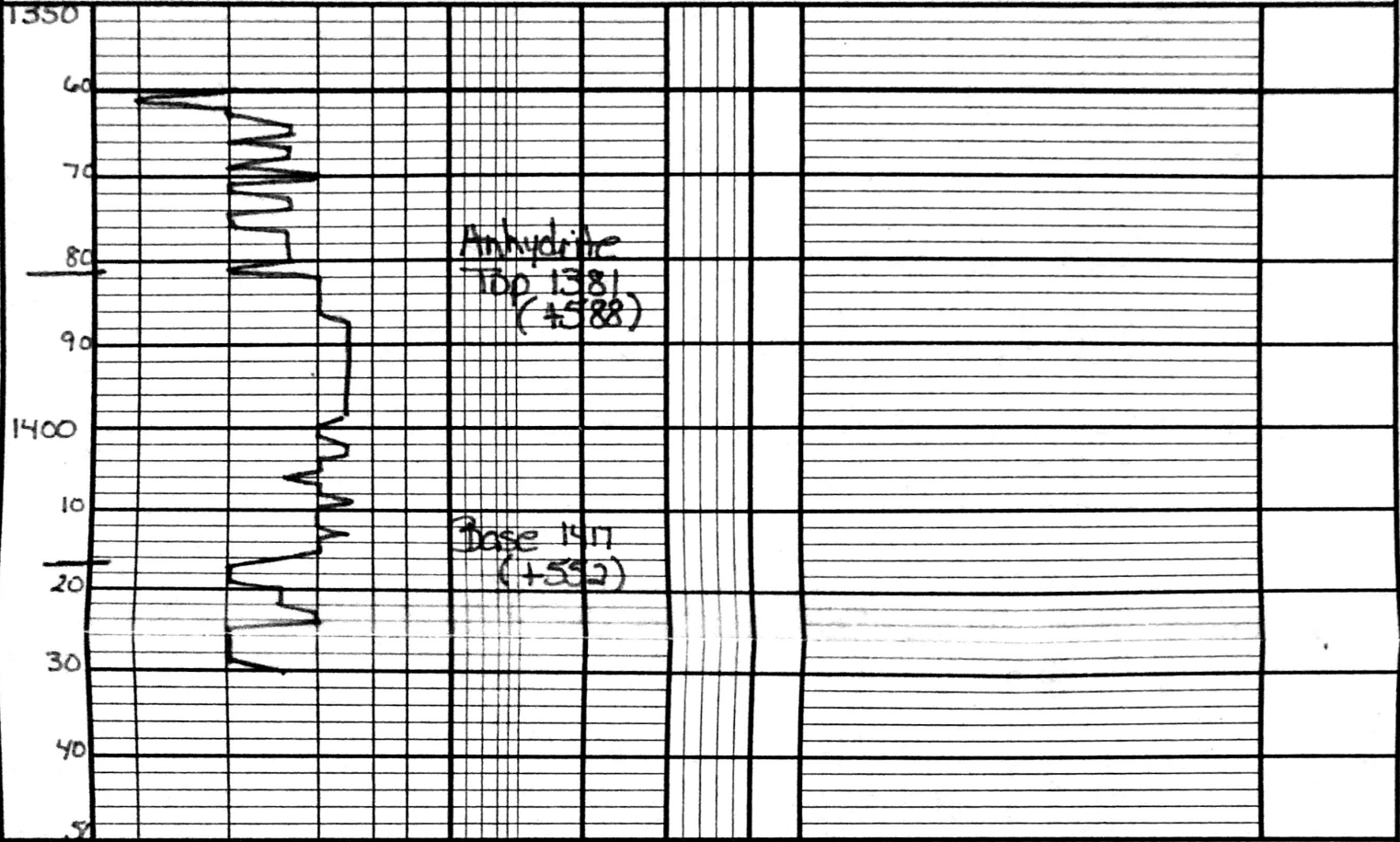
POROSITY

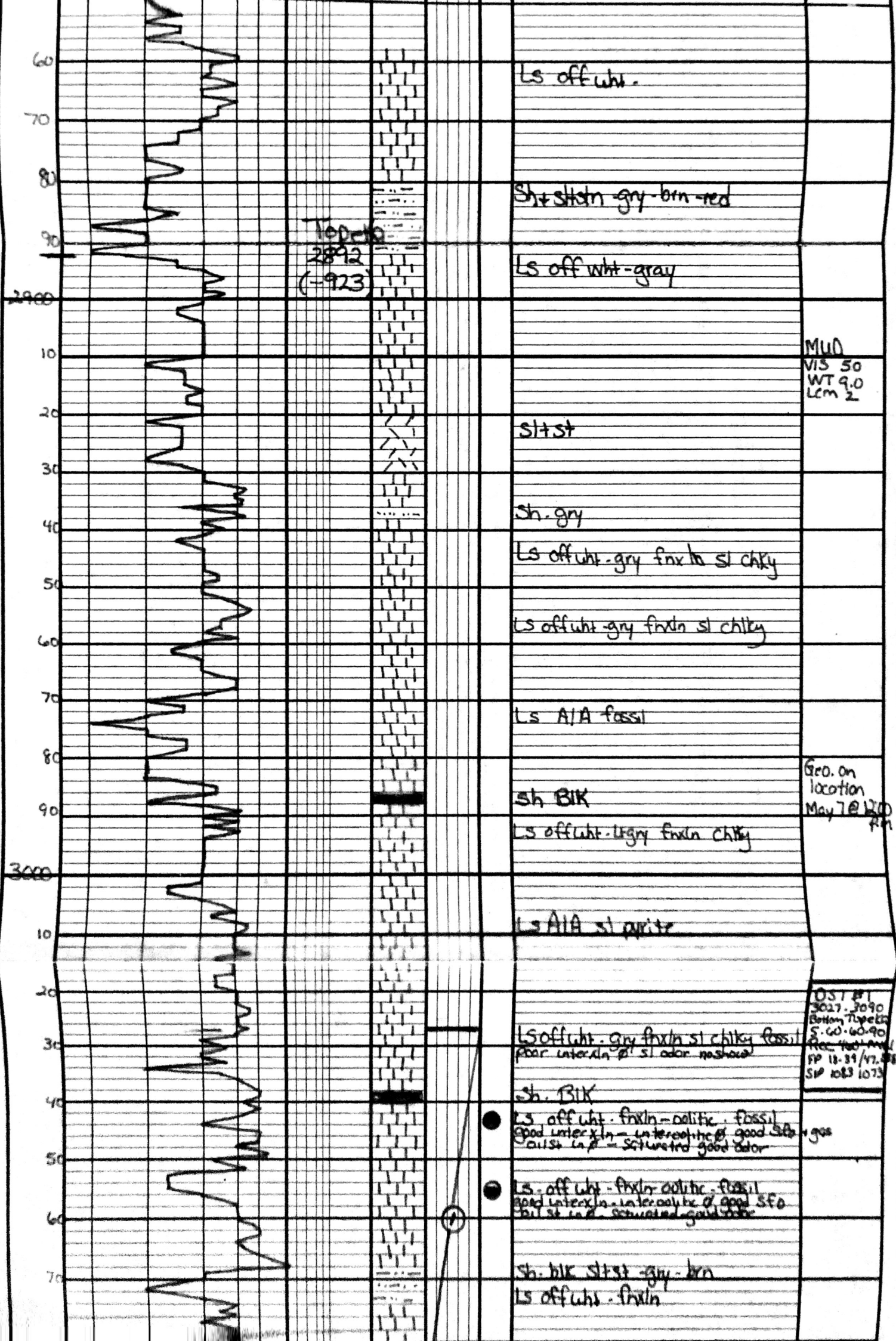
GEOLOGICAL DESCRIPTION

REMARKS

DEPTH 1/2 1 2 3 4 5 6 7 8 9 10

LITHOLOGY DST GOOD POOR OIL SHOW





Top of
2892
(-923)

MUD
VIS 50
WT 9.0
Lcm 2

Geo. on
location
May 7 @ 12:00
PM

OST #1
3027-3090
Bottom 70-90
5.60-60-90
Rec. 100' and
SP 11-24/17.88
SP 1083 1073

Ls off wht.

