

GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

COMPANY BEREXCO LLC

LEASE SHEILA NO. 1

LOCATION 2310FSL & 1105

SEC. 17 TWP. 23S RANG. 21W

COUNTY HODGEMAN STATE KANSAS

FIELD WILDCAT

CONTRACTOR BEREDCO DRILG. RIG 2

COMM. 9-23-10 COMP. _____

RTD 4710 LTD _____

No. of DST'S 4 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

FORMATION TOPS	SAMPLE	LOG	SUBSEA
ANHYDRITE	1499		
HEEBNER	3967		
LANSING	4062		
HUSHPUCKNEY	4343		
MARMATON	4410		
ALTAMONT	4438		
PAWNEE	4491		
FT. SCOTT	4510		
CHEROKEE	4562		
MISSISSIPPI	4629		

ELEVATIONS

KB 2379

DF 2375

GL 2365

MEASUREMENTS ARE ALL FROM KB

CASING RECORD

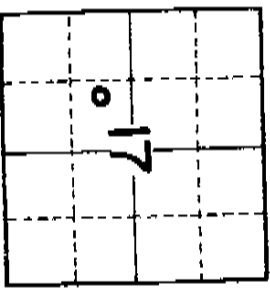
8/8 of 288 w/ 3x.

01 w/ 3x.

01 w/ 3x.

01 w/ 3x.

EL. LOG DIL. CNL/CDL-ML-SONIC



MARKS Earth-Tech had an unmanned gas detection trailer on this well from 2200 feet to total depth.

