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GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY ROBERT R. PRICE
LEASE CAVE # 10
FIELD
LOCATION W/2 - NW - SW
SEC. 7 TWSP. 11S RNG 18W
COUNTY ELLIS STATE KANSAS

ELEVATIONS
K.B. 1988
D.F.
G.L. 1983
Measurements Are All From K.B.

CONTRACTOR PIONEER DRILLING, RIG # 1
SPUD 8-18-80 COMP 8-27-80
RTD 3790 LTD ----
MUD UP 2600 TYPE MUD STARCH

CASING
SURFACE 1351
PRODUCTION 5½ @ 3790

ELECTRICAL SURVEYS
NONE

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION		
				A	B	C
Topeka	2977		-989	-993	-993	-1003
King Hill	3080		-1092	-1095	-1092	-1106
Queen Hill	3136		-1148	-1153	-1149	-1163
Heebner	3700		-1212	-1219	-1215	-1228
Toronto	3215		-1227	-1233	-1230	-1244
Lansing-Kansas City	3241		-1253	-1258	-1255	-1269
Base Kansas City	3468		-1480	-1483	-1481	-1493
Conglomerate	3513		-1525	-1529	-1522	-1539
Arbuckle	3569		-1581	-1592	-1582	-1601
R.T.D.	3790		-1802	-1640	-1603	-1627

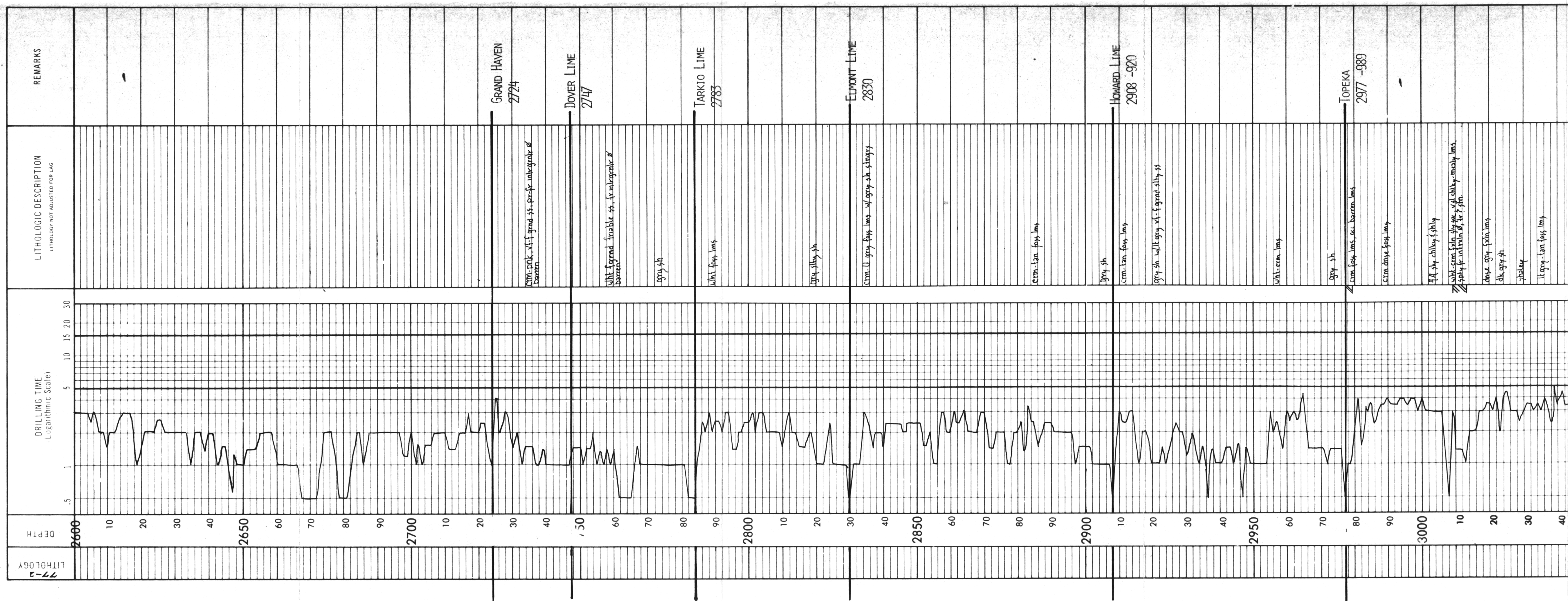
REFERENCE WELLS FOR STRUCTURE

A Cave #9 C-W/2 W/2 W/2 W/2 Sec. 7 - 11S - 18W
B Gladys Collins #1 C-E/2 E/2 E/2 Sec. 12 - 11S - 19W
C Gladys Collins #2 E/2 SE NE Sec. 12 - 11S - 19W

