

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-684-9709 * WICHITA, KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY L.D. DRILLING, Inc.
 LEASE # 1-21 HOWARD
 FIELD WILDCAT
 LOCATION 1200' FNL & 1900' FEL
 SEC 21 TWP 6s RGE 36w
 COUNTY THOMAS STATE KANSAS
 CONTRACTOR L.D. DRILLING, Inc.
 SPUD 6-11-15 COMP 6-21-15
 RTD 4860 LTD 4860
 MUD UP 3576 TYPE MUD CHEMICAL

ELEVATIONS
 KB 3385
 DF _____
 GL 3380
 Measurements to All
 From 3385 KB
 CASING
 SURFACE 8 5/8" @ -429'
 PRODUCTION _____
 ELECTRICAL SURVEYS
 DUAL IND., DENS.-N.,

SAMPLES SAVED FROM 3800 TO 4860
 DRILLING TIME KEPT FROM 3800 TO 4860
 SAMPLES EXAMINED FROM 3800 TO 4860
 GEOLOGICAL SUPERVISION FROM 3900 TO 4860
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	3012+371	3012+373
B/ANH.	3050+335	3046+339
WABAUNSEE	3899-514	3894-509
HEEBNER	4196-811	4192-807
LANSING	4246-861	4240-855
B/KC	4489-1104	4489-1104
PAWNEE	4608-1223	4606-1221
FORT SCOT	4672-1287	4670-1285
CHEMURKEE	4699-1314	4699-1314
MISSISSIPPI	NR	4850-1465

21	*
	*

API: 15-193-20953

REMARKS

6-11-15 SPUD
 6-12 @ 452'
 6-13 @ 1420'
 6-14 @ 2718'
 6-15 @ 3585'
 6-16 @ 4000'
 6-17 @ 4250'
 6-18 @ 4485'
 6-19 @ 4507'
 6-20 @ 4650'
 6-21 @ 4810'

LEGEND

- Anhydrite
- Salt
- Sandstone
- Silt
- Shale
- Carbonate
- Limestone
- Cool Limestone
- Chert
- Dolomite

DRILLING TIME IN MINUTES

PER FOOT

Rate of Penetration Increases

5" 10" 15" 20" 25"

DEPTH

SAMPLE DESCRIPTIONS

REMARKS

3000

ANHYDRITE

3012+373

B/ANH

3046+339

6-11-15-11

3100

3800

3900

4000

Samples are tagged

Sh. Bl. Silty

LS. to Sil. Foss. Yssi. L. R. F. V. Mud
Blk. Sat. ad. Sil. No. Foss. No odor
(3895)

Sh. Bl. Silty

Sh

LS. to Silty Du.

LS. wt. Sil. Foss. Silty

Silty Silty

Sh. Bl. Silty

Sh. Bl. Silty

WABUNSEL (STOLLER)

3894-509

LS. Bl. Silty Silty

Dol. LS. Fossil. Silty

Sh. Bl. Silty

LS. Dol. Foss. Yssi. L. R. F. V. Mud
Blk. Sat. ad. Sil. No. Foss. No odor
(3896)

LS. wt. Sil. Foss. Silty
Silty Dol. Bl. R. L. K. del. Sil. No. Foss. No odor
(3898)

LS. wt. Sil. Foss. Yssi. L. R. F. V. Mud
Blk. Sat. ad. Sil. No. Foss. No odor
(3897)

Sh. Bl. Silty

LS. wt. Sil. Foss. Yssi. L. R. F. V. Mud
Blk. Sat. ad. Sil. No. Foss. No odor
(3898)

Dol. Fossil. Silty

Sh. Bl. Silty

LS. Bl. Silty Yssi. Chly.