Thank you,
Edwin H. Grievess

SANDSTONE
 LIMESTONE
 SHALE
 CHERT

DOLOMITE
 GRANITE WASH
 ANN & GP

HOT WIRE BY
 TOTAL GAS VOLUME

C3 = PROPANE
 C4 = ISOBUTANE
 C5 = BUTANE
 C6 = ISOPENTANE
 C7 = PENTANE

DRILL TIME SCALE

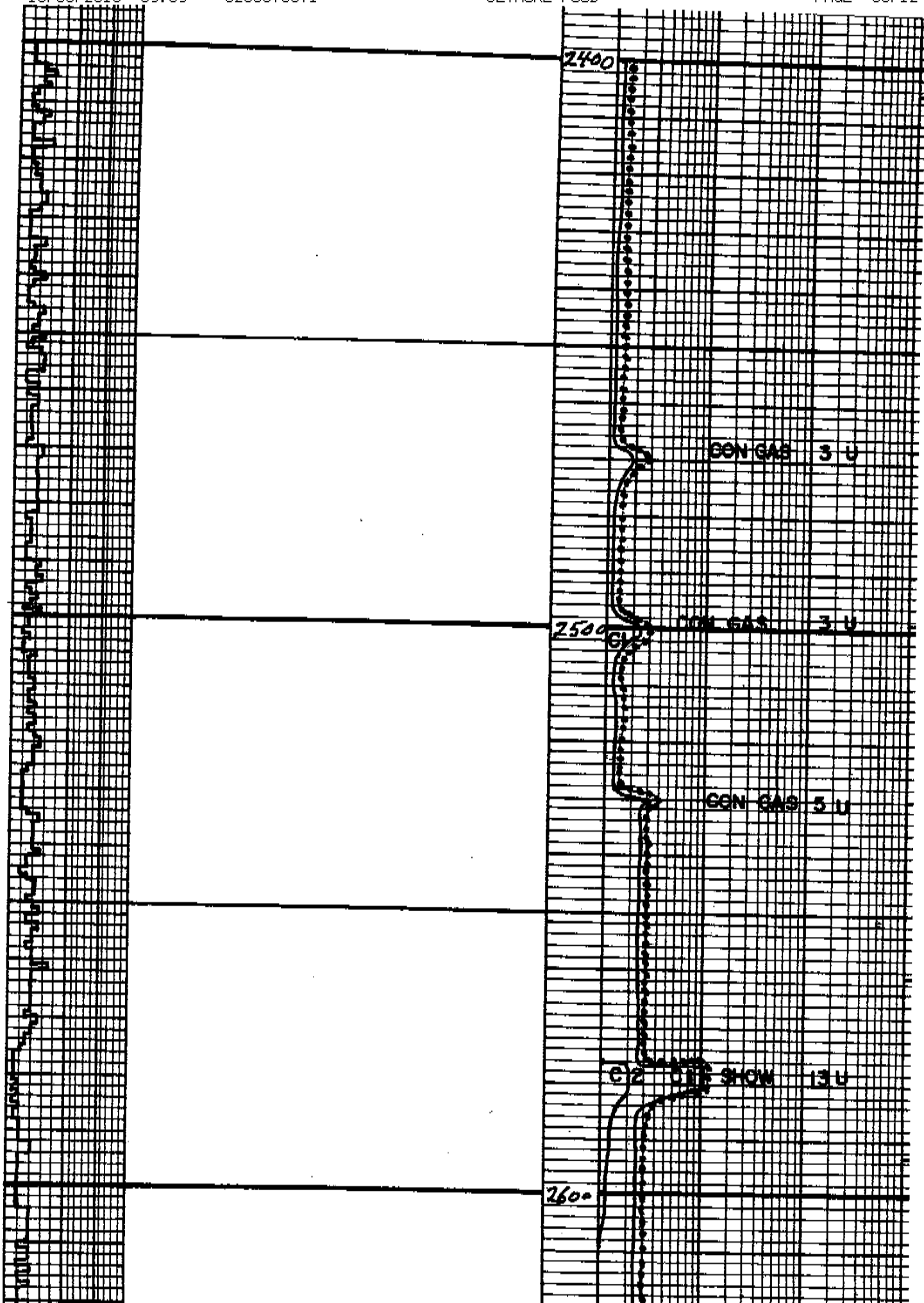
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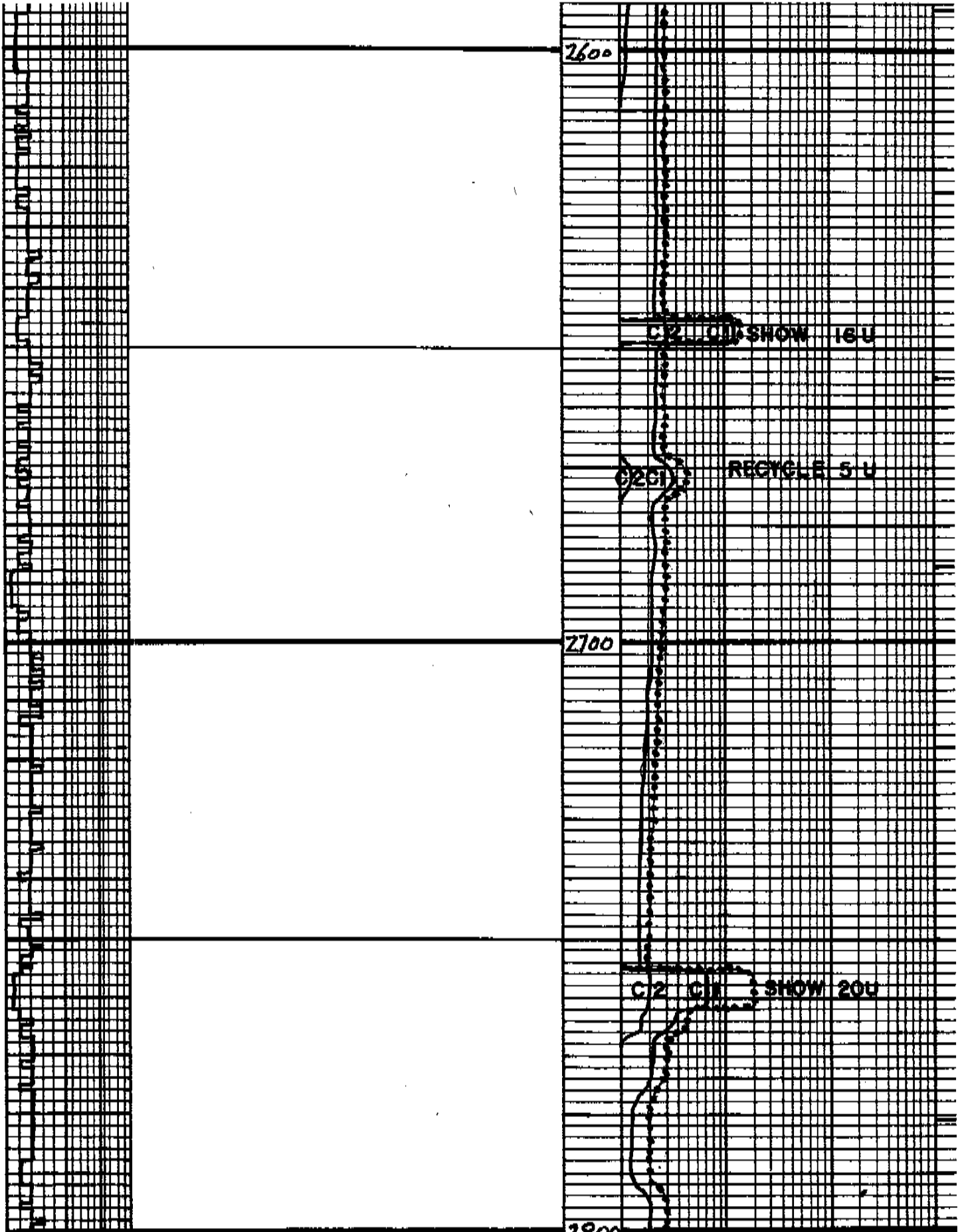
GAS SCALE

