



James C. Musgrove
Petroleum Geologist

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GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

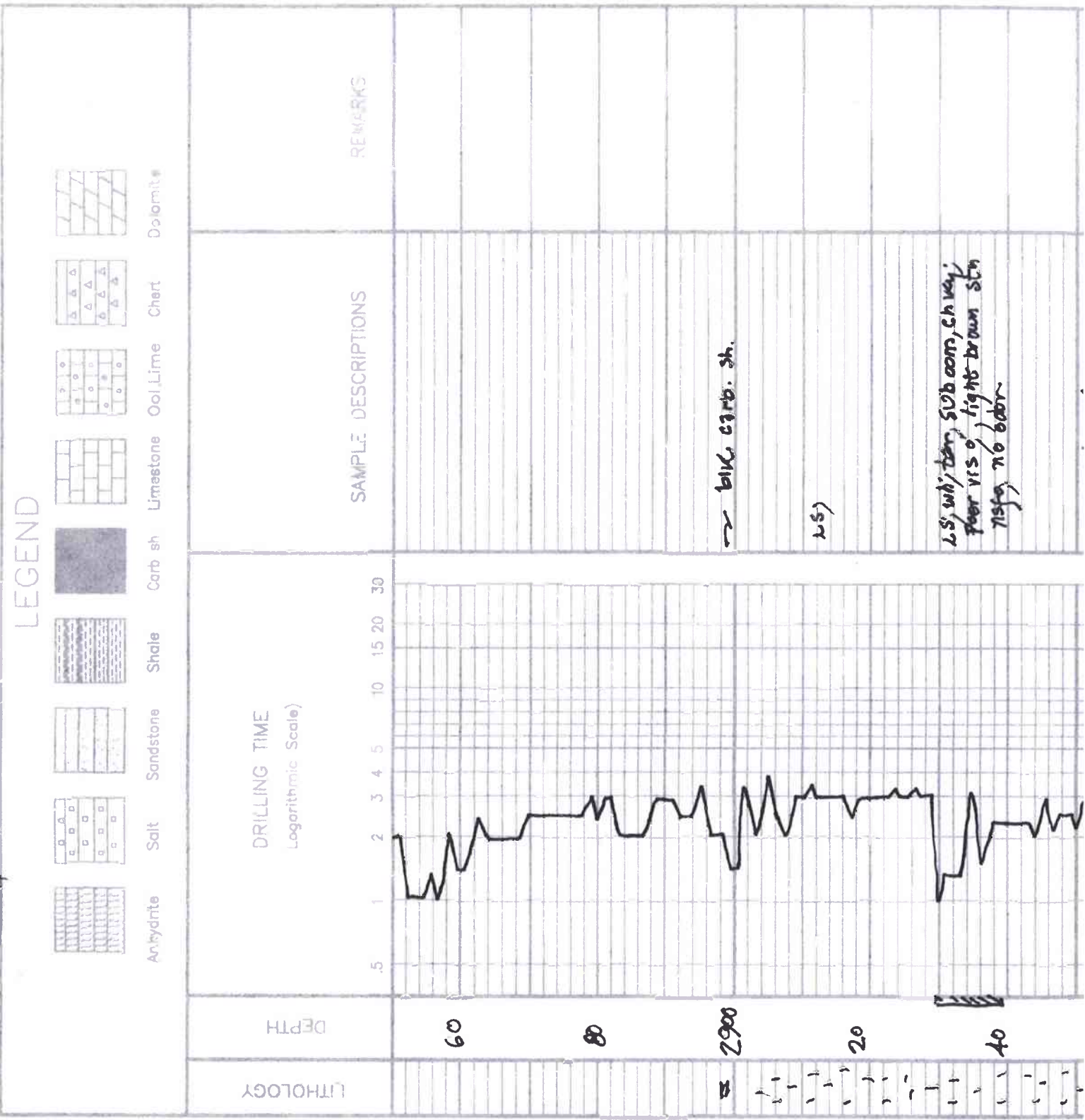
COMPANY LD Drilling Inc.
 LEASE Jenisch #2.34
 FIELD Beaver South
 LOCATION NW-NE-NE-SE (2570' FSL)
(603' FEL)
 SEC 34 TWP 16^S RGE 12^W
 COUNTY Barton STATE Kansas
 CONTRACTOR Petromark Drilling (rig #2)
 SPUD 2/14/2014 COMP 2/19/2014
 RTD 3475 LTD 3474
 MUD UP 2600' TYPE MUD Chemical displaced

