

GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

*WFL
KIT*

COMPANY Berexco LLC
 LEASE Walker NO. 11-20
 LOCATION 560' FSL + 660' FEL
 SEC. 20 TWP. 23S RNG. 32W
 COUNTY Finney, STATE Kansas
 FIELD Congdon North

CONTRACTOR Berexco Dalg Rig #1
 COMM. 6-27-2014 COMP. 7-11-2014
 RTD 4900 LTD 4934
 No. of DST'S 4 No. of CORES None

SAMPLES SAVED FROM 3600 TO TD
 DRILLING TIME KEPT FROM 3600 TO TD
 SAMPLES EXAMINED FROM 3600 TO TD
 GEOLOGICAL SUPERVISION FROM 3600 TO TD
 GEOLOGIST ON WELL Edwin H. Grieves

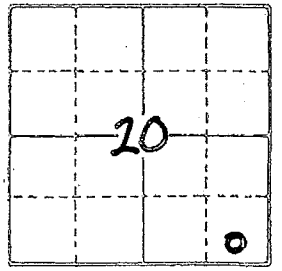
FORMATION TOPS

FORMATION	SAMPLE	LOG	SURSEA
Base Heebner	3792	3825	- 967
Toronto	3804	3837	- 979
Lansing Fm	3830	3863	- 1005
Kansas City Fm	4204	4225	- 1367
BKC	4330	4356	- 1498
Mazon	4356	4375	- 1517
Pawnee	4431	4452	- 1594
Ft. Scott	4459	4482	- 1624
Cherokee	4478	4502	- 1644
Morrow Fm	4626	4670	- 1812
St. Genevieve	4645	4699	- 1841
St. Louis	4688	4725	- 1867
St. Louis "C"	4750	4780	- 1922
TD	4900		

ELEVATIONS
 KB 2858
 DF 2856
 GL 2846
 MEASUREMENTS ARE ALL FROM KB

CASING RECORD
8 7/8" of 1705' w/ 715 SX.
 of w/ SX.
 of w/ SX.
 of w/ SX.

EL. LOG AR-RES-SP-GR
DEM-NEUT-GR-CALIPER
ML-SONIC



API# 15-055-22318

REMARKS Each Test had an unmanned gas detection trailer on this well from 3600 feet to total depth.

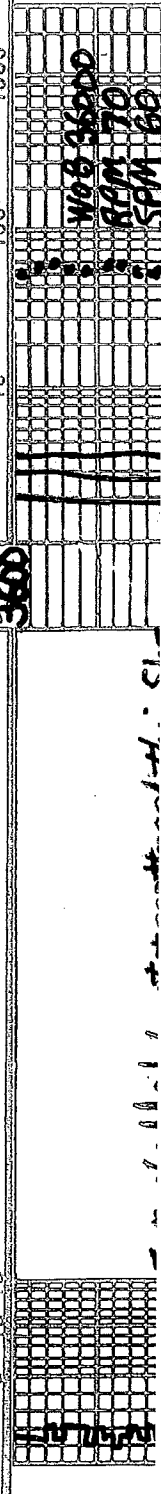
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LITHOLOGY
 SANDSTONE
 LIMESTONE
 SHALE
 GYPSUM
 CHROMATOGRAPH
 HOT WIRE BY TOTAL GAS VOLUME
 SURSTONE
 DOLOMITE
 GRANITE WASH
 SAND & GYP

C1 = METHANE
 C2 = ETHANE
 C3 = PROPANE
 C4 = ISOBUTANE
 C5 = BUTANE
 C6 = ISOPENTANE
 C7 = PENTANE

DRILL TIME SCALE

GAS SCALE



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Thank you for
 Edwin H. Grieves
 Geologist

DRILL TIME
SCALE

SAMPLE DESCRIPTION

GAS SCALE

5 10 15

3600

10

100

1000

Interbedded Lms. & scattered thin Shs
② Faster Drlg Lms. tan to abn wht to
cam-chlk + tan; crypto. to v.v. fm. x lms
sub-chlk, sub-sucro. to sucro.; abn. w
phantom oolites of a phantom
oolitic; dul. yel. + dul H. to test. yel.
fluor.; No cut; abn. pr. to fr. & thuy
tes. micro-pp + prob. interxn. por.