Sh + slt sh - gry - brn - red

Ls off wht - gray

slt slt

sh. gry

Ls off wht - gry fin to sl chky

Ls off wht - gry fin to sl chky

Ls A/A fossil

sh BIK

Ls off wht - lgry fin to chky

Ls A/A sl white

Ls off wht - gry fin to sl chky fossil
floor intercal. w/ sl odor no shale

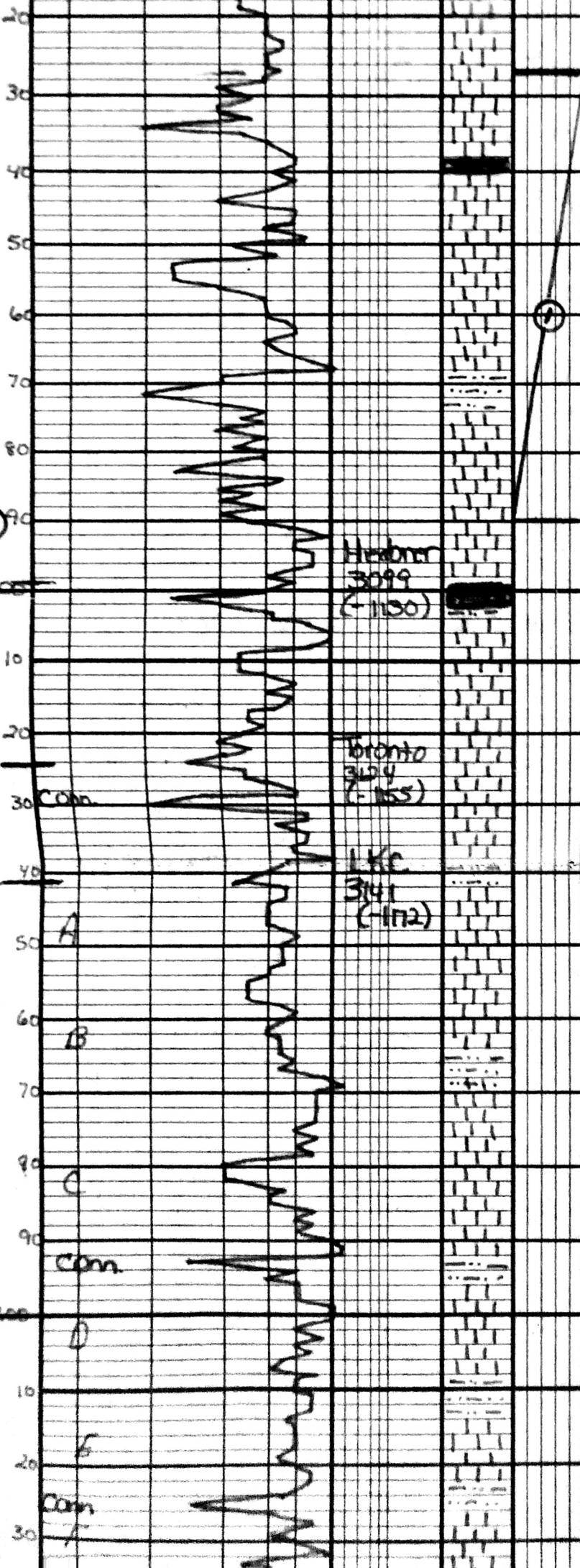
sh. BIK

● Ls off wht - fin to - calcic - fossil
good intercal. - intercal. of good sh + gas
calcic cap - saturated good odor

● Ls. off wht - fin to - calcic - fossil
good intercal. - intercal. of good SFO
but sl cap - saturated - good odor

sh. blk slt slt - gry - brn
Ls off wht - fin to

OST #1
3027.309
Bottom Type
S. 60-60-9
Rec 100
FP 11-31/77
SP 1023 107



LS off wht. gray fcnln sl chky fossil
poor interxln of sl odor no shale

sh. blk

● LS off wht. fcnln - oolitic - fossil
good interxln - interesting of good sh. gas
oilst cap - saturated good odor

● LS off wht. fcnln - oolitic - fossil
good interxln - interesting of good SFO
oilst cap - saturated good odor

sh. blk slst - gray - brn
LS off wht. fcnln

LS off wht fcnln.

