

WELL FILL **GEOLOGIST'S REPORT**
DRILLING TIME & SAMPLE LOG

COMPANY Berexco LLC
 LEASE Arnold E Unit NO. 1-1
 LOCATION 335' FSL + 200' FEL
 SEC. 1 TWP. 29S RNG. 41W
 COUNTY Stanton, STATE Kansas
 FIELD Wildcat

ELEVATIONS
 KB 3340
 DF 3338
 GL 3328

MEASUREMENTS ARE ALL FROM KB

CONTRACTOR Beredco Drilg Rig #1
 COMM. 4-5-2015 COMP. 4-22-2015
 RTD 5610 LTD 5606

CASING RECORD
858' of 1708 w/ SK.
 of w/ SK.
 of w/ SK.
 of w/ SK.

No. of DST'S One No. of CORES None

EL. LOG AR. Res. SPGR
DEINERT OR Caliper
ML Sonic

SAMPLES SAVED FROM 3500 TO TD
 DRILLING TIME KEPT FROM 3500 TO TD
 SAMPLES EXAMINED FROM 3500 TO TD
 GEOLOGICAL SUPERVISION FROM 3500 TO TD
 GEOLOGIST ON WELL Edwin H. GRIEVES

FORMATION TOPS

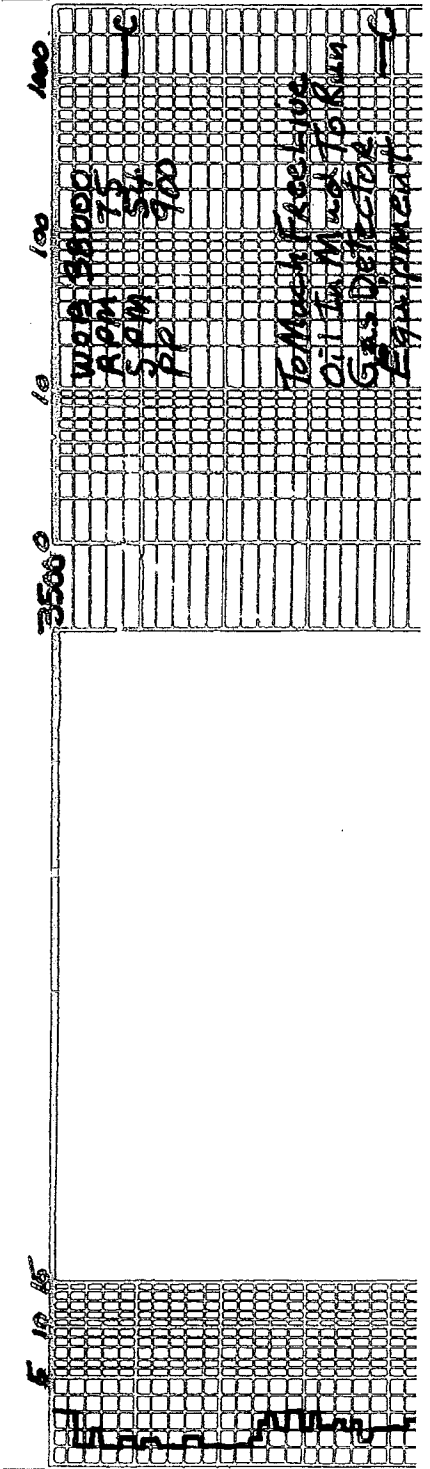
	SAMPLE	LOG	SUBSEA
<u>Base Heebner</u>	<u>3709</u>	<u>3710</u>	<u>- 370</u>
<u>Toronto</u>	<u>3724</u>	<u>3723</u>	<u>- 383</u>
<u>Lansing Fm.</u>	<u>3767</u>	<u>3766</u>	<u>- 426</u>
<u>BKC</u>	<u>4320</u>	<u>4331</u>	<u>- 991</u>
<u>Marmaton</u>	<u>4351</u>	<u>4356</u>	<u>- 1016</u>
<u>Et Scott</u>	<u>4536</u>	<u>4534</u>	<u>- 1194</u>
<u>Morrow</u>	<u>5018</u>	<u>5016</u>	<u>- 1676</u>
<u>Chester</u>	<u>5481</u>	<u>5478</u>	<u>- 2138</u>
<u>St. Genevieve</u>	<u>5552</u>	<u>5534</u>	<u>- 2194</u>
<u>TD</u>	<u>5610</u>	<u>5606</u>	<u> </u>

API# 15-187-21320

REMARKS Earth-Tech had an unmanned gas detection trailer on this well from 3500 feet to total depth.

