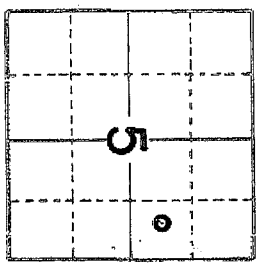


GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

COMPANY BEREXCO LLC NO. 1-5
 LEASE GARY LOCATION 1980'FNL & 770'FEL
 SEC. 5 TWP. 30S RNG. 16W
 COUNTY KIOWA STATE KANSAS
 FIELD WILDCAT
 CONTRACTOR BEREDCO DRIG. RIG NO. 2
 COMM. 5-16-2012 COMP. 5-28-2012
 RTD 4978 LTD 4974
 No. of DST'S THREE No. of CORES NONE
 SAMPLES SAVED FROM 3700 TO TD
 DRILLING TIME KEPT FROM 3700 TO TD
 SAMPLES EXAMINED FROM 3700 TO TD
 GEOLOGICAL SUPERVISION FROM 3700 TO TD
 GEOLOGIST ON WELL EDWIN H. GRIEVES
 FORMATION TOPS

SAMPLE	LOG	SUBSEA	ELEVATIONS
BASE HEEBNER	3871	-1956	KB 1915
LANSING	4053	-2133	DF 1912
MARMATON	4471	-2543	GL 1902
PAWNEE	4539	-2612	MEASUREMENTS ARE
FT. SCOTT	4568	-2645	ALL FROM <u>KB</u>
CHEROKEE	4583	-2659	
MISSISSIPPI	4613	-2691	
KINDERHOOK SH.	4691	-2775	
VIOLA	4718	-2792	
TD	4978		



REMARKS Earth-Tech (1-888-543-8378) had an unmanned gas detection trailer on this well from 3700 feet to total depth.

Sample quality on this well was extely poor. Poss. from samples being mix in uphole wash outs.

Thank you,
 Edwin H. Grievess
 Geologist

LITHOLOGY

SANDSTONE [bracket symbol]

LIMESTONE [brick symbol]

SHALE [horizontal lines symbol]

CHERT [diagonal lines symbol]

SLTSTONE [dotted symbol]

DOLOMITE [cross-hatch symbol]

GRANITE WASH [wavy lines symbol]

AWAY & GYP [diagonal lines symbol]

CHROMATOGRAPH

HOT WIRE BY

TOTAL GAS VOLUME

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

DRILL TIME SCALE

5 10 15

SAMPLE DESCRIPTION

3700

63/2

Lms. tan, grayish. IP's crypto. to v.v. fu xln.; trs sub-ckk, sub-succo. and packstn.; dul. lt. to lt. yel. fluor.; No cut; No Vis For

Lms. hvytes wht. to crm-ckk & tan, aqvil IP's crypto. to v.v. fu xln.

GAS SCALE

10 100 1000

sl. trs. good micro-pp. por. and
 poss. interxlu. por. pp's
 scattered thin interbeds Shales
 med to drk gray - sl. to v. calc.

Lms. tan to lt. gray crypto. to v. fu. xlu
 crypto. to v. fu. xlu. w/ trs. med. to th.
 clear calc. xls + bezm; sl. tas. sub-chlk
 and sub-sucro. to sub-extaly sucro.;
 dul. yel. to yel. fluor.; tas. w/ faint to fair ring
 cut; abn. pr. to ext. tas. gd. micro-pp. to
 lute. xlu. por. + poss. vugular por.
 Lms. tan; crypto. to v. fu. xlu; sl. tas
 sub-chlk, sub-sucro. + packstn. dul. yel
 fluor.; No Cut; No Vis Por

Prob sh. v. drk. gray to black-carb
 Lms. similar 4334-4356

Lms. tan; crypto. to v. fu. xlu. trs. subchlk
 sub-sucro. to trs. sucro. + packstn.;
 tas. composed of hm. grs.; dul. yel
 to trs. dul. h. yel. fluor.; No cut
 scattered trs. pr. micro-pp. por

Shs. med. to v. drk. gray - calc to v. drk
 gray to black-carb. looking

Lms. lt. gray to tan; crypto. to v. fu. xlu
 sl. tas. sub-chlk, sub-sucro. + packstn.
 dul. h. to trs. h. yel. fluor.; No cut
 No Vis Por

Sh. v. drk. gray to black-carb. looking
 Sh. drk to v. drk. gray to black; sl.
 to v. calc

Interbedded Limestones and Shales
 Lms. lt. gray, grayish tan to tan; crypto. to
 v. fu. xlu; sl. tas. sub-chlk, sub-sucro.
 + packstn.; dul. yel. fluor. pp's; No cut
 No Vis Por.