5 10 15

10 100 1000

		1500
		1540
		2400





2600

C2 C11 SHOW 16U

0201

RECYCLE 5 U

2700

C2 C11 SHOW 20U

2800

2800

3800

3900

Lms. lt. gry. to tan; crypto. to v.u. fu. xlu.
 trs. sub-chlk, sub-sucro + packstn; dul. yel
 fluor. IP's; No lut; No Vis for → Note:
 V. abn. Sh in samp. lt. gry to med gry w/
 some orange & red

Lms. trs. to abn. wht. to crm. chlk +
 lt. gry. to tan; crypto. to v.u. fu. xlu.; sub chlk,
 sub-sucro. to sucro + packstn; dul. lt.
 to lt. yel. fluor.; No lut; abn. pr to x.
 and trs. gd to excel. p.p., micro-p.p.
 and prob. interxn pow → Note:
 V. abn. Sh. in samp. lt. to med gry
 w/some orange & red



3900

Lms. similar 3811-3840 w/ TRS Sh.
v. drk gray to black

Sh. v. drk gray to blk - carb
Sh. H. gray to H. green, silty IP's w/ TRS siltstn
H. green to H. gray - Sh. filled
Lms. H. tan, grayish IP's; Crypto. to
U. U. En. xln. TRS. sub-chlk, sub-sucro + packstn
dul. H. yel. fluor. IP's; No Cut; No Vis. Por
Lms. TRS. wht. to crm. chlk + H. tan, grayish IP's
crypto. to v. U. En. xln.; sub-chlk, sub-sucro,
to sucro + TRS. packstn; dul. H. to H. yel. sh. siltstn
No Cut; 2 bu. por. to 6 microp. + pass inter. d. 1000

Heebner
3967-1589
C 2013 BLK. SH. 14 U
Toronto
3980-1600

Sh. H. to med. gray + greenish gray to
grayish greens; sl. to ext. calc IP's

Lms. H. gray, tanish IP's; crypto. to v. U. En. xln
sl. to ext. shly. gradng. to calc. Shs
sub-chlk + or Shly; sub-sucro + packstn;
dul. H. yel. fluor. IP's; No Cut; No Vis. Por

Interbedded lms + thin scattered Shs
① Slower Dalg. Lms. H. gray to tan
crypto. to v. U. En. xln.; TRS. sub-chlk,
sub-sucro + packstn; dul. H. yel.
fluor IP's; No Cut; No Vis. Por
② Faster Dalg. Lms. tan. to abn. wht. to
crm. - chlk + H. tan to tan; sub-chlk,
sub-sucro to sucro + TRS packstn;

dul. H. to H. yel. fluor.; No Cut; 2 bu
pr. to pr. + TRS. gd. micro-p. por.
w/ Prob. inter. d. por IP's
③ Scattered thin Shales med to drk

