

DRILLING TIME & SAMPLE LOG

COMPANY Berexco LLC
 LEASE KYSAR NO. 1-19
 LOCATION 337'ENL+2010'FEL
 SEC. 19 TWP. 21S RNG. 35W
 COUNTY Kearyny, STATE Kansas
 FIELD Unnamed

ELEVATIONS
 KB 3205
 DF 3203
 GL 3193
 MEASUREMENTS ARE
 ALL FROM KB

CONTRACTOR Beredco Drig. Rig# 1
 COMM. 4-30-2019 COMP. 5-17-2019
 RTD 5075 LTD _____

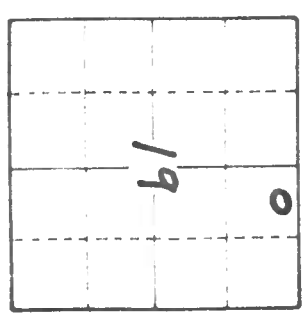
LOG RECORD
 dt _____ w/ _____ sx.
 dt _____ w/ _____ sx.
 dt _____ w/ _____ sx.

No. of DST'S 3 No. of CORES None

EL. LOG ACT Res. SPGR
Den. Neut. Co. Caliper
ML-Sonic

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. Grievies

FORMATION TOPS	SAMPLE	LOG	SUBSEA
<u>Base Heebner</u>	<u>3953</u>		
<u>Toronto</u>	<u>3970</u>		
<u>Lansing Fm.</u>	<u>4001</u>		
<u>Kansas City Fm.</u>	<u>4335</u>		
<u>BRC</u>	<u>4473</u>		
<u>Marathon Fm.</u>	<u>4498</u>		
<u>Pawnee</u>	<u>4603</u>		
<u>Ft Scott</u>	<u>4630</u>		
<u>Cherokee Fm.</u>	<u>4648</u>		
<u>Merrow Fm.</u>	<u>4875</u>		
<u>Merramec</u>	<u>4950</u>		
<u>TD</u>	<u>5075</u>		



API# 15-039-21973

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

*Thank you,
 Edwin H. Grievies
 Geologist*

LITHOLOGY

	SANDSTONE		SILTSTONE
	LIMESTONE		DOLOMITE
	SHALE		GRANITE WASH
	CHERT		ANY & GYP

CHROMATOGRAPH

HOT WIRE BY
 TOTAL GAS VOLUME

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

SHALE
CHERT

GRANITE WASH
ANNY B GYP

TOTAL GAS VOLUME

C5 = BUTANE
C6 = ISOPENTANE
C7 = PENTANE

DRILL TIME
SCALE

SAMPLE DESCRIPTION

GAS SCALE

10 100 1000

5 10 15

3800

Interbedded Lmst. w/tas Shs
 1. Lms. huy. tes. wht. to cream-chlk + tan; crypto to v.v. fn. xln.; sub-chlk, sub-sucro; dul. yel. fluor.; No Cut; TRS. to huy. tes pr to fr micro-pp por.

2. Lms Ht. to TRS. med. gry; crypto to v. fn. xln.; sl. to v. Shly. for sl. to v. silty; sub-chlk for Shly. grng to cak. Shs. trs. sub-sucro.; No flour; No Cut; No vis Por.

3. Sl. trs. Shs. med. to v. dak gr. to blk.

Interbedded Lmst. w/tas shale
 Similar 3800-3866 w/huy. tes Shs. med. to v. dak. gry + black-carb. looking

Interbedded Lmst w/tas Shales
 similar 3800-3866

3900

Lms. v. zbn. wht. to cream-chlk + tan; crypto. to v.v. fn. xln.; trs. sub-chlk, sub-sucro. to sucro; dul. yel. fluor. IP's No Cut; abn. pr.; fr. to gd. MICRO-PP + Prob. inter xln. por. IP's; w/trs Chert H. gry. to tan, opque

Lmst H. gry. to grayish tan; crypto. to v.v. fn. xln.; trs. sub-chlk, sub-sucro + packstn.; dul. yel. fluor. IP's; No Cut No vis. Por. w/lms. similar 3907-3983 w/huy. trs. chert H. to med gry opque

Sh. v. dak gry. to black-carb.

