

GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

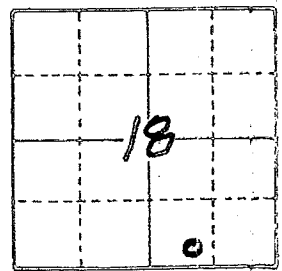
WELL FILE

COMPANY Berexco LLC
 LEASE Faye NO. 218
 LOCATION 335' FSL + 1655' FEL
 SEC. 18 TWP. 26S RNG. 33W
 COUNTY Finney STATE Kansas
 FIELD Wildcat

CONTRACTOR Beredco Drilling Rig #1
 COMM. 5-6-2014 COMP. 5-18-2014
 RTD 5225 LTD 5220
 No. of DST'S Two No. of CORES None

SAMPLES SAVED FROM 3800 TO TD
 DRILLING TIME KEPT FROM 3800 TO TD
 SAMPLES EXAMINED FROM 3800 TO TD
 GEOLOGICAL SUPERVISION FROM 3800 TO TD
 GEOLOGIST ON WELL Edwin H. Grieve

FORMATION TOPS	SAMPLE	LOG	SURSEA
<u>Baze Heebner</u>	<u>3928</u>	<u>3925</u>	<u>-991</u>
<u>Toronto</u>	<u>3944</u>	<u>3940</u>	<u>-1006</u>
<u>Lansing Fm</u>	<u>3970</u>	<u>3971</u>	<u>-1037</u>
<u>Maenaton</u>	<u>4540</u>	<u>4550</u>	<u>-1616</u>
<u>Cherokee</u>	<u>4691</u>	<u>4682</u>	<u>-1748</u>
<u>Morrow Fm</u>	<u>4940</u>	<u>4926</u>	<u>-1992</u>
<u>Chester Fm</u>	<u>5121</u>	<u>5120</u>	<u>-2166</u>
<u>St Louis</u>	<u>5145</u>	<u>5142</u>	<u>-2208</u>
<u>TD</u>	<u>5225</u>	<u>5220</u>	<u>_____</u>



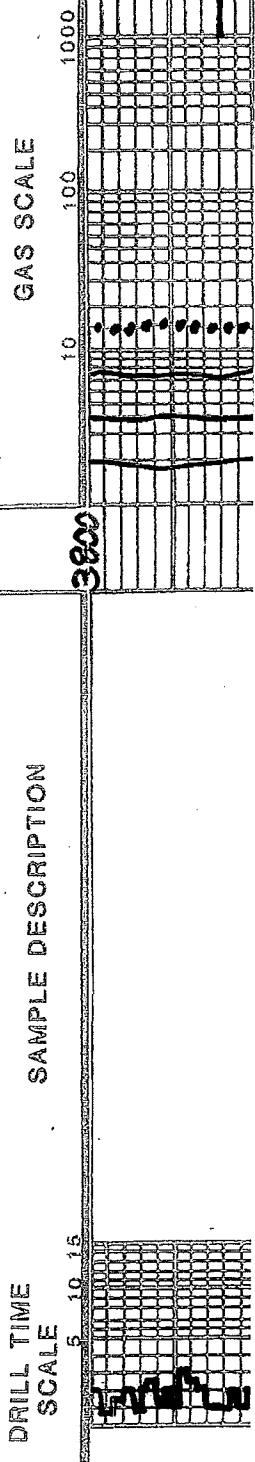
API# 15-055-22300

ELEVATIONS
 KB 2934
 DF 2932
 GL 2922
 MEASUREMENTS ARE ALL FROM KB
 CASING RECORD
858" of 1750 w/ SX.
 ___ of ___ w/ ___ SX.
 ___ of ___ w/ ___ SX.
 ___ of ___ w/ ___ SX.
 EL. LOG A.C. Res. SPGR
Den. Next GR. Caliper
M.L. XRFI. Sonic

REMARKS Earth-Tech had an unmanned gas detection trailer on this well from 3800 feet to total depth.

