

# KIM B. SHOEMAKER

CONSULTING GEOLOGIST

516-884-9709 \* WICHITA, KS

## GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.  
 LEASE \* 2 ARENSMAN  
 FIELD KRAFT-PRUSA  
 LOCATION 330' FNL & 2310' EWL, NENENW  
 SEC 28 TWP 16s RGE 11w  
 COUNTY BARTON STATE KANSAS  
 CONTRACTOR L. D. DRILLING, INC.  
 SPUD 8-26-17 COMP 9-1-17  
 RID 3465 LTD 3464  
 MUD UP 2595 TYPE MUD CHEMICAL

ELEVATIONS  
 KB 1922  
 DF  
 OL 1917  
 Measurements A-e All From 1922 KB  
 CASING  
 SURFACE 8 5/8" @ 413'  
 PRODUCTION 5 1/2" @  
 ELECTRICAL SURVEYS  
 DUAL IND., DENS., MICRO, SONIC

SAMPLES SAVED FROM 2600 TO 3465  
 DRILLING TIME KEPT FROM 2600 TO 3465  
 SAMPLES EXAMINED FROM 2600 TO 3465  
 GEOLOGICAL SUPERVISION FROM 2900 TO 3465  
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	764+ 1158	
B/ANH.	776+ 1146	
TOPEKA	2662- 740	2664- 742
HEEBNER	2954- 1032	2957- 1035
BROWN LIME	3050- 1128	3051- 1129
LANSING	3070- 1148	3068- 1146
B/KC	3310- 1388	3312- 1390
ARBUCKLE	3350- 1428	3352- 1430



API: 15-009 - 26183

REMARKS

8-26-17 SPUD  
 8-27 @ 416'  
 8-28 @ 1605'  
 8-29 @ 2595'  
 8-30 @ 3155'  
 8-31 @ 3363'  
 9-1 @ 3465'

### LEGEND

- Anhydrite
- Shell
- Sandstone
- Sand sh
- Limestone
- Dolomite
- Chalk
- Oil Shale

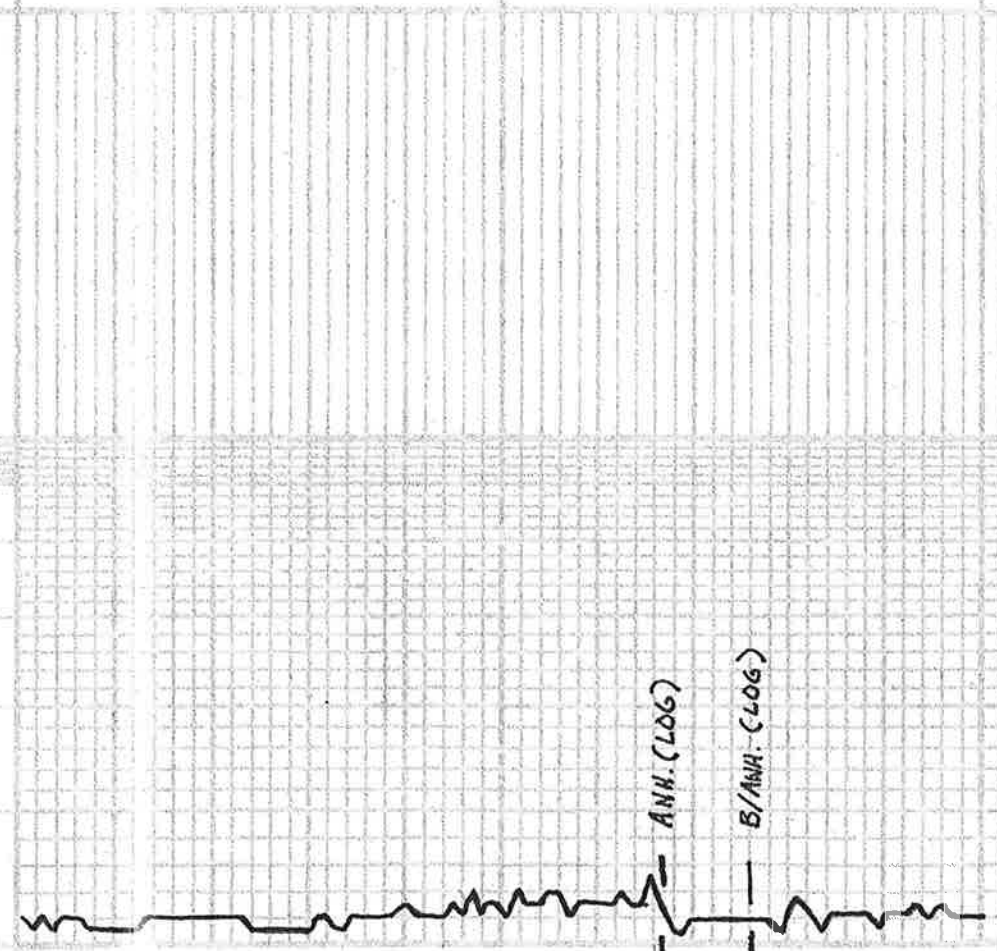
DRILLING TIME IN MINUTES PER FOOT  
 Rate of Penetration Increases

