

A.P.T.# 15-137-20640

GEOLOGICAL REPORT  
DRILLING TIME AND SAMPLE LOG

COMPANY Baird Oil Company, Inc.  
 LEASE Esslinger Ranch, Inc. # 2-27  
 FIELD \_\_\_\_\_  
 LOCATION 2015' FSL + 2235' FWL  
 SEC 27 TWSP 35 RGE 22W  
 COUNTY Norton STATE Kansas

ELEVATION  
 KB 2328'  
 DF 2326'  
 GL 2320'  
 Depths Measured From  
 Log KB Drilling KB

CONTRACTOR W.W. Drilling Rig # 12  
 SPUD 3-26-13 COMP 4-3-13  
 SAMPLES SAVED FROM 3300' TO R.T.D.

CASING  
 Surface 8 5/8" @ 219'  
 Production 5 1/2" @ 3924'

ELECTRIC LOGS  
Nabors

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE	E. LOG	DATUM	A	B	C	D
			<u>R log</u>				
<u>Anhydrite</u>	<u>2011</u>	<u>2008</u>	<u>+ 320</u>	<u>+ 319</u>			
<u>Base Anhydrite</u>	<u>2039</u>	<u>2036</u>	<u>+ 292</u>	<u>+ 288</u>			
<u>Tapoka</u>	<u>3317</u>	<u>3315</u>	<u>- 987</u>	<u>- 987</u>			
<u>Heebner</u>	<u>3520</u>	<u>3518</u>	<u>- 1190</u>	<u>- 1195</u>			
<u>Toronto</u>	<u>3546</u>	<u>3544</u>	<u>- 1216</u>	<u>- 1220</u>			
<u>Lansing</u>	<u>3563</u>	<u>3562</u>	<u>- 1234</u>	<u>- 1239</u>			
<u>Base Kansas City</u>	<u>3747</u>	<u>3746</u>	<u>- 1418</u>	<u>- 1424</u>			
<u>Arbuckle</u>	<u>3817</u>	<u>3815</u>	<u>- 1487</u>	<u>- 1489</u>			
<u>Reagan Sand</u>	<u>3883</u>	<u>3881</u>	<u>- 1553</u>	<u>- 1555</u>			
<u>Wea. Granite</u>	<u>3902</u>	<u>3900</u>	<u>- 1572</u>	<u>- 1579</u>			
<u>Total Depth</u>	<u>3930</u>	<u>3929</u>	<u>- 1601</u>	<u>- 1621</u>			

REFERENCE WELLS

A Baird Oil Co., Esslinger Ranch, Inc. #1-27, 735' FSL + 2645' FEL Sec. 27-35-22W

B

C

D

Port Celler @ 2049'


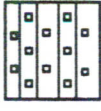



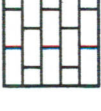
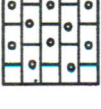
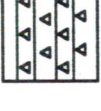

REMARKS

This well ran structurally 4 feet higher on the Lansing top than the reference well. Due to the favorable structural position and D.S.T.#6 results it was decided production casing would be cemented to further test the well. The zones from 3808'-3812' and 3726'-3730' should be tested before abandoning the well.

Richard B. Bell  
4-3-13

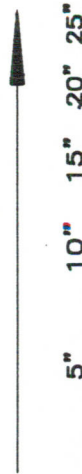
7502

LEGEND

-   
 Anhydrite
-   
 Salt
-   
 Sandstone
-   
 Shale
-   
 Carb sh
-   
 Limestone
-   
 Ool. Lime
-   
 Chert
-   
 Dolomite

