

GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

COMPANY BEREXCO LLC

EASE EARL "B" NO. L-6

LOCATION 1980' FNL & 1980' FWL

SEC. 6 TWP. 27S RNG. 33W

COUNTY HASKELL STATE KANSAS

FIELD WILDCAT

CONTRACTOR BEREDCO DRUG RIG NO. 2

COMM. 9-21-2011 COMP. 10-8-2011

LTD 5390 LTD 5389

No. of DST'S 2 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. GRIEVES

FORMATION TOPS

BASE HEEBNER

ORONTO

ANSING FM.

ARMATON

HEROKEE FM.

MORROW FM.

HESTER FM.

IT GENEVIEWE

T. LOUIS

D

ELEVATIONS

KB 2959

DF 2956

GL 2946

MEASUREMENTS ARE ALL FROM KB

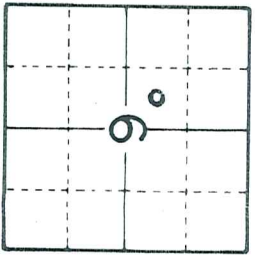
SCALING RECORD
8/8 dt 1810' w/ sx.

dt w/ sx.

dt w/ sx.

EL. LOG IND. SP. GR DENNEUT. GR. CALIPER ML

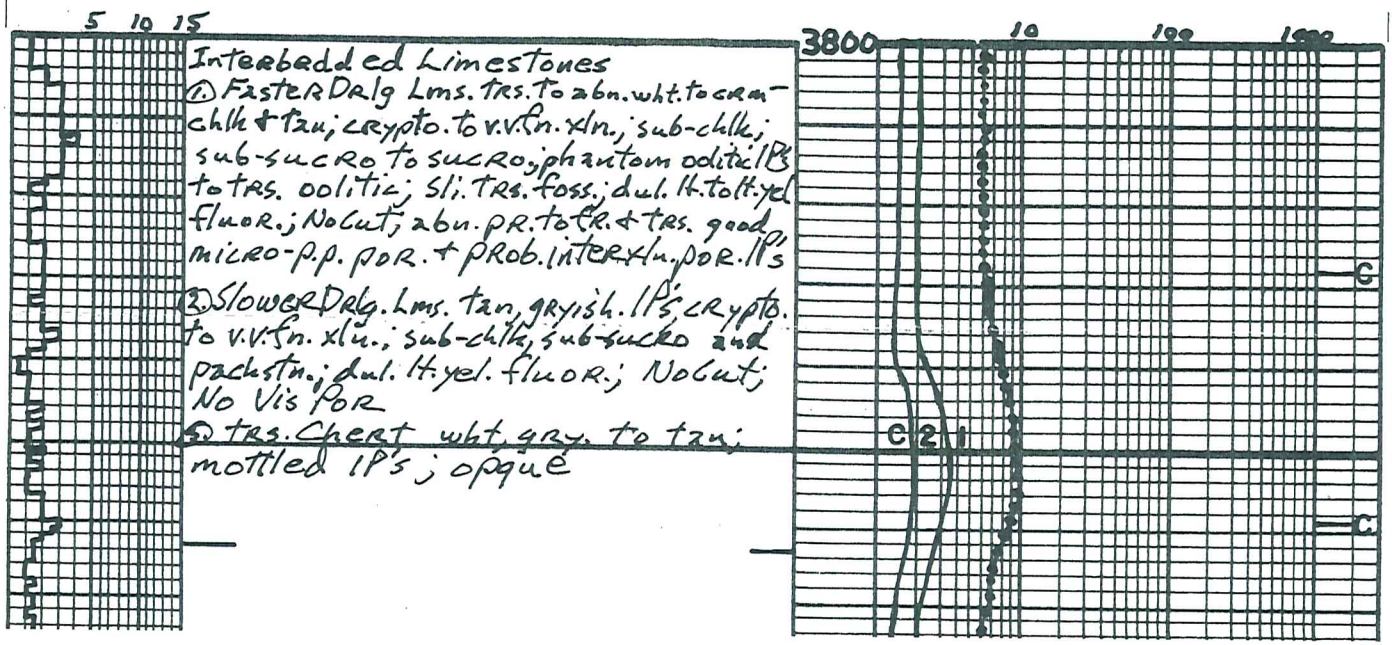
SAMPLE	LOG	SUBSEA
3983	3978	-1019
3943	3989	-1030
4022	4016	-1057
4600	4610	-1651
4751	4747	-1788
5020	5008	-2049
5142	5140	-2181
5182	5180	-2221
5227	5225	-2266
5390	5389	



