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GEOLOGIST'S WELL REPORT

COMPANY Staab Oil Company (6037)

WELL Haines #1

FIELD Webster View Southeast

LOCATION (legal) NW-SE-NW-NW 765 F NL 975 F WL

Section 8 TWP 8S RGE 18W

(Map) From Plainville 9 north 1w. ½S 2½W ¾ N.

COUNTY Rooks STATE Kansas

ELEVATION: 1942 K.B., 1937 G.L.

Depths measured from Kelly Bushing

A. P. I. NUMBER 15-163-24315

GEOLOGY BY Janel Staab

PERTINENT WELL DATA

CONTRACTOR Shields Drilling Co. (5184)

RIG 1 HYDRAULICS Beth 225 6X14

DRILL PIPE 4½" XH COLLARS 6¼" 233'

CASING: SURFACE 8⅝" @ 214' w/150 SX comm

PRODUCTION 5½" @ 3443 w/150 SX commo

DRILLING FLUID: COMPANY Mud Co/Service Mud Inc

TYPE: Chemical Gary Schmidtberge

REMARKS: Full Service

DRILL STEM TESTS: COMPANY Trilobite Testing Inc

NUMBER OF TESTS 3

ELECTIC LOGS: COMPANY ELI

DETAIL (5") 2800 - RTD

TYPE DI, Comp N-D, Micro

DRILLING TIME FROM 2830 TO RTD

SAMPLE TIME FROM 2830 TO RTD

SUPERVISION FROM 2830 TO RTD

VERTICAL DEVIATION ¾ @ 3110

PLUGGING REPORT

RESERVE PIT

DAILY REPORT

DATE:	7 a.m. Depth	RIG ACTIVITY
8-09-16		SP.U.D
8-10-16	217'	W.O.C
8-11-16	1517'	Drilling Anhydrite
8-12-16	2540'	Drilling sh + slt st
8-13-16	3110'	DST #1 Topeka - Toro
8-14-16	3184'	DST #2 LKC A-C
8-15-16	3440'	Logging
8-16-16	3440'	Cementing Casing

DRILL STEM TESTS

NO	INTERVAL	IFP/TIME	ISIP/TIME	FFP/TIME	FSIP/TIME	IHP/FHP	RECOVERY
1	Topeka-Toronto 3018-3110	46-121 10	1087 60	130-325 60	1082 90	1464 1394	120' GO 30%G 70% 120' GWOCM 10%G 170' GWOCM 10%G 300' OMCW 1%
2	LKC-A-D 3108-3184	34-53 10	1131 60	54-123 60	1124 90	1496 1470	230' SOCM 2
3	Arb 3369-3409	75-123 5	1117 60	153-462 60	1084 90	1737 1643	120' GMCO 40%O 1114' GO 30%G 880' GIP
4							
5							
6							
7							
8							

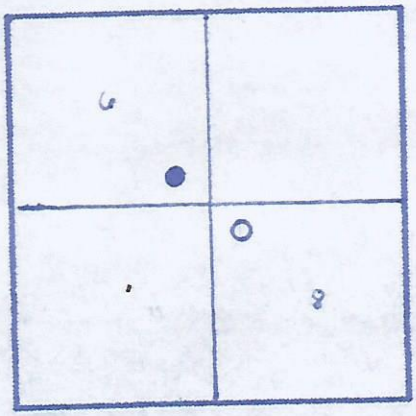
MUD RECORD

CHK	DEPTH	WT	VIS	FIL	CHL	YP	LCM
1	1517'	9.2	29	NC	17000	--	Nil
2	2540	9.3	29	NC	34000	-	Nil
3	3110	8.9	60+	7.2	1800	30	2
4	3184	9.1	57	6.8	1900	25	2
5	3440	9.0	59	7.4	1800	37	2
6							
7							
8							
9							
10							
11							

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
1	12¼"	Reed	Mill Tooth	217'	217'	7¾
2	7⅞"	Reed	S-52	3440	3223	74¾
3						
4						

FORMATION TOPS & STRUCTURAL GEC



REFERRED TO:

A: Hayes #1

B:

C:

D:

E:

STRATIGRAPHIC MARKERS	SUBJECT WELL SAMPLE	SUBJECT WELL E. LOG	DATUM	STRUCTURAL POSITION* A	B	C
Anhydrite	1357	1360	+582	+595		
Base	1393	1395	+547	+562		
Topeka	2865	2869	-927	-933		
Heeb Sh	3071	3075	-1133	-1137		
Toronto	3096	3097	-1155	-1160		
Lansing	3114	3116	-1174	-1178		
BKC	3329	3335	-1393	-1400		
Arbuckle	3377	3379	-1437	-1455		
TD.	3400	3444	-1502	-1514		

*Structural position of subject well as compared to refer

LOGY

D E

red well.

