

# KIM B. SHOEMAKER

CONSULTING GEOLOGIST

315-684-9709 \* WICHITA, KS

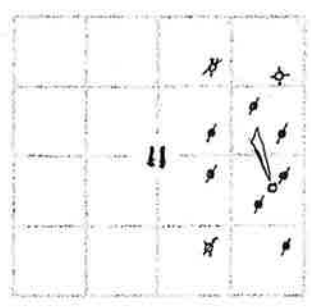
## GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY	L. D. DRILLING, INC.	ELEVATIONS	
LEASE	* I-11 WEEKS	K8	2708
FIELD	SOLOMON FORK	OF	
LOCATION	1950' FSL & 600' FEL	OL	2703
TRIP	11 9s 28w	Measurements Are All	
COUNTY	SHERIDAN KANSAS	From	2708 K8
OPERATOR	L. D. DRILLING, INC.	DRAG	
SPUD	5-1-18	ROPE	8 5/8" @ 300'
FIN	5-13-18	PIPE	5 1/2" @
WELL NO.	4450	SECTION	
WELL TYPE	3282 CHEMICAL	DUAL IND., DENS-N, MICRO	

SAMPLES START FROM	3400	TO	4450
DRILLING TIME REPT FROM	3400	TO	4450
SAMPLES OBTAINED FROM	3400	TO	4450
GEOLOGICAL SUPERVISION FROM	3400	TO	4450
GEOLOGIST ON WELL	KIM B. SHOEMAKER		

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2320+388	2323+385
B/ANH.	2353+355	2357+351
STOTLER	3448-738*	3446-738
HEEBNER	3792-1084	3794-1086
LANSING	3829-1121	3830-1122
B/KC	4058-1350	4059-1351
PAWNEE	4218-1510	4218-1510
FORT SCOTT	4870-1562	4270-1562
CHEROKEE	4292-1584	4298-1590
MISSISSIPPI	4376-1668	4372-1664



REMARKS

API: 15-179-21416

\*: Stotler Log 3443-235

5-1-18 SPUD

5-2 @ 303'

5-3 @ 1605'

5-4 @ 2505'

5-5 @ 3080'

5-6 @ 3528'

5-7 @ 3825'

5-8 @ 3868'

5-9 @ 3888'

5-10 @ 3969'

5-11 @ 4030'

5-12 @ 4157'

5-13 @ 4450'

LEGEND

	Anhydrite
	B/ANH.
	Stotler
	Heebner
	Lansing
	B/KC
	Pawnee
	Fort Scott
	Cherokee
	Mississippi