API NO. 15-081-21964

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

Thank you,
Edwin H. Grievess
Geologist



Lms. abn. to extrly abn. wht. to cream-chlk
& tan, grayish. IP's; crypto to v.v. fn. xlu;
sub-chlk, sub-sucro to v. sucro + traces
pachstn. IP's; phantom oolitic IP's to
trs. oolitic IP's; dul. H. to H. yel. fluor.
No cut; hvy. trs. pr., trs. fr. + sli. trs. g.
micro-p.p. por + poss. interxlu. por. IP's
w/ sli. trs. chert wht, gry to tan, opaque

3900

Base Heebner
3983-1024
BLK SH. 20 U

Sh. black-carb.
Sh. H. gry., greenish IP's to trs olive green;
mush
Lms. hvy. trs. wht. to GRM. - chlk + tan
crypto. to v.v. fn. xlu; sub-chlk, sub-sucro.

4000

Toronto
3993-1034

to v. sucro; dul. H. to H. yel. fluor; No cut
abn. pr. to trs. fr. to g. micro-p.p. + poss.
interxlu. por w/ trs chert GRM, opaque
Lms. H. gry. to grayish. tan; crypto. to v.v. fn.
xlu; sli. IP's; sub-chlk or shly; sub-sucro
+ pachstn; dul. H. yel. fluor; No cut; No vis por

Lansing Fm.
4022-1063

Lms. similar 3993-4011, phantom oolitic
IP's to trs. oolitic w/ abn. pr. to tr. and
trs. g. to excel. micro-p.p. + prob. interxlu
por.; No show

Lms. similar 4011-4022

C2 1

Lms. trs. to abn. wht. to cream-chlk and
H. tan to tan; sub-chlk, sub-sucro. to
trs. sucro. + pachstn; abn. phantom oolitic
to abn. oolitic; dul. H. to H. yel. fluor.; No cut;
sli. trs. poor micro-p.p. por. IP's

Lms. tan, grayish. IP's; crypto. to v.v. fn. xlu
trs. sub-chlk; sub-sucro + pachstn; dul. H. yel.
fluor.; No cut; No vis por.

4100

Lms. hvy. trs. wht. to cream-chlk + tan; crypto. to
v.v. fn. xlu; sli. trs. sub-chlk, sub-sucro to sucro;
extrly. oolizastic + or sli. oolitic; dul. yel. to dul. g. yel.
+ trs. yel. fluor.; No cut; abn. excel. oolizastic
por.; Prob. No Perm; sli. trs. chert H. to med. gry, opp.

Lms. similar 4100-4116 becoming
less oolizastic + more oolitic

Lms. H. gry. to tan; crypto. to v.v. fn. xlu; trs. sub-chlk,
sub-sucro + pachstn; dul. yel. fluor. IP's;
No cut; No vis por

Lms. tan, trs. grayish; crypto. to v.v. fn. xlu; trs.
sub-chlk, sub-sucro to v. sucro; dul. H. to H. yel. fluor.
No cut; abn. pr. to trs. fr. to g. micro-p.p. + prob. interxlu
por. w/ sli. trs. chert gry - opaque