③ Slower Drlg. Lms. grayish tan to tan;
crypto. to v.v. fm. x lms; sub-chlks sub-sucro
+ packstn; dul. yel. to dul H. yel. fluor.;
No cut; No vis. por.

④ Scattered thin Shs. med to d. sh.
gray; sl. to v. calc. 1 P's.

Sh. v. dark gray to blk - carb

3691-3784 Interbedded Limestones
& scattered thin Shales similar
3600-3688

Sh. v. dark gray to black - carb

Sh. lt. gray, greenish 1 P's

Lms. hyp. tes. wht to cam-chlk + arg. to tan
crypto. to v.v. fm. x lms; tes. sub-chlk sub-sucro. to
sucro. + tes. packstn; abn. phantom oolitic
dul. H. to tes. H. yel. fluor.; No cut; hyp. tes. or
to fr. + sl. tes. gd. micro-pp + prob. interxn. por.

3815-30 Lms. lt. gray, grayish tan to arg. to
to v.v. fm. x lms; sub-chlk, sub-sucro. to packstn; dul.
H. yel. fluor. 1 P's No cut; No vis. por
3830-34 Lms. cam. to H. tan; v.v. fm.
x lms; sub-sucro. to v. sucro.; H. yel. fluor.
No cut; No vis. por.

3834-75 Lms. lt. gray, grayish tan to tan;
crypto. to v.v. fm. x lms; sub-chlk sub-sucro
+ packstn; tes. phantom oolitic; tes
tes. oolitic; dul. yel. fluor. 1 P's
No cut; No vis. por.

3875-83 Lms. abn. wht to cam-chlk +
lt. tan to tan; crypto. to v.v. fm. x lms
sub-chlk, sub-sucro. to sucro.; tes
phantom oolitic; tes. tes. tes. tes.
oolitic; dul. H. to H. yel. fluor. No cut
abn. pr. to fr. & thuy tes. micro-pp
& prob. interxn. por. 1 P's.

2002. 2001. 2000. 1999. 1998. 1997.

WOB 3600
RAM TO
SPIN TO
PP 1100

COAL

BLK SH 800

Cam. Basalt

Base Heaver
3788-930

BLK SH 870

To Romo

3800-942

LANSING FM

3830-972

Pass Show

1300

1200

1 P's

0 C

sub-sucrose packed tan, dul. yel, dul
fl. yel to tan. fl. yel. Fluor; No cut;
very fine p.p. to 1/16 to 1/32 in. to 1/32 in.
colicastic p.p.; Very faint. Fair

4175-4198 Lms. H. gray to tan;
CRYPTO to v.v. fn. xlm; Tan sub-sucrose
Packed tan & sub-1/16 to 1/32 in. yel.
Fluor; No cut; No Vis pore

sh. v. dark gray to black-carb.

lms. similar 4175-4498

Sh. v. dark gray to black-carb
interbedded limestones

① Lms. Tan. Greenish. 1/16 to 1/32 in. to 1/32 in.
CRYPTO to v.v. fn. v.b. Tan. sub-ehk
sub-sucrose; packed tan. Tan. sub-ehk
dul. yel. Fluor; No cut; No Vis pore

② Lms. H. to med. gray. sh. to v. shly. 1/16 to
1/32 in. to 1/32 in. yel. sub-sucrose
sub-sucrose & packed tan; No fluor; No Vis pore

③ TAN. CHEAT gray. To tan; opaque
4287-4296 lms. lvy. tan. cam-ehk
& tan. v. fn. xlm. w. tan. crypto etc. i
Tan. sub-ehk; sub-sucrose to v. v. xlm.
packed tan. No cut; No Vis pore

④ 4296-4330 Lms. H. gray to tan; crypto
to v.v. fn. xlm. sub-ehk; sub-sucrose
packed tan. 1/16 to 1/32 in. yel. No fluor
dul. yel. Fluor. 1/16 to 1/32 in. No cut; No Vis pore

⑤ 4330-4356 lms. H. to med. gray; crypto
to v.v. fn. xlm. sub-ehk; sub-sucrose
packed tan. No cut; No Vis pore

⑥ 4356-4369 lms. med. to dk gray tanish
gray to grayish. Tan. tan. crypto. to
v.v. fn. xlm. shly. 1/16 to 1/32 in. sub-ehk; sub-sucrose
sub-sucrose & packed tan; yel. No fluor; No Vis pore