DRILLING TIME IN MINUTES PER FOOT

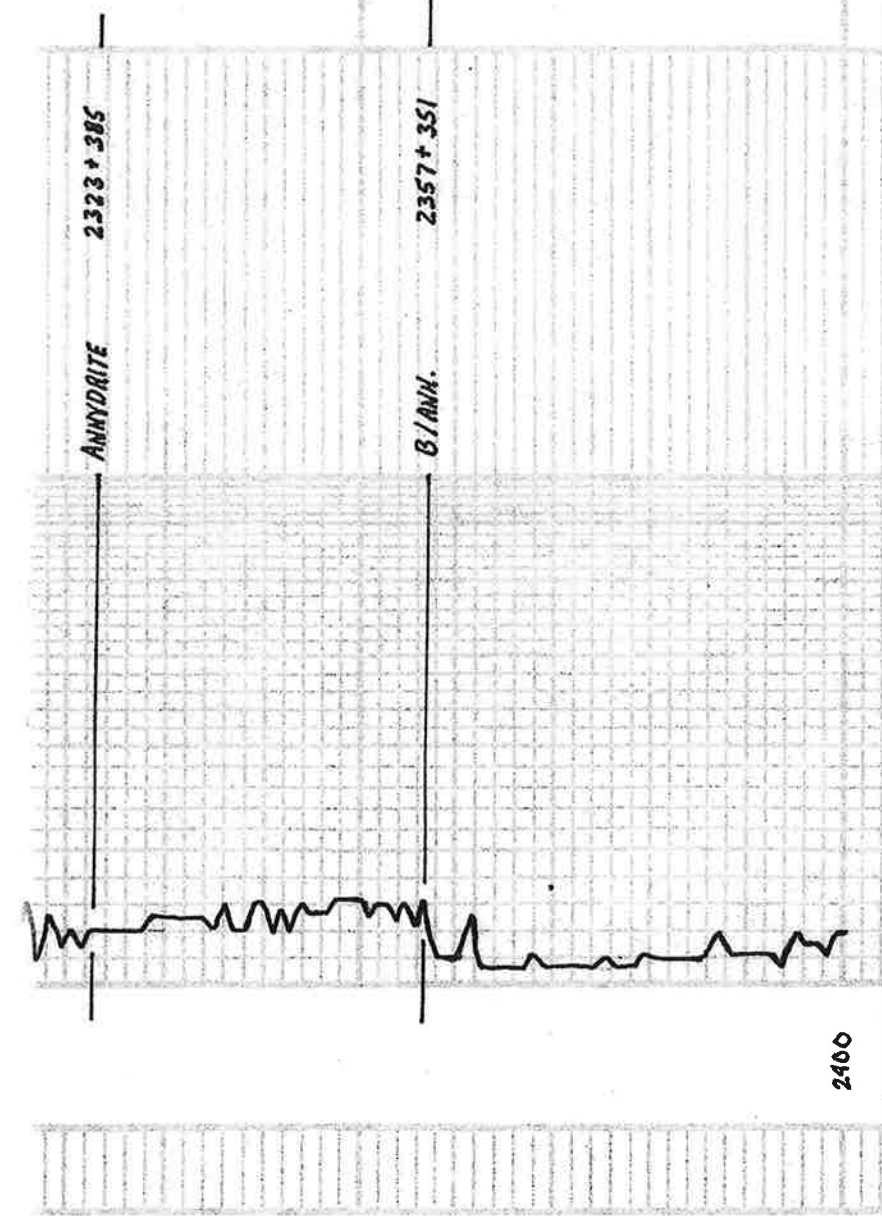
Rate of Penetration (RPM)

DEPTH 2500

LITHOLOGY

SHAPE DISRUPTIONS

REMARKS



3400

Samples are lagged

Ls. Tr. Ltg. VSI: Foss. USA

Sh. Ltg. G. Silty. Silty.

Sh. Ltg. L.A. Silty

**SPOTLER 3446-738**

Ls. wt. VSI: Foss. Silty Chilly.

Ls. wt. Foss. Calceitic

Sh. Gy. Ltg.

Ls. Gy. Silty Foss.

Ls. Tr. Ltg. Foss. Calceitic

3500

3600

Ls. Tr. wt. VSI: Foss. VSI: Chilly

Sh. Gy.

Ls. Tr. wt. Foss. ool.

Ls. Tr. wt. Silty Chilly.

Sh. Rd.

Ls. Tr. Gy. Dm.

Ls. wt. Silty Foss. Foss. VSI: Chilly.

Sh. Ltg. G.

**TOPEKA 3578-870**

Ls. wt. ool. Foss. silty Chilly.

Ls. Tr. Gy. Silty Foss.

Ls. Tr. wt. Foss. Calceitic

Ls. wt. Foss. Chilly.

Sh. Ltg.

Ls. wt. Foss. Calceitic

Ls. wt. Foss. Calceitic VSI: Chilly.

Sh. Dk. G.

VIS: 51 WT: 90  
WL: 6.4 CAL: 100

Sdy. sh. In g. blue g.

ls. wt foss. sh calcite

sh lign.

ls. Tan. foss. calcite  
ls. Tan. V. Foss. Suc. Dalmanites

sh. lign.

**DST (1) 3799-3825**  
1<sup>st</sup> OPEN: Blow drill to 6 1/4"  
2<sup>nd</sup> OPEN: " " " 7 3/4"  
BB: None

ls. wt. 7000-8000

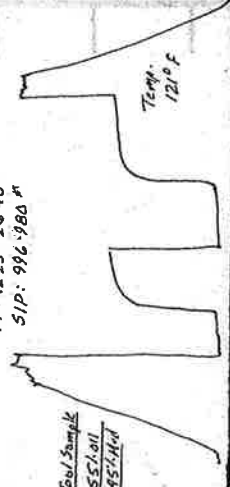
Rec. 35' Cement. 26.6xv. @ 60°F  
40' Muddy Oil (61/2" bit 392 ft)  
TF: 75'

ls. To Ltg. V.S.R.A

FP: 1225 2640 #  
SIP: 996.980 #

ls. Tan. Foss. Calcite

Tool Sample  
SS 1/4" Oil  
ES 1/4" Oil



**HEBNER 3794-1086**  
sh. Blk Carb. ls. Blg. V.S.R. Foss.

sh. L. Blg.