Interbedded Limestones
① Foster Dalg. Lms. wht., cream. to H. tan-chlk
& tan, grayish. IP's; crypto. to v.v. fn. xlu;
sub-chlk, sub-sucro to sli. trs. sucro +
pachstn; trs. phantom oolitic to trs. oolitic

sub-crim, sub-sucro to v.v. xln, sucro, packstn; trs. phantom oolitic to trs. oolitic
dul. lt. to lt. yel. fluor; No Cut; hvy. trs. pr.
to trs. fr. micro-p.p. por + poss. inter xln
por. IP's

4200

② Slower Delg. Lms. trs. med. gray. + lt. gray.
to tan; crypto. to v.v. fn. xln; sub-chlk, sub-sucro.
+ packstn; (IP's phantom oolitic to oolitic);
dul. yel. fluor; No Cut
No Vis. Por.

Lms. hvy. trs. to abn. wht. to crm-chlk + tan, grayish
IP's; crypto. to v.v. fn. xln; sub-chlk, sub-sucro.
to sucro. + packstn; phantom oolitic to
extly oolitic; for phantom oolitic to extly
oolitic; dul. yel. to dul. lt. yel. + trs. yel. fluor
No Cut; abn. pr. to fr + trs. gd. oolitic
pin point + micro-pin point por / w
poss. inter xln. por. IP's.

Lms. grayish. tan to tan; crypto. to v.v. fn. xln;
trs. sub-chlk, sub-sucro + packstn; trs
phantom oolitic to trs. oolitic; dul. yel. to
dul. lt. yel. fluor; No Cut; No Vis Por

4300

Lms. similar 4291-4309 w/ abn wht to crm-chlk

Lms. similar 4291-4309

Sh black - carb.

BLK. SH. 6 U

Interbedded Limestones

① Faster Delg. Lms. trs. to abn. wht. to crm
chlk + tan, grayish. IP's; crypto. to v.v. fn. xln;
sub-chlk, sub-sucro. to trs. sucro + packstn;
IP's trs. phantom oolitic to trs. oolitic
and/or IP's trs. phantom oolitic to trs.
oolitic; dul. lt. to trs. lt. yel. fluor; No Cut;
abn. pr. to fr + trs. gd. oolitic pin point,
micro-pin point + prob. inter xln. por.

② Slower Delg. Lms. lt. to med. gray - shly
to tan; crypto. to v.v. fn. xln; sub-chlk
and/or shly. gr. ang. to extly. calc
shs. to sub-sucro + packstn;
dul. yel. fluor. IP's; No Cut; No Vis Por

Lms. hvy. trs. wht to crm chlk + tan, grayish
IP's; crypto. to v.v. fn. xln; sub-chlk, sub-sucro
to sucro; phantom oolitic IP's to hvy. trs
oolitic; dul. lt. to lt. yel. fluor; No Cut; abn
pr. to fr + trs. gd. micro; p.p. poss. inter xln por

4400

Lms. lt. gray. to tan; crypto. to v.v. fn. xln; sub-chlk
sub-sucro, packstn + trs. sub-lithogr; trs. phantom
oolitic to trs. oolitic; dul. lt. to trs. lt. yel. fluor;
No Cut; No Vis. Por.

Lms. hvy. trs. wht. to crm-chlk + tan, grayish, IP's.
crypto. to v.v. fn. xln; sub-chlk, sub-sucro. to sucro +
packstn; trs. phantom oolitic to trs. oolitic
for trs. phantom oolitic to trs. oolitic;
dul. lt. yel. fluor; No Cut; abn. pr. to fr +
trs. gd. oolitic, pin point, micro pin point
+ prob. inter xln. por.