Sh. H. gry. to H. green - soft + mushy when wet; silty IP's

Lms. trs. to huy. tes. wht. to cream-chlk. and H. gry. - sl. Shly to cream to tan; crypto. to v.v. fn. xln.; sub-chlk, sub-sucro. + packstn.; dul. yel. fluor. to dul. H. yel. fluor. IP's; No Cut trs. pr. MICRO-PP por. IP's

4000

Interbedded Lmst + scattered thin Shs.
 1. Lms. huy. tes. to v. zbn. wht. to cream-chlk + cream to H. tan; crypto. to v.v. fn. xln.; sub-chlk, sub-sucro, packstn. + trs sub-lithogr. dul. H. yel. to dul. yel. fluor. IP's; No Cut No vis Por

2. Lms. H. gry. grayish tan to tanish gry; crypto. to v.v. fn. xln.; trs. sub-chlk, sub-sucro, packstn. + trs to huy. tes. sub-lithogr.; trs. dul. yel. fluor. No Cut No vis Por

3. scattered thin Shs. med to dak. gry. - calc to v. dak. gry to black-carb-looking

4. scattered trs Chert H. to med. gry

Base Hebbner
3953-3958

Toronto
3970-3975

Lansing Fm
4101-4106

sub-lithog.; trs. dul. yel. fluor.; No cut
No vis por

3. scattered thin shs. med to dk.
gray - calc to v. dk. gray to
black - carb-looking

4. scattered trs chert H. to med gray
opaque

Sh v. dk. gray. To black - carb looking

4100

Interbedded lms + scattered thin shs.
1. Lms. trs. wht to cream - chalk + H. to tan;
crypto. to v. v. fin. xln.; trs. sub-chalk, sub-
sucro. + packstn.; dul. H. to yel.
fluor.; No cut; No vis por.

2. Lms. H. gray to grayish tan - sl. to fably
shly. IP's. crypto. to v. v. fin. xln.;
sub-chalk, sub-sucro. and
packstn.; No fluor.; No cut; No vis por

3. scattered thin shs med to v. dk. gray
and sl. trs black

4. scattered trs chert wht + H. to
med. gray - opaque

4175-4183 Lms. trs wht. to cream-
chalk + cream. to tan; crypto to v. v. fin.
xln.; trs sub-chalk, sub-sucro. to
trs. sucro.; phantom oolitic,
trs. Rex red for. fragm.; dul. H. to
H. yel. fluor.; No cut; hv. trs. p. to tr.
+ trs. gd. micro-por. w/ hv
trs. chert wht.; cream to gray.
opaque to trs. translucent.

4183-4206 Interbedded Limestones
w/ scattered sh chert similar to 4175

4200

Sh v. dk. gray to black - carb-looking
sl. med to v. dk. gray sl. to extremely calc
lms. H. gray, cream to tan; crypto to v. v. fin.
xln.; sub-chalk, sub-sucro. + packstn.; oolitic to
phantom oolitic IP's; dul. yel. to gray yel.
fluor.; No cut; abn. p. to hv. trs. to trs.
excel. micro-por. to pp. por. / trs
chert H. gray - opaque

Lms. trs. wht. to cream - chalk + H. to tan; crypto
to tan; crypto. to v. v. fin. xln.; sub-chalk, sub-
sucro. + packstn.; No fluor.; No cut; No vis por

4230-46 Sh. v. dk. gray to black carb

4240-46 Sh. med to v. dk. gray - sl. to calc
4246-70 Lms. grayish tan to tan; crypto to
v. v. fin. xln.; sub-chalk, sub-sucro. and
packstn.; dul. yel. to yel. fluor.; No cut
No vis por

4270-4278 Lms. abn. wht. to cream - chalk
+ cream. to tan; crypto to v. v. fin. xln.
sub-chalk, sub-sucro. + packstn.; oolitic
IP's; dul. yel. fluor.; No cut; abn. p. to hv
+ hv. trs. gd. micro-por. to pp. por.