4100

Brown Lm
4045-1667
Lansing
4062-1684

crm. -chlk & lt tan totan; sub-chlk,
 sub-sucro. to sucro. + TRS packsta.
 dul. H. to H. yel. fluor.; No cut; 2 dn
 pr. to pr. + TRS. gd. micro-por. por.
 w/Prob. interval por IP's
 ③ Scattered thin shales med to drk
 gry; slit to v. czlc IP's to v. drk gry
 to black-carb. looking
 ④ Scattered trs. to abu. chert
 off wht., crm, lt. gry. to lt. tan
 opque

4100

C21

Lms. trs. to abu. wht. to crm. chlk
 + lt. tan totan, gryish IP's; trs. crypto
 to v. v. fn. xln.; sub-chlk, sub-sucro
 to v. sucro. + trs. packsta.; phantom
 oolitic IP's to trs. oolitic; phantom oolitic
 IP's to trs. oolitic; dul. H. to lt. yel. fluor.;
 No cut; abu. pr. to pr. + TRS. gd. to excel
 oolitic, p.p., micro-por. por. +
 Prob. interval por. w/ slit trs.
 Chert. gry. to tan; opque

4200

Interbedded Limestone w/ Shales
 + Chert similar 4062-4164

C21

CONCRETE GAS 9 U

Lms. trs. to hvy. trs. wht. to crm. chlk
 + lt tan to tan, gryish. IP's; slit
 EXTR. oolitic and/or slit to drk
 oolitic; matrix sub-chlk; sub-sucro
 + trs. packsta.; yel. to golden yel. fluor.
 No cut; abu. pr., tan, gd. to excel oolitic
 p.p., micro-por. + poss. interval porosity
 w/ TRS chert off wht., gry to tan
 opque to TRS.

4300

Lms. H. gry. to tan; crypto. to v. fn. xln.;
 sub-chlk, sub-sucro to trs. sucro and
 packsta.; IP's - trs. to abu. phantom
 oolitic to oolitic; dul. H. to lt. yel.
 fluor. IP's; No cut; No Vis. Por

Hushonkey

Lms. lt. gray. to tan; crypto. to v. fin. xln; sub-chlk, sub-sucro to trs. sucro and packstn.; IP's - tan to abu phantom oolitic; to oolitic; dul. H. to H. yel. fluor. IP's; No cut; No Vis. For

4300

Hushpuckney
4323-1965

TRAP CHECK

Sh v. drk. gray. to black-carb

Lms. similar 4261-4343

Lms. tan. wht. to cream-chlk & H. tan to tan, grayish. IP's; sl. to v. oolitic + tan sl. to v. oolitic; matrix chlk, sub-chlk sub-sucro to trs. sucro + packstn.; dul. H. to H. yel. fluor.; No cut; abu. pr. fr. gd. oolitic; p.p.; micro-pf and prob. interxln. porosity

RECYCLE 16U

Lms. lt. to med. gray-sli. to v. shly to tan; crypto. to v. v. fin. xln; sub-chlk to shly IP's; sub-sucro. + packstn.; dul. H. to H. yel. fluor. IP's; No cut; No Vis. Por; w/Prob interbeds sh's med to v. drk. gray, calc. to v. drk. gray to black-carb. looking

4400

CON GAS 9 U
M3 Rmation
4410-2082

Lms lt. gray, tanish IP's; crypto. to v. fin. xln; sub-chlk; sub-sucro + packstn.; dul. H. yel. fluor. IP's; No cut; No Vis Porosity

CR2012

CON GAS 20U

Sh med to v. drk. gray.

Lms. cream. to tan; crypto. to v. fin. xln; trs sub-chlk sub-sucro. to sucro, packstn. + trs. sub-lithop v. sl. tan. oolitic sl. w/ sucro. matrix; dul. H. to H. yel. fluor.; No cut; sl. trs. oolitic; Por w/Prob. interxln. No cut; sucro, w/ sl. trs. chert IP's; wht., cream. to tan, tan to ogy.

SHOWN 35 U

4454-82 Lms lt. gray, grayish tan to tan, crypto. to v. fin. xln; tan. sub-chlk, tan. sub-sucro. + packstn.; dul. H. to H. yel. fluor.; No cut; No Vis For.