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb Sh	Limestone	Ool Lime	Chert	Dolomite
▨	⁘	☐	☐	■	▦	▦	⁘	▨

SCALE 1" = 100'



GRAND HAVEN
2724

crm-pnk, vf-f grnd ss, pr-fr intrgrnlr ø
barren

DOVER LIME
2747

wht f grnd friable ss, fr intrgrnlr ø
barren

gry sh

TARKIO LIME
2783

wht foss lms

gry slty sh

ELMONT LIME
2830

crm-lt gry foss lms w/ gry sh strngrs

crm-tan foss lms

gry sh

HOWARD LIME
2908 -920

crm-tan foss lms

gry sh w/ lt gry vf-f grnd slty ss

wht-crm lms

gry sh

TOPEKA
2977 -989

crm foss lms, occ barren lms

crm dnse foss lms

AA sly chlky & shly

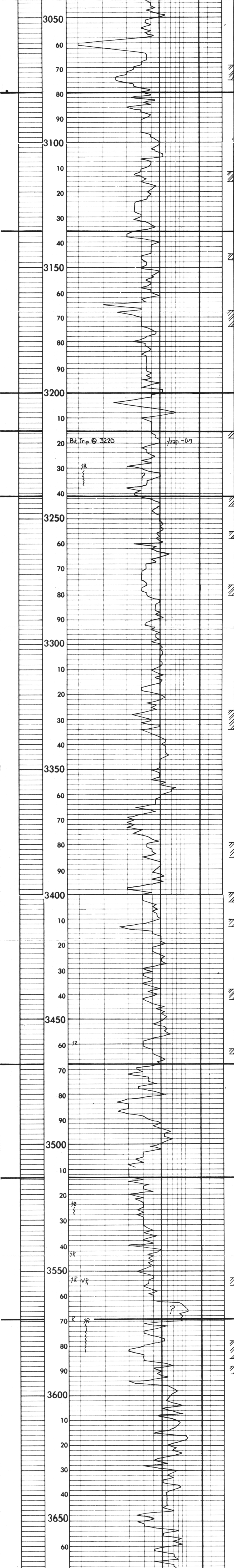
wht-crm fxln sly suc, v/ chlky-mealy lms,
spty fr intrxln ø, tr ? stn.

dnse gry fxln lms

dk gry sh

shaley

lt gry-tan foss lms



AA tr pp ø

gry sh

gry dnse foss lms

lt tan fxln suc vsl chlky lms, pr interxln ø barren

blk carb sh

KING HILL SHALE
3080 -1092

gry chlky sh

wht fxln dnse lms w/ wht chlk & wht cht

wht fxln dnse sly foss sly chlky lms, fr interxln ø barren w/ gry foss cht

gry sh

chlky-mealy lms

blk carb sh

QUEEN HILL SHALE
3136 -1148

crm lms

wht-crm fxln vsly foss, sl chlky lms, pr intrxln ø tr pp ø, v spty stn, vslSFO, nOd

shaley

wht f-trmxln sl chlky, sl sprry lms, occ vug ø w/tr stn, nFO, nOd

crm-gry chlky-shly lms

wht-crm chlky lms

HEEBNER SHALE
3200 -1212

blk carb sh

dnse gry lms

TORONTO
3215 -1227

???