4278-83 Lms similar to 4246-4270

Lms. hv. trs. wht. to cream - chalk + tan;
crypto. to v. v. fin. xln.; extremely oolitic
+ for. sl. oolitic IP's; dul. yel. to
glau. yel. fluor.; hv. trs. sub-sucro. and
packstn.; No cut; abn. p. to excel.
oolitic por. + V. Quest. Perm.

4300

Problems similar to 4246-4270

Kansas City Area

Lms. hv. tas. wht. to cream - chlk + tan; crypto. to v. v. xln; j. extraly. oolitic; thin sli. oolitic lps. d. wh. gldn. to gldn. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; abn. qd. to exal. oolitic por. j. V. Quest. Perm.

4300

Problems similar 4246-4270

Sh. med. dk. gray to black - carb. looking
Lms. gray to tan; crypto. to v. v. xln; sub-litho. q. d. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; abn. qd. to exal. oolitic por. j. V. Quest. Perm.

Kansas City "All Form"
4335-4330

Lms. tas. wht. to cream - chlk + tan. to tan, grayish. lps.; crypto. to v. v. xln; sub-chlk., sub-sucro. + packstn.; dul. yel. to yel. fluor. lps.; No Cut; abn. pr. to ex. micro. pp + tas. pp. por. sli. tas. chert cream to gray. - opaque

Lms. tas. wht. to cream - chlk + tan; crypto. to v. v. xln; tas. sub-chlk., sub-sucro. + packstn.; dul. yel. fluor. lps.; No Cut; No Vis. Por. w/ sli. tas. chert cream to gray opaque

Sh. v. dk. gray to black - carb. looking
Sh. med. to v. dk. gray - sli. to extraly. calc.

Lms. similar 4369-4387

Lms. v. abn. wht. to cream - chlk + tan; crypto. to v. v. xln; tas. sub-chlk., sub-sucro. + packstn.; ph. xltom. oolitic lps. for ph. xltom. oolitic lps.; dul. yel. to yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; abn. pr. to ex. micro. pp + tas. pp. por.

4400

Trap Check

Lms. tas. to hv. tas. wht. to cream - chlk + tan; grayish. tan to tan; crypto. to v. v. xln; tas. sub-chlk., sub-sucro. + packstn.; + tas. sub-litho. q. d. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por.; w/ tas. chert wht. to lt. gray. - opaque

BKT
4473-1268

Lms. lt. med. gray. sli. to extraly. Sh. y. g. dk. to calc. sli.; crypto. to v. v. xln; sub-chlk. + tan; tas. sub-sucro. + packstn.; No Cut; No Vis. Por.

Sh. med. gray. v. soft, mushy + sticky when wet; sli. to faly. calc.

4490-4510 Lms. tan; crypto. to v. v. xln;

tas. sub-chlk., sub-sucro. + packstn.

4500

dul. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por. w/ tas. chert cream to tan; opp. bd. tas. tan + tan, grayish. lps.; crypto. to v. v. xln; tas. sub-chlk., sub-sucro. + packstn.; w/ tas. sub-litho. q. d. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por. w/ tas. chert lt. to med. gray + tan opp.

4530-4553 Interbedded Limestr.

1. Faster Dalg. Lms. hv. tas. to tan; wht. to cream - chlk + tan; crypto. to v. v. xln; sli. to extraly. oolitic; thin sli. oolitic; mat. xln; tas. sub-chlk., sub-sucro. + packstn.; + tas. sub-litho. q. d. yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por. w/ tas. chert lt. to med. gray + tan opp.

4553-64 Lms. hv. tas. to tan; crypto. to v. v. xln; hv. tas. oolitic; sub-chlk., sub-sucro. + packstn.; dul. yel. to yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por.

4564-71 Lms. hv. tas. to tan; crypto. to v. v. xln; hv. tas. oolitic; sub-chlk., sub-sucro. + packstn.; dul. yel. to yel. fluor. j. mat. xln sub-sucro. of packstn.; No Cut; No Vis. Por. w/ tas. chert lt. to med. gray + tan opp.