DRILLING TIME IN MINUTES  
PER FOOT

Rate of Penetration Decreases



DEPTH

2000

20

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

LOG 7710





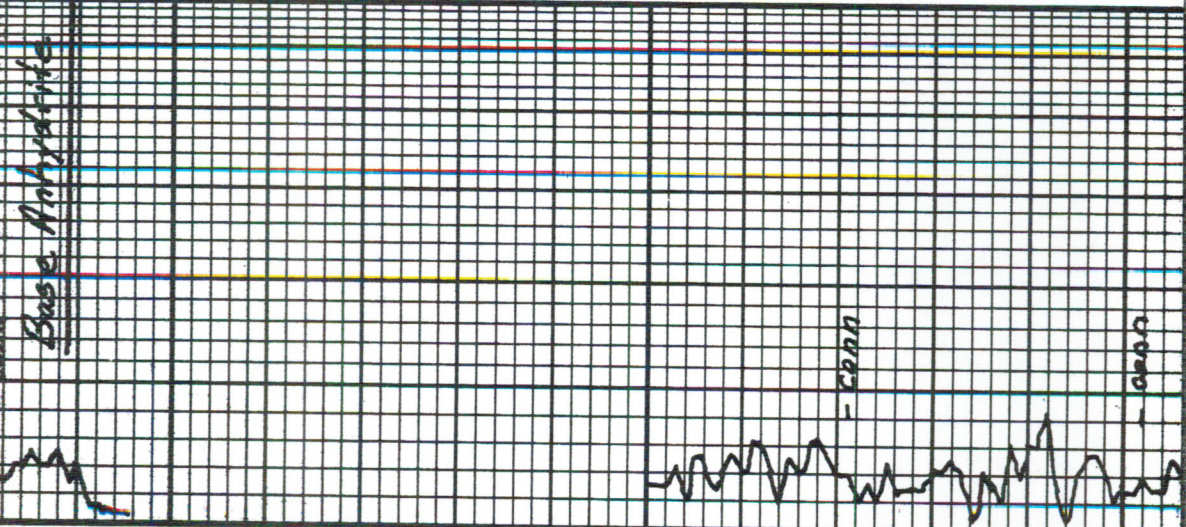


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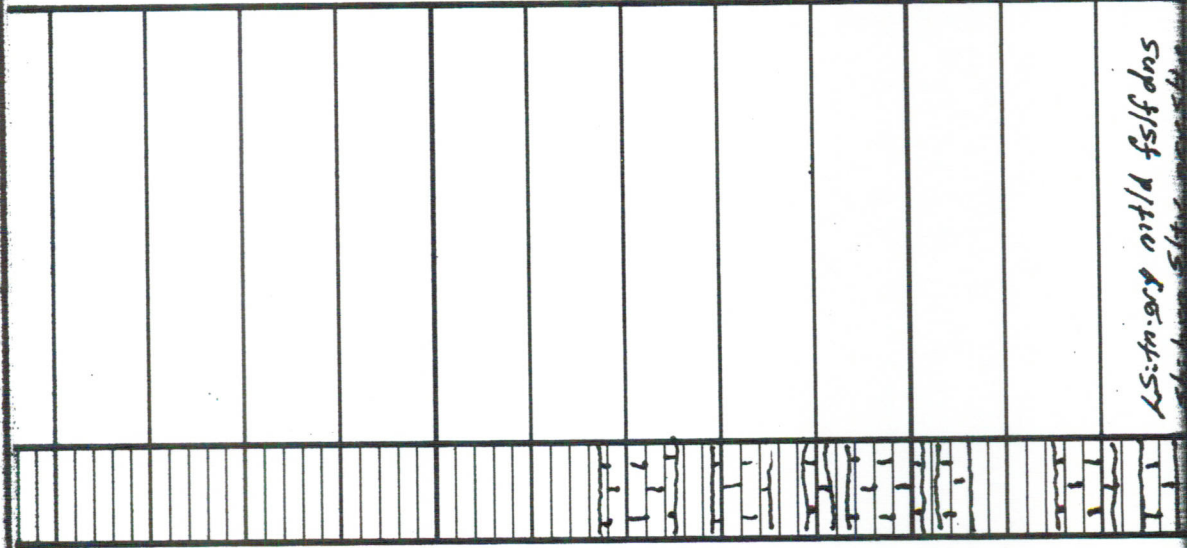
3100