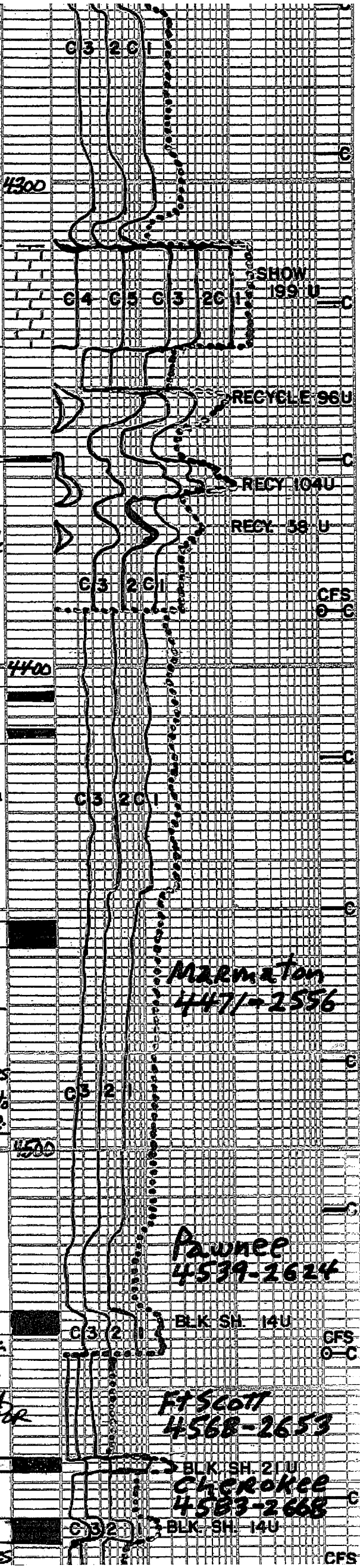
Sh. med. to v. drk gray; slightly
 to extaly. calc.

Sh. v. drk. gray to black-carb
 Sh. med to v. drk gray - sl. to extaly. calc

Lms. grayish tan to tan; crypto. to v. fu. xlu;
 tas. sub-chlk, sl. tas, sub-sucro. and
 packstn.; dul. h. yel. fluor.; No cut; No vis por

Sh. v. drk. gray to black-carb
 Lms. similar 4543-4565

Sh. v. drk. gray to black-carb
 From samples! Interbedded Lms + Shales



Lms. grayish tan to tan; crypto. to v.v. xln.;
tas. sub-cblk, sl. tas, sub-sucro, and
pachstn.; dul. lt. yel. fluor; No cut; No vis for

FT Scott
4568-2653

Sh. v. dk. gray to black - carb
Lms. similar 4543-4565

BLK SH. 21U
Cherokee
4583-2668

Sh. v. dk. gray to black - carb
From samples? Interbedded Lms + shales
① Lms. lt. gray to tan; crypto. to v.v. xln.; tas.
sub-cblk; sl. tas. sub-sucro or pachstn.;
tas. w/ dul. lt. yel. fluor; No cut; No vis for

Mississippi
4619-2698

② Sh. med. to v. dk. gray, sl. to faly. calc
Sh. med. to dk. gray - splintery w/ hvy tas
v. light red sh. reds, brns, grns + maroons

Tripartitic chert, tas. wht. fresh;
abn. bone wht. sl. weathered + abn. bone
w/ fat to well weathered; abn.
w/ spid. brn. oil str. faint to
oil odea; yel. to brn. yel. gl. d. yel.
fluor.; flush to chert staining cuts
abn. proto. + tas. + sl. tas. ev. cal
micro-pp. por.; v. Quest. Perm
4620-4650 chert hvy tas. fresh wht
to v. abn. bone wht. sl. weathered
to hvy tas. faly to well weathered