MUD
VIS 57
WT 9.0
LCM 2

Hebron
3099
(-1100)

sh. blk carb - fossil
sh. slst - gray brn - green
LS tan. gray. fcnln - sl chky
sl pyrite

Toronto
3124
(-1055)

● LS off wht - tan fcnln fossil
sl chky sl pyrite poor. light interxln
light stain in sh. good odor

LKC
3141
(-1172)

sh. slst gray. brn

● LS off wht. fcnln. oolitic. interxln
to interxln of sh. good fr. good oil
stain in sh. - sat. light color stain good odor

● LS off wht. fcnln. oolitic. fossil fr. good
interxln. interesting of sl stain in sh. light
color sl odor sl chky

sh. slst - gray brn

LS off wht fcnln chky

● LS off wht. fcn - fossil fr. interest to
interxln of light sl in sh to sat (2nd)
no odor sl pyrite

sh. slst. gray. brn. green

○ LS off wht - fcnln. poor interxln of
sl pyrite sl chky fossil, poor stain in
sl odor

sh. slst - gray brn

○ LS off wht - fcnln fossil sl chky
sl pyrite poor interxln of poor stain in
sl odor

○ LS off wht - fcnln fossil sl chky
poor interxln of poor stain in
sl odor

○

A

B

C

D

E

F

3100

10

20

30

40

50

60

70

80

90

100

10

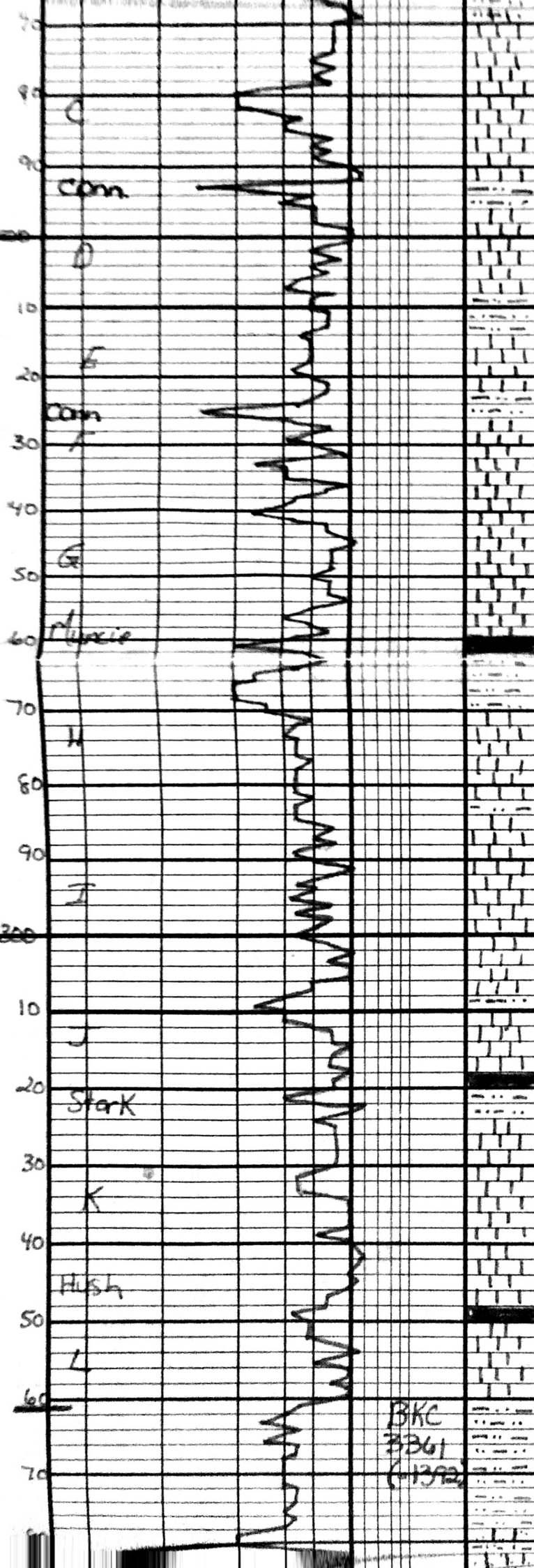
20

30

Conn

Conn

Conn



ls off wht. fexln chky

LS off wht. - fine - fossil fr interpart to
interxln of light st in to sat (2al)
no odor sl pyrite

sh + sltst. gry. brn. green

LS off wht. - fexln. poor interxln of
sl pyrite sl chky fossil, poor stain in

sh + sltst - gry brn

LS off wht. - fexln fossil sl chky
sl pyrite poor interxln of poor stain in

LS - off wht. - fexln fossil sl chky
poor interxln of poor stain in

LS off wht. - fexln. med xln. fossil
poor - good interxln - interbedded poor
stain in sl odor

sh. gry
sh + sltst gry. brn.

LS off wht. gry. fexln - fossil sl chky

sh + sltst gry. brn
LS off wht. gry fexln. fossil

LS off wht fexln. fossil

sh + sltstn - gry - brn
LS off wht fexln

LS off wht fexln sl pyrite poor
interxln of sl show when cut sl odor
(1pc)

LS off wht fexln poor interxln of sl
show when cut

LS off wht fexln poor interxln of
sl stain in no odor

blk shale

LS off wht fexln poor interxln of
sl stain in no odor

LS off wht fexln - collie good interxln -
interpart of good sta. th. - good oil sat.
sl odor