20

40



Samples are lagged  
good samples



Secondary nit/d fossils

60

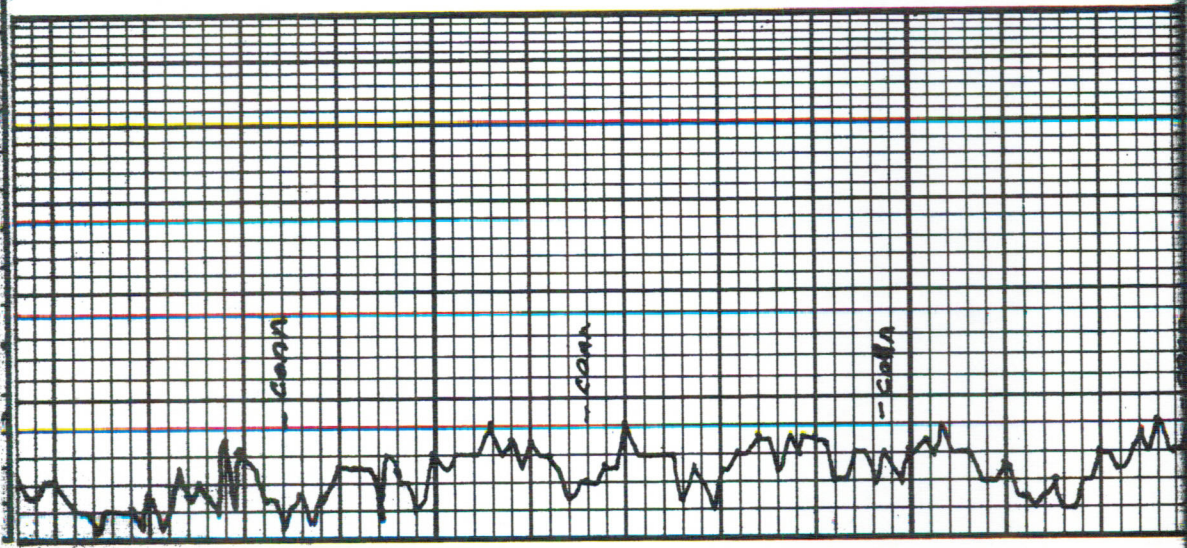
80

3200

20

40

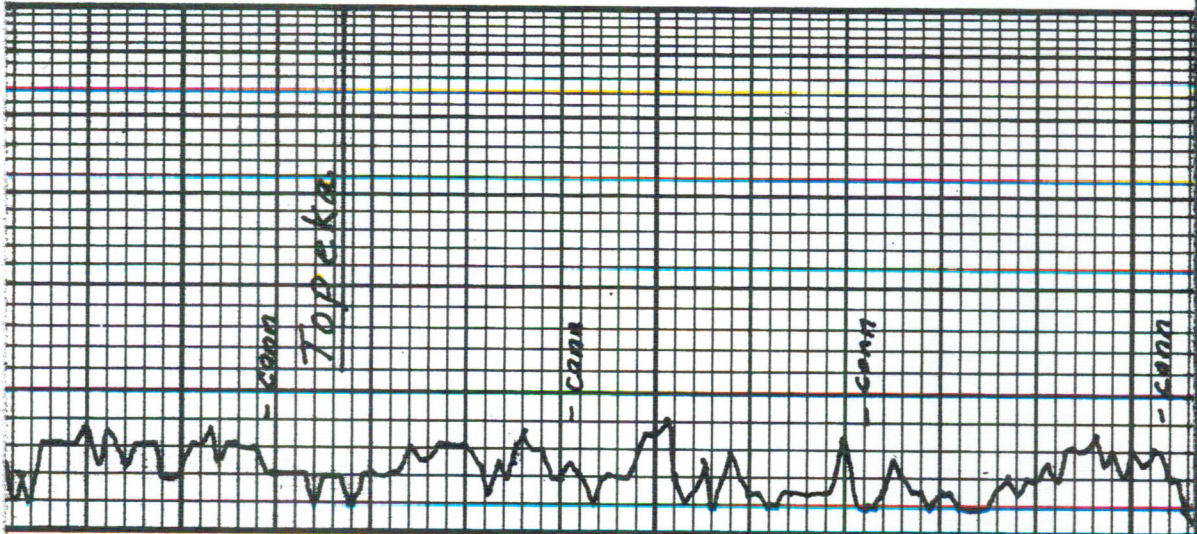
60



CASA

CANA

CALA



3300

20

40

60

80

3400

Ls: tn-gry fxlndns

Ls: wh-tn sli.cky-fxlndns  
Fr Δ wh N.S.A.