DEPTH  
 0' 10' 15' 20' 25'  
 700

REMARKS

SAMPLE DESCRIPTIONS

LITHOLOGY



750

800

SHO-11

800

2600

2700

2800

VS: S1  
WT: B-7  
WL: B-B  
CML: 5200

HOWARD



Samples are Lagged

Sh. Lt. G. Silty

Ls. T. G. VSI Foss.

Ls. T. wt. Sl. Foss. VSI

Sh. Lt. G. Silty

TOPEKA 2661-792

Ls. G. Sl. Foss.

Ls. T. G. Dns.

Sh. G. G.

Ls. Lt. G. Sl. Foss.

Ls. T. Foss. VSI Ch. G.

Sh. G.

Ls. T. G. Foss. G. lentia

Ls. wt. Sl. Foss. Ch. G.

Ls. T. G. Sl. Foss.

Ls. wt. Ch. G. VSI Foss.

Δ G. Foss.

Ls. T. Lt. Sl. Foss.

Sh. D. G. B. K.

Ls. D. B. G. Sl. Foss.

Sh. Lt. G.

Ls. Lt. G. Foss. w/ D. G. Foss.

Sh. Lt. B. G.

Ls. Lt. G. VSI Foss.

Ls. T. G. Sl. Foss.

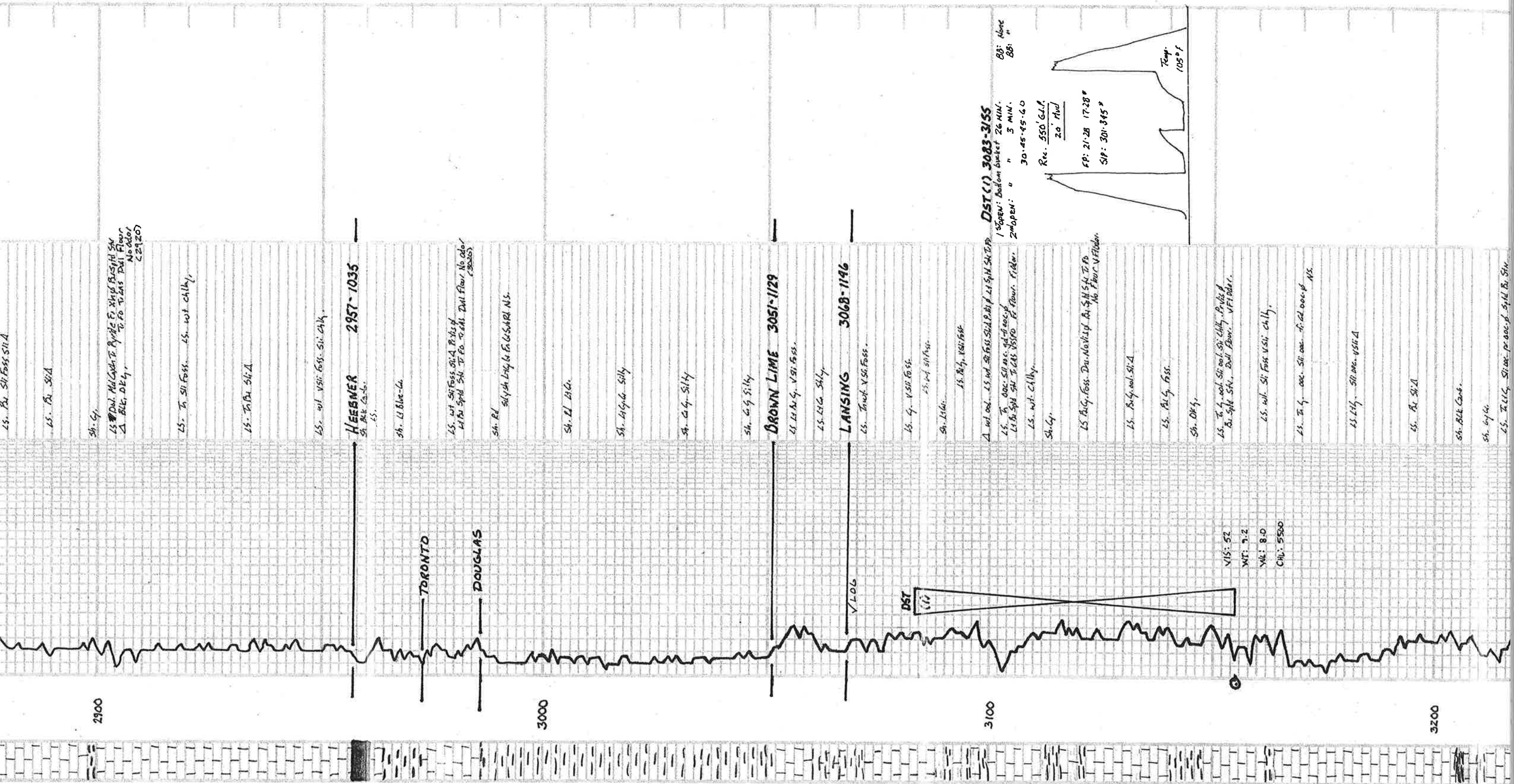
Sh. Lt. G.