wht chlky-dnse lms

gry slty sh

LANSING-K.C.
3241 -1253

wht ool lms, spty fr introol & vug ø, spty stn, nFO, nOd

crm-lt gry fxln chlky-dnse lms, pr vis ø, v spty lt stn nFO, nOd w/ tan cht

gry lmy foss sh

Crm ool sly chlky lms, Ou fr interool & vug ø, lt spty stn, vslSFO, sl Od

wht dnse ool lms sly chlky

gry sh

crm dnse fxln lms, tr pp ø w/stn

dk gry sh

bwn foss lms

gry sh

crm fxln dnse-sly chlky lms, spty fr-gd vugular ø, spty stn, trFO, nOd

crm-wht fxln dnse lms

gry sh + dnse lms

blk carb sh

gry sh

Whl-crm sly ool sly chlky lms, spty fr-gd vug ø & interool ø, tr stn, nFO, nOd

chlky

gry sh

Wht-lt tan f-ocmxln sly spry chlky-dnse v sl suc ool sly foss lms, spty pr interxln ø, spty pr-fr interool inter foss pp & vug ø, spty stn-occ sat, trFO, wkOd

tan sly ool vsl chlky lms, spty fr-gd ool ø, v spty stn-tr sat, SSFO, frOd

crm dnse lms

gry sh

lt gry sly ool sly dnse lms, spty vug ø, spty stn-rare sat, slSFO, frOd

crm dnse lms

lt gry f-mxln, foss sly ool, v sly suc lms, spty fr-pr intrxln ø, occ fr interool & intrfoss ø, spty stn-sat GShFO, GOd

BASE K.C.
3468 -1480

gry sh

wht chlky lms

red sh

lt gry fxln sly foss chlky-dnse lms w/ wht cht

red & gry sh

CONGLOMERATE
3513 -1525

Varicolored chts & shales w/ lms strngrs

tr wht mgrnd wr com qtz ss, tight, spty dd stn

multi colored m-c xln sly sndy rhm dolo, spty fr interxln & vug ø; spty dk stn, sl SdFO, frOd

turq sh

ARBUCKLE
3569 -1581

crm fxln dnse dolo, tight, v spty stn

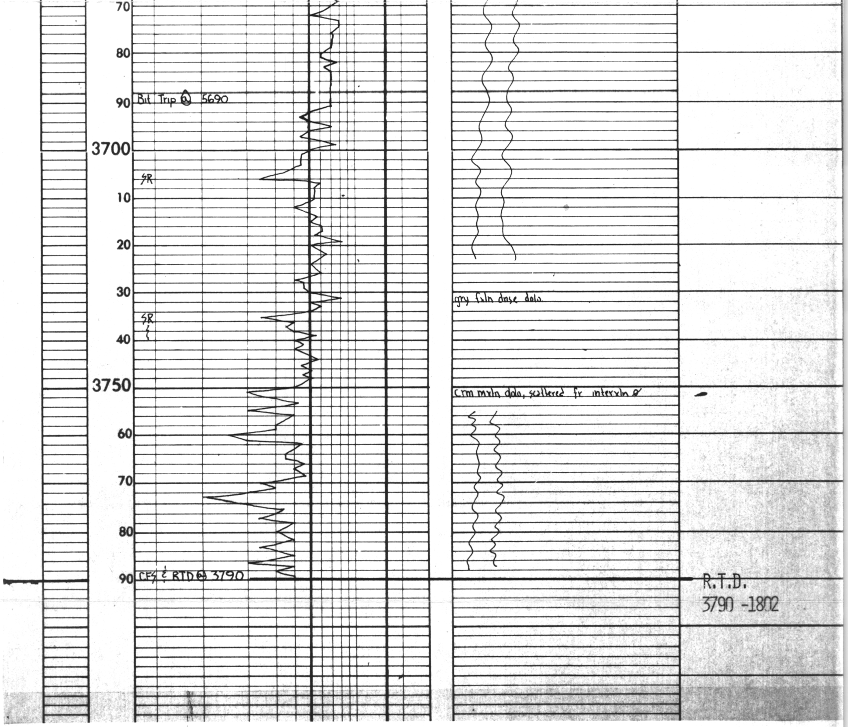
Crm mxln sly dnse rhm dolo spty-v spty fr-pr interxln ø occ fr vug ø, blk tarry sat, slSFdhO sl-frOd

