

# KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-684-9709 \* WICHITA, KS

## GEOLOGIST'S REPORT

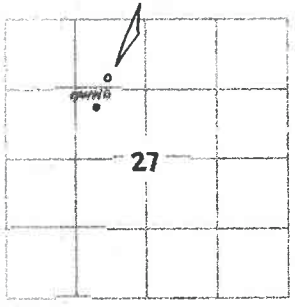
DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, Inc.  
 LEASE # 2-27 LUBBERS  
 FIELD GAELAND  
 LOCATION 1193' FNL & 1968' FWL  
 SEC 27 TWSP 12s RGE 30w  
 COUNTY Gove STATE KANSAS  
 CONTRACTOR L. D. DRILLING, Inc.  
 SPUD 11-26-13 COMP 12-6-13  
 RTD 4432 LTD \_\_\_\_\_  
 MUD UP 3180 TYPE MUD CHEMICAL

ELEVATIONS  
 KB 2763  
 DF \_\_\_\_\_  
 GL 2758  
 Measurements Are All From 2763 KB  
 CASING  
 SURFACE 8 5/8" @ 347'  
 PRODUCTION \_\_\_\_\_  
 ELECTRICAL SURVEYS  
 None

SAMPLES SAVED FROM 3600 TO 4432  
 DRILLING TIME KEPT FROM 3300 TO 4432  
 SAMPLES EXAMINED FROM 3600 TO 4432  
 GEOLOGICAL SUPERVISION FROM 3600 TO 4432  
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE		2211 + 552
B/ANW.		2242 + 521
STOTLER		3416 - 653
HEEBNER		3778 - 1015
LANSING		3820 - 1057
STARK		4039 - 1276
MARMATON		4126 - 1363
FORT SCOTT		4293 - 1530
CHEROKEE		4322 - 1559
MISSISSIPPI		4394 - 1631



REMARKS

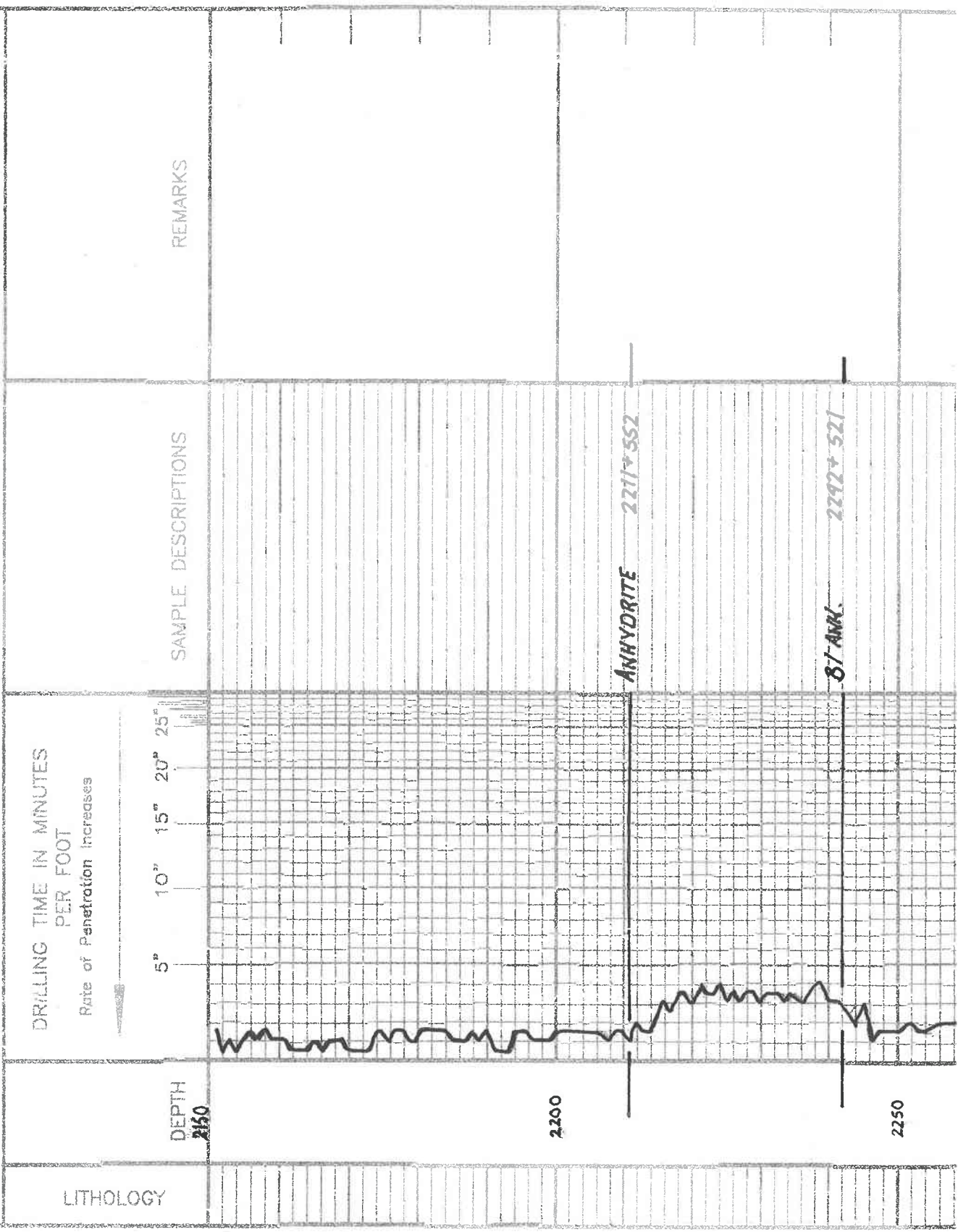
11-26-13 SPUD  
 11-27 @ 347'  
 11-28 @ 1750'  
 11-29 @ 2570'  
 11-30 @ 3235'  
 12-1 @ 3655'  
 12-2 @ 3830'  
 12-3 @ 3930'  
 12-4 @ 4100'  
 12-5 @ 4250'  
 12-6 @ 4432'