SUMMARY

The Haunes #1 was drilled using Shield
Location was Sec 8, T 8s, R 18W in
Kansas starting on August 9, 2016 and
pipe on August 16 2016

3.0 Seismic had indicated that this
had a Arbuckle high compared to surro
drilled locations.

3. DSTis and logs were ran
#1 + #3 had positive results. Logs con
that this location was structurally high
confirmed DST results as well as samp

As a result production pipe was r
And. focus areas will be in the Arbuc
Lower Topeka + Toronto & I Zone of LKC

s Rig.
ooks Co.
sat
Location
unding
DST:s
firmed
and
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an
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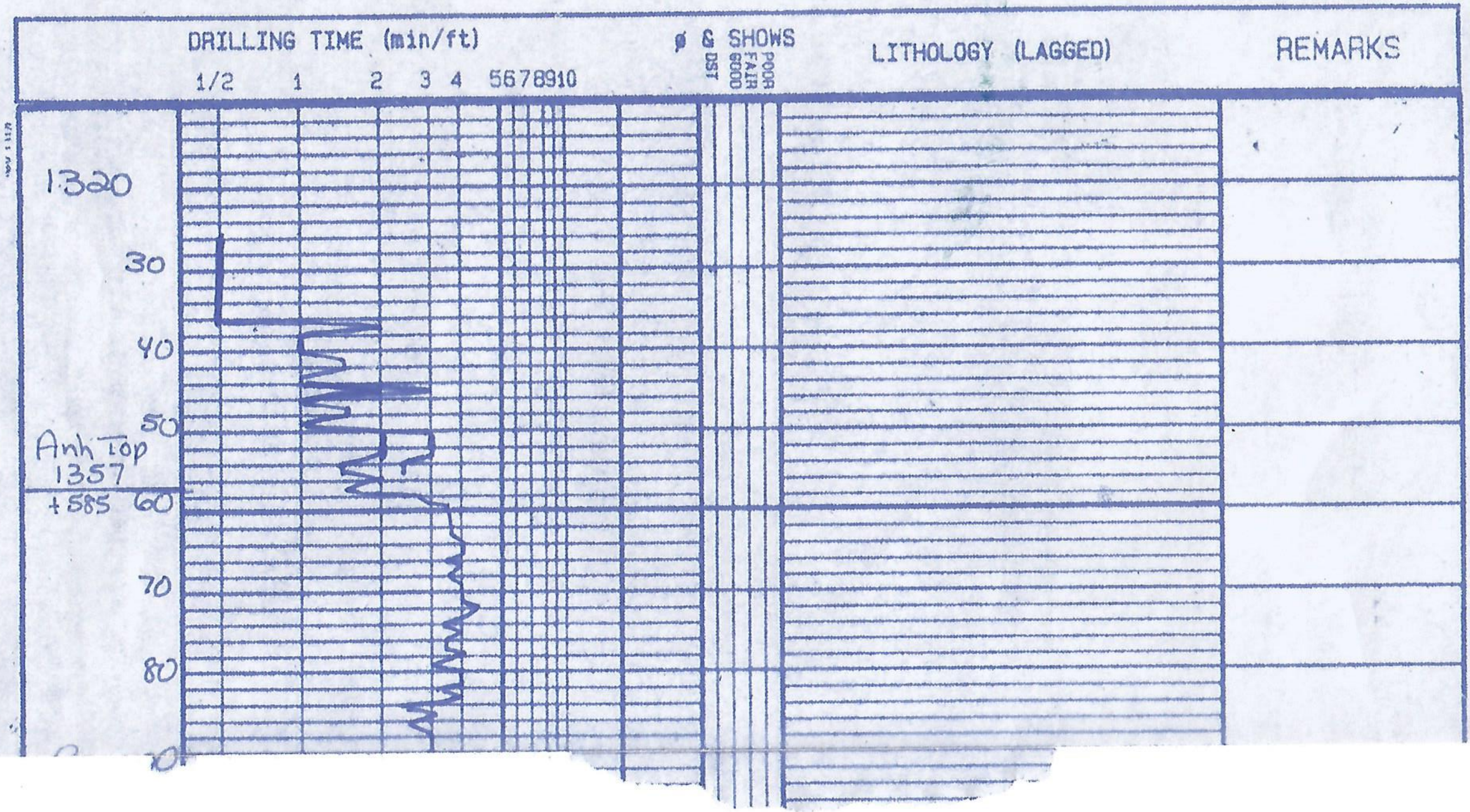
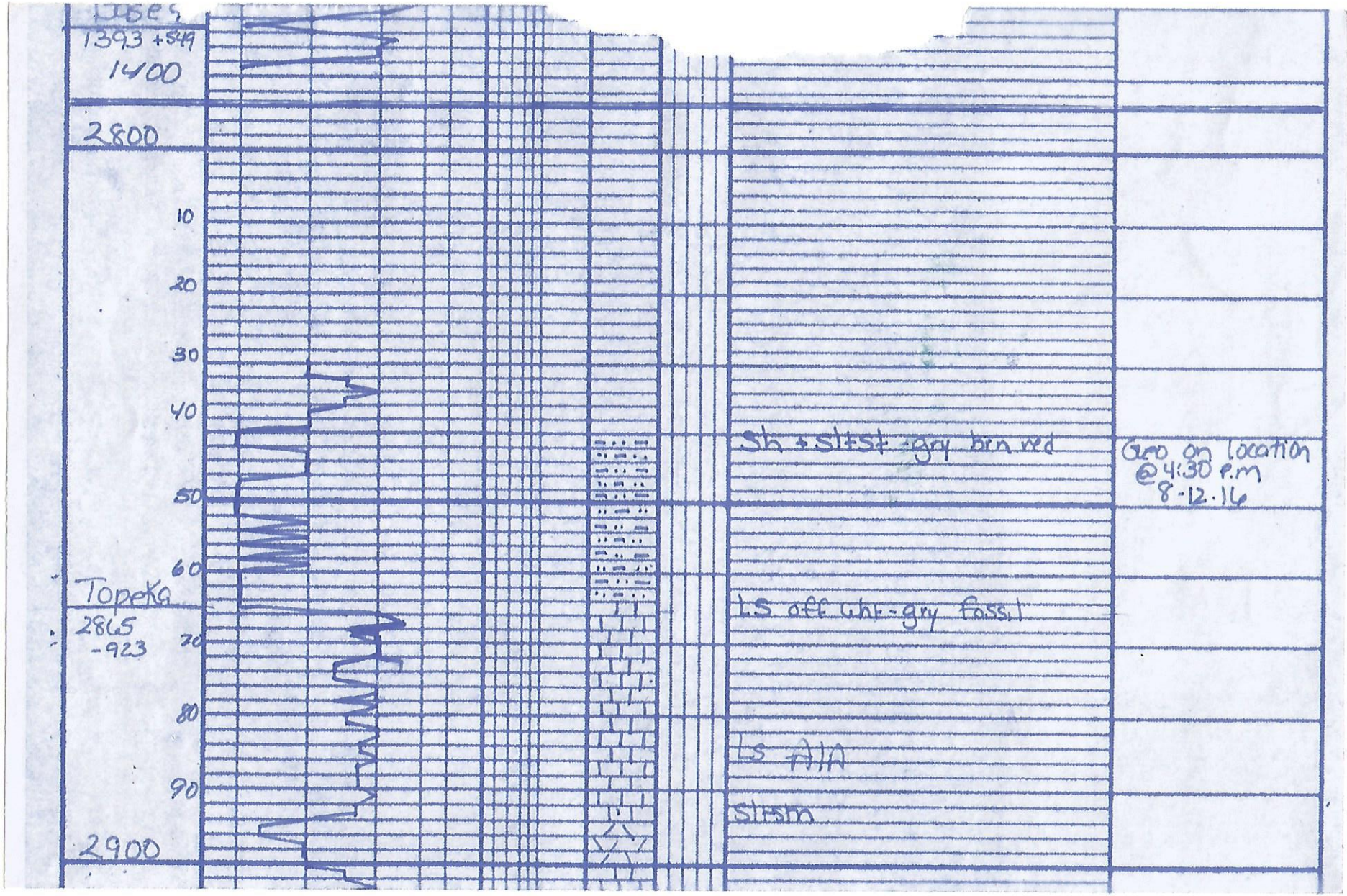
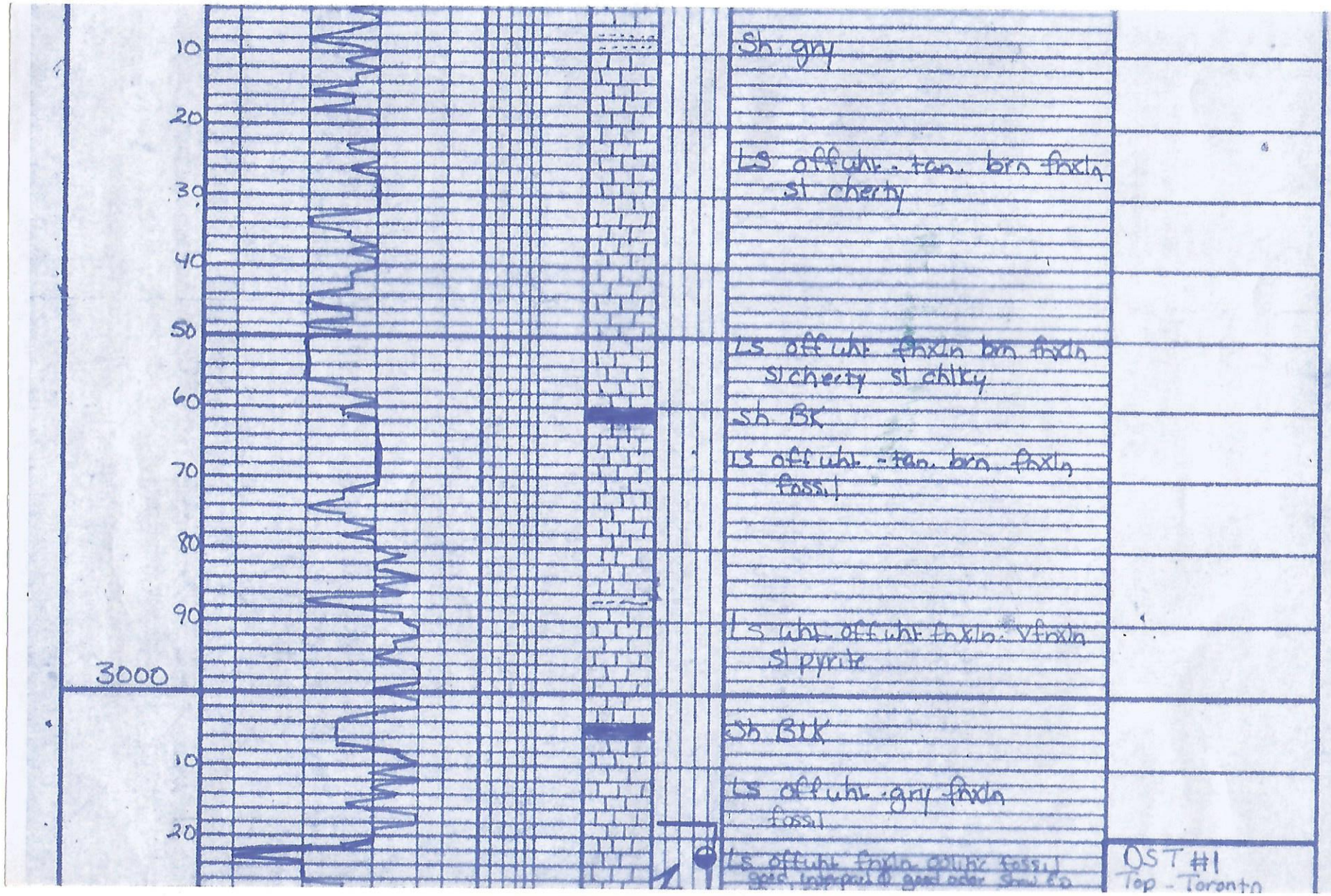
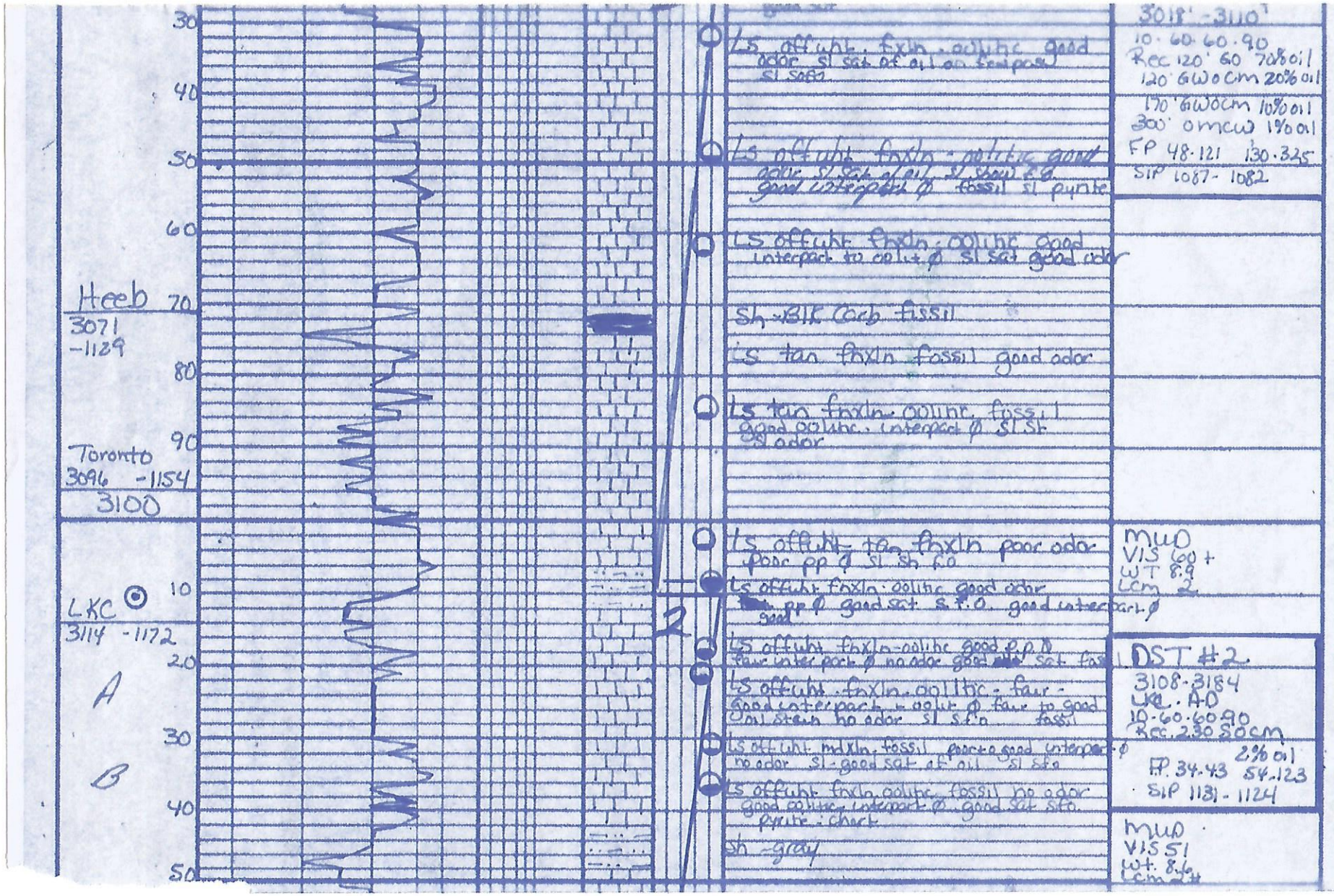
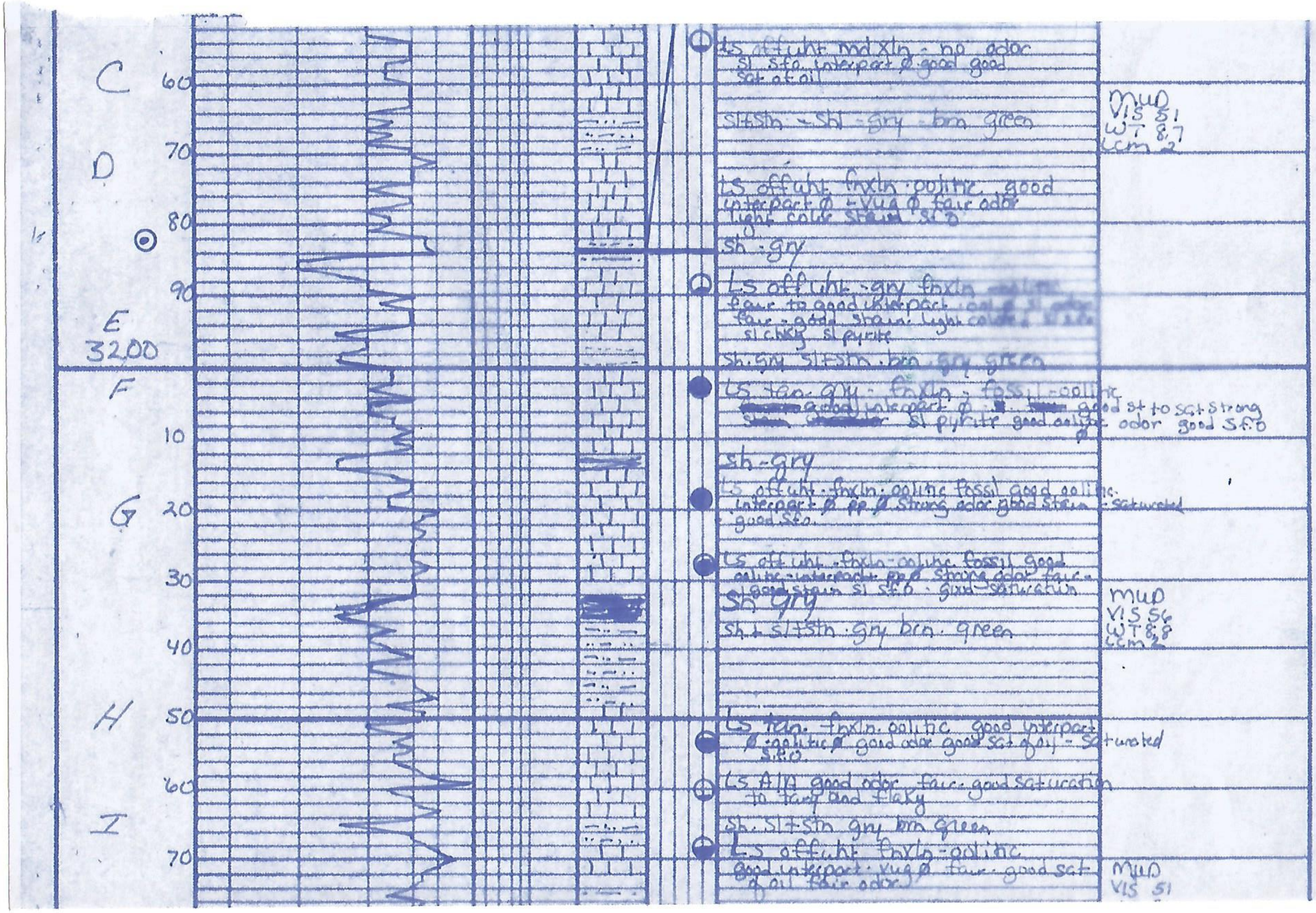