ls. wt. 1500-2000

Rec. 10' Cement  
45' V. S. R. M. (22 1/2" bit 287 ft)  
TF: 65'

ls. To Ltg. V.S.R.A

**DST (2) 3824-3840**  
1<sup>st</sup> OPEN: Blow drill to 2 3/4"  
2<sup>nd</sup> OPEN: " " " 3 1/4"  
30-45-45-60

sh. L. Blg.

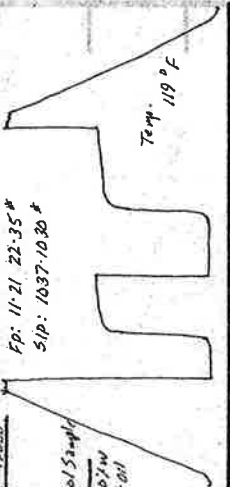
PH: 65  
RVI: 150.88  
CAL: 4800

ls. Tan. Ltg. Foss. St. Foss. F. V.S.R.  
L.R. - Dk. Bl. Sh. - Sp. Bl. Sh. V.S.R. Dull Flow  
No odor

Rec. 10' Cement  
45' V. S. R. M. (22 1/2" bit 287 ft)  
TF: 65'

**LANSING 3830-1122**  
ls. Tan. wt. Sh. and Foss. F. 10' of  
Sand Bl. - Sat. Bl. Sh. Foss. No Flow V.P. odor.

Tool Sample  
100% W  
Trail



ls. wt. Ltg. V.S.R. Foss. S.R.A

**DST (3) 3850-3868**  
1<sup>st</sup> OPEN: Bottom bucket 3 min.  
2<sup>nd</sup> OPEN: " " " 4 1/2 min.  
30-45-45-60

sh. Bl. Ltg.

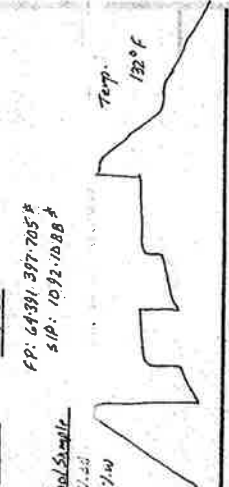
PH: 70  
RVI: 110.78  
CAL: 5500

ls. Tan. sh. Foss. V.S.R.A F. V.S.R.  
Bl. Sat. Sh. S.R. S.F.D. Dull Flow. No odor

Rec. 50' Cement (200' bit) 29.7 GSV @ 60°F  
175' O.C.M.W. (28 1/2" bit 277 ft 193 ft)  
280' V.S.R.M.W. (28 1/2" bit 267 ft 274 ft)  
680' V.S.R.M.W. (28 1/2" bit 287 ft 274 ft)  
TF: 1555'

Dull. Tan. sh. Foss. V.S.R. F. V.S.R.  
Bl. Sat. Sh. S.R. S.F.D. Bleeding Oil Dull Flow  
V.P. odor.

Tool Sample  
27.20  
97% W



ls. wt. Ltg. V.S.R. Foss. V.S.R. Calc.

**DST (4) 3868-3880**  
1<sup>st</sup> OPEN: Bottom bucket 19 min.  
2<sup>nd</sup> OPEN: " " " 18 "

sh. g.

PH: 75  
RVI: 260.69  
CAL: 27000

Dull. Tan. Ltg. M.S.R. F. V.S.R.  
L.R. - Dk. Bl. Sh. - Sp. Bl. Sh. V.S.R. F. Flow. F. odor  
ls. wt. Ltg. V.S.R. Foss. S.R.A P. Ltg.  
L.R. Sat. Sh. S.R. S.F.D. Dull Flow.

Rec. 10' Cement  
110' S.S.R. (27 1/2" bit 277 ft) 35 GSV @ 60°F  
20' G.M.W. (27 1/2" bit 287 ft 191 ft 307 ft)  
60' O.C.M.W. (27 1/2" bit 277 ft 274 ft)  
TF: 190'

ls. wt. V.S.R. Foss. S.R. Calc.