Handwritten notes:
 CONNOR (400)
 1400
 1500
 1600
 1700
 1800
 1900
 2000
 2100
 2200
 2300
 2400
 2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 TD

LITHOLOGY
 SANDSTONE
 LIMESTONE
 SHALE
 CHERT
 SLTSTONE
 DOLOMITE
 GRANITE MASH
 SAND & GYP
 CHROMATOGRAPH
 HOT WIRE BY
 TOTAL GAS VOLUME



CB 2

Lms. tes. to abn. wht. to grm. chlk and tan, grayish. IP's crypto. to v. vfn. xln; huy. tes. sub-chlk. Sub-succo to succo & tes pachystn; dul. H. to H. yel. and dul yel. to yel. fluo.; Nobut; abn pp. to faint & huy. tes. gd. to excel. p.p., micro-pp. & interxln por.

4000 35000
6 PM TP
5 PM 56
8 PM 950-1000

3900

Base
Heckner
3928-994

Blk Sh
4-9-11

Sh v. drk. grey. to black-carb.

Sh H. gray to H. green

Lms. huy. tes. to abn wht to cem-chlk and tan, grayish. IP's; crypto. to v. vfn. xln; tes. sub-chlk; sub-succo to succo. and pachystn; phantom pol. to yellowish brown; pollicastic IP's; dul. H. yel. to yel. fluo.; No. Cpt; abn. p.p. to huy. tes. & fogd. microp. to interxln por. to v. vfn. xln; sub-chlk; to tan; crypto. to v. vfn. xln; sub-chlk; sub-succo & pachystn; huy. tes. H. yel. fluo. IP's No. Cpt; Nobut; por.

Lms. tan; crypto. to v. vfn. xln; tes. sub-chlk; sub-fucido. to succo & pa. Cpt; phantom pollicastic IP's; dul. H. fluo. yel. fluo.; Nobut; huy. tes. p.p. to ix. microp. to poss. interxln por.

Lms. huy. tes. to abn wht to cem-chlk and tan, grayish. IP's; crypto. to v. vfn. xln; tes. sub-chlk; sub-succo to succo & tes pachystn; phantom pollicastic IP's; dul. H. yel. to yel. fluo.; Nobut; huy. tes. p.p. to ix. microp. to poss. interxln por.

Lms. huy. tes. to abn wht to cem-chlk and tan, grayish. IP's; crypto. to v. vfn. xln; tes. sub-chlk; sub-succo to succo & tes pachystn; phantom pollicastic IP's; dul. H. yel. to yel. fluo.; Nobut; huy. tes. p.p. to ix. microp. to poss. interxln por.

Lms. p. abn. wht. to cem-chlk & tan; crypto. to v. vfn. xln; sub-chlk; sub-succo to succo & tes. pa. Cpt; phantom pollicastic IP's; v. s. fluo. phantom pollicastic; dul. H. yel. fluo.; Nobut; huy. tes. p.p. to ix. microp. to poss. interxln por.