Lost Circulation or Partial Returns 5061 - 5194
Lost More Than 1500 bbls mud

*Edwin H. Grievess
 Geologist*



Interbedded limestones
① Faster Drlg. Lms. trs. to extly
abn. wht. to cream-chlk & lt. tan to
tan, grayish. IP's, crypto to v. fine.
v. sub-cr. trs. to abn. phantoms
oolites & por. trs. to abn. colites IP's
dual. H. yell. fluor.; No cut; a bn. pr.
to fr & h. y. trs. gd. to excel
micro -p.p. por & prob. interx. por

② Slower Dalg. Lms. tanish H. gray,
grayish tan to tan, crypto. to
v. fine. x. fine. tan sub-chlk, sub-sucro
& packs. Inid. yell. to dual. lt. yell.
fluor.; No cut; No vis por.

3600

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

Lms. grayish tan, crypto. to x. fine. chlk to
sub-lithog. & id. yell. fluor.; No cut; No vis por
Sh. H. gray to H. green; Silty IP's v. soft &
mushy when wet

Lms. trs. wht. to cream-chlk & cream to
H. tan, crypto. to v. fine. tan; sub-chlk, sub-sucro
to trs. sucro; dual. H. yell. fluor.

No cut; scattered trs. v. fine. micro. pp. por
Lms. med to lt. gray - sh. to grayish tan
to tan, crypto. to v. fine. tan. fine. ph. & sub-cr.
to sh. tan; sub-sucro & packs. to
dual. yell. fluor. IP's No cut; No vis por

Sh. H. med to trs. drk. gray; sl. to
extly calc

Lms. grayish. tan to tan, crypto. to
v. fine. x. fine. sub-chlk sub-sucro to
sucro & trs. packs. tan; sl. to v.
phantoms. oolitic IP's sl. to very
oolitic IP's dual. H. yell. fluor.;
No cut; No vis por. oolitic
w/ sl. trs. Chert gray; to tan, oppne

3800

pp
\$4
900

To Mass. Facilities
Oil In Mass. To Run
Gas Detector
Equipment

Base Harner
3709 - 369

Toronto
3724 - 328

Lansing Arm
3767 - 427

W.M.A. 3700

v. v. tan. x. l. u. s. sub-dk. sub-sucro to
sucro & trs. packstn; sl. to v.
phantom oolitic. No Vis. Fluor. No
cut. No Vis. Pos. to tan, opaque

3767-427

Lms. tan, grayish. IP's, crypto to tan, tan
x. l. u. sub-sucro, packstn and trs
sub-lithog. dual. yel. to dual. H. yel
fluor. No cut. No Vis. Pos. to tan,
w/ sl. trs. Chert gray to tan, opaque

WDB 3500
RPM 75
SPM 60
PP 1000

3824-3956 Interbedded limestones

① Slower Dalg. Lms. H. to med. gray. sl.
to fine. sh. to tan; crypto. to v. v. fine. sh. sub-lithog. sl. to trs

sub-sucro. packstn to trs
sub-lithog. scattered trs to trs
phantom oolitic to oolitic IP's
dual. H. yel. fluor. No cut. No Vis. Pos. to tan, opaque

WDB 31000
RPM 65
SPM 60
PP 1000

② Faster Dalg. Lms. trs. whit. cam to tan
chlk & grayish. tan to tan; crypto. to
v. v. fine. sh. sub-dk. sub-sucro. to
sucro & trs. packstn; sl. to fine. sh.
phantom oolitic to oolitic IP's
dual. yel. to dual. H. yel. fluor. No cut
scattered trs to hv trs for. to tr
micro-pp. pos. to tan, opaque
IP's