4369-4371 Lms. Tan w/v. 3/6
spind to even brown oil stn.
faint oil odor; crypto to v. fn. xlm.
w/flash for fossils; oil stn. to
embedded med. to coarse xlm.
sub-sucrose to v. sucrose. packed tan
No fluor. No cut; No Vis pore
No fluor. w/flash to coal. Shiny
cut; 3/6. p.p. to 1/32 in. No cut; No Vis pore
mixed p.p. & into 2/6 & 1/6

4371-4417 Lms. Similar 4369

⑦ 4417-28 Lms. Tan. Greenish. shly & tan
crypto to v. v. fn. xlm. v. to crypto
oil stn; matrix sub-ehk; sub-sucrose
& packed tan. dul. H. to 1/16 to 1/32 in. No fluor
No Vis pore

⑧ 4420-31 sh. dk gray to blk

⑨ 4431-41 Lms H. gray to tan; crypto
to v.v. fn. xlm. sub-sucrose & packed tan.
dul. yel. Fluor; No cut; No Vis pore
⑩ Lms. H. to tan; packed tan. to even
sh. tan to h. brown oil stn. mostly
phantom oil stn. to oil stn. w/ sub-sucrose
to v. sucrose. Tan. Greenish. w/flash to v. v. fn. xlm.

Kansas City

420-4
-1946
BLK 517524

Con Gas 741

BLK 517524

Con Gas 741

Con Gas 741

BLK
4330
-1472

M.R.M. 01A
4-3-56
-1479

Con Gas 741

1254
-1254?

4-5-53-2-1
- Show 1804

Res 1404

4751
-1601

Con Gas 741

4751
-1601

4751
-1601

Show 1554

4600-4750 Lms has wht. to greenish
 + tan grayish. If crypto to v. v. sh
 xln; sl. to extra. eolite in med
 + lg matrix has chlt, fss, submed
 sub-succ + fss + chlt. No oil. No
 to has H. yel. fluor; No cut. No vis for

4750-4762 Lms. Sl. has wht.
 chlt + can. to H. tan, crypto
 to v. v. fn xln. i. extra. eolite
 (sm med lg) in a trix in v. few
 clusters. No oil. No vis for

4762-4772 Lms. Tan crypto to v. v. fn
 xln; abn oolites (sm, med + lg)
 matrix sub-eolite sub-succ +
 packs to yel. fluor; No cut
 No vis for. w/ fss w/ tan to
 blk oil in gln. yel. fluor
 faint stamp to g d Ringents

4772-4820 Intereb. of Gradational
 Limestones w/ Tan Chert
 1 Lms. similar 4762-72 w/ no apparent
 fractures or shows
 2 Lms. H. gray crypto. xln; packs to sub-eolite
 chlt. H. yel. fluor; No cut. No vis for
 3 has chert with gas to orange. No

4820-4900 Interbedded of
 Gradational lms + w/ chert
 similar 4772-4820
 w/ decrease in lms # 1 and
 an increase in lms # 2