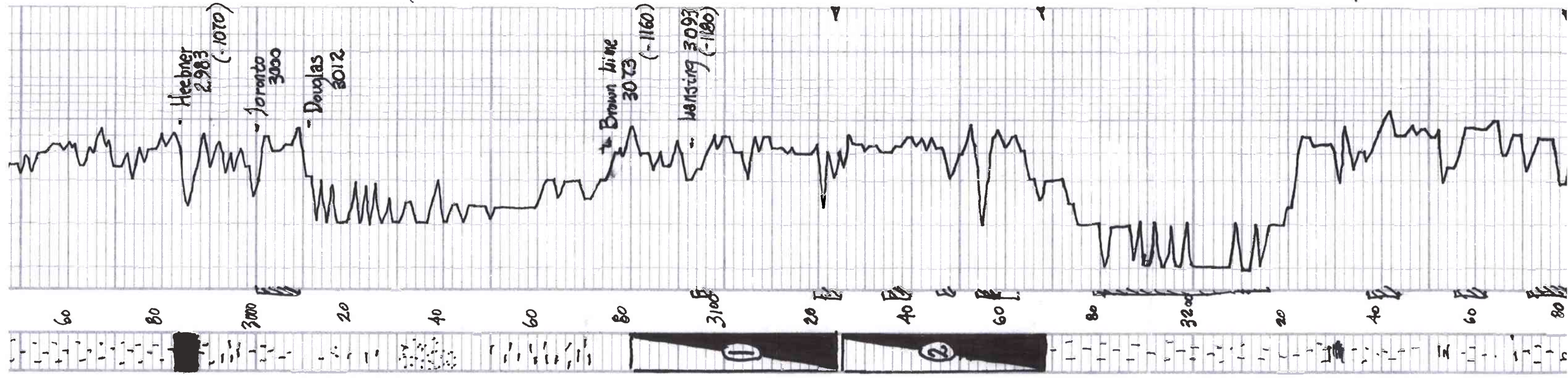
ELEVATIONS
 KB 1913
 DF _____
 GL 1908
 Measurements Are All From -KB-
 CASING
 SURFACE 8 5/8" @ 427
 PRODUCTION 5 1/2" @ 3474'
 ELECTRICAL SURVEYS
 By Pioneer, DIL,
 CNL/CDL, MEL, BHCS

SAMPLES SAVED FROM 2800 TO _____
 DRILLING TIME KEPT FROM 2800 TO _____
 SAMPLES EXAMINED FROM 2800 TO _____
 GEOLOGICAL SUPERVISION FROM 2900 TO _____
 GEOLOGIST ON WELL Jim Musgrove

| FORMATION TOPS | LOG | SAMPLES |
|------------------|------|---------|
| Anhydrite | 792 | +1124 |
| Base anhydrite | 810 | +1103 |
| Heebner | 2982 | -1069 |
| Toronto | 2995 | -1082 |
| Douglas | 3011 | -1098 |
| Brown lime | 3073 | -1160 |
| Wansing | 3090 | -1177 |
| Base Kansas City | 3346 | -1433 |
| Arbuckle | 3358 | -1445 |
| RTD | 3475 | -1562 |
| LTD | 3474 | -1561 |

REMARKS
5 1/2" production casing was set & cemented on the Jenisch #2.34. Perfectly submitted!
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LS, tan, gray, f. xh, gran in part, cherty, discoloration, no free oil/no odor.

LS, tan, gray, f. xh, slightly foss, cherty, poor vis. oil.

m. sh. (black red base sh.)

SD, gray, grayish green, v. f. g. calc. sub rounded.

ine, gray/dk gray sh.

LS, tan, brown, f. xh, few dry (sect)

LS, tan, highly oil, cherty in part, f. xh, brown sh. in part, f. xh, oil, reddish color

LS, tan, gray, foss, cherty in part, brown/light brown sh. xh, f. xh, f. xh, f. xh, oil

LS, tan, gray, f. xh, slightly foss, cherty, f. xh, f. xh, f. xh, f. xh, oil

LS, tan, foss, oil, gray-brown sh. xh, f. xh, no odor, gray spotted

LS, tan, gray, oom, f. xh, oom, f. xh, light brown sh. xh, f. xh, f. xh, f. xh, oil