API: 15-063-22160

### LEGEND

- Anhydrite
- Salt
- Sandstone
- Shale
- Carb sh
- Limestone
- Cal. Lime
- Chert
- Dolomite

SHOE01-06



REMARKS

SAMPLE DESCRIPTIONS

DRILLING TIME IN MINUTES PER FOOT  
 Rate of Penetration increases

LITHOLOGY

DEPTH  
 2150

2200

ANHYDRITE 2211+552

ST ANW. 2292+521

2250

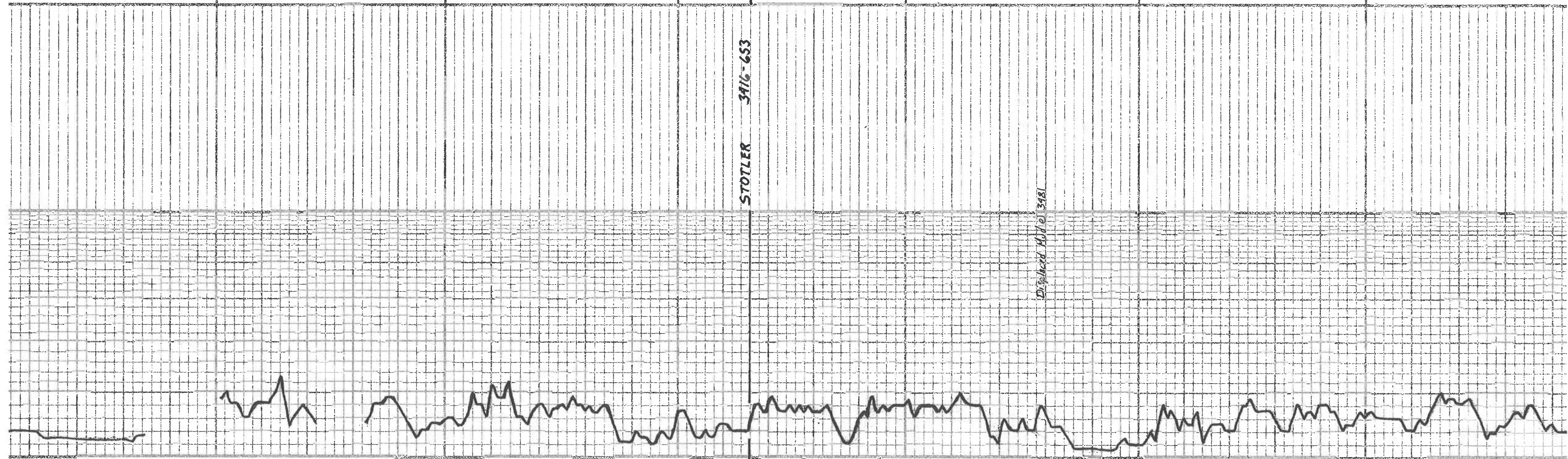
3300

3400

3500

STOTLER 3416-653

Discontinued Model 3481



3600

3700

3800

3900

Sh. clay. Silty. Sdy.

ls. wt. to. Foss. Calcitic.

ls. to. wt. Foss.ool. Sil. Chalky.

ls. wt. V.Sil. Foss. Sil. Chalky.

ls. G. Dol.