3900

③ trs. Chert gray to tan, opaque

Lms. trs. to abn. whit. to cam. chlk & grayish. tan
to tan; crypto. to v. v. fine. sh. v. very to
extly oolitic. No sl. to v. oolitic
matrix trs. sub-dk. sub-sucro. to
sucro. packstn; dual. yel. to dual. H. yel.
to dual. H. yel. fluor. No cut. No Vis. Pos. to tan,
opaque
micro-pp. pos. to tan, opaque

3984-4018 Lms. similar 3956-3984

becoming extly chlk. - whit. to cam
w/ chlk oolitic IP's & less
oolitic & more oolitic

4000

Lms. similar description # 1
3824-3956

WDB 38000
RPM 65
SPM 54
PP 950

Lms. similar 3956-3984

Lms. H. to med. gray, tanish IP's;
crypto to v. v. fine. sh. sub-sucro;
packstn. & trs. sub-lithog.
dual. yel. fluor. IP's; No cut.
No Vis. Pos. to tan, opaque

Lms. H. to med. gray, tanish lps;
CRYST. to v. v. ch. shly; sub-sucro,
pale str. & TRS. sub-lithog. A.
dual. vel. fluor. lps; No cut;
No Vis POR

4100

Lms. similar 4035-4128
w/ scattered Faster Drilg
whf. to cream-chlk w/ TRS
chlk oolites

4153-4160 Lms. to med. gray, tanish lps;
CRYST. to v. v. ch. shly; sub-sucro,
pale str. & TRS. sub-lithog. A.
dual. vel. fluor. lps; No cut;
No Vis POR

4160-4180 Lms similar 4035-4128

Lms similar 4153-4160

4200

4128 - 4320

Lms. scattered sl. TRS. wht to cream-
chlk & H. to med. gray, tanish lps;
Sl: to fely. Shly; egyptia. to sl. TRS
v. u. fr. x lms; Sl: TRS. sub-sucro, A.
pale str. to TRS. sub-lithog. A.
scattered TRS. dual. vel. fluor. j
No cut; No Vis POR

To Much Facel Like Oil
To Mud To Run GAS
Detection Equipment

4300

4320-4351 Sh. H. med. to dark gray
fely to extremely calc grading
to Shly Lms.

WDB
RAM
SPM
PP
38000
65
5K
750

BKC 4320-9800

4320-4351 Sh. H. med. to drk. gray
faily to extremely calc gading
to shly lms.

Lms. trs. wht. to cream-chalk to H. gray, cream
to tan; crypto. to sli. trs. v. v. fn. xln; trs.
trs. chlk. sub-chlk; sli. trs.
sub-sucro, packstr. to sub-lithogr.
dul. H. yel. fluor.; No Cut; No Vis POR
w/sli. trs chert tan, opaque

Lms. zbn. wht. to cream-chlk & tan; trs.
grayish; crypto. to v. v. fn. xln; v. to benry
calicastic to sli. to v. oolitic; 4400
matrix sub-sucro to sucro and
packstr.; dul. H. yel. to dul. yel. fluor
No cut; v. zbn. fadyd to excel
calicastic por.; Quest. Perm

Lms. H. to med. gray; tanish IP's;
crypto to sli. trs. v. v. fn. xln; dul. yel
sli. trs. sub-sucro to packstr.; dul. yel
fluor. IP's; No cut; No Vis. POR.