4282-91 Sh med. to v. drk. gray

4491-4515 Lms. tan. wht. to cream chlk. & H. gray, grayish tan to tan; crypto. to trs. v. v. fin. xln; chlk, sub-chlk; trs. sub-sucro + packstn. dul. H. to H. yel. fluor.; No cut; No Vis For

TRIP GAS 26 U

4515-70 Sh v. drk. gray to black-carb

4500

4491-2112

4440-40 Lms. lt. to med. gray, sli. to v. shly; crypto. to v. v. fin. xln; sub-chlk, tan shly, sub-sucro. + packstn.; dul. H. yel. fluor. IP's;

H20X-71 Sh med. to v. dark gray

4491-4515 Lms. trs. wht. to cream
chlk. + H. gray, grayish tan to tan
Crypto. to trs. v. v. fin. xln; chlk.,
sub-chlk. trs. sub-sucro + patchy
dub. H. tab. yet fluor. No cut, No visior

4515-20 Sh. dark gray to black carb

4420-40 Lms. H. to med. gray, sli. to
v. shly; crypto. to v. v. fin. xln;
sub-chlk. for shly, sub-sucro,
+ patchy; dub. H. yet fluor. IP's
No cut; No visior

4540-4567 Lms. trs. wht. to cream
chlk. + H. tan, grayish. IP's; crypto
to v. v. fin. xln; trs. sub-chlk.,
sub-sucro. to sucro. + trs. patchy
glan. yet fluor. IP's. sli. trs. w/
PA. to ER. Ring cuts; sli. trs. v. DR
micro-p. port poss. inter v. u. por
IP's; sli. trs. chert gray to tan, trs. u.
to ppuc

4567-62 Sh. dark gray to black carb

4562-90 Lms. cream to lt. gray chlk. +
H. gray to grayish. tan; crypto to tan
xln; sub-chlk. trs. sub-sucro + patchy
dub. H. yet fluor. No cut; No visior
w/ 2 pieces w/ bit oil stain glan. yet fluor.
flush to gd. string cuts; pp. to be
micro-p. por.; dust + foam.

4590-95 Sh. v. dark gray to blk. carb

4595-4611 Lms w/ trs show similar 4582-90

4611-21 Sh. med. to v. dark gray; greenish
crystal carb glan. to v. shly tan w/ trs
Lm. gray to tan, mottled IP's, crypto to tan
sub-chlk., sub-sucro + patchy, trs. dub.
yet fluor. w/ gd. string cuts; trs. or
to ER. solution p. p. por.; dust + foam

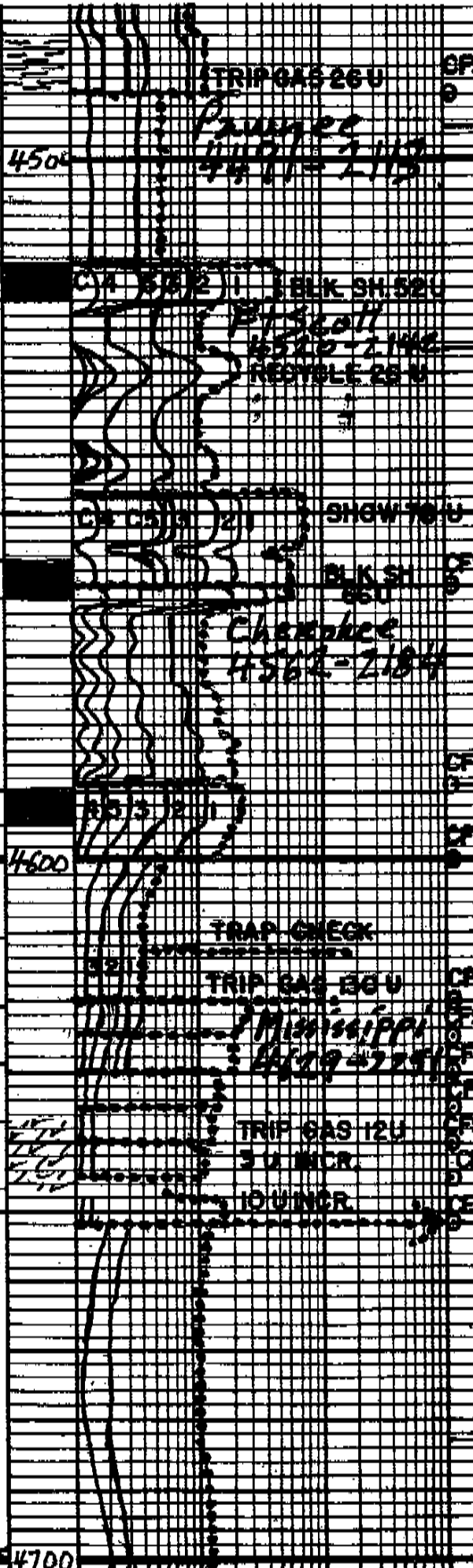
4612-29 Cong. of Lms, Shs + siltstns
Lms. H. gray, tan to brown; crypto
to tan, xln, sub-chlk., sub-sucro + patchy
v. sli. trs. ban oil stain w/ glan. yet fluor. flush
to gd. string cuts; No visior
Dshs v. irregular, (S) siltstns. H. gray to
H. gray. sly IP's; clay filled; str. fluor
+ cuts IP's No visior