Lms. similar 4404 - 4421

Sh black - carb

Lms. lt. to med. gray - shly. to tan; crypto to
v.v. fn. xln; sub-sucro, packstn + trs. sub-lithogr
dul. yel. fluor. IP's; No Cut; No Vis Por

Interbedded Limestones

① Faster Delg. Lms. wht. to lt. gray - chlk + tan
grayish, IP's; crypto. to v.v. fn. xln; sub-chlk,
sub-sucro. to sucro; trs. phantom oolitic
to trs. oolitic; dul. yel. fluor; No Cut;
No Vis Por; trs. v. poor to poor micro-p.p
por. IP's

② Slower Delg. Lms. lt. gray. to tan; crypto. to
v.v. fn. xln; trs. sub-chlk, sub-sucro, packstn
+ sub-lithogr; dul. yel. fluor; No Cut; No Vis Por

4500

Sh. black - carb

BLK. SH. 23 U

4459-1500

RECYCLE 14 U

BLK. SH. 16 U

Lms. H. gray, tanish IP's; crypto. to v.v. xln
sub-chlk, sub-sucro, p. dest. + trs.
sub-lithogr.; abn. phantom oolitic to
hv. trs. oolitic; dul. yel. to dul. lt. yel.
fluor.; No Cut; No Vis Por.

Lms. lt. to med. gray - sl. to ext. shly
w/ trs. grading to ext. calc. shs. to tan;
crypto. to v.v. xln; trs. sub-chlk, sub-shly
trs. sub-sucro, p. dest. + sub-lithogr.;
dul. lt. to lt. yel. fluor. IP's; No Cut;
No Vis Por. w/ trs. Chert gray to tan;
opaque

Lms. lt. to med. gray, tanish IP's to grayish tan
crypto. to v.v. xln; sub-sucro, p. dest. + sub-lithogr.
dul. lt. yel. fluor. IP's; No Cut; No Vis Por. w/ trs. chert gray to
tan, opaque

4609-31 Lms. tanish gray to grayish tan; crypto. to
v.v. xln; trs. sub-chlk, sub-sucro + p. dest.
dul. lt. yel. fluor. IP's; No Cut; No Vis Por.

4631-33 Lms. tan; crypto. to v.v. xln.
Trs. sub-chlk, sub-sucro to sucro; sl. trs.
f. oolitic to v. oolitic IP's;
sp. brn. oil str. w/ brn. yel. fluor. w/ flush
to qd. stream cuts; abn. pr. to fine oolitic
por. + abn. pr. to qd. + trs. excl. micro pp
to inter. sh. por.

4633-63 Lms. similar 4609-4631 w/
phantom oolitic IP's to trs. oolitic

Lms. v. to ext. abn. wht. to crm. - chlk w/ trs
chlk. oolites + crm. to lt. tan; crypto. to v.v. xln;
sub-chlk, sub-sucro to sucro + trs. p. dest.; v.v.
to ext. oolitic to phantom oolitic; dul. lt. to
dul. yel. fluor. IP's; No Cut; trs. pr. micro pp por.
Lms. lt. to med. gray to tan; crypto. to v.v. xln
xln; trs. sub-chlk, sub-sucro + p. dest. +
dul. lt. yel. fluor. IP's; No Cut; No Vis Por

Shale Black - carb.

Lms. similar 4674-4696
Lms. trs. wht. to crm. - chlk + tan, grayish. IP's
crypto. to v.v. xln; sub-chlk, sub-sucro + trs.
p. dest.; dul. lt. yel. fluor. IP's; No Cut; No Vis Por
w/ trs. chert tan; opaque

Lms. similar 4674-4696 w/ trs. Chert
tan, opaque to transl.

Shale Black - carb.

Lms. abn. wht. to crm. - chlk + lt. tan to tan, grayish IP's
crypto. to v.v. xln; sub-chlk, sub-sucro to sucro
+ p. dest.; trs. IP's; oolitic IP's; dul. lt. to trs. lt. yel.
fluor. IP's; No Cut; No Vis Por. w/ v. abn. chert wht. to tan, gray
to tan, opaque

Shale Black - carb

Lms. w/ Chert similar 4736-4748

Interbedded Limestones and Shales

① Lms. grayish tan to tan; crypto. to v.v. xln;
sub-chlk, sub-sucro + p. dest.; dul. lt. to trs. lt.
yel. fluor. IP's; No Cut; No Vis Por.