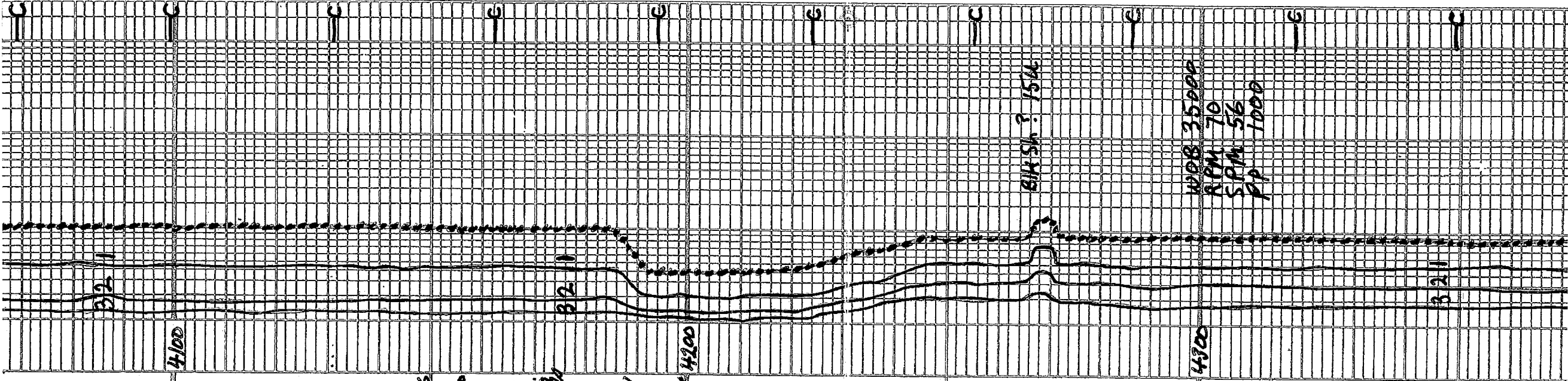
Lms. similar 3998-4011

4000

H 3

H 2

Lms

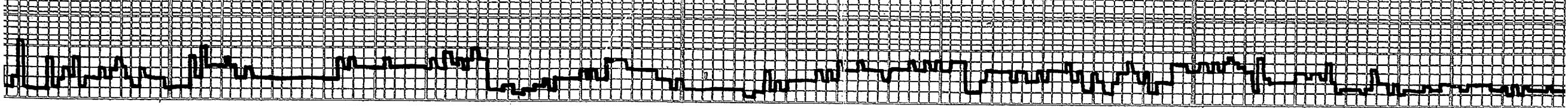


Interebedded Lms. w/ scattered Shales

① Faster Dreg. Lms. tes. to abn. wht. to cem.-chlk + tan grayish lps; crypto to v.v. fn. xln.; subchlk, sub-succo to succp; phanton oolitic lps to scattered + ds phanton oolitic; dml. yel. to yel. & dul. H. to lt. yel. fluo; No cut, abn. pr. fgs. gd. to ex. d. microp. to int. ex. in por.

② Slower Dreg. Lms. H. gray, grayish tan to tan; crypto. to v.v. fn. xln.; tan subchlk, sub-succo + packstn.; dul. yel. to dul. lt. yel. fluo.; No cut; No lit. por.

③ scattered Shales med. to dk. gray and tes. v. drk. gray - calc. lps



Sh. med. to v. drk. gray - slit to v. carb. calc
to v. drk. gray. to black - carb

Lms. tes. to abn. wht. cream. to tan -
chlk and H. tan to tan grayish lps
crypto. to v. v. l. xln. subchlk,
sub-sucro + packets; dul. yel. to
tes. yel. + dul. h. yel. Fluor. No cut.

Sh. v. drk. gray. to black - carb

Interbedded lms. / scattered shs.

① Lms. similar 4396 - 4442

② Lms. H. gray, tanish lps, crypto. xln.
packets. to tes. sub-lith. No fluor. No cut.

③ Shs. med. to v. drk. gray - calc
to v. drk. gray. to black

Lms. H. to med. gray - sl. to v. shln.;
crypto. to v. v. tan. xln. grading. lps
to calc. Shs.; sub-chlk. to v. shln. sub-
packets. + tes. sub-lith. No fluor. No cut.

Lms. h. to med. gray. whit. to cream. chlk lps
+ tan, grayish. lps, crypto. to v. v. tan
xln.; sub-chlk. to v. shln. sub-packets.
phantom oolitic lps; dul. yel. to v. No cut; No vis for

4582 - 4589 Lms. v. sl. to whit. to cream. chlk
+ H. tan. / spt. tan oil stn. / crypto
to v. v. tan. xln. sl. to v. oolitic /
sl. to v. oolitic; matrix packets w/
hoy. / 455 sub-sucro to sucro. glau
yol. to yel. to v. ool. flush to excel
steming. cuts; v. h. no. pr. to
gd oolitic; p. p. mic. fluor. /
tes. Uug. alax. pok. v. d. tes. fluor.