Sh. Blk.

Sh. H.G. Silty. Sdy.

ls. wt. Sil.ool. Foss.

Sh. Red. G.

ls. wt. clay. Sil. Foss.

Sh. Neg. Blk.

ls. wt. clay. Sil. Foss. ool. w/ly ool.

ls. wt. Sil. Foss. Chalky.

Al. wt.

ls. G. Foss. Sil. Foss.

HEEBNER 3778-1015  
Sh. Blk. Clay.

ls. clay. R. V.Sil. Foss.

Sh. Blk.

TORONTO 3800-1037

ls. wt. Sil. Foss. V.Sil. Chalky. F.R. Partly w/ly of T.G. Nuc.  
D.K. Bl. Sp. H. Sil. S.S.F.O. No. Foss. No. Ool.

ls. wt. V.Sil. Foss. V.Sil. Chalky.

Sh. H.G.

LANSING 3820-1057

ls. wt. to. ool. Sil. A. P. W. G. T. D. Sil. S.S.F.O.  
Dull. Foss. No. Ool.

ls. wt. clay. V.Sil. A.

Sh. Red. Clay.

ls. to. Sil. A.

ls. wt. clay. V.Sil. Foss.

ls. to. wt. Sil. Calcitic. V.Sil. Chalky.

Sh. Blk. Clay.

Sh. Bl. Blue

ls. to. wt. Sil. Foss. Sil. V.Sil. F. Nuc. of  
Sp. H. Sil. S.S.F.O. No. Ool. F. Foss.  
No. Ool.

ls. to. wt. Bl. V.Sil. Foss. Sil. Calcitic.

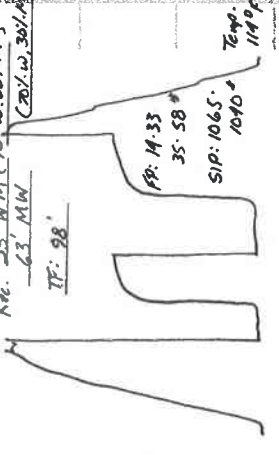
ls. wt. Sil. Foss. Sil. A.

DST (1) 3783-3830

1" OPEN: Blow built to 6"  
2" OPEN: " " " 1"

30-95-95-60

Re. 35' W.M. (90' w. 60' M)  
63' MIN (20' w. 30' M)



Tool Sample: 80' w. 20' M w/ free oil on top of tool.

Vis: 59  
WT: 88  
ML: 76  
CAL: 500



Vis: 56  
WT: 89  
ML: 80  
CAL: 500

DST (2) 3883-3910

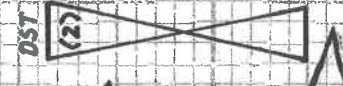
1" OPEN: Blow built to 3 1/4" decr. to 1/4"  
2" OPEN: No Blow

30-30-30-30

Re. 3' Mud



Tool Sample: 100' Mud w/ oil spots.



ES. Lg. Dns. VSI. Chly.  
**MUNCIE CREEK 3956-1193**  
Sh. Blk. Carb.  
ES. Blk. Carb. Sil. Foss. Silt. Clay. P. H. G.  
L. Bl. Sil. - Sil. Silt. VSS. F. Flour. F. Flour. F. Flour.  
Sh. Lg. Dns.  
ES. w/ Lg. Sil. Foss. Silt. Clay. P. H. G.  
SP. Bl. Sil. F. Flour. No. 0.001  
ES. Top. Dns.