② Lms. lt. to med. to tan dark gray - sl. to ext. shly.
shly. grading to v. calc. shs.; crypto. to v.v. xln
sub-chlk for shly; trs. sub-sucro + p. dest. No fluor.
No Cut; No Vis Por

③ Sh. med. to dark gray - sl. to ext. shly

④ trs. Chert gray to tan, opaque

WOB 38000
RFM 76
SPM 54
PP 1000

Marmaton
4600-4641

SHOW 15 U
TRIP GAS 8 U
RECYCLE 6 U

30LK SH. 30 U

Pawnee
4701-4742

30LK SH. 45 U

Ft Scott
4736-4777

30LK SH. 23 U

Cherokee
4751-4792

4800

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

4863-4968 Interbedded Limestones & Shales
① Lms. lt. gray to tan; crypto. to v. v. fine xln; sub-chlk, sub-sucro, pachs. + sublithographic phantom oolitic to oolitic IP's; scattered trs. yel. fluor w/ faint to sl. tas fr. Ring cuts; No Vis Por.; Poss fracturing.

② Lms. lt. to med. + trs. drk. gray - sl. to extly. Shly. gradng. IP's to v. calc. Shs.; crypto. to v. xln; sub-chlk for Shly., trs. sub-sucro. and pachs.; No fluor, No Cut, No Vis Por.

③ Sh. med to drk. gray - v. to extly calc IP's to v. drk. gray to black-carb. looking IP's

A 4968-4997 Lms. w/ scattered thin Shs

① Lms. lt. to med. gray - sl. to extly. Shly to tan + lt. brn.; crypto. to v. v. fine xln sl. trs. sub-sucro. pachs. + sublith. phantom oolitic IP's; v. dul. yel. fluor IP's; No Cut; No Vis Por.

② w/ scattered thin interbeds Shs med. to v. drk. gray to blk. sl. to extly calc IP's; gradng. to extly Shly Lms. + sl. to tan. lt. green to lt. gray.

③ sl. tas chert gray to tan, oppoe

B 4997-5020 Lms. w/ scattered thin interbeds. Shs. similar 4968-4997 w/ v. sl. trs. lt. to med gray, mushy shale

C 5020-5026 Sh. v. drk. gray to blk-carb. looking

D 5026-5042 Sh. med. to drk. gray w/ foss frags. IP's; trs. grayish green to lt. green to olive green w/ lms similar 4968-4997 w/ trs. foss. + v. sl. trs. siltstn, lt. green + trs. lt. gray calc

E 5042-5053 Lms. drk. to tan, mottled IP's; v. to coarse gr.

① crypto. to v. v. fine xln; composed of lms. + foss frags + trs. oolitic lt. gray + tan; matrix sub-chlk, sub-sucro + pachs. scattered trs. glauc. or chlorite; dul. yel. to yel. fluor; no ring cuts No Vis Por. w/ trs. Sh. lt. green to olive green

F 5053-5078 Sh. med. to drk. gray; v. calc. IP's gradng. to extly. Shly Lms. + interbedded Lms. drk. similar 5042-5053

G 5078-5089 Sh. med. to drk. gray w/ hvy trs. lt. green, grayish green + olive green