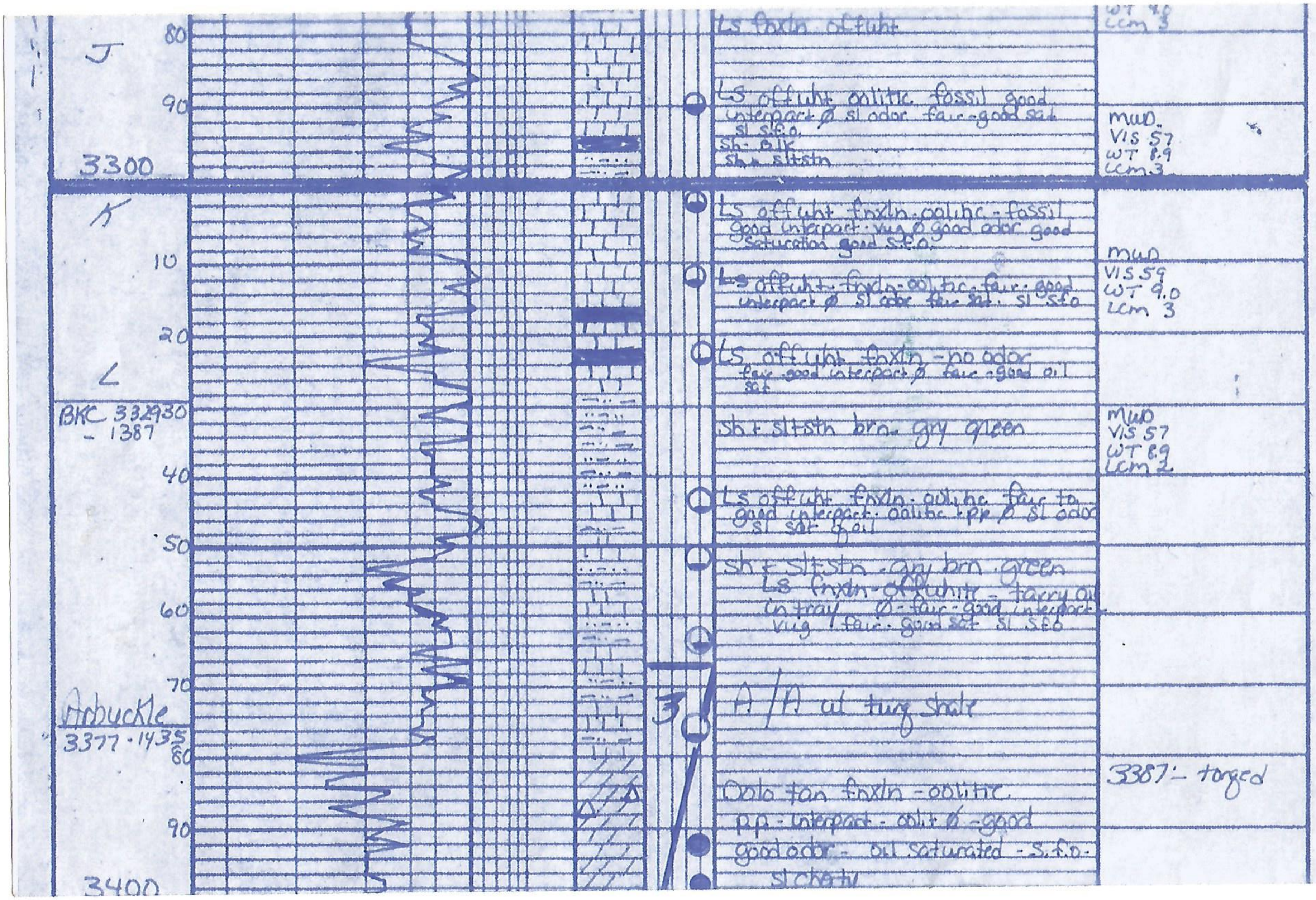

Lobes
1393 +549
1400
2800
10
20
30
40
50
60
Topeka
2865
-923
70
80
90
2900
Sh + slt-st - gry brn red
Geo on location @ 4:30 p.m 8-12-16
LS off wht - gry foss.
LS A/A
slt-sh