4445-4452 Lms. trs. wht to cream-
chlk & cream; crypto to xln; sub-chlk-
to trs packstr.; dul. yel. fluor.
No cut; No Vis POR w/trs chert
H. gray opaque

Lms. Similar 4413-4445

Lms. sli. trs. wht. to cream-chlk &
cream to tan; grayish. IP's; crypto
to v. v. fn. xln; chlk, sub-chlk;
sub-sucro & trs packstr.; zbn sli
to v. phantom oolitic POR oolitic;
dul. H. yel. to trs. H. yel. fluor.;
No Cut; No Vis. POR. w/sli. trs
Chert; gray to tan; opaque

Sh. v. drk. gray to black carb

Lms. Similar 4483-4533

4550-4890
Interbedded Limestones & Shales

Lms. sli. trs. wht. to cream-chlk IP's
& H. gray. gading to tan; crypto.
to v. v. fn. xln; chlk; sub-chlk;

DISC 4540-7000

MARION
4351-1011

To Markle Face line on
Markle to Row
Chromatograph

Half Wire

FR. SCOTT
4536-1196

BIT TAY
4563 6

40000
RPM
54
1000

Interbedded Limes lones & shales 4600

① Lms. sli. tes. wht. to cream-chalk IP's & H. grey grading to tan; crypto. to v. v. fn. xln; chlk, sub-chlk, sub-sucro. & packstn; phanton oolitic for a bu oolitic IP's; dul. H. yel. to test. yel. fluor.; No cut. No V's for

② Lms. H., med. to drk grey - sli to extrly. Shly. IP's grading to calc sh. crypto. xln; sub-chlk &/or Shly; packstn. & sub-lithogr. dul. yel. fluor. IP's. No cut.

③ Sh. H., med, drk. to v. drk. grey & tes black; v. to extrly calc. IP's grading. to extrly. Shly Lmsts.

WOB 39000
RPM 70
SPM 5H
PP 1100

4700

4800

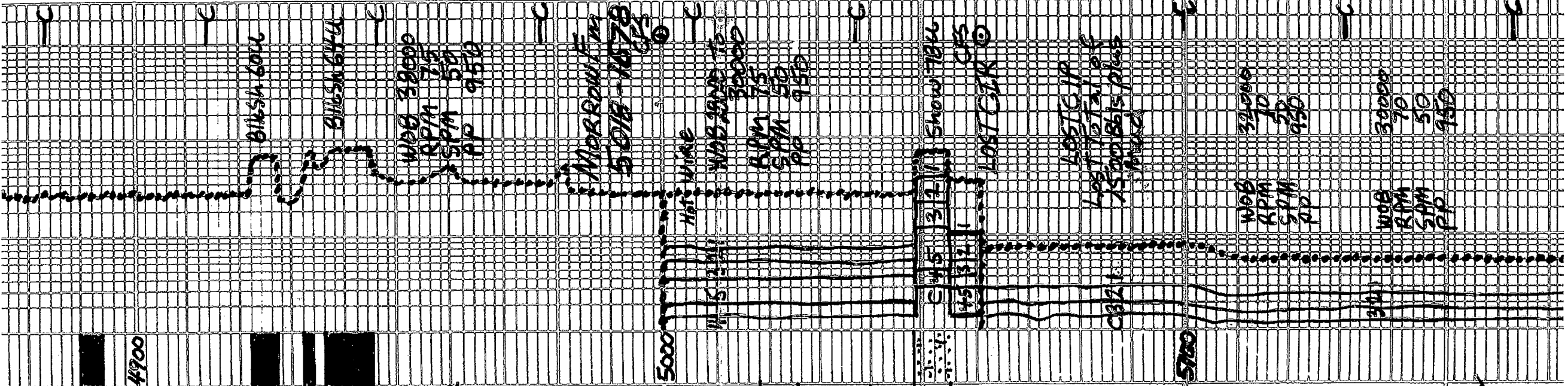
Interbedded Lmsts & shales
 Similar 4550-4890
 w/ abn. interbeds shales
 black-carb

Lms w/ thin interbeds shs
 ① Lms. med. to drk gray - v. to extly
 shly marled IP's thin; cryptic in
 Pa chstn to sub lthogr.; No trace
 No cut; No Vis for
 ② Shs. v. drk. gray - calc to
 black-carb.