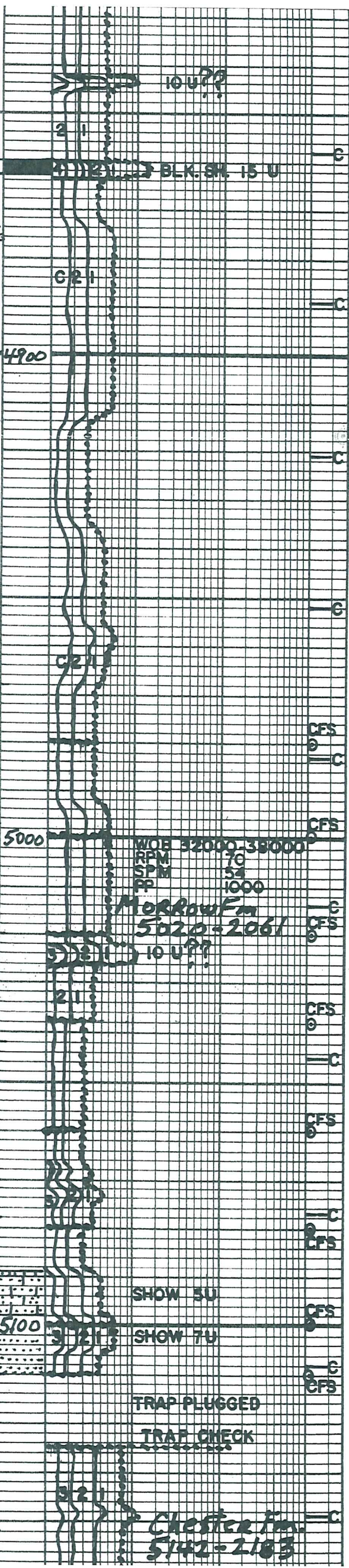
H 5089-98 Qtz. sdst grayish brn to tan from oil stn; v. v. fine to fine gr.; aug. + pr. to gd sort; foss frag. + lms. inclusions gradng. to lms. drk. to tan + brn. from oil stn; in to coarse gr. (composed of foss frag. + lms. grs.; matrix v. v. fine gr)

Qtz. sdst as above, tr. chlk, sub-sucro to sucro. + pachs. tu; both sl. glauc. + chloritic; trs. finely disseminated pyrite clay filled IP's; even tan to brn. oil stn; w/ dul. yel. to yel. fluor on dried samp. w/ flush to gd steming cuts trs. pr. to sl. tas. fr. mize opp. to intergr. por. in small pieces

I 5089-5110 Qtz. sdst similar to 5089 to 5088 Qtz. sdst w/ pos interbeds Shs

J 5110-5142 Shs. med. to drk. gray w/ v. 2bn Lms. + Qtz. sdst w/ shows similar 5089-5110

5142-5182 Lms. lt. to med. gray, v. to extly. Shly gradng. to extly. calc Shs. cr. + sta. xln.



MOB	32000	38000
RPM	70	
SPM	54	
PP	1000	

Morrow Fm
5020-2061

SHOW 5U
SHOW 7U

TRAP PLUGGED
TRAP CHECK

Chester Fm
5142-2183

TRs sub-chlk +/or shly., pachs +
 TRs sub-lithogk.; No Fluor; No cuts
 No Vis POR

5182-5218 Lms. GRM to tan, grayish. IP's
 crypto to v. v. fn. xln.; extaly micro-oolitic
 w/ TRs sm. oolites +/or sl. to fraly Qtz Sh
 v. u. fgr. aug.; matrix sub-chlk, sub-sucro
 to sucro; dul. H. yel. fluor; No cut; No Vis POR

5218-27 Lms. similar 5182-5218 w/ abn
 Lms. TRs. wht to crm. - chlk w/ chlk oolites
 IP's + crm to H. tan; crypto. to v. u. fn. xln
 v. oolitic (sm, med + lg.) matrix chlk, sub-chlk
 sub-sucro + pachs; dul. yel. fluor; No cut
 No Vis POR w/ abn chert gray to orange; opaque
 Lms. abn. wht to crm - chlk w/ chlk oolites IP's + tan
 crypto. to v. u. fn. xln. v. to extaly oolitic (med - lg
 + TRs sm) matrix TRs chlk; sub-chlk; sub-sucro
 to sucro; dul. yel. to yel. fluor; No cut
 No Vis POR; w/ TRs chert gray, tan to orange
 opaque

5236-5312 Lms. TRs. wht to crm - chlk + tan;
 crypto. to v. v. fn. xln.; v. oolitic (sm, med +
 lg); matrix TRs sub-chlk, sub-sucro. +
 pachs; dul. H. yel. to dul yel. fluor.
 No cut; No Vis POR.