4619-37 Dol. sli. to tab. calc IP's; v. u. fin. xln
sub-sucro to trs. sucro + patchy; ban
oil stain; sub-chlk. trs. v. shly tan w/ trs
cuts; sli. trs. ban oil stain; glan. yet fluor. w/
gd. string cuts; No visior

4637-47 Dol. H. tan to tan w/ sptd to even
ban. oil stain; strong oil odor; v. u. fin. xln
sub-sucro to sucro, trs. wht. to tan
med. to coarse dol. v. s + frag
bat. yet fluor. w/ flush to excel. string
cuts; huytes. pet. to trs. gd. v. u. fin. xln, pp.
micro-p. + poss. inter v. u. por. w/
huytes chert w/ tagay. q. s. sli. tab. yet
trs. chert sli. to tab. weathered w/ ban
oil stain w/ bat. yet fluor. flush to gd
string cuts; trs. finely disseminated
pyk. to pyk. mineralization along
fractures in chert

4647. Dol. cream to tan w/ huytes sptd to
even ban. oil stain. v. u. fin. xln; sub-sucro to sucro
ex. oil odor; bat. yet fluor. flush to gd. string
cuts; huytes. to tab. trs. gd. micro-p. por.
w/ ext. abn. Chert q. s. + frag, oil w/ tagay
q. s. sli. tab. yet fluor. weathered w/ ban
oil stain w/ bat. yet fluor. flush to gd
string cuts w/ PA. w/ trs. micro-p. por.

Dolo + Chert similar above w/



Ex. oil when but yet (hand) - fresh to get filling
 Capillary tube. To be - this is micro-gauge
 w/ extra. abn. Chest 902 - Pressure, all left
 day, off - 2.0 sl. - 1.00 - 1.00 - 1.00 - 1.00
 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00
 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00

4700

Dolo + Cheat similar z6000 w/
 Sample 10 to 20% Dolo + 80 to 90% Cheat

7 1/8 inch B.T. Tube:

#1 New Hugs GX22S
 in @ 288ft out @ 4710 TD

Cia. Points:

- | | |
|---------|-------------|
| 1. 4472 | 8. 4630 |
| 2. 4490 | 9. 4635 |
| 3. 4560 | 10. 4640 |
| 4. 4589 | 11. 4645 |
| 5. 4600 | 12. 4652 |
| 6. 4620 | 13. 4710 TD |
| 7. 4625 | |

Dev. Surveys:

- | | |
|--------------|--------------|
| 1. 288 3/4° | 5. 4490 1° |
| 2. 376 1/2° | 6. 4620 3/4° |
| 3. 1906 3/4° | 7. 4710 TR |
| 4. 3904 1/2° | |

Daily Drilg Progress:

- | | |
|-------------------|---------|
| 1. 3800 @ 11:57PM | 9-28-10 |
| 2. 3906 @ 7:00AM | 9-29-10 |
| 3. 4467 @ 7:00AM | 9-30-10 |
| 4. 4492 @ 7:00AM | 10-1-10 |
| 5. 4620 @ 7:00AM | 10-2-10 |
| 6. 4640 @ 7:00AM | 10-3-10 |
| 7. 4652 @ 7:00AM | 10-4-10 |
| 8. 4710 @ 7:00AM | 10-5-10 |