Ls. T. Lt. Sl. VSI Foss.

Sh. B. G. G.

Ls. T. Sl. Foss. Sl. A





LS. Br. Silty Silt

LS. Br. Silty Silt

Sh. Gy.

LS. Wet Silty Foss. Silty Clay. No odor  
 1/2 lb. Spill Silty Clay. No odor  
 29207

LS. In Silty Foss. Silty Clay.

LS. Tan Br. Silty Clay

LS. Wet Silty Foss. Silty Clay.

**HEEBNER 2957-1035**

Sh. Brk. Clay

Sh. Lt. Blue Clay

LS. Wet Silty Foss. Silty Clay. No odor  
 1/2 lb. Spill Silty Clay. No odor

Sh. Brk. Silty Clay. No odor

Sh. Lt. Blue Clay

Sh. Lt. Blue Clay

Sh. Lt. Blue Clay

Sh. Lt. Blue Clay

**BROWN LIME 3051-1129**

LS. Lt. Blue Clay. V. Silty Foss.

LS. Lt. Blue Clay. Silty

**LANSING 3068-1146**

LS. Tan Br. Silty Foss.

LS. Gy. V. Silty Foss.

Sh. Lt. Blue Clay

LS. Brk. Clay. V. Silty Foss.

LS. Wet Silty Foss. Silty Clay. No odor  
 1/2 lb. Spill Silty Clay. No odor

**DST (1) 3083-3155**

15 OPEN: Bottom bucket 20 MIN.

20 OPEN: " " 5 MIN.

30: 45-45-60

Rec. 550' Gal. / 20' Min.

FP: 21-28 17-28

SIP: 301-315

LS. Brk. Clay. V. Silty Foss.

Sh. Brk. Clay

LS. Tan Br. Silty Foss. Silty Clay. No odor  
 1/2 lb. Spill Silty Clay. No odor

LS. Wet Silty Foss. Silty Clay.

LS. Tan Br. Silty Foss. Silty Clay. No odor

LS. Lt. Blue Clay. Silty Foss.

LS. Brk. Clay

Sh. Brk. Clay

LS. Tan Br. Silty Foss. Silty Clay. No odor

2900

3000

3100

3200

TORONTO

DOUGLAS

V LOG

DST (1)

VIS: 52  
 WT: 7.2  
 YAL: 8.0  
 CHL: 5500

Temp. 105°F

Sh. 6/14  
 15. L.L.G. Sh. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor.  
 15. L.L.G. Dm.  
 Sh. L.L.G.  
 15. w. chky.  
 15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm.  
 Sh. L.L.G.  
 15. w. chky.  
 15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