SHOW 111U
SHOW 45U
TRIP GAS
670U
SHOW 89U

Show the same as above in Rock w/
por.; hvy tas. proto. + sl. tas. +
p.p.; micro-pp. por. v. Quest. Perm

4650-4677 Sh. med. gray, sl. to faly
calc. earthy matt looking texture
w/ hvy tas. v. light red sh. in bottom
of zone reds, greens, maroon + brns
Chert fresh - v. lt. gray to wht
opaque to transl. w/ abn. bone wht
v. sl. weathered w/ scattered spid
H. brn. oil str. yel. fluor. w/ faint stain
to good ring cuts; No vis for

TRIP GAS
450 U

Sh. med. to dk. gray, brownish IP's
sl. to v. calc. IP's w/ abn
maroon, and tas. reds + greens

Kinderhook
4691-2716

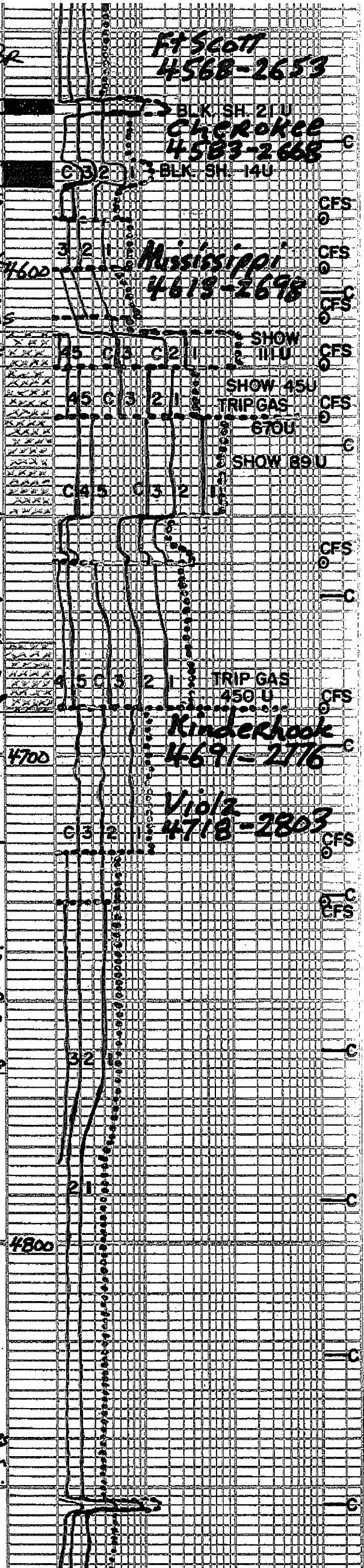
Interbedded for Gradational
Limestones and Dolomites
① Lms. tan; crypto. to v.v. xln.;
sub-cblk, sub-sucro + pachstn.;
sl. to extaly dolo. IP's gradng. to
calc Dolo; dul. lt. to lt. yel. fluor;
No cut; No vis for

Viola
4718-2803

② Dolo lt. gray to grayish CRM; crypto
to v.v. xln.; tas. sub-cblk + sub-sucro
to sucro; dul. yel. to yel. fluor.
No cut; No vis for

③ Tas. chert w/ to lt. gray, transl. to opaque
poss. fresh above

Interbedded for Gradational
Limestones + Dolomites similar
4718-4765 w/ abn. chert
lt. gray, CRM, wht., tan + greens
transl. to opaque and sl. to hvy tas
shs olive green to brt blue green
(other abn. shs in sample prob.
from above)



Limestones + Dolomites similar
 4718-4765 w/abn chert
 lt. gray, cream, white, tan + greens
 transl. to opaque and sl: to hvy tes
 shs olive green to brt blue green
 (other abn shs in sample prob.
 from above)

Chert fresh, white, gray + tan, ag.
 to transl. w/hvy tes, bone wht
 sl: weathered, yellow. IP's;
 No cut, No lvs, No w/V. Zbn Limest
 Dolomites similar 4718-4765
 poss from above.