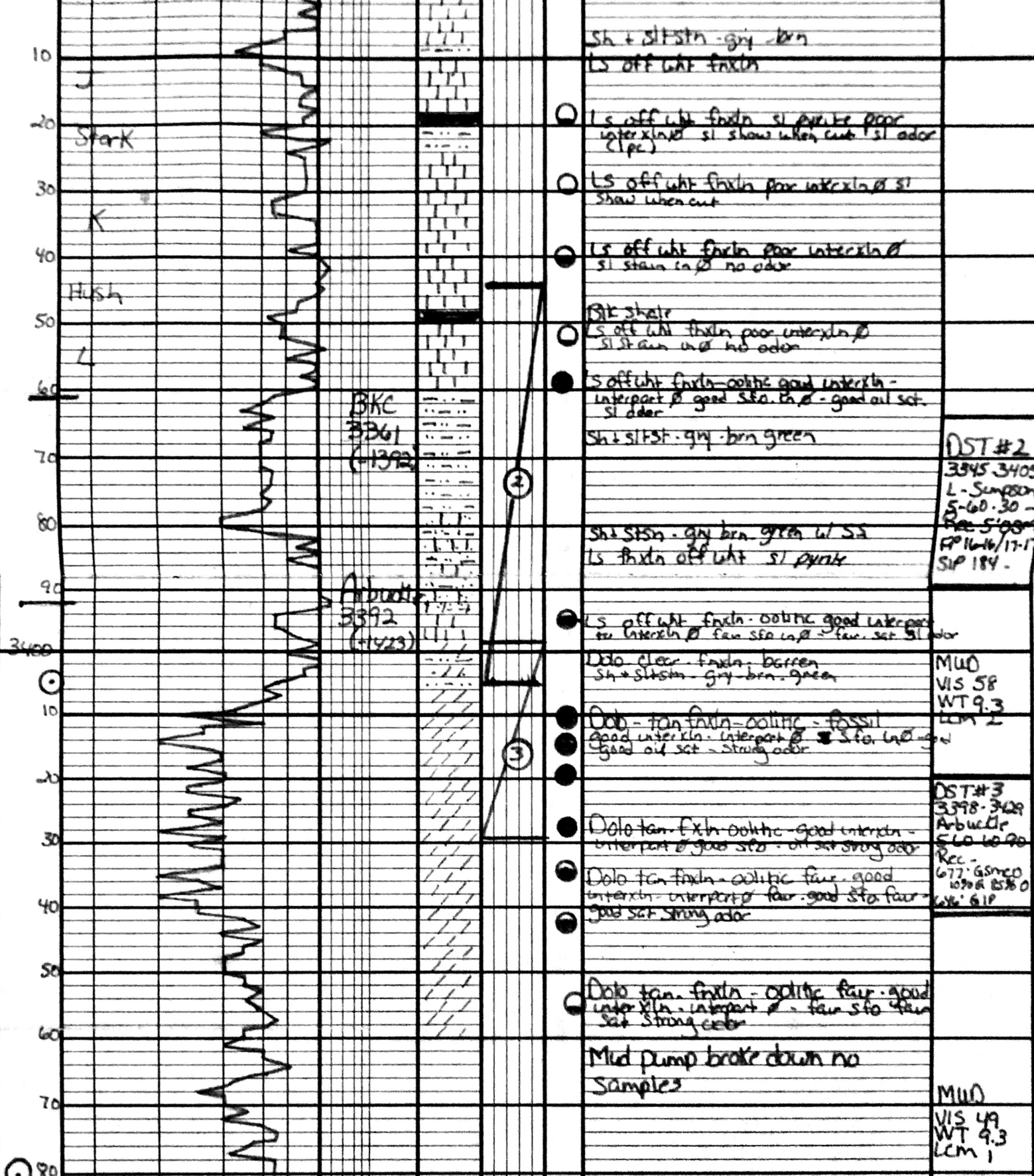
sh + sltst. gry. brn green

sh + sltstn - gry brn green w/ sa
to bed off wht. sl pyrite

BKC
3361
(1372)

2

DST
3345
L-S
5-60
1716



Sh + siltstn - gry - brn
LS off wht fxdn

Stark

LS off wht fxdn sl purple poor
interxln sl show when cut sl odor
(1pc)

K

LS off wht fxdn poor interxln sl
show when cut

Hush

LS off wht fxdn poor interxln sl
sl stain in sl no odor

L

BKC shale
LS off wht fxdn poor interxln sl
sl stain in sl no odor

BKC
3361
(-1392)

LS off wht fxdn - oolitic good interxln -
interpart sl good sfo. in sl - good oil set.
sl odor
Sh + siltst. gry - brn green

DST #2
3345 3405
L - Simpson
5-60.30 -
Rec 5:00pm
FPI 16/17-1
SIP 184

Sh + siltstn - gry brn green w/ ss
LS fxdn off wht sl purple

Arbuckle
3392
(+1423)

LS off wht fxdn - oolitic good interpart
to interxln sl fair sfo. in sl - fair set sl odor

Dolo clear - fxdn - barren
Sh + siltstn - gry - brn - green

MUD
VIS 58
WT 9.3
LCM 2

Dolo - tan fxdn - oolitic - fossil
good interxln - interpart sl - sfo. in sl
good oil set - strong odor

DST #3
3398 - 3429
Arbuckle
5-60-60-90
Rec -
6:77 Gsmco
10% & 15% O
wt 6.1P

Dolo tan fxdn oolitic - good interxln -
interpart sl good sfo. in sl - oil set strong odor

Dolo tan fxdn - oolitic fair - good
interxln - interpart sl - fair sfo. in sl -
good set strong odor

Dolo tan fxdn - oolitic fair - good
interxln - interpart sl - fair sfo. in sl
set strong odor

Mud pump broke down no
samples

MUD
VIS 49
WT 9.3
LCM 1

T.O. 5-10-18 2:00 AM