Ls: tn-gry fxlndns  
sli.cky  
sh: gry, brn, fr. blk carb

Ls: wh-tn sli.cky-fxlndns  
No Y's & N.S.O.

Ls: wh-tn incr. cky-fxlndns

Ls: tn-gry fxlndns  
sh: brn sHx, gry

Ls: wh-tn sli.cky-fxlndns  
pp & -in part @ N.S.O.

ss gry fr. gn-consol. ingrad  
@ N.S.O.  
sh: brn sHx, gry

Ls: wh-tn cky-fxlndns  
pp @ N.S.A. Δ ty wh-tn  
or

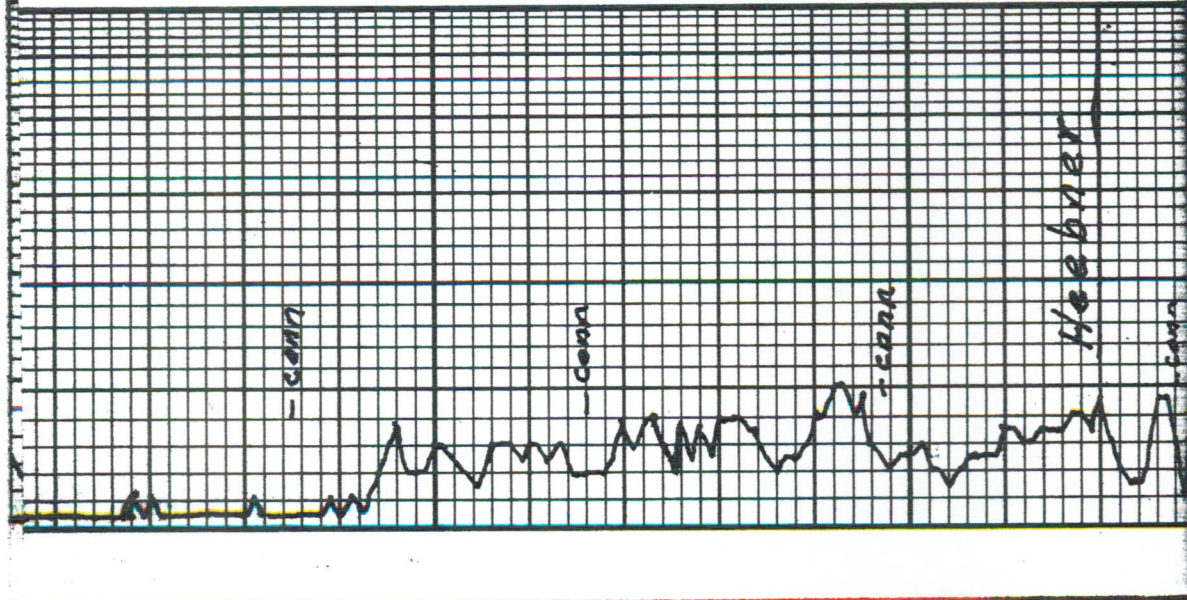
Ls: wh-tn sli.cky-fxlndns  
pp @ N.S.A.