Interbedded to Gradational
 Limestones + Dolomites similar
 4718-4765 w/tes of more
 dolomitic to dolomite having
 tes p to fine micro: pp part poss
 inter. ex. pp. tes to hvy tes chert
 similar 4904-20 prob stringing in samples
 from above

Sh med to drk gry. w tes to abn
 m. p. o. s, reds, browns, olive gry
 + brt blue greens; w/tes
 of CRAP from up hole

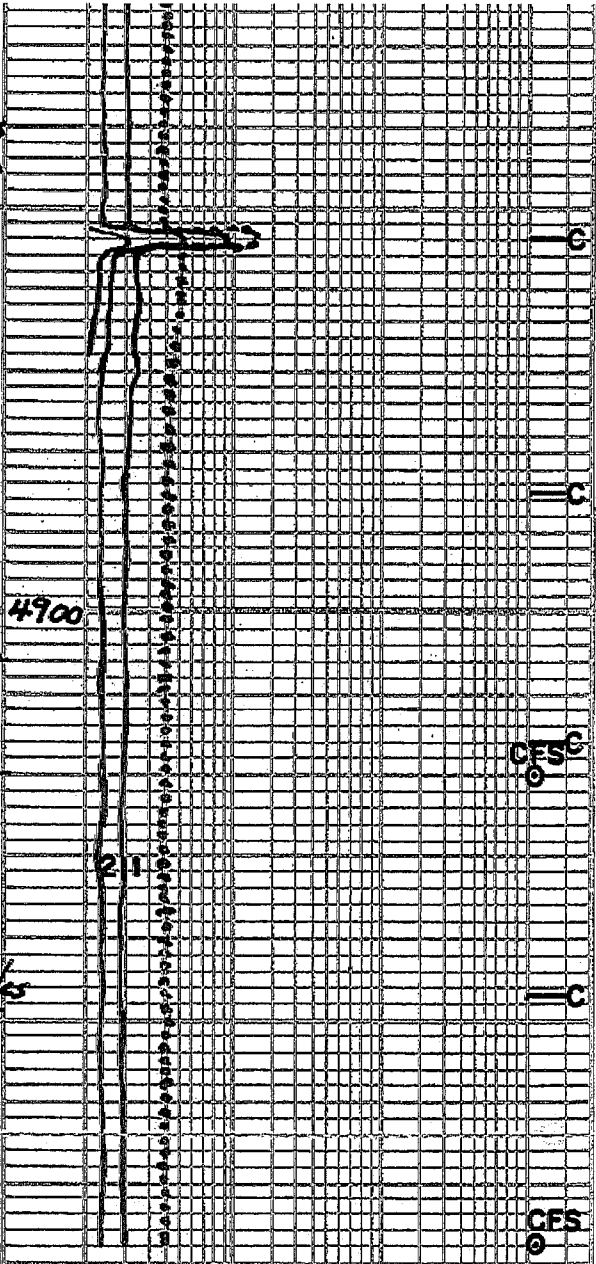
TD 4978

2 1/2 inch Bit Info:
 (D) New Smith F 27 IY tekone button
 in 322 out 4978 TD

- Cir Points:
- | | |
|---------|-------------|
| 1. 4113 | 8. 4630 |
| 2. 4388 | 9. 4660 |
| 3. 4543 | 10. 4690 |
| 4. 4590 | 11. 4720 |
| 5. 4600 | 12. 4730 |
| 6. 4610 | 13. 4920 |
| 7. 4620 | 14. 4978 TD |

- Daily Drlg. Progress:
- | | | |
|----------|-------------|-----------|
| 1. 3283 | At 7AM | 5-20-2012 |
| 2. 3700 | At 10:44 PM | 5-20-2012 |
| 3. 3911 | At 7:00 AM | 5-21-2012 |
| 4. 4380 | At 7AM | 5-22-2012 |
| 5. 4610 | At 7AM | 5-23-2012 |
| 6. 4630 | At 7AM | 5-24-2012 |
| 7. 4690 | At 7AM | 5-25-2012 |
| 8. 4690 | At 7AM | 5-26-2012 |
| 9. 4933 | At 7AM | 5-27-2012 |
| 10. 4978 | At 7AM | 5-28-2012 |