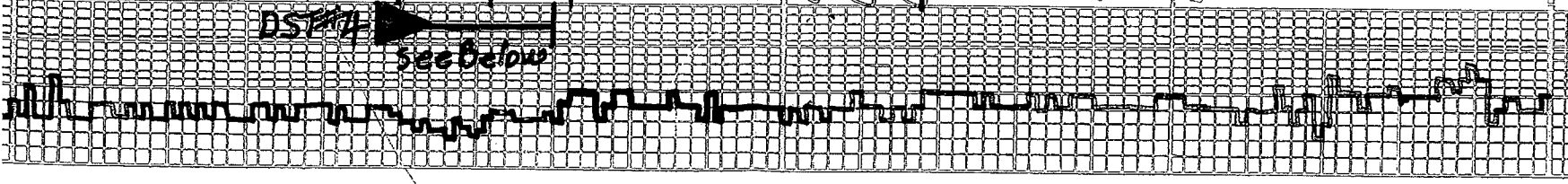
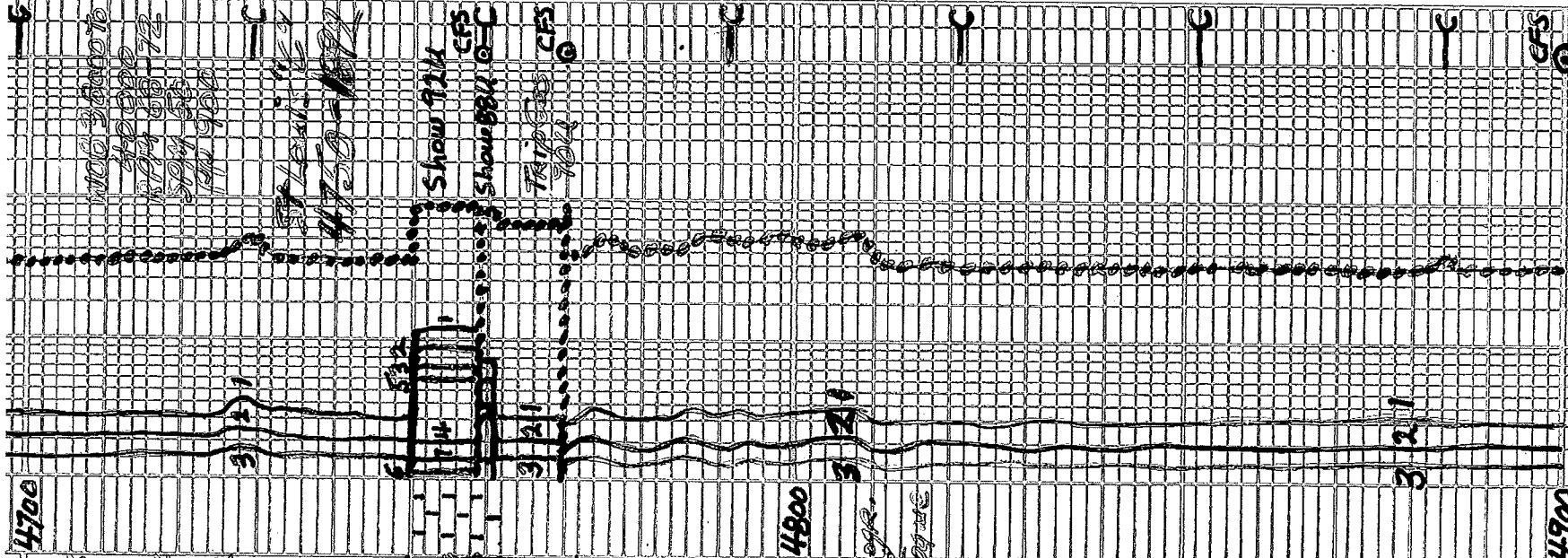
TD 4900
 7/8 inch Bit Info:
 #1 New STC FHI 18 VVPS
 in @ 1700 out @ 4900

Dev. Surv. only ones available
 1. 4660 1 3/4" 2. 4900 1 3/4" TD

Core Points

1.	3882	5	4630	9.	4900 TD
2.	4390	6	4660		
3.	4460	7	4759		
4.	4481	8	4770		

DST #1 Pawnee 4439-4460
 TD 806 in 8 min FO 808 in 5 min
 REC 2970' GIP + 4504' fluid
 135 Gassy Oil 2025' + 806 C
 195 2025' 4560' 2025' + 236' M
 Oil 5 rev. 33 API must be all
 IHP 2252 #
 IFP 14 to 19 # in 30 min.
 ISIP 1268 # in 60 min.
 FFP 92 to 171 # in 60 min.
 FSIP 1273 # in 120 min.
 FHP 2247 #



in ST # 1 etc. with blue 1-11111

IHP 2252# in 30 min.
 IFF 14 to 19# in 60 min.
 ISIP 1268# in 60 min.
 FFP 92 to 171# in 60 min.
 FSIP 1273# in 120 min.
 FHP 2247#

DST#2 Ft Scott 4461-4481
 IO surf. blow to 1/4" in 10 min.
 FO 1 1/2" built to 6 1/2" in 60 min.
 Rec 250' GIP 103 F; 158 G; 758 M
 30 G+06 M
 Max Temp 1130 F
 IHP 2146#
 IFF 9 to 17# in 30 min.
 ISIP 298# in 60 min.
 FFP 21 to 25# in 60 min.
 FSIP 649# in 120 min.
 FHP 2146#