Ls: wh-tn gry cky-fxlndns  
sli.cky sHx  
pp @ N.S.A.

sh: brn sHx, DRY  
Ls: @

incr. in: brn, gry			
Sh: brn slty + gry sky SS: gry v. fn. gn. consol in gran @ NSA			
v. shly: brn slty			
LS: tn fcln pr PP @ N.S.O.			
Sh: brn slty			
LS: tn- gry fcln No Vis @ NSA			
Tr blk Carb 5k			
LS: tn- brn fcln dms			
LS: tn fcln friable PPP N.S.O.			
Sh: brn, gry			
LS: wh-tn cky- fcln dms Sl: pyritic PP @ N.S.O.			
LS: wh-tn cky- fcln dms N.S.O.			
Sh: blk Carb LS: tn fs lf dms			

20  
40  
60  
80  
3500  
20



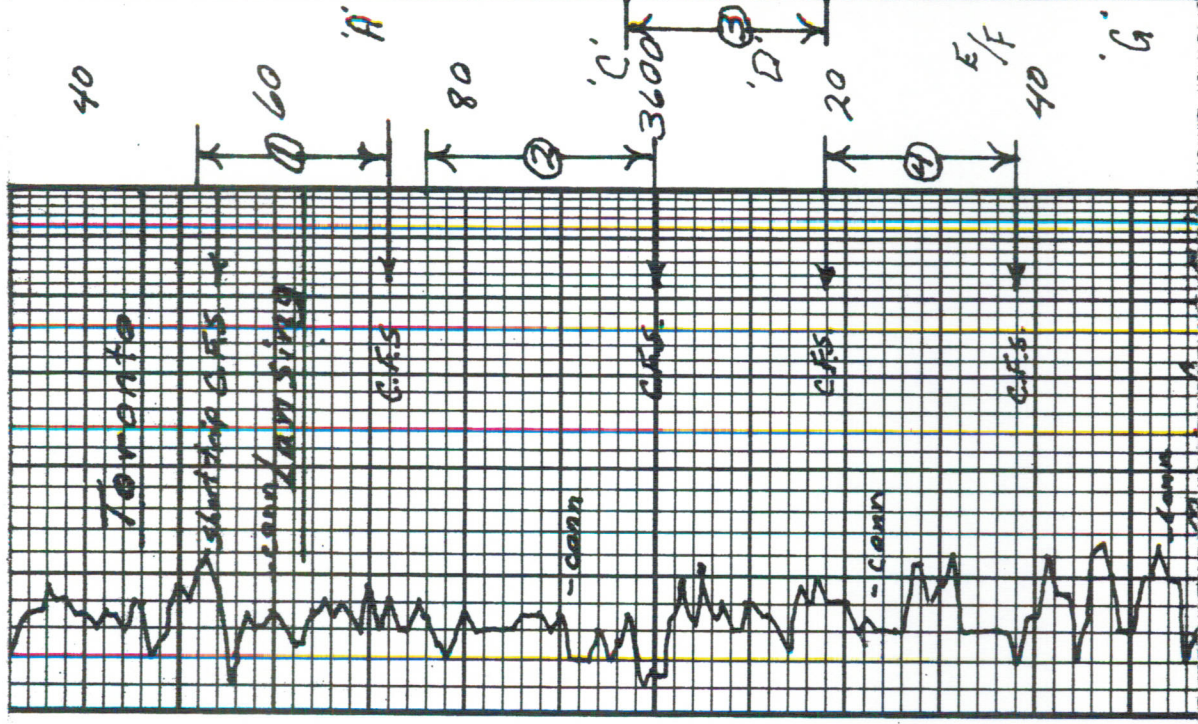
Strap 3592.70'  
Board 3591.46'  
Diff 1.24'  
Incline @ 3572' 3/4°  
Tri-lobite Testing  
DST #1 3552'-3572'  
30-30-0-0-C  
TF: surface flow

Recovery: 15' Mud  
 Hyd: 1785-1745#  
 FP: 10-21#  
 BHP: 1203#  
 BHTemp: 92°F.

DST#2 3676'-3600'  
 45-45-45-45  
 IF: wk blow incr. to 3"  
 ISI: No blow  
 FF: wk blow incr. to 1/2"  
 FSI: No blow  
 Recovery: 125' Total  
 5'M w/o: 15PKS  
 60' MCW 70%W, 30%M  
 60' WCM 46%W, 55%M  
 Hyd: 1801-1744#  
 FP: 12-45/48-70#  
 BHP: 1192-1147#  
 BHTemp: 94°F.