AA pnk loss stn

AA crm-wht barren

dnse dolo w/ wht cht

occ barren ø



ZONES OF INTEREST

INTERVAL	SAMPLE DESCRIPTION
Topeka	
2977-2979	Cream-white, fossiliferous, LIMESTONE. Occasional barren porosity.
3009-3013	White-cream, fine crystalline, slightly sucrosic, very slightly chalky-mealy, LIMESTONE. Spotted fair intercrystalline porosity. Questionable trace of light stain.
3069-3075	Light tan, fine crystalline, sucrosic, very slightly chalky, LIMESTONE. Poor intercrystalline porosity. Barren.
3112-3114	White, fine crystalline, slightly chalky, slightly fossiliferous, dense, LIMESTONE. Fair interfossiline porosity. Barren.
3145-3147*	White-cream, fine crystalline, very slightly fossiliferous, slightly chalky, LIMESTONE. Poor intercrystalline porosity, trace pinpoint porosity. Very spotted stain. Very slight show free oil. No odor.
3167-3174*	White, fine-trace mdeium crystalline, slightly chalky, very slightly sparry, LIMESTONE. Occasional vugular porosity, poor intercrystalline porosity. Trace stain. No free oil. No odor.
Toronto	
3215-3218	Samples lost due to bit trip at 3220.
Lansing-Kansas City	
3241-3245*	White, oolitic, LIMESTONE. Spotted fair interoolitic and vugular porosity. Spotted stain. No free oil. No odor.
3255-3258	Cream-light gray, fine crystalline, chalky-dense. Poor visable porosity. Very spotted light stain. No free oil. No odor.
3276-3280*	Cream, oolitic, slightly chalky, LIMESTONE. Occasional fair interoolitic and vugular porosity. Light spotted stain. Very slight show of free oil. Faint odor.
3326-3334*	Cream, fine crystalline, dense-slightly chalky LIMESTONE. Spotted fair-good vugular porosity. Spotted stain. Trace free oil. No odor.
3379-3385	White-cream, slightly oolitic, slightly chalky, LIMESTONE. Very spotted fair interoolitic and vugular porosity. Trace stain. No free oil. No odor.
3399-3403*	White-light tan, fine-occasionally medium crystalline, slightly sparry, chalky-dense, very slightly sucrosic, oolitic, slightly fossiliferous, LIMESTONE. Spotted poor intercrystalline porosity, spotted poor-fair interoolitic, interfossiline, pinpoint and vugular porosity. Spotted stain-occasional saturation. Trace free oil. Weak odor.
3410-3413*	Tan, slightly oolitic, very slightly chalky, LIMESTONE. Spotted fair-good oolicastic porosity. Very spotted stain-trace saturation. Slight show of free oil. Fair odor.
3438-3442*	Light gray, slightly oolitic, slightly dense, LIMESTONE. Spotted vugular porosity. Spotted stain-rare saturation. Slight show of free oil. Fair odor.
3462-3464*	Light gray, fine-medium crystalline, fossiliferous, slightly oolitic, very slightly sucrosic, LIMESTONE. Spotted fair-poor intercrystalline porosity, occasional fair interoolitic and interfossiline porosity. Spotted stain-saturation. Good show of heavy free oil. Good odor.
Conglomerate	
3539-3540	White, medium grained, carbonate cemented, quartz SANDSTONE. Tight. Spotted dead oil stain. No free oil. No odor.
Simpson	
3553-3556*	Multi-colored, medium-coarse crystalline, slightly sandy, rhombic, DOLOMITE. Spotted fair intercrystalline and vugular porosity. Spotted dark stain. Slight show dark free oil. Fair odor.
Arbuckle	
3578-3585*	Cream, medium crystalline, slightly dense, rhombic DOLOMITE. Spotted-very spotted fair-poor intercrystalline porosity, occasional fair vugular porosity. Black tarry saturation. Slight show of free dark heavy oil. Slight-fair odor.
3588-3591	Pink DOLOMITE. As above but with very spotted black tarry stain. No show of free oil. Slight odor.
3591-3790	Cream, gray, pink, fine-coarse crystalline, rhombic DOLOMITE. Tight-scattered fair intercrystalline and vugular porosity. Barren.

* Recommend testing

SUMMARY

This hole was under geological supervision from 2800' to 3790' (R.T.D.) Wet and dry samples were examined, analyzed, and logged from 2700' to R.T.D. No drill stem tests or open hole logs were run. Due to the above mentioned shows of oil and the high structural position, production casing was run for further testing.