Lms. similar 4540 - 4582

Sh. v. drk. gray. to black - carb.
Lms. H. gray. tanish lps to tan. crypto. to v. v.
tan. xln. sub-chlk. to v. shln. sub-packets.

Kansas City 4397 - 4457

BK Sh. 4500

MARINATA 4540 - 1600

Sh. 6800

TRIP GAS 9500

016 Sh 7400

016 Sh 7400

Sh v. drk gray. to black - carb.
 Lms. H. gray. tanish lps to tan; crypto. to v.v.
 fm. sh. sub-chk. tes sub-uv. carb. to drk chrt.
 - drk. yel. & brown. lps; no cut; no v. sh. sh.

Lms. tes. w/ f. to GRM. white to tan; crypto. to v.v.
 fm. x. in. sh. to v. drk. lps; sub-chk.
 sub-succo. to tes. succo. to drk. chrt.
 fluoro. No cut; scattered fl. pp.
 micro-pp. por.

Lms. similar 4641-4648

Sh v. drk gray to black - carb

Lms similar 4641-4648

Sh v. drk gray to black - carb

Lms similar 4641-4648

4698-4940
 Interbedded limestone and shales
 1. Lms. tes. wht. to cream - chkt + tan; slt. to
 v. grayish lps; crypto. to v.v. tan. x. l. m.
 Tes. sub-chk. sub-succo. to drk. chrt.
 slt. to v. oolitic lps; drk. yel. drk. lps
 to tes. yel. fluoro. No cut. No vis for
 2. Lms. H. med. to drk. gray; slt. to
 ext. lps. Shly. grading to calc. Sh. s.
 crypto. w/ tan. v.v. tan. lps; sub-chk.
 & for shly. tes. sub-succo. to drk. chrt.
 No fluoro. No cut. No vis for

3. Sh. med. to v. drk. gray - calc
 greenish gray to tes. green
 scattered thin sh. s. v. dr. gray
 to black - carb

A. 4940-4956 Sh med. gray;
 drk. gray. - splintery & tes. lt. green
 to olive gray.

B. Lms. gray to tan w/ sptd. to tes. even
 ban to drk. brn. oil stain; tes. live oil
 crypto. to v.v. tan. x. in. matrix w/ a bit
 to ext. lps. sub-succo. to drk. chrt. No
 mat. sub-succo. to succo. to drk. chrt.
 drk. gl. dr. to gl. dr. yel. fluoro. flush
 to excel. streaming. Cut; tes. pr.
 to slt. tes. fr. micro-pp. to prob.
 inter. lps. por

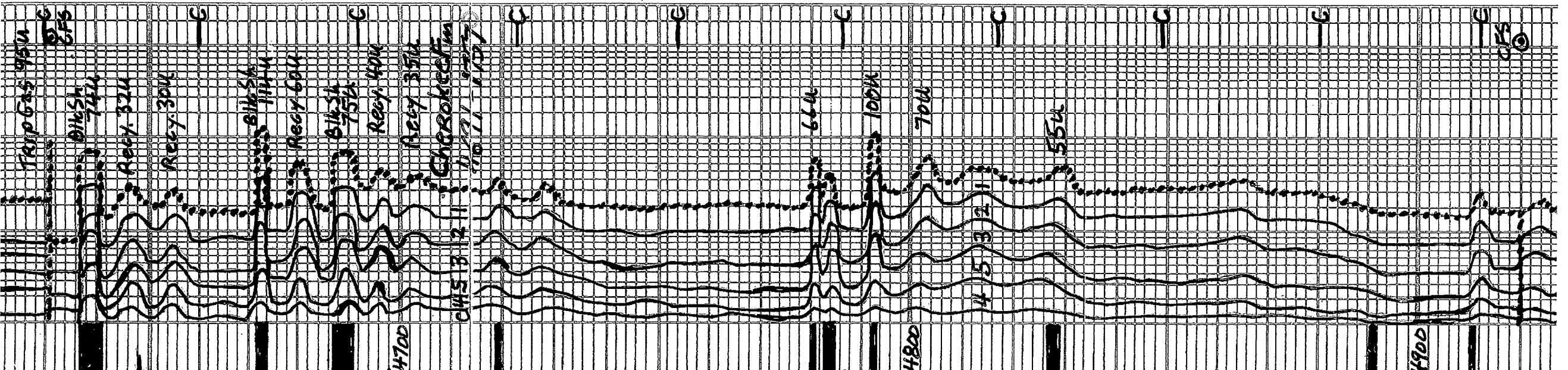
C. 4960-4965 Lms similar
 4956-60 (B. above) with/only
 scattered tes sptd. oil stain and
 No vis por.