Sh. Blk. Carb. ES. Lg. Bl. VSI. Foss.  
Sh. Lg. Dns.  
ES. w/ Lg. Sil. Foss. Silt. Clay. P. H. G.  
Bl. DE Bl. Sil. F. Flour. No. 0.001  
ES. w/ Lg. Sil. Foss. Silt. Clay. P. H. G.  
Sh. G. Lg. Dns.  
ES. To g. Sil. A

ES. G. Lg. Dns.  
**STARK 4039-1176**  
Sh. Blk. Carb. ES. DE Bl. VSI. Foss.  
Sh. G. Lg. Dns.  
ES. To g. Sil. A  
ES. To g. Sil. A  
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**HENRICKNEY 4076-1313**  
Sh. Blk. Carb.  
ES. Bl. Sil. Foss. Silt. Clay. P. H. G.  
Sh. G. Lg. Dns.  
ES. To g. Sil. A  
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**81KC 4102-1939**  
Sh. G. Lg. Dns.  
Sh. Lg. Blk. Carb. Sdy. Silty  
ES. w/ VSI. Foss. VSI. Chly.  
**MARMATON 4126-1363**  
Sh. Bl. Carb. Silty  
Sh. Lg. Purple  
ES. To g. Sil. A  
ES. To g. Sil. A  
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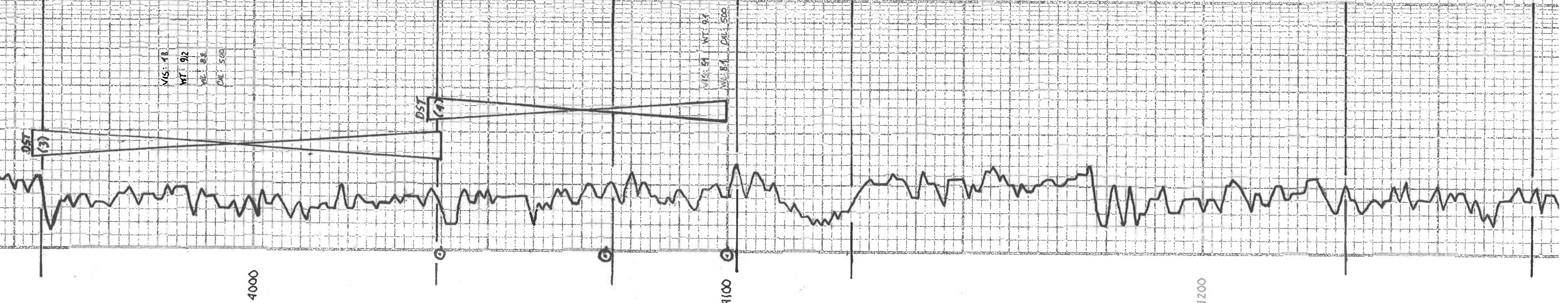
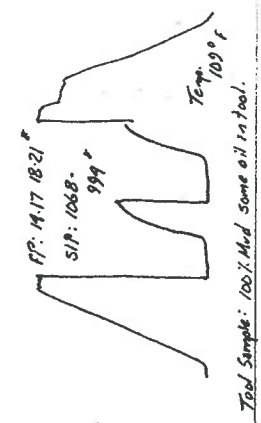
ES. To g. Sil. A  
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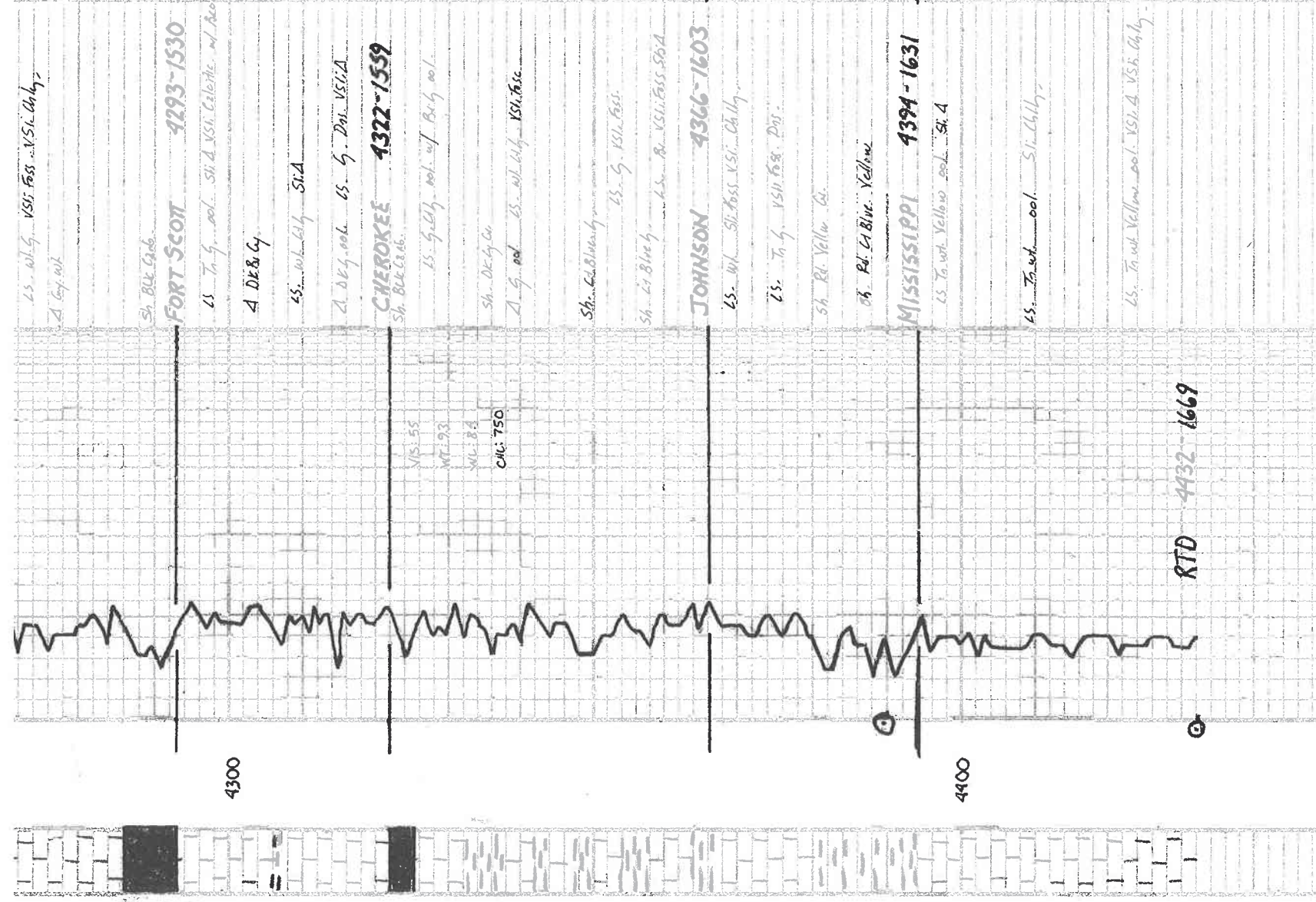
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**MYRICK STATION 4270-1507**  
ES. w/ Lg. VSI. Foss. VSI. Chly.  
Sh. Blk. Carb. ES. DE Bl. VSI. Calcific. VSI. Foss.  
Sh. Lg. Dns.  
ES. To g. Sil. A  
ES. To g. Sil. A  
ES. To g. Sil. A  
ES. To g. Sil. A  
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ES. To g. Sil. A  
ES. To g. Sil. A