DST #1 4602-4630 Mississippi
 Miss Run Packer Failure
 DST #2 4562-4630 Mississippi
 ID Strong Blow BOB 13 min
 PD Fair to strong Blow BOB 19 min
 Rec 390 feet GIP
 65 ft GCM w/ good ader
 BWT 123°F
 IHP 2350 #
 IFP 40-46 # in 30 min
 SIP 308 # in 60 min
 FFP 46-56 # in 90 min



DST #1 4602-4630 Mississippi
Miss Run Packer Failure

DST #2 4562-4630 Mississippi
ID Strong Blow BOB 13 min
FO Fair to strong Blow BOB 19 min
Rec 390 feet GIP
65 ft GCM w/good ader
BWT 123°F
IHP 2350 #
IFP 40-46 # in 30 min
ISIP 308 # in 60 min
FFP 46-50 # in 90 min
FSIP 661 # in 120 min
FHP 2302 #

DST #3 Mississippi 4630-4690
ID weak blow incr. to 3 inches
FO weak blow incr. to 3 1/2 inches
Rec Trace Gas in Pipe
115 soc w/m 4% oil 14% water 828 Mud
chl. T. treated to 11500 ppm
pitchl. 11100
BWT 120°
IHP 2349 #
IFP 46-62 # in 30 min
ISIP 208 # in 60 min
FFP 61-75 # in 90 min
FSIP 493 # in 120 min
FHP 2266 #

Mud Info:

Date	5-19 9:30A	5-20 11:00P	5-21 10:40A	5-22 11:20A	5-23 2:30P	5-24 12:25P	5-25 12:25P	5-26 3:25 PM
Depth	2833	3421	4019	4426	4630	4630	4690	4754
Wt.	9.7	9.55	9.5	9.25	9.25	9.15	9.25	9.3
Vis	29	32	48	47	47	51	67	48
PV	2	3	13	14	13	15	16	14
YP	2	3	15	15	14	16	24	15
ES	2/3	3/4	15/17	14/45	13/38	16/49	21/68	15/48
WL	N/C	N/C	10.0	9.5	8.8	12.8	21.3	12.0
Cake	-	-	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	7.0	11.0	10.0	10.5	9.5	8.5	9.5
chl	6600	46000	7600	5900	7700	8300	11100	10000
Ca	NVY	NVY	20	20	20	40	260	40
LCM	0	1/2	0	0	2	2	2	2

Date	5-27 12:40P							
Depth	4978							
Wt.	9.15							
Vis	55							
PV	16							
YP	17							
ES	17/50							
WL	10.0							
Cake	1/32							
pH	9.5							
chl	9100							
Ca	60							
LCM	2							

61-75 # in 00 min
 FHP 493 # in 70 min
 FHP 2266 # in 120 min

Mud Info:

Date	5-19 9:10A	5-20 12:10P	5-21 10:40A	5-22 11:30A	5-23 2:30P	5-24 12:35P	5-25 12:45P	5-26 3:15 PM
Depth	2833	3421	4019	4426	4630	4630	4690	4754
Wt	9.7	9.55	9.5	9.25	9.25	9.15	9.25	9.3
Vis	29	32	48	47	47	51	67	48
PV	2	3	13	14	13	15	16	14
YP	2	3	15	15	14	16	24	15
ES	3/3	3/4	15/47	14/45	13/38	16/49	21/68	17/48
WL	N/C	N/C	10.2	9.6	8.8	12.8	21.3	12.2
cake	-	-	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	7.0	11.0	10.0	10.5	9.5	8.5	9.5
chl	6600	46000	7600	5900	7100	8300	11100	10000
C2	HVY	HVY	20	20	20	40	260	40
LCM	0	1/2	0	0	2	2	2	2

Date	5-27 12:40P							
Depth	4978							
Wt	9.15							
Vis	55							
PV	16							
YP	17							
ES	17/56							
WL	10.2							
cake	1/32							
pH	9.5							
chl	8100							
C2	60							
LCM	2							

OPERATOR BEREXCO LLC LOCATION 1980'FNL & 770'FEL
 LEASE GARY NO. 1-5 SEC. 5 TWP. 30S RANG. 16W
 ELEVATION 1915 KB HTD 4978 COUNTY KIOWA STATE KANSAS