D. 4965-4983 Sh similar 4940-
 4956 (A above)

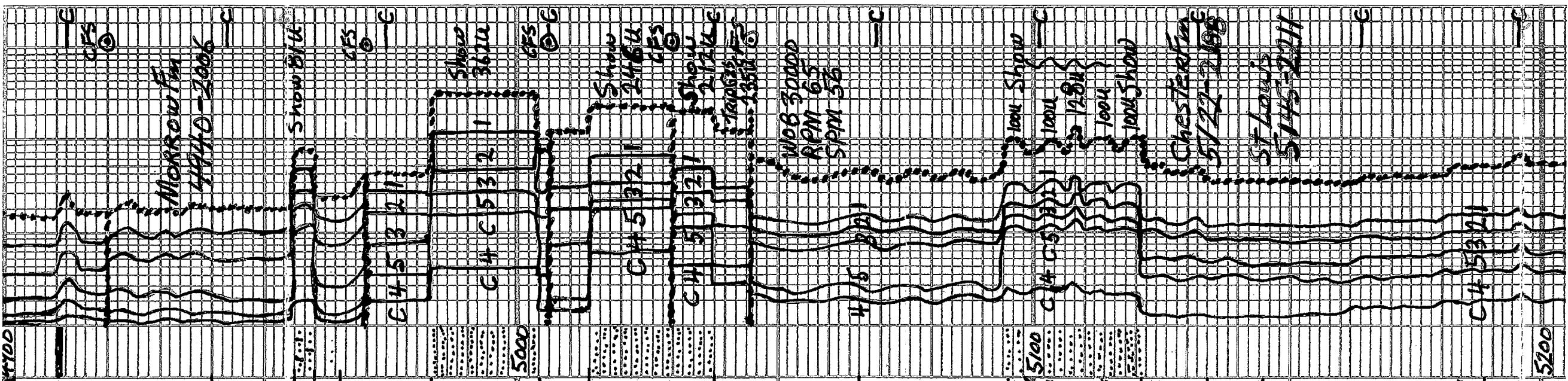
E. 4983-5004 drk. tan, drk.
 tan, ban to drk. brn. from oil stain
 good to strong oil oiled; v. to v.
 (flu. gray. ang. pr. to dr. so. t. tes
 to hvy tes. w/ tes. to hvy tes. glauc
 to dr. Chlorite; H. greenish yel.
 fluoro when wet to gl. dr. yel
 fluoro when air dried; excel
 staining cuts; a bit pr. to dr. to gl.
 intergr. por. & tes. poor micro-pp
 por. lps

F. 5004-5014 Sh. similar 4940-56
 (A above) becoming silty lps grading
 to shly silt. tes & silt. lps; No
 fluoro. No cut. No vis for

G. 5014-5038 drk. silt similar
 4983-5004 (E above) predom
 v. tan gray; w/ wht to gray clay
 filling lps; and only tes to hvy
 tes. w/ poor
 H. 5038-5066 Sh med to drk
 gray. soft & musc. to fine