LS, tan, gray, oom, f. xh, slightly dry (sect), f. xh, gray

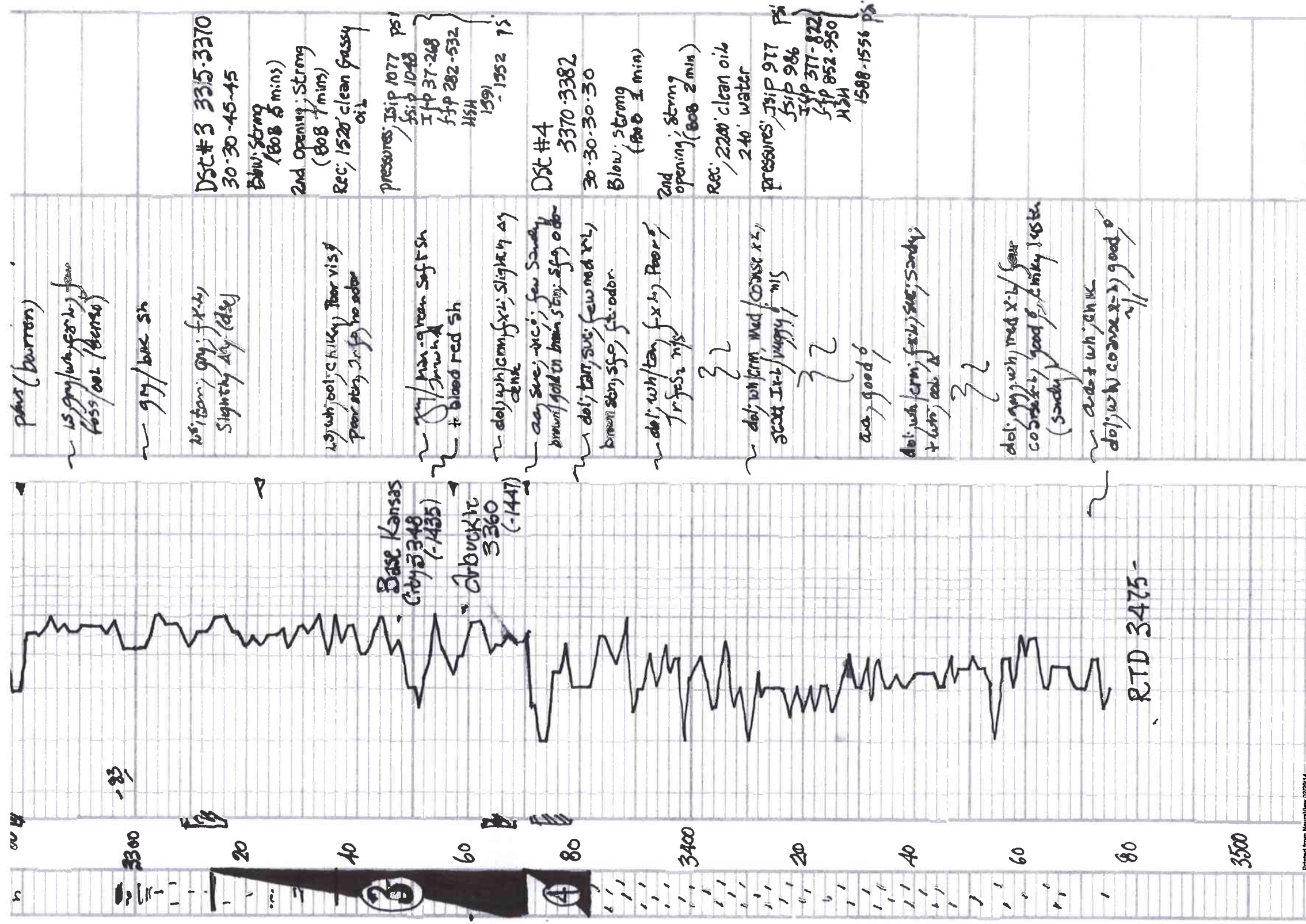
LS, tan, oom, f. xh, f. xh, slightly oom, (barren)

LS, tan, oom, cherty in part, f. xh, gray

LS, tan, oom, cherty in part, f. xh, gray

Dst #1 - 3124
20-20-20-20
weak
REG
25' oil spotted
min
pressures:
ISIP 51 PSI
FSIP 33
ISIP 13-19
FSIP 17-22
MSH
1448-1429 ps.

Dst #2 3125
30-30-45-45
Blow: weak (2")
2nd opening, weak (2")
Rec: 70' Muddy water
pressures: ISIP 591 PSI
FSIP 586
ISIP 14-41
FSIP 45-68
MSH
1500-1451 ps.



plus (burren)

15 grey/wh (foss) few
foss/ool (burren)

grey/bk sh

whiten, grey, f-x-l
slightly dry (dse)

1.5 wh/ool (clay) poor vis
poor str, 2.5 ft, no odor

1/2 wh/ool (green soft sh
+ blood red sh

dol; wh/ool (f-x-l); slight
dry see; vic; few sandy
brown gold in brown str; sf; odor

dol; tan; sub; few med xl
brown str; sf; ft. odor

dol; whiten (f-x-l); poor
f-f; 2.5 m/s

2 2

dol; wh/ool; med coarse x-l;
good f-x-l; slightly f-m/s

2 2

good

dol; wh/ool; med x-l; sandy;
+ wh; oil

2 2

dol; grey; wh; med x-l; good
coarse x-l; good f-x-l; sandy
(sandy)

dol; wh; coarse x-l; good
+ wh; oil

DST #3 3315-3370
30-30-45-45
Blow string
(808 6 mins)
2nd opening string
(808 7 mins)
Rec: 1520 clean grassy
oil
pressures: JIP 1077 psi
fip 1048
I fip 37-248
f-fp 282-532
HSH
1591
1552 75

DST #4
3370-3382
30-30-30-30
Blow string
(808 2 min)
2nd opening string
(808 2 min)
Rec: 2200 clean oil
240 water
pressures: JIP 977 psi
fip 986
I fip 377-822
f-fp 852-950
HSH
1588-1556 psi