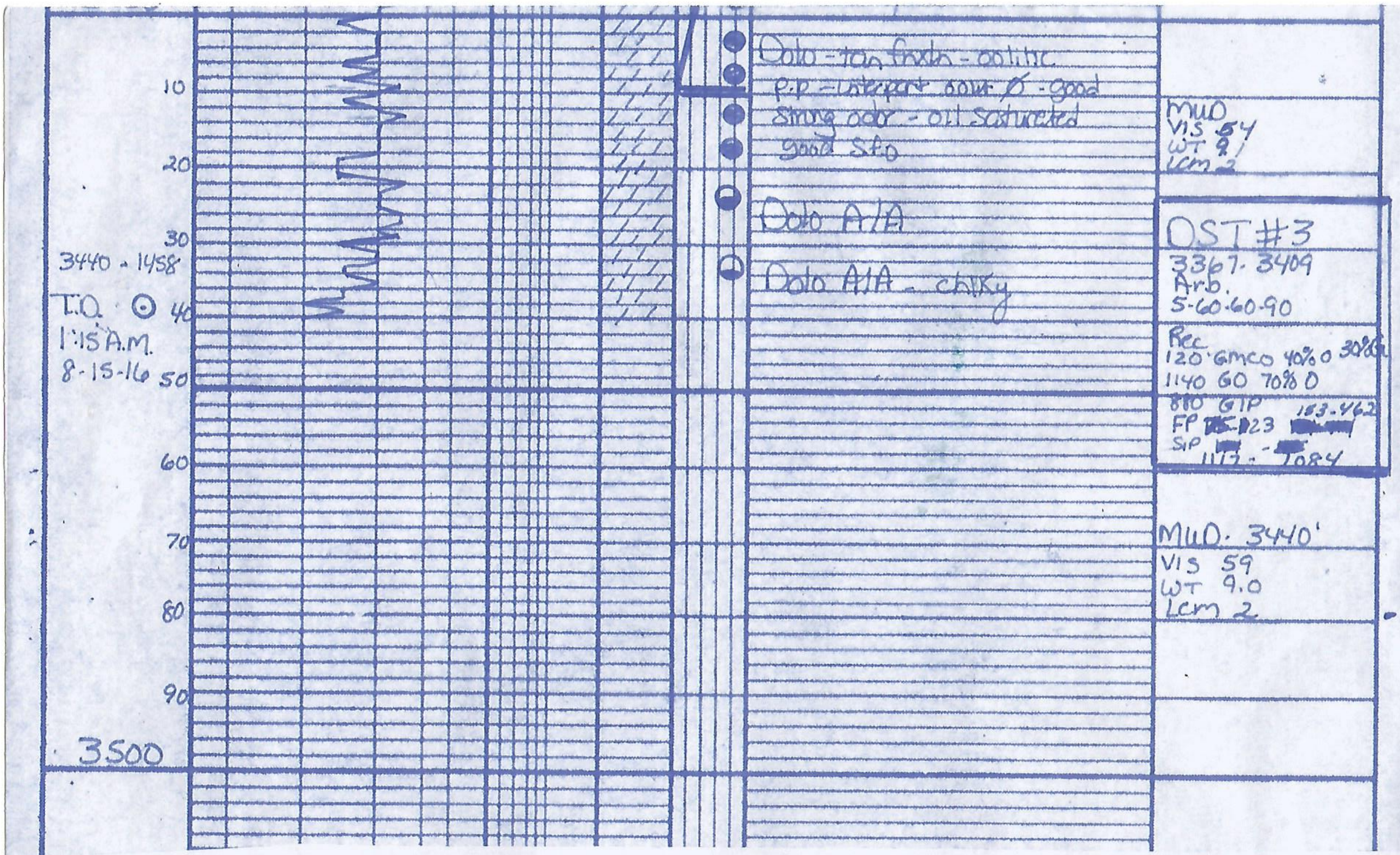

10
20
30
40
50
60
70
80
90
3000
10
20
Sh gry
LS offwht - tan. brn fnxln
sl cherty
LS offwht fnxln brn fnxln
sl cherty sl chlky
Sh Blk
LS offwht - tan. brn fnxln
fossil
LS wht. offwht fnxln. Vfnxln
sl pyrite
Sh Blk
LS offwht-gry fnxln
fossil
LS offwht fnxln occ vfxln fossil
OST #1
Top - Toronto