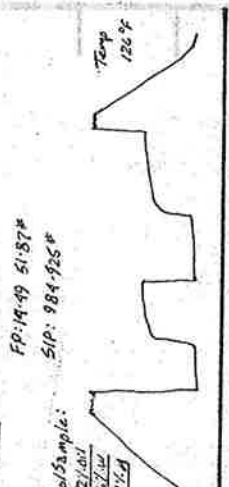
FP: 1949 5187 #  
SIP: 984.925 #

ls. wt. V.S.R. Foss. S.R. Calc.

Rec. 370' S.L.P.  
110' S.S.R. (27 1/2" bit 277 ft) 35 GSV @ 60°F  
20' G.M.W. (27 1/2" bit 287 ft 191 ft 307 ft)  
60' O.C.M.W. (27 1/2" bit 277 ft 274 ft)  
TF: 190'

ls. wt. Ltg. wt. S.R. Calc.

Tool Sample  
28.1/4" Oil  
26 1/4" W  
28 1/4" L



ls. g. Dull  
sh. Dk. g. Blk

**DST (5) 3893-3908**  
1<sup>st</sup> OPEN: Bottom bucket 12 min.  
2<sup>nd</sup> OPEN: " " " 16 "

sh. Ltg. G

PH: 70  
RVI: 113.08  
CAL: 45000

ls. Tan. sh. Foss. Sh. and Foss. F. V.S.R. - 10' of  
L.R. - Dk. Bl. Sh. - Sp. Bl. Sh. V.S.R. Dull Flow  
V.P. odor.

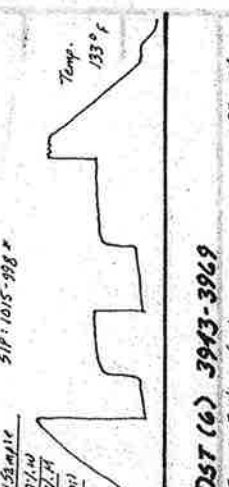
Rec. 10' Cement  
175' V.S.R.M.W. (28 1/2" bit 277 ft 207 ft)  
435' S.M.W. (28 1/2" bit 277 ft 207 ft)  
TF: 620 #

sh. Blg.

FP: 1641 13248 #  
SIP: 1015.998 #

sh. Dk. g.

Tool Sample  
39 1/4" W  
17 1/4" L  
Trail



ls. g. wt. V.S.R. Foss. Dk. Bl. Sp. Bl. Sh. V.S.R.  
No Flow No odor.

Rec. 10' Cement  
175' V.S.R.M.W. (28 1/2" bit 277 ft 207 ft)  
435' S.M.W. (28 1/2" bit 277 ft 207 ft)  
TF: 620 #

sh. Blg.

**DST (6) 3943-3969**  
1<sup>st</sup> OPEN: Bottom bucket 6 min.  
2<sup>nd</sup> OPEN: " " " 2 "

Dk. Bl. Sp. Bl. Sh. S.S.R. No Flow F. odor.  
TF: 64

Rec. 235' S.L.P.  
45' S.S.R. (27 1/2" bit 287 ft) 36.7 GSV @ 60°F  
155' O.C.M.W. (27 1/2" bit 287 ft 274 ft)  
TF: 1120'

3700

3800

3900

4000

TORONTO

3816  
-1108

**DST (2)**  
VIS: 50 WT: 9.0  
NK: 6.0 CAL: 1600

**DST (4)**

**DST (5)**  
VIS: 60 WT: 9.1  
NK: 6.0 CAL: 1900

**DST (7)**  
VIS: 55  
WT: 9.1  
NK: 6.4  
CAL: 1800

**DST (8)**



LA Blue Sulph. H.I. Co.

Sh. Yellow Bl. G. Blue

MISSISSIPPI 4372-1664

LS. Th. Bl. S.A.

A. wt. 214. 150. 600. Fresh Cut

A. Sp. wt. 1000. Fresh Cut

LS. wt. 124. 81. Chilly

LS. wt. 254. 150. Chilly

LS. wt. 385. 511. Chilly

LS. wt. 51. 600. 511. Chilly

V. MISSISSIPPI

415. 58. 177. 9. 7

Wt. 6. 7. 1000

RTD 4450-1742

4400

4500



6