G. 5014-5038 Qtz Sd st similar
 4983-5004 (E above) predom
 v. fine gr. w/whit to gray clay
 filling lps; and only tes to hvy
 fras. w/poor
 H. 5038-5066 Sh med to dk
 gray. soft & mushy to frienq
 J. 5066-5098 Sh. med to dk
 gray - sli to v. silty lps



A
 B
 C
 D
 E
 F
 G
 H
 I

5098-5121 Qtz Sd st. H. gray
 to crm. w/v. abn. gr. k. tan to
 brn. oil stn. v. fine w/abn. frags
 ang. pr. to fr. so rt. zbn v. to v. l
 calc for dolomite: tes. to abn. H. gray
 calc. Sh. fine s. status - micr.
 mica coars. tes. Lmp. res. lps. gl. d. v. ol
 to dk. gl. v. yellow. flash to rd. stony
 cuts. 7.6. pr. tes. to tes. qd. microp
 to inter. h. por. lps
 Lms. H. gray. grayish. tan to tan. crypto. to v. v. v.
 xly. micra. oolitic w/por. tes. to v. v. v.
 Qtz. sd. tang. in a. fine. ch. s. sub. tes. to
 s. w. ch. s. med. to lps. oolitic. m. 2. 1. r
 ch. s. sub. ch. s. med. to lps. oolitic. m. 2. 1. r
 ch. s. sub. ch. s. med. to lps. oolitic. m. 2. 1. r
 Lms. similar. 5121-5134 w/abn. shale
 H. gray to lt. greenish. H. gray. and
 H. gray. ch. s. med. to lps. oolitic. m. 2. 1. r

Interebedded % Gradational lms
 1) Lms. tes. wht to crm-chk + tan
 crypto. to v. v. fine. lps. v. to v. lps
 oolitic (s. med + lps) matrix
 ch. s. sub. ch. s. med. to lps. oolitic. m. 2. 1. r
 dwl. H. gray. fluor. id. cut. No Vis for
 2) Lms. H. gray. to tan. crypto. to
 v. v. v. ch. s. sub. ch. s. med. to lps. oolitic. m. 2. 1. r
 and sub-lithographic
 sli. to s. l. oolitic lps (s. med. to

cryptop. to u.u. ch. x in. v. 10 EXIM7
 oolitic (summed + 1/2) matrix
 ch. l. s. sub-chalk, sub-sandy oolitic
 d. w. H. vel. fluor. dol. cut. No Vis for
 Lms. Mg. x. to tan; crypto to
 u.u. for x in. sub-sandy oolitic
 and sub-lith. oolitic
 sl. to early oolitic (summed + 1/2)
 d. w. H. vel. fluor. dol. cut. No Vis for
 has chert gray to orangish tan
 op. 9.4

TD 5225

7 7/8" Bit Info
 #1 New Varol HEZIMSU 1760 4631
 #2 ReRun STL F27I 4631 5045
 #3 ReRun STL F12YMS 5045 5225 TD
 Dev. **SuAV.**

1. 830 1/2 5. 4631 1/2
 2. 1760 3/4 6. 5045 3/4
 3. 2350 1/2 7. 5225 1/2 TD
 4. 3400 1/2
- CIR Points
1. 4030 6. 5006
 2. 4580 7. 5030
 3. 4631 8. 5045
 4. 4920 9. 5225 TD
 5. 4970

Daily Drilg Progress:

1. 3800 At 5:39 PM 5-11-2014
2. 4131 At 7:00 AM 5-12-2014
3. 4604 At 7:00 AM 5-13-2014
4. 4631 At 7:00 AM 5-14-2014
5. 4805 At 7:00 AM 5-15-2014
6. 5045 At 7:00 AM 5-16-2014
7. 5066 At 7:00 AM 5-17-2014
8. 5225 At 7:00 AM 5-18-2014

DST #1 Maramaton 4581 - 4631
 ID Surf Blow built to 5" in 30 min
 FD Surf Blow built to 4" in 60 min
 Rec. 280° MW w/ oil splks in Tool
 Rv. 1150° 70° Chl 68000ppm Fitch 3800ppm
 Ph. 6.5 Mar BHT 1210