Sh. drk. to v. drk. gray

5025-5048 Lms. w/ thin interbed shs
 similar 4545-5018 w/ trs
 glaucophanite IP's & trs siltstn
 It. gray to H. green from glaucophan
 chibrite. calc. IP's densest. No
 No fiber. No cut. No Vis for
 5048-5055 trs. loose Qtz gas
 v. u. fr. to trs med gas. glauc. to white
 aug. to trs. sub-ang to sub rounded
 w/ trs. v. small clusters
 v. u. fr. gray. drk Lms v. fr. sh. in
 v. succ. stn. glauc. med. drk.
 w/ glauc. stn. med. drk. w/ perth
 glauc. med. drk. to interbed
 poor

5055-5332
 Sh. trs to hvy trs med gray w/
 silky luster of drk gray - splintery
 IP's w/ trs Olive green
 w/ scattered interbeds
 Lms. gray. to tan; cryptic to v. fr.
 sh. drk. to v. drk. gray



silky luster of dk grey-splintery
 IP's w/tes Olive green
 w/scattered interbeds
 Lms. gray. to tan; crypto to v.v. fu.
 xln; tes. phantom oolitic to
 tes. oolitic; tes. sub-sucro
 patches of tes. sub-lithog.
 d. w/ yellow fluor IP's. No cat
 No vis for

5200

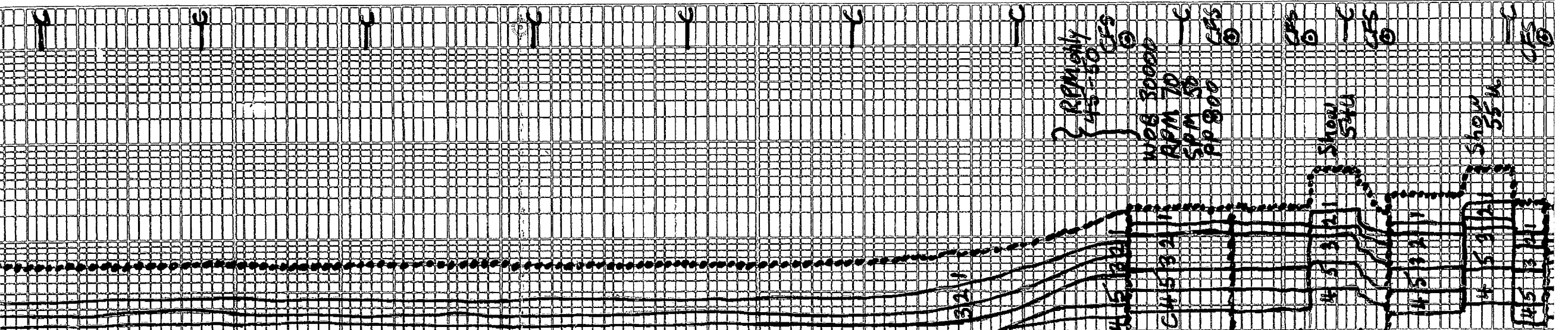
5300

5332-5352
 Qtz lms SdSt 0-100 @tz qtz to
 0-100 Lm qtz. j Lms. H. gray to tan
 v. fn. to med. gray; ang to sub-
 rounded IP's to Qtz Sd H. gray; tan
 v. fn. to tes. tan; ang. ip. py. s. o. t.
 tes to 2bn. g. auc. w/ach. oolitic; tes
 w/finely disseminated pyrite

No cat. No vis for
 5352-5403 Sh. med gray, silky
 luster IP's to dk grey-splintery IP's
 A 5403-5415 Qtz SdSt H. gray to
 CR my tes. tanish; silt tes. Lm qtz
 IP's; v.v. fn. to v. fn. g. w/tes. fu.
 to med. gray; ang to tes. sub-ang
 to tes. sub-angled; ip. py. s. o. t.
 silt & clay filled IP's; v. to 2bn
 glauc. v. to ch. lorette; tes w/finely
 disseminated pyrite; silt to
 f. calc. to a dolomite; tes
 glauc. yellow. fluor. w/flush. f. o. d.
 staining cat's. No vis for
 tes. lms. Qtz qtz; v.v. fu. gray
 to med. gray