DST#1 Marmaton 4420-4490
 10 Weak Blow Died 5 min FO Dead
 Rec 30ft Mud BHT 116°F
 IHP 2182#
 JFP 20-36# in 30 min
 VSIP 1245# in 60 min
 FFP 38-47# in 30 min
 FSIP 1223# in 60 min
 FHP 2135#

DST#2 FIScott-Cherokee 4542-4620
 10 Weak Blow Died 10 Weak Blow Died 10-2-10
 Rec 30ft VSOCM 170il 177Mud BHT 117°F

FHP 2135#

DST#2 FTS# Cherokee 4547-4620
 IO Weak Surface Blow IO Weak Blow Drift to 22"
 Rec 30ft VSOCM 12oil 99% Mud BHT 117°F
 IHP 2238#
 IFP 20-27# in 30 min
 ISIP 144# in 60 min
 FFP 25-28# in 60 min
 FSIP 233# in 120 min
 FHP 2181#

DST#3 Mississippi 4607-4640
 IO Weak Surface Blow Throughout FO Dead
 Rec 10ft Mud BHT 110°F

IHP 2234#
 IFP 21-22# in 30 min
 ISIP 57# in 60 min
 FFP 23-26# in 60 min
 FSIP 44# in 120 min
 FHP 2169#

DST#4 Mississippi 4607-4652
 IO Strong Blow BOB/min 20sec.
 FO Strong Blow BOB/min 15sec.
 Rec 3521 ft fluid
 3056 cc clean oil
 465 ft VSOCM W 22oil 78% Wtr. 20% Mud

Rw = 183 @ 77°F chl 3700 ppm
 BHT 124°F pitchl 9600 ppm
 Oil Gravity 33 API
 IHP 2268#
 IFP 129-852# in 30 min
 ISIP 1434# in 60 min
 FFP 827-1391# in 60 min
 FSIP 1432# in 120 min
 FHP 2177#

Mud Info.:

Date	9-28 4:15A	9-29 9:50A	9-30 11:45A	10-1 10:55A	10-2 7:05P	10-3 7:45A	10-4 11:30A
Depth	3225	4006	4490	4550	4620	4640	4652
Wt	9.6	9.3	9.4	9.4	9.2	9.1	9.1
Vis	30	44	40	51	55	49	49
PV	5	11	8	10	13	15	15
YP	6	10	8	29	25	16	17
GS	2/3	12/40	11/45	38/70	33/46	18/46	16/56
WL	11/2	10.2	12.6	13.6	11.2	8.8	8.8
Cake	—	1/32	1/32	2/32	1/32	1/32	1/32

FO Stroy Blaw BOB/min 155sec.
 Rec 3521 ft fluid
 3056 AC clean oil
 465 ft VSOCMW 2% oil 78% wtr. 20% Mud

Rw. 183 @ 77°F chl 37000 ppm
 BHT 124°F pttchl 9600 ppm
 Oil Gravity 33 API
 IHP 2268#
 I/P 129-852# in 30 min
 IS/P 1434# in 60 min
 FFP 827-1391# in 60 min
 FS/P 1432# in 120 min
 FHP 2177#

Mud Info.:

Date	9-28 11:15A	9-29 9:50A	9-30 11:45A	10-1 10:55A	10-2 12:05P	10-3 7:45A	10-4 11:30A
Depth	3225	4006	4490	4550	4610	4640	4652
Wt	9.6	9.3	9.5	9.4	9.2	9.1	9.1
Vis	30	44	40	51	55	49	49
PV	5	11	8	10	13	15	15
YP	6	10	8	29	25	16	17
GS	2/3	12/40	11/45	38/70	55/46	18/46	16/56
WL	11/6	10.2	12.6	13.6	11.2	8.8	8.8
Cake	—	1/32	1/32	2/32	1/32	1/32	1/32
pH	7.0	10.0	10.0	9.5	11.0	10.5	10.0
Chl	40000	5500	4500	7100	3000	4600	9600
C2	Hvy	20	100	180	60	20	20
LCM	1	2	1	1	1	1	TR.

OPERATOR BEREXCO LLC
 LEASE SHEILA NO. 1
 ELEVATION 2378KB RTD 4710

LOCATION 2310FSL 8 1105FWL
 SEC. 17 TWP. 23S RANG. 21W
 COUNTY HODGEMAN STATE KANSAS