30
40
50
60
70
80
90
10
20
30
40
50
Heeb
3071
-1129
Toronto
3096 -1154
3100
LKC
3114 -1172
A
B
LS off wht. fxln - oolitic good odor SI sat of oil on fracture SI stain
LS off wht fxln - oolitic good odor SI stn of oil SI show of gas good interpart ϕ fossil SI pynte
LS off wht fxln - oolitic good interpart to oolit ϕ SI sat good odor
Sh - Blk Carb fissil
LS tan fxln fossil good odor
LS tan fxln - oolitic, fossil good oolitic - interpart ϕ SI St odor
LS off wht - tan fxln poor odor poor pp ϕ SI sh f.o
LS off wht fxln - oolitic good odor pp ϕ good sat s.f.o. good interpart ϕ good
LS off wht fxln - oolitic good pp ϕ fair interpart ϕ no odor good stn sat fair
LS off wht - fxln - oolitic - fair - good interpart - oolit ϕ fair to good oil stain no odor SI s.f.o fossil
LS off wht - mdxln, fossil poor to good interpart ϕ no odor SI - good sat of oil SI s.f.o
LS off wht fxln, oolitic, fossil no odor good oolitic interpart ϕ - good sat s.f.o. pyrite - chert
Sh - gray
3018' - 3110'
10 · 60 · 60 · 90
Rec 120' GO 70% oil
120' GWOCM 20% oil
170' GWOCM 10% oil
300' OMCW 1% oil
FP 48-121 130-325
SIP 1087 - 1082
MUD
VIS 60+
WT 8.9
LCM 2
DST #2
3108-3184
LKC - A0
10-60-60-90
Rec 230 SOCM
2% oil
FP 34-43 54-123
SIP 1131 - 1124
MUD
VIS 51
WT 8.6
LCM 4



C 60
D 70
80
E 90
3200
F 10
G 20
30
40
H 50
I 60
70
LS off wht md xln - no odor sl stn interpart ø good good sat of oil
Sltstn - Sh - gry - brn green
MUD VIS 51 WT 8.7 LCM 2
LS off wht fnxln oolitic good interpart ø - vug ø fair odor light color stain sl f.o
Sh - gry
LS off wht - gry fnxln oolitic fair to good interpart ool ø sl odor fair - good stain light color sl chky sl pyrite
Sh. sdy sltstn. brn. gry green
LS tan gry - fnxln - fossil - oolitic good interpart ø good st to sat strong sl pyrite good oolitic ø odor good S.f.o
Sh - gry
LS off wht - fnxln - oolitic fossil good oolitic interpart ø pp ø strong odor good stain - saturated good S.f.o.
LS off wht - fnxln - oolitic fossil good oolitic - interparticle pp ø strong odor fair - good stain sl S.f.o - good saturation
Sh gry
Sh & sltstn. gry brn. green
MUD VIS 56 WT 8.8 LCM 2
LS tan. fnxln. oolitic good interpart ø - oolitic ø good odor good sat of oil - saturated S.f.o
LS A/A good odor fair - good saturation to tarry and flaky
Sh. sltstn gry brn green
LS off wht fnxln - oolitic good interpart - vug ø fair - good sat of oil fair odor
MUD VIS 51


J
80
Ls fnxln off wht
90
Ls off wht oolitic fossil good interpart Ø sl odor fair-good sat sl S.F.O.
Sh - Blk
Sh & sltstn
3300
Mud
VIS 57
WT 8.9
LCM 3
K
Ls off wht fnxln oolitic - fossil good interpart. vug Ø good odor good saturation good S.F.O.
10
Ls off wht fnxln-oolitic fair-good interpart Ø sl odor fair sat. sl S.F.O
Mud
VIS 59
WT 9.0
LCM 3
20
Ls off wht fnxln - no odor fair good interpart Ø fair-good oil sat
L
BKC 3329 30
- 1387
Sh & sltstn brn - gry green
Mud
VIS 57
WT 8.9
LCM 2
40
Ls off wht fnxln - oolitic fair to good interpart - oolitic & pp Ø sl odor sl sat of oil
50
Sh & sltstn - gry brn green
Ls fnxln - off white - tarry oil in tray Ø - fair - good interpart - vug fair - good sat sl S.F.O.
60
70
A/A at twg shale
Arbuckle
3377 - 1435
80
Oolo tan fnxln - oolitic pp - interpart - oolit Ø - good good odor - oil saturated - S.F.O. - sl cherty
3387 - torqued
90
3400



Dolo - tan finxln - oolitic
p.p = interpart oolit Ø - good
strong odor - oil saturated
good Sfo
Dolo A/A
Dolo A/A - chlky
MUD
VIS 54
WT 9.1
Lcm 2
DST #3
3367 - 3409
Arb.
5-60-60-90
Rec
120' GMCO 40% O 30% G
1140 GO 70% O
880 GIP
FP [redacted] 123 183 - 462 [redacted]
SIP [redacted] - [redacted]
1113 - 1084
MUD. 3440'
VIS 59
WT 9.0
Lcm 2
10
20
30
40
50
60
70
80
90
3500
3440 - 1458
T.D. ⊙
1:15 A.M.
8-15-16