5400

A B 5415-5435 Prob. Sh. similar
 5352-5403
 C 5435-5450 Qtz SdSt w/tes. grey
 to H. gray w/tes. tan to ben. from
 oil sh; tan foiled; v. v. to 2bn
 w/tes. to v. 2bn med to coarse gr.
 ang w/2bn sub ang; sub end. to 2bn
 prly sox. silt to v. g. auc. to ch. lorette
 carb. patches IP's; d. al. old myel.
 fluore w/tes yellow; glauc. yellow
 to 2bn. staining to 2bn. IP's; silt
 tes. pr. mica. pp. for IP's; silt
 interg. a. pp. IP's; w/tes. 2bn



C
Fluor w/ trs yel. to gld. yel. fluor
fctogd. staining to gdr in spots;
trs. br. mica - poor / Proposs
int. b. g. a. por. pp. w/ ext. r. b.
D
loose Qtz grains, close to yel. to
amber; v. fine gr. g. to well rounded
gr. v. fine. g. to well rounded
E
R. 5450-60 Qtz sdst H. gray to
H. gray. Prob from glaucophane
chlorite & hy. trs w/ s. s. d.
Tan oil stain; faint oil order
v. v. fine. to v. fine. j. poly s. s. r.
Aug. j. hy. trs. fine. disseminated
pyrr. j. trs. carb. par. r. m. g.
b. yel. to b. gld. yel. fluor
w/ flash to excel. Staining cuts
No. 16 por. j. extra. abn v. v. d. tr. l.
loose Qtz grains clear. Aug.

F
E 5460-5480 Shs similar 5352-5403
w/ interbeds Sst. Similar 5450-60

F 5480-5521 Shs w/ m conglomerate
1. Shs Red-silty 1st-m. to dr. g. y.
2. Lms. gray to tan, trs. pinkish crypto
to v. fine. x. m. s. sub. s. s. d. p. s. d.
s. trs. sub-lith. trs. s. j. h. tr. s.
s. lity to v. v. d. tr. s. d. Aug. 3. g.
d. w. yel. fluor pp. No cut. No. 16 por

G
G 5521-5532 Sh & Lm Congl.
Similar 5480-5521 w/ hy. trs.
Lms. H. gray to tan, pinkish pp's
crypto to v. fine. x. m. v. to ext. r. b.
micro-politic s. l. to b. s. d.
s. d. v. v. fine. x. m. matrix
s. lity. s. y. b. - l. h. s. sub - s. s. d.
trs. v. d. w. yel. fluor, No cut
No. 16 por

5552-5610 Lms. H. gray to tan
crypto. to v. v. fine. x. m. v. to ext. r. b.
micro-politic & s. l. to v. d. tr. s. d.
v. v. fine. x. m. matrix
trs. s. y. b. - l. h. s. sub - s. s. d.
pack stain; d. w. H. to H. yel. fluor
No cut; No. 16 porosity