IHP 2225# FFP 11-53# in 60 min
 IFP 12-65 in 30 min FSP 1142 in 120 min
 ISIP 1193 in 60 min FHP 2188

DST #2 Narrow 4971 - 5045
 ID Surf Blow Died 8 min FD No Blow
 Rec. 100° sl. oil spl. Mud; Mar BHT 1220
 Tool sample Trace Oil + Mud
 IHP 2310#
 IFP 30-47# in 15 min
 ISIP 923# in 30 min
 FFP 45-62# in 30 min
 FSP 905# in 60 min
 FHP 2294#

Mud Info.

Date	Time	5-11	5-12	5-13	5-14	5-15	5-16	5-17
Depth	3646	4248	4631	4631	4631	4682	5045	5134
WT	8.6	9.25	9.35	9.3	9.4	9.35	9.35	9.3
Vis	46	47	50	50	47	67	67	62
PV	14	14	16	16	15	18	20	
YP	15	15	17	16	15	22	22	
GS	144	144	145	148	148	144	156	155
ML	9.5	8.4	8.0	8.0	8.0	9.2	10.4	
Cake	1/32	1/32	1/32	1/32	1/32	1/32	1/32	
pH	11.0	9.5	9.5	9.5	10.0	9.5	9.0	

5200

EFFS
D

Daily Progress:

1. 3800 AT 5:39 PM 5-11-2014
 2. 4131 AT 7:00 AM 5-12-2014
 3. 4604 AT 7:00 AM 5-13-2014
 4. 4631 AT 7:00 AM 5-14-2014
 5. 4805 AT 7:00 AM 5-15-2014
 6. 5045 AT 7:00 AM 5-16-2014
 7. 5066 AT 7:00 AM 5-17-2014
 8. 5225 AT 7:00 AM 5-18-2014
- DST #1 Maramaton 4581 - 4631
 ID Surf Blow built to 5" in 30 min
 FD Surf Blow built to 4" in 60 min
 Rec. 280° MW w/ oil spks in Tool
 Rv. 115° 70° Chl 680000m PITCH 380000m
 Ph. 6.5 May BHT 1210
- IHP 2225# FFP 1153# in 60 min
 IFP 12-65 in 30 min FIP 1142# in 120 min
 ISIP 1193# 60 min FIP 2188
- DST #2 MORROW 4971 - 5045
 ID Surf Blow Died 8 min FD No Blow
 Rec. 100° Oil Spkd Mud, May BHT 1220
 Tools sample Trace Oil + Mud
- IHP 2310# in 15 min
 IFP 30-41# in 30 min
 ISIP 923# in 30 min
 FFP 45-62# in 30 min
 FSP 905# in 60 min
 FIP 2194#

Mud Info.

Date	5-11	5-12	5-13	5-14	5-15	5-16	5-17
Time	2:00 P	12:5 P	11:30 A	8:20 A	7:00 A	11:00 A	11:00 A
Depth	3646	4248	4631	4862	5045	5134	
WT.	8.6	9.25	9.35	9.3	9.4	9.35	9.3
Vis	46	47	50	50	47	67	62
PV	14	14	16	16	15	18	20
YP	15	15	17	16	15	22	22
GS	14/46	14/45	14/48	15/48	14/44	19/56	19/55
NL	9.6	8.4	8.0	8.8	8.0	9.3	10.4
Gate	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	11.0	9.5	9.5	9.5	10.0	9.5	9.0
Chl	2600	3600	3800	3400	2800	3500	4100
Ca	20	20	20	20	20	20	20
LCM	4	2	1 1/2	2	2	1	2

OPERATOR BERRYCO LLC

LEASE FAYE

ELEVATION 2934 KBWD

NO. 2-18

STATE KANSAS

LOCATION 335' FSL + 1655' FEL

SEC. 18 TWP. 26 S ANG. 33 W

COUNTY Finney STATE KANSAS