LS. Bl. Silty Dolomite Fossil

Sh. Bl. Silty

LS. wt. Foss. Colchitic

WAB 706

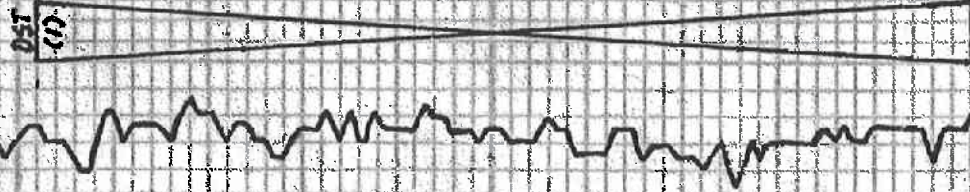
DST
-10

WAB 705

WAB 707

WAB 708

WAB 709



DST (1) 3902-4000

1st level: Blow count to 5"

2nd level: " " " 5"

30.45-45-60

Rec. 1' CO

170 V30CWM (31.01.26.27.28)

TP: 111

PP: 6.37 30.65'

SIP: 1081.1050'

AV: 8

28: Surf. Bl. Silty

29: " " " " "

30: " " " " "

31: " " " " "

32: " " " " "

33: " " " " "

34: " " " " "

35: " " " " "

36: " " " " "

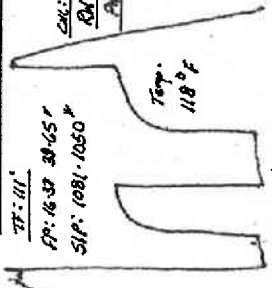
37: " " " " "

38: " " " " "

39: " " " " "

40: " " " " "

41: " " " " "



Total sample: 6.12.10 28.1.10 20.1.10

15. wt. Sil. fossil. Sil. A

Sh. Bl.

15. Dk. V. sh. Sil. S. Sil.

15. T. fossil. Calcite

15. F. fossil. Foss.

Sh. Bl.

15. wt. Sil. Foss.

15. wt. Sil. Foss. Sil. A

15. Gy. Dk. V. sh. cherty.

Sh. Dk. Sil. = Blue-4

15. wt. Sil. Fossil. Calcite

15. T. sh. Sil. Foss.

HEEBNER 1192-801

Sh. Bl. Calc.

15. wt. Sil. Fossil. Sil. Fossil. Sil. A

Sh. Bl. Sil. Silty

15. wt. Sil. Fossil. V. sh. cherty. P. G. G. P.

Bl. Dk. Sil. Silty

Sh. Bl. Silty

LANSING 1240-855

15. wt. Sil. Fossil. Sil. Cherty.

15. T. sh. Sil. Fossil. Sil. A. F. G. P. G. P.

15. Bl. Sil. Silty. No. Floor. No. Floor.

Sh. Bl. Silty

15. wt. Sil. Fossil. Sil. Fossil. Sil. A. F. G. P. G. P.

Sh. Bl.

15. T. sh. Sil. Fossil. Sil. A. F. G. P. G. P.

15. Bl. Sil. Silty. No. Floor. No. Floor.

Sh. Bl.

15. wt. Sil. Fossil. Sil. A. F. G. P. G. P.

Sh. Bl.

15. wt. Sil. Fossil. Sil. A. F. G. P. G. P.

15. wt. Sil. Fossil. Sil. A. F. G. P. G. P.

15. wt. Sil. Fossil. Calcite

Sh. Bl.

Sh. Bl. Silty

15. wt. Sil. Fossil. Sil. A. F. G. P. G. P.

15. Bl. Sil. Silty. No. Floor. No. Floor.

TOPEKA

HEEBNER

TORONTO

LANSING

V. Sil. 62
V. Sil. 90
V. Sil. 80
C. Sil. 3880

DST

(78)

DST

(87)

4100

4200

4300

DST (2) 1210-1283

15. wt. Sil. Fossil. 20 min.

15. Bl. Sil. Silty. 34 "

15. Bl. Sil. Silty. 30.15-45-60

20: blue

20: blue

Re. 323' SMV (71'H, 93'L, W)

C. Sil. 73.000

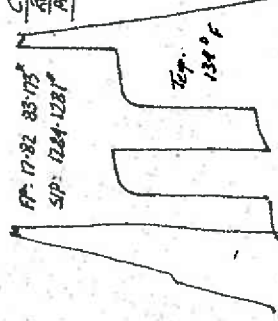
S. Sil. 00.000

W. Sil. 00.000

PP: 1782 88-175

SIP: 1284-1281

AV: 7



Tool Sample: (200' W)