5312-25 Lms similar 5236-5312
 w/ huy TRs wht to crm. chlk w/ chlk
 oolites IP's + huy TRs chlk + sub-chlk matrix
 along with sub-sucro + pachs; No show

5325-5332 Lms. TRs. wht to crm -
 chlk + tan; crypto to v. v. fn. xln; extaly
 oolitic med, lg + TRs sm) matrix
 sub-chlk, sub-sucro to sucro. ; scattered
 TRs pin point size pieces w/ brn oil stain;
 yel. fluor; good staining cuts; No Vis
 POR pieces so small; abn loose oolites
 huy TRs chert gray, tan to orange
 tan to opaque

5332-5344 Lms similar 5312-5325
 Dolo grayish tan; v. u. fn. xln; sub-sucro to sucro
 sl. Calc IP's; dul yel to yel fluor; No cut; No Vis POR

Interbedded Limestones
 (1) Oolitic Lms similar 5236-5312
 (2) Lms. grayish tan to tan; crypto to v. u. fn. xln
 sub-chlk; TRs sub-sucro + pachs; dul. yel. to dul H. yel. fluor.; No cut;
 No Vis POR

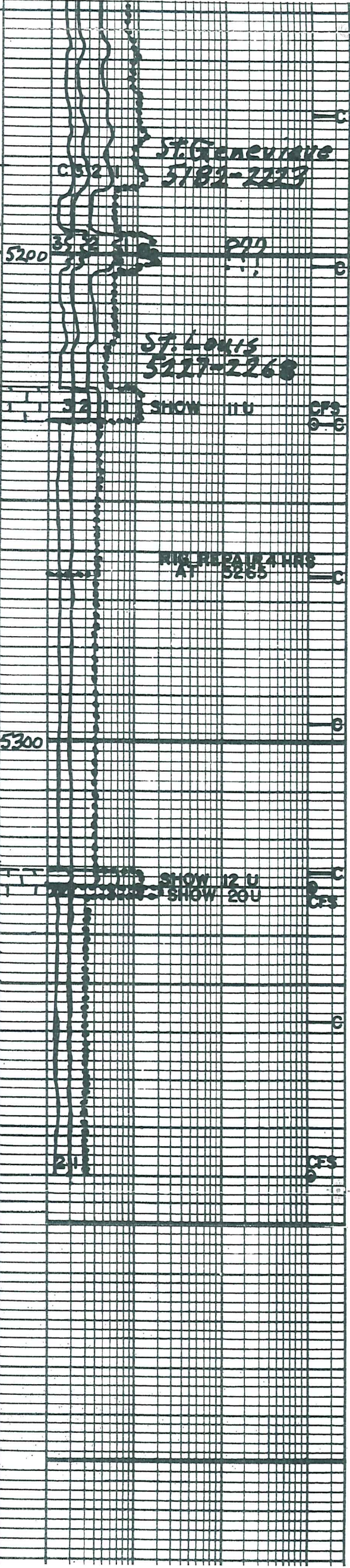
Dolo. similar 5344-5350
 TD 5390

77/8 inch Bit Info:
 Bit #1 New Smith F27I
 in 1812 out 5110
 Bit #2 Rerun Smith F12YI
 in 5110 out 5390 TD

Dev. Surv
 1. 1120 3/4° 4. 4639 3/4°
 2. 1812 2 1/4° 5. 5110 1°
 3. 2398 3/4° 6. 5390 1/2° TD

Cir. Points
 1. 4114 7. 4780 13. 5100
 2. 4639 8. 5000 14. 5110
 3. 4669 9. 5020 15. 5234
 4. 4702 10. 5038 16. 5330
 5. 4715 11. 5060 17. 5390 TD
 6. 4760 12. 5080