DST#3 Morrow Salt Hall-460
 IO surf. blow to 1/4" in 30 min.
 FO surf. blow to 2 1/4" in 60 min.
 Rec: 1 ft Oil
 94 ft sol w/cm 320; 33 W; 943 M
 Max Temp 1140 F
 IHP 2256#
 IFF 10 to 27# in 30 min.
 ISIP 1075# in 60 min.
 FFP 30 to 53# in 60 min.
 FSIP 981# in 120 min.
 FHP 2256#

DST#4 St Louis Co 4747-4770
 IO surf. blow to 1 3/4" in 30 min.
 FO surf. blow to 1/4" Fow 60 min.
 Rec 45" 280; 32 W; 958 M
 Tool Samp 53 G; 1080; 33 W; 823 M
 Max Temp 1150 F
 IHP 2341#
 IFF 8 to 24# in 30 min.
 ISIP 316# in 60 min.
 FFP 27-37# in 60 min.
 FSIP 316# in 120 min.
 FHP 2338#

Daily Dalg. Progress:

- 3600 At 3:11 AM 7-3-14
- 3723 At 7:00 AM 7-3-14
- 4244 At 7:00 AM 7-4-14
- 4466 At 7:00 AM 7-5-14
- 4460 At 7:00 AM 7-6-14
- 4481 At 7:00 AM 7-7-14
- 4660 At 7:00 AM 7-8-14
- 4686 At 7:00 AM 7-9-14
- 4770 At 7:00 AM 7-10-14
- 4900 At 7:00 AM 7-11-14

Date	7-2	7-3	7-4	7-5	7-6	7-7	7-8	7-9	7-10
Time	8:25 AM	11:30 AM	6:30 AM	6:15 PM	8:45 AM	8:45 AM	6:45 AM	7:15 AM	10:15 AM
Depth	357	381	433	440	448	448	460	468	470
WT	9.35	9.05	9.2	9.4	9.1	9.1	9.25	9.2	9.4
Vis	36	44	53	57	52	48	48	47	49
PV	3	13	16	18	17	15	14	15	16
YP	4	14	18	21	18	16	15	16	17
GS	3/5	19/46	11/53	19/62	11/52	16/48	19/45	19/44	16/49
WL	NC	8.8	9.2	7.6	8.8	8.0	8.8	11.2	9.2
Cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	10.5	10.0	10.5	11.0	10.0	11.0	10.5	9.5
Cal	1650 g/m	1700	1100	1700	1650	1650	1650	1650	1650

1HP 234# in 30 min.
 15IP 316# in 60 min.
 15IP 27-37# in 60 min.
 15IP 316# in 20 min.
 15IP 2338#

Daily Dalg. Progress:

1. 3600 At 3:11 AM 7-3-14
2. 3729 At 7:00 AM 7-3-14
3. 4244 At 7:00 AM 7-4-14
4. 4460 At 7:00 AM 7-5-14
5. 4460 At 7:00 AM 7-6-14
6. 4481 At 7:00 AM 7-7-14
7. 4660 At 7:00 AM 7-8-14
8. 4686 At 7:00 AM 7-9-14
9. 4770 At 7:00 AM 7-10-14
10. 4900 At 7:00 AM 7-11-14

Date	7-2	7-3	7-4	7-5	7-6	7-7	7-8	7-9	7-10
Time	8:45 AM	8:25 AM	11:30 AM	6:46 PM	1:15 PM	8:45 AM	6:45 AM	7:15 AM	10:15 AM
Depth	3151	3816	4933	4460	4481	4481	4460	4681	4170
WT	9.35	9.05	9.3	9.4	9.1	9.1	9.35	9.25	9.4
Vis	36	44	53	57	52	48	48	47	49
PV	3	13	16	18	17	15	14	15	16
YP	4	14	18	21	18	16	15	16	17
GS	3/5	19/66	17/53	19/52	17/52	16/48	17/45	17/49	16/40
WL	NC	8.8	9.2	7.6	8.8	8.0	8.8	11.2	9.2
Calc	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	10.5	10.0	10.5	11.0	10.0	11.0	10.5	9.5
Chl	16500	3400	1700	1100	1700	1450	1800	1900	5800
Ca	HVY	20	20	20	20	20	20	40	20
LCM	2	1 1/2	2	2	2	2	1 1/2	1	1 1/2

OPERATOR Berexco LLC
 LEASE Walker
 ELEVATION 2858 KA RTD 4900

LOCATION 560' FSL + 660' FEL
 SEC 20 TWP. 23S RANG. 32W
 COUNTY Finney STATE Kansas