Marmaton Form
4498-1293

Trap Check

DS

oolitic, matrix, tas. sub-chlk, sub-sucro
 packets, tas. sub-lith. ool. tas. foss. large
 dul. gl. duct. gl. du. yel. fluor. j. No Cut
 hu. ta. to zbn. pr. totat. to gd. oolitic, c.
 pp. + micro-pp. por. Quest. Peam
 4558-64 Lms. H. gray tot. zu; crypto to
 v.v. fn. xlu. hu. tas. oolitic; sub-chlk, sub-sucro
 + packets; j. dul. h. yel. totat. yel. fluor. j.
 No Cut. No Vis Por
 4564-71 Lms. tan to hu. tas. w/ fluor. j.
 Chlk. + tan. grayish. tan. totat. H. gray. crypto
 to v.v. fn. xlu. sl. to v. oolitic; matrix
 sub-chlk, sub-sucro, packets, tas. sub-chlk
 dul. gl. duct. gl. du. yel. fluor. No Cut
 tas. pr. to fr. p. to mica. p. por. p. por.
 in matrix. Quest. Peam
 4571-4592 Lms. tan. w/ fluor. j. Chlk. + tan.
 to grayish. tan. w/ tas. H. gray. sub. crypto to
 v.v. fn. xlu. sub-chlk, sub-sucro, packets, tas.
 oolitic IP's; dul. yel. fluor. j. No Cut. No Vis Por
 Poss Sh. v. de. gray to blk. carb.
 90% sh. from 4485-4498 casing
 4600-09 Lms. grayish. tan. w/ sh. blk. carb. oil

Trap Check

DST #1

see

DST #2

see

DST #3

see

stn. p. v. fn. xlu. j. ext. sacra. j. causable
 dul. gl. duct. gl. du. yel. fluor. j. flash to gd
 streaming cut. p. p. to mica. p. por. p. por.
 4600-4615 Lms. wht. to crm. chlk.
 w/ zbn. w/ chlk. oolitic; dul. h. yel.
 fluor. j. milky cut. oil in mud
 tas. pr. micro-pp. por. Quest. Peam
 4615-22 Lms. hu. tas. w/ fluor. j.
 chlk. w/ chlk. oolitic IP's + tan. w/
 sh. dul. tot. zu. sp. to even oil stn.
 crypto. to v.v. fn. xlu. j. tas. oolitic
 to hu. tas. phantom oolitic IP's
 sub-chlk, sub-sucro. to v. sacra.
 yel. fluor. IP's milky to gd. ring
 cuts (oil in mud) zbn.
 pr. fr. qd. totat. excel. micro-pp
 por.

4600

Sh. med. gray to blk. carb.
 oil in mud
 only

F. Scott
 4630-4635

Chert Res. in
 4638-4643
 Oil in Mud
 Not here
 only

4622-27 Lms. tanish gray + H. to med
 gray. - sl. to ext. shly. qd. up
 to med. gray. calc. sh. j. crypto to
 v.v. fn. xlu. j. sub-chlk. + or. shly.
 sub-sucro + packets; v.v. dul. yel.
 fluor. IP's; No Cut; No Vis Por.
 4627-4630 Sh. v. de. gray to blk. carb.
 4630-4642 Lms. wht. to crm.
 chlk. + tan. to H. gray. - sl. shly. IP's
 crypto. to v.v. fn. xlu. j. sub-chlk.
 sub-sucro + packets; oolitic IP's
 dul. yel. fluor. No Cut; No Vis Por
 w/ hu. tr. st. zbn. Lm. tan. w/ de. carb.
 tan. oil stn. j. crypto to v.v. fn. xlu.
 v. to ext. oolitic (tan. gray.)
 matrix. sub-chlk. sub-sucro to