DST#3 3597'-3618'  
 45-45-45-45  
 IF: wk blow incr. to 3"  
 ISI: No blow  
 FF: wk blow incr. to 1"  
 FSI: No blow  
 Recovery: 65' Total  
 5' MCW 90%W, 10%M  
 60' MCW 80%W, 20%M  
 Hyd: 1829-1815#  
 FP: 14-39/42-63#  
 BHP: 1159-1112#  
 BHTemp: 94°F.

LS: brn. gry fs/f dns	LS: brn. gry fs/f dns
Sh: brn, gry	Sh: brn, gry
LS: wh. tn sli. chy-fch w/yr fss. incho. pp & N.S.O.	LS: wh. tn sli. chy-fch w/yr fss. incho. pp & N.S.O.
Sh: brn	Sh: brn
LS: wh. tn sli. chy-fch sli. oil pp. ptd 0 stn. sptd 0 v. fr. odor	LS: wh. tn sli. chy-fch sli. oil pp. ptd 0 stn. sptd 0 v. fr. odor
LS: wh. tn sli. chy-fch dns	LS: wh. tn sli. chy-fch dns
Sh: brn, blue sly	Sh: brn, blue sly
LS: wh. tn chy-fch oil pp & H. fr. sptd 0 stn pp f.o. on crushing NO odor dry tn gry Tr. Tery stn	LS: wh. tn chy-fch oil pp & H. fr. sptd 0 stn pp f.o. on crushing NO odor dry tn gry Tr. Tery stn
Sh: Lrn, gry	Sh: Lrn, gry
LS: wh. tn sli. chy-fch pp & Vgy p rainbow S.O. drk sptd 0 stn pp f.o. ft odor Δ gry, tn	LS: wh. tn sli. chy-fch pp & Vgy p rainbow S.O. drk sptd 0 stn pp f.o. ft odor Δ gry, tn
Sh: brn, gry	Sh: brn, gry
LS: wh. tn chy-fch oil w/fss incho pp drk sptd 0 stn pp f.o. No odor Δ gry	LS: wh. tn chy-fch oil w/fss incho pp drk sptd 0 stn pp f.o. No odor Δ gry
LS: wh. tn chy-fch dns N.S.O.	LS: wh. tn chy-fch dns N.S.O.
LS: wh. tn sli. chy-fch dns oil p.s. sli. oil c. N.S.O.	LS: wh. tn sli. chy-fch dns oil p.s. sli. oil c. N.S.O.



DST# 4 3618'-3638'  
 30-30-0-0  
 IF: surface blow  
 Recovery: 5' Mud  
 Hyd: 1842-1808#  
 FP: 12-19#  
 BHP: 1240#  
 BHTemp: 90°F.

DST# 5 3683'-3715'  
 30-30-0-0  
 IF: surface blow  
 Recovery: 5' Mud  
 Hyd: 1900-1876#  
 FP: 13-14#  
 BHP: 21#  
 BHTemp: 92°F.

DST# 6 3713'-3736'  
 45-45-45-45  
 IF: B.O.B. in 17 1/2 min.  
 ISI: wk blow incr. to 11  
 FF: B.O.B. in 21 min.  
 FSI: wk blow incr. to 13 1/4  
 Recovery: 155' G.I.P.  
 340' Total fluid  
 30' G.O. 67% G, 33% O  
 190' MCGO 14% G, 77% O  
 7% M  
 60' OCM 67% G, 18% O,  
 77% M  
 60' WG+OCM 13% G.

100% air - low air  
 0 to - 0.5  
 sh: blk carb  
 LS: gry mtd fsl/dns  
 sh: brn, gry  
 LS: wh-tn-lt. gry chy-fsh  
 17. fsl/dns N.S.O.

sh: brn, gry  
 LS: tn-brn fsh/dns  
 N.S.O.

sh: brn  
 LS: tn fsl/dns in part  
 fr. sptd o str pp fo  
 minbow s.g. fr asph  
 No odor