TD 5610

7 1/2 inch Bit Info: in out
1. New GT 254 1709 4563
2. New GT 254 4563 5610 TD

Circ. Points

1. 4563 5. 5390 9. 5465
2. 5000 6. 5405 10. 5480
3. 5061 7. 5420 11. 5500
4. 5370 8. 5450 12. 5610 TD

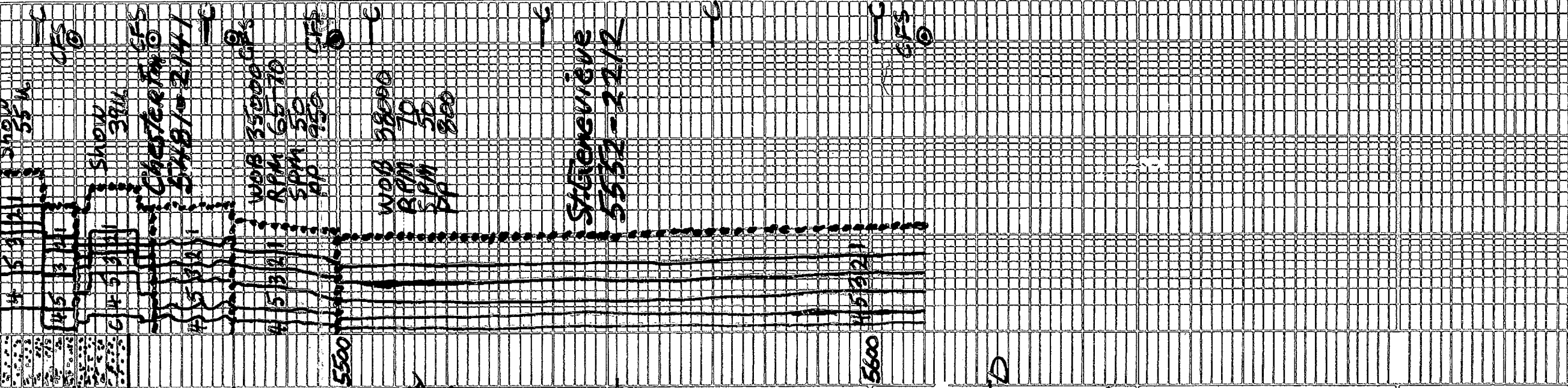
REV. Sigsbee

1. 511 3/4 4. 4563 1 1/4
2. 1004 1° 5. 5061 3/4°
3. 2191 1 1/4° 6. 5610 2 1/4° TD

Daily Drilg PROJE

1. 3500 7:44 AM 4-12-15
2. 3630 7:00 AM 4-12-15
3. 4040 7:00 AM 4-13-15
4. 4442 7:00 AM 4-14-15
5. 4659 7:00 AM 4-15-15
6. 4974 7:00 AM 4-16-15
7. 5061 7:00 AM 4-17-15
8. 5087 7:00 AM 4-18-15
9. 5194 7:00 AM 4-19-15
10. 5420 7:00 AM 4-20-15
11. 5535 7:00 AM 4-21-15
12. 5610 7:00 AM 4-22-15

DST #1 Upper. Morrow
5015-5061
Miss Run Due To
Lost Circulation



8. 5087 7:00AM 4-18-15
 9. 5194 7:00AM 4-19-15
 10. 5420 7:00AM 4-20-15
 11. 5555 7:00AM 4-21-15
 12. 5610 7:00AM 4-22-15

DST #1 Upper Morrow
 5015-5061
 Miss Run Due To
 Lost Circulation

MudInfo:

Date	4-17 4:30A	4-18 4:15A	4-19 4:15A	4-20 5:15A	4-21 5:15A	4-22 5:00A	4-23 4:00A	4-24 5:00A
Depth	3975	4420	4625	4746	5061	5061	5061	5061
WT	8.5	9.0	9.1	9.2	9.2	8.6	8.5	8.5
Vis	48	45	47	53	50	47	43	46
PV	15	15	15	16	16	13	10	12
YP	12	14	16	19	19	13	12	13
GS	10 1/32	13/32	19/32	14/32	17/32	17/32	17/32	17/32
WL	5.5	6.0	6.4	7.2	8.0	8.4	8.8	9.0
cake	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32
PH	11.5	10.5	10.5	10.5	10.0	10.0	10.5	11.0
chl	700	700	700	650	650	450	400	300
Ca	20	20	40	40	40	20	40	40
LCM	3	3	5	6	6	16	17	17

Date	4-18 1:00A	4-19 4:30A	4-20 4:30A	4-21 4:30A
Depth	5125	5448	5596	
WT	8.5	8.85	9.0	
Vis	85	71	67	
PV	24	19	18	
YP	21	20	19	
GS	2 1/4	19/56	10/46	
WL	6.0	7.2	7.6	
cake	1/32	1/32	1/32	
PH	9.5	9.0	9.5	
chl	700	1000	500	
Ca	20	40	20	
LCM	25	24	20	

OPERATOR Berexco LLC
 LEASE Arnold E Unit No. 1-1
 ELEVATION 334048 MTD 5610

LOCAL ION 335'ESL + 200'FEF
 SEC 1 TWP. 29S RNO. 41W
 COUNTY Stanton STATE KANSAS