Ls. wt. G. VSI. Foss. VSI. Chilly  
A. G. wt.

Sh. Blue Gr. Silt  
**FORT SCOTT 4293-1530**

Ls. Tr. G.ool. Sh. A. VSI. Celeste. w. Root.

A. D. & G.  
Ls. wt. G.ool. Silt

A. D. & G.ool. Ls. G. D. VSI. A  
**CHEROKEE 4322-1559**  
Sh. Blue Gr. Silt

Ls. G.ool. wt. of B. G.ool.  
Sh. D. & G.ool.  
A. G.ool. Ls. wt. G.ool. VSI. Foss.

Sh. Yellow Gr. Silt  
Ls. G.ool. VSI. Foss.  
Sh. Gr. Biv. Ls. R. VSI. Foss. Silt

**JOHNSON 4366-1603**  
Ls. wt. Silt. Foss. VSI. Chilly  
Ls. Tr. G.ool. VSI. Foss. D. & G.

Sh. R. Yellow Gr.  
Pl. Gr. Biv. Yellow

**MISSISSIPPI 4394-1631**  
Ls. Tr. wt. Yellow.ool. Silt

Ls. Tr. wt.ool. Silt Chilly

Ls. Tr. wt. Yellow.ool. VSI. A. VSI. Chilly

4300

4400

RTD 4432-1669

VSI. 55  
WT. 93  
SIL. 83  
CAL. 750