4700

v. sacro + tas. No matrix, j. gl. to
 brt. gl. du. yel. fluor. w/ flash to
 excel. streaming cuts; zbn. p. to fr.
 + hu. tas. qd. to excel. p. p. micro-pp
 + inter. xlu. por. + trs. excel.
 Int. oolitic por. j. w/ hu. tas.
 loose oolites
 4642-4648 Lms. H. gray tot. zu
 crypto. to v.v. fn. xlu. j. v. oolitic
 (mostly gray w/ tan. in matrix
 sub-chlk, sub-sucro + packets
 dul. yel. fluor. IP's; No Cut;
 No Vis Por
 4648-53 Sh. v. de. gray to blk. carb

4653-4875 Interbedded Lmst + Shs
 1. Lms. H. gray. tot. zu; crypto to w/ h
 xlu. hu. tas. to abn. oolitic to
 phantom oolitic; tas. sub-chlk. j.
 sub-sucro, packets + sub-lith. ool. j.
 dul. yel. fluor. j. No Cut; No Vis Por
 2. Lms. H. to med. gray. - sl. to
 ext. shly. qd. up. to v. calc. sh. j.
 crypto. to v.v. fn. xlu. j.
 sub-chlk. to ashly. + packets.
 No fluor. j. No Cut; No Vis Por.
 3. Sh. med. to v. de. gray. - sl. to
 ext. shly. calc. IP's

4800

4. Sh. v. de. gray to blk. carb
 5. Scattered trs. Chert
 tan, opque

sub-ortho. No fluor. No Cut; No Vis Por.
3. Sh. med to v. drk gray - sl. to
extraly. calc. IPS

4. Sh. v. drk gray to black - carb
5. Scattered trs. Chert
tan, opaque

4800

Hot Wire
Saturated
Turned OFF

Marrow Fm
4875-4970

4875-4895 Sh. med. to drk. gray w/
zbn. grayish. green to greenish gray
& trs. blue greens & lt. greens

4895-4913 Shst + Lms
1. FASTER DRK shs similar 4875-4895

4900

2. Slower DRK Lms. lt. gray to tan,
mottled IPS; crypto to v.v. fu. xlu;
sl. to faly. foss. IPS; trs. oolitic
trs. sl. to faly. glauc; dul. yel. fluor. ;
No Cut; No Vis Por

4913-4922 Shs. med to drk. gray. w/ trs
brz zoin + hvy trs grms. + sl. yel

4922-4950 Shst + Lms similar 4895-4913
w/ zbn brz zoin in sh. & zbn v. various
green shs; w/ trs Qtz Sdst wht, lt. gray
to lt. grn; v.v. fu. to silty fu. ang.;
pr to fe. sort.; clay filled; No fluor
No Cut; No Vis Por

MERZMEC
4950-4975

4950-4979 Lms. tan; crypto. to v.v. fu.
xlu; extraly. micro-oolitic w/ hvy trs
Qtz. grs - v.v. fu. gr. - ang.;
matrix sub-chlk, sub-sucro. and
trs. sucro; dul. yel. fluor. ;
No Cut; No Vis Por

5000

4979-5075 Lms. trs. to hvy trs wht.
to GRM-chlkt & grayish tan to tan;
crypto. to v.v. fu. xlu; faly to
extraly. oolitic (suc, med. & trs. lg)
matrix sub-chlk, sub-sucro &
packstn; dul. yel. to dul. lt. yel.
fluor.; No Cut; No Vis. Por.;
w/ sl. trs Chert tan, opaque

TD 5075

7 7/8" Bit Info:
1. New JZ-23-6 1960 in 5075TD out

CIR Points:

1. 4510	6. 4620	11. 4900
2. 4530	7. 4625	12. 4920
3. 4550	8. 4640	13. 4940
4. 4580	9. 4645	14. 4960
5. 4610	10. 4870	15. 5075TD

Dev. Surv.:

1. 1441 1/4°	3. 4610 3/4°
2. 1960 1/2°	4. 5075 TD

Daily Drlg. Progress

1. 3140	7AM	5-6-19
2. 3586	7AM	5-7-19
3. 4133	7AM	5-8-19
4. 4510	7AM	5-9-19
5. 4610	7AM	5-10-19
6. 4610	7AM	5-11-19
7. 4610	7AM	5-12-19
8. 4610	7AM	5-13-19
9. 4625	7AM	5-14-19
10. 4645	7AM	5-15-19
11. 4900	7AM	5-16-19
12. 5075TD	7AM	5-17-19

DST #1 U. Pawnee 4588-4610
 I.O. Fr. Building Blow 4.8 inches
 FO Fr. Building Blow 6 inches

Rec 120' M WTR oil 18 oil 60% wtr 39% mud
 BHT 111°F Rw .244 @ 64°F
 Chl 34000ppm Pit Chl 4400ppm
 IHP 2221#
 IFP 70-57# in 30 min
 JSIP 993# in 60 min
 FFP 81-99# in 60 min
 FSIP 994# in 120 min
 FHP 2188#

DST #3 FT Scott 4631-4645
 I.O BOB 9 min end 31.4 inches
 FO. Strong Building Blow 11.5 inches
 Rec 340 ft oil sp. 98% wtr

5% gas sp. oil 95% wtr
 Chl 110000ppm Pit Chl 5000ppm
 Rw .075 @ 65°F Max Temp 114°F
 IHP 2275#
 IFP 97-117# in 30 min
 JSIP 218# in 60 min
 FFP 145-179# in 60 min
 FSIP 220# in 120 min
 FHP 2281

DST #2 L. Pawnee 4605-4625
 IO strong Building Blow 8.3 inches
 FO strg. Building Blow 8.8 inches
 Rec 180 ft muddy wtr.

90% wtr 10% mud
 Rw .082 @ 70°F Chl 96000ppm
 pit Chl 5000ppm
 Max Temp 113°F
 IHP 2203#
 IFP 63-78# in 30 min

Rec 190ft muddy wtr.
 90% wtr 10% mud
 Rw .082 @ 70°F chl 96000ppm
 pit ch 5000ppm
 Max Temp 113°F
 IHP 2203#
 IFP 63-78* in 30 min
 ISIP 993# in 60 min
 FFP 88-124* in 60 min
 FSIP 995# in 120 min
 FHP 2180

Mud Info:	8% oil 8% oil							
Date	5-6	5-7	5-8	5-9	5-10	5-11	5-12	5-13
	6:30A	11:45A	7:45A	10:15A	9:30A	8:00A	8:30A	1:30A
Depth	3140	3687	4182	4530	4610	4610	4610	4610
Wt.	9.3	8.6	9.3	9.3	9.1	9.1	9.1	9.1
Vis	29	56	50	61	58	65	64	65
PV	-	17	15	18	17	18	18	18
YP	-	21	18	22	21	22	17	17
GS	-	14/37	12/34	16/38	15/36	16/37	14/36	15/36
WL	N/C	6.4	7.2	7.2	6.4	6.4	4.8	5.6
Cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	11.0	10.0	10.5	10.5	10.0	9.0	9.0
Chl	56000	3100	3800	3000	4000	4000	4400	5000
Ca	Hvy	40	40	20	40	40	40	40
LCM	2.0	2.0	1.0	1.0	1.0	2.0	2.0	1.0

	6% oil 5% oil 4% oil							
Date	5-14	5-15	5-16					
	7:30A	6:30A	8:00P					
Depth	4625	4645	4960					
Wt.	9.1	9.1	9.2					
Vis	63	43	75					
PV	18	11	7					
YP	17	9	41					
GS	15/35	7/24	22/75					
WL	6.4	6.0	8.0					
Cake	1/32	1/32	2/32					
pH	10.5	11.0	10.5					
Chl	5000	6000	5000					
Ca	40	20	40					
LCM	1.0	2.0	2.0					

OPERATOR Berexco LLC LOCATION 337'FNL + 2010'FEL
 LEASE Kys2R NO. 1-19 SEC. 19 TWP. 21S RANG. 35W
 ELEVATION 3205KB RTD 5075 COUNTY Kearny STATE Kansas