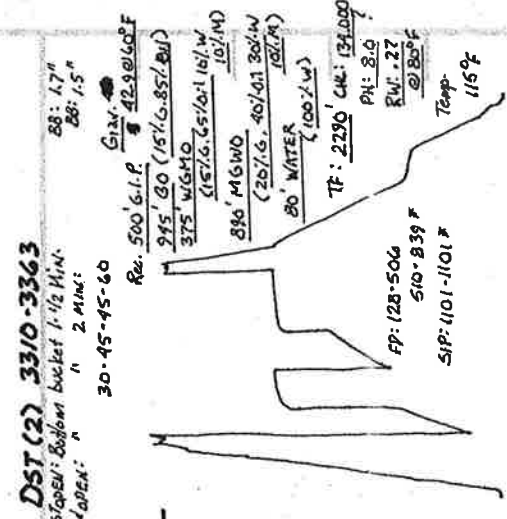
15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

15. L.L.G. Dm. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)



**DST (2) 3310-3363**  
 150000: 80000 bucket 1-1/2 MIN.  
 2-MINUTE  
 30-45-45-60  
 Re. 500 G.I.F. # 42-9060PF  
 375 WGMQ (15% G. 85% BU)  
 896 M6W0 (20% G. 40% 01 30% W 10% M)  
 80 WATER (100% W)  
 TF: 2290 CM: 134000  
 PH: 8.0  
 PL: .27 @ 800 F  
 Temp: 115 F  
 FP: 128-506 510-939 F  
 SIP: 101-1101 F

**B/KC 3312-1390**  
 Sh. 1000.  
 15. L.L.G. V. 1000.  
 15. L.L.G. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

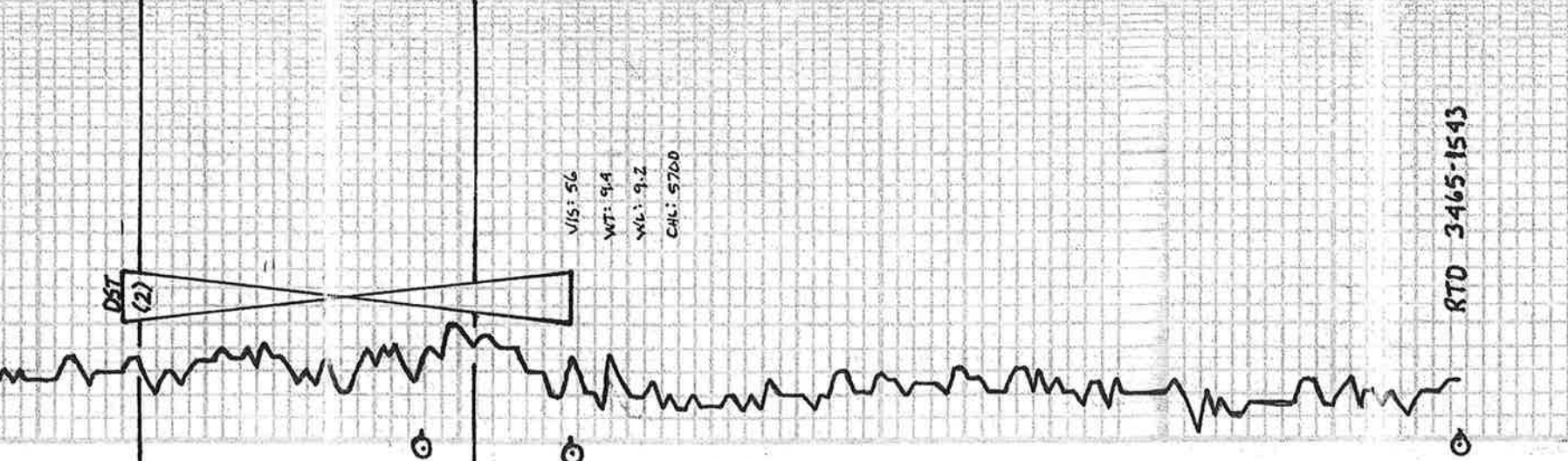
**ARBUCKLE 3352-1430**  
 Del. w. 1000. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

Del. w. 1000. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

Del. w. 1000. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

Del. w. 1000. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)

Del. w. 1000. V. 1000. P. 1000. Sp. 1000. Sh. 1000.  
 To 1000. V. 1000. Dull. Floor. Odor (5260)



**DST (2)**  
 Vis: 56  
 WT: 9.4  
 Wt: 9.2  
 Chc: 5700  
**RTD 3465-1543**