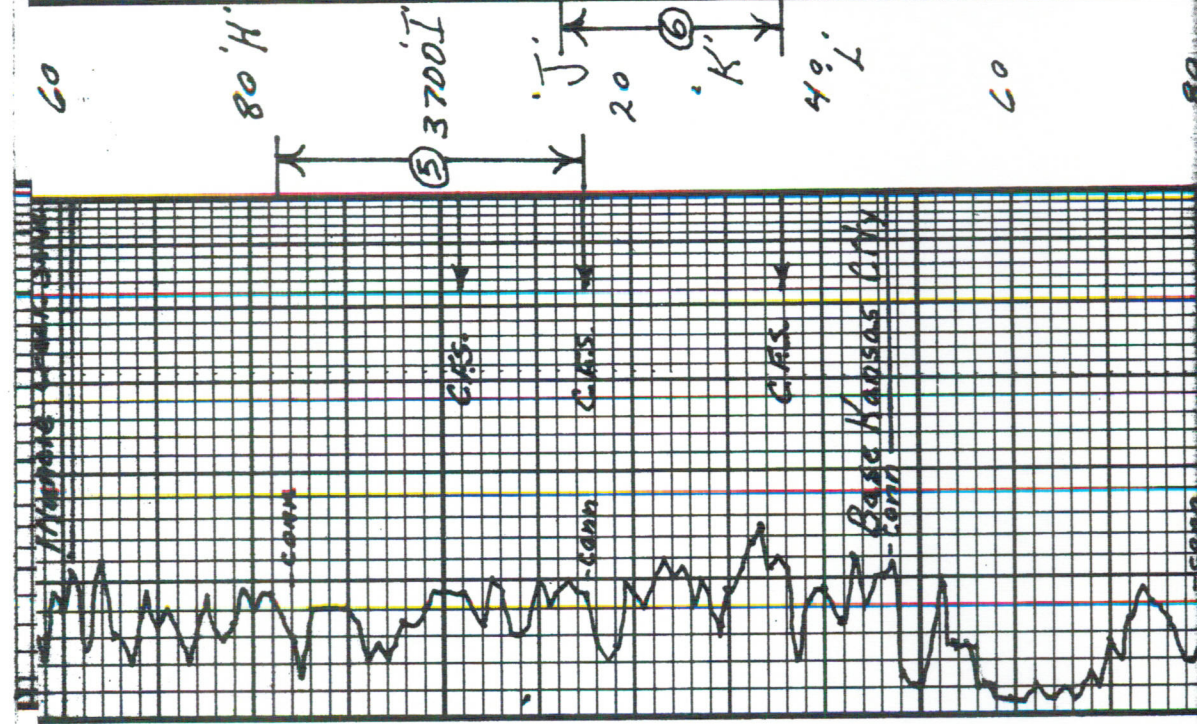
sh: brn, gry  
 LS: tn fsh-fsl/dns  
 in part o str  
 pp fo. No odor  
 sh: brn, gry

LS: wh-tn chy-fsh/dns  
 N.S.O.

sh: brn

sh: brn sly

Tr. LS: wh-tn fsh/dns  
 sh: brn





HY# 1876-1813#  
 FP: 19-96/103-132#  
 BHP: 1036-286#  
 BHTemp: 98°F  
 Gravity: 31.2° A.P.I.

12:44-11:45-1010 75H dms N.S.O.	Sh: brn, dry	
LS: wh-facty-feln sdy		
SS: chr-frost. fr. gr. fossil fragm of sh-fr. ostrasp spks pp. o. on cmeting No odor		
Dol: fr fxl- meta in wh glauc spks N.S.O.		
Dol a.a. w/ glauc spks		
Dol: wh-th-brn fcl-met in wh glauc spks N.S.O.		
Same		
Dol: a. Tr. large Qtz gn embedded cl-frosted Tr biotite spks		
Dol: a.a. Qtz unconsol coars gn. cl-frosted angular-sub rnd biotite spks N.S.O.		
Trashy sample lot L.C.M.		
SS md gn-coar gn-frosted ang-rnd N.S.O.		
sh: brn. Tr wea. granite N.S.O.		
a.a.		
Quartz, biotite, feldspar incr. Act. biot. felds.		

3800  
 20  
 40  
 60  
 80  
 3900  
 20  
 40