Daily Drilg. Report



1. 3800 5:25AM 9-29-2011
 2. 3837 7:00AM 9-29-2011
 3. 4352 7:00AM 9-30-2011
 4. 4639 7:00AM 10-1-2011
 5. 4702 7:00AM 10-2-2011
 6. 4926 7:00AM 10-3-2011
 7. 5100 7:00AM 10-4-2011
 8. 5110 7:00AM 10-5-2011
 9. 5265 7:00AM 10-6-2011
 10. 5390 7:00AM 10-7-2011

DST #1 Marmaton "B" 4627-4639
 10 Weak Surface Blow Died 30sec.
 FO No Blow
 Rec 10ft 100% Mud BHT 115.7°F
 IHP 2247
 IFP 19-27 in 15 min
 ISIP 215 in 30 min
 FFP 22-32 in 30 min
 FSIP 268 in 60 min
 FHP 2191

DST #2 Morrow Fm 5091-5110
 10 1/8 inch blow died 25min
 FO No Blow
 Rec 3 feet 100% Mud BHT 121°F
 IHP 2506 #
 IFP 25-24 # in 30 min
 ISIP 157 # in 60 min
 FFP 26-26 # in 30 min
 FSIP 76 # in 60 min
 FHP 2440 #

Mud Info:

Date	9-28 9:00P	9-29 1:15P	9-30 4:45P	10-1 4:50P	10-2 1:45P	10-3 1:55P	10-4 1:50P	10-5 2:00P
Depth	3446	4016	4580	4639	4760	5000	5110	5171
Wt.	9.3	9.25	9.2	9.15	9.1	9.15	9.15	9.2
Vis	33	43	49	40	49	50	54	51
PV	3	12	14	12	15	15	17	16
YP	3	12	16	14	11.5	16	18	16
GS	3/4	13/34	14/46	12/33	14/45	14/49	16/52	15/48
WL	N/C	14.0	9.6	9.2	8.0	7.6	7.6	8.0
Cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	9.0	9.5	10.0	11.0	11.5	11.5	11.0
Chl	13000	4900	3200	2300	4000	3500	4000	5100
Ca	4V4	160	20	20	20	20	20	20
LCM	2	4	4	2	4	5	3	3

Date	10-6 1:30P							
Depth	5295							
Wt.	9.35							
Vis	51							
PV	16							
YP	18							
GS	15/47							
WL	8.8							
Cake	1/32							
pH	11.0							
Chl	4000							
Ca	20							

157 25-24 in 50 min
 151P 157# in 60 min
 FFP 26-26# in 30 min
 FSIP 76# in 60 min
 FHP 2440#

Mud Info:

Date	9-28 1:50P	9-29 1:15P	9-30 4:45P	10-1 4:50P	10-2 1:45P	10-3 1:55P	10-4 1:50P	10-5 2:00P
Depth	3446	4016	4580	4639	4760	5000	5110	5171
Wt.	9.3	9.25	9.2	9.15	9.1	9.15	9.15	9.2
Vis	33	43	49	40	49	50	54	51
PV	3	12	14	12	15	15	17	16
YP	3	12	16	14	11.5	16	18	16
GS	3/4	13/34	14/46	12/33	14/45	14/49	14/52	15/48
WL	N/C	14.0	9.6	9.2	8.0	7.6	7.6	8.0
Cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	9.0	9.5	10.0	11.0	11.5	11.5	11.0
Chl	13000	4900	3200	2300	4000	3500	4000	5100
Ca	HVV	160	20	20	20	20	20	20
LCM	2	4	4	2	4	5	3	3

Date	10-6 1:00P							
Depth	5295							
Wt.	9.35							
Vis	51							
PV	16							
YP	18							
GS	15/47							
WL	8.8							
Cake	1/32							
pH	11.0							
Chl	4000							
Ca	20							
LCM	2							

OPERATOR BEREXCO LLC LOCATION 1980'FNL & 1980'FWL
 LEASE EARL "B" NO. 1-6 SEC. 6 TWP. 27S Rng. 33W
 ELEVATION 2959 RTD 5390 COUNTY HASKELL STATE KANSAS