

15-087-20352

16-9-20E

GEOLOGICAL WELL REPORT

CALIBOGUE KANSAS CORPORATION

PETE NO. 5

NW NE SW Sec. 16-T9S-R20E

Jefferson County, Kansas

McLOUTH FIELD

John E. Hickox
P.O. Box 4801
Topeka, Kansas 66604

Telephone: (913) 354-7332

BASIC DATA

OPERATOR: Calibogue Kansas Corporation
P.O. Box 224, McLouth, Kansas 66054

WELL: Pete No. 5

LOCATION: NW NE SW Sec. 16-T9S-R20E, Jefferson County,
Kansas

AREA: McLouth Field

ELEVATION: 965.3' Ground level

DRILLING MEASURED FROM: Ground level, 965.3 feet

PRINCIPAL CONTRACTOR: Glen Chase Drilling Co., Independence, Kansas

EQUIPMENT: Type: Portable mud rotary
Make: Failing 1500 w/ Ford 361
Pumps: Gardner-Denver 7 x 10 w/ Detroit 671
Gardner-Denver 5 x 8 w/ Ford 361
Drill pipe: 2-1/8" Failing w/ 4-1/2" collars
Bit size: 6-1/4"

COMMENCED: 2-2-87

SURFACE CASING: 7" @ 297 feet, cemented to surface

DRILLING FLUID: Chemical mud

DRILLING COMPLETED: 2-11-87

ROTARY TOTAL DEPTH: 1601 feet

ELECTRIC LOGGING: Log-Tech, Inc., Topeka, Kansas

DEPTH REACHED, ELECTRIC LOG: 1606 feet

PRODUCTION STRING:

GEOLOGIST: John E. Hickox

STATUS: Awaiting completion

PROGRESS

2-2-87 Moved in and rigged up rotary tools.
2-3 Drilled 10-inch hole to 300'.
2-4 Set and cemented 7-inch casing @ 297'. Cement circulated.
2-5 Drilling ahead.
2-6 Drilled to 1200'.
2-7,8 Shut down.
2-9,10 Drilling ahead.
2-11 Drilled to 1601' RTD. Ran electric logs.

FORMATION TOPS (Electric log)

	Calibogue No. 5 Pete				Calibogue No. 4 Pete				KLM No. 1 Pete			
	NW	NE	SW	16	SE	NE	SW	16	NE	NE	SW	16
Base Kansas City	651		(+314)				(+304)				(+301)	
Lenepah-Altamont	789		(+176)				(+165)				(+162)	
Cherokee	887		(+78)				(+67)				(+69)	
Ardmore	988		(-23)				(-28)				(-28)	
McLouth zone	1328		(-363)				(-387)				(-398)	
McLouth sand	1336		(-371)				(-397)				(-398)	
Mississippian	1372		(-407)				(-426)				(Weathered Miss. -441)	
40-foot zone	1452		(-487)									
Burlington-Keokuk	1551		(-586)									
RTD	1601		(-636)				(-439)				(-460)	
ELTD	1606		(-641)				(-441)				(-460)	

COMMENTS AND RECOMMENDATIONS

Calibogue No. 5 Pete is prospective for production from the McLouth interval 1336-1358'.

At the McLouth sand horizon, subject well is 26 feet higher on structure than Calibogue No. 4 Pete, offsetting to the southeast, and 27 feet high to the east offset, KLM No. 1 Pete. The "40-foot" zone is 80 feet below the top of the Mississippian in No. 5 Pete, reflecting the thickening of the Mississippian on the north flank of the McLouth field. The "40-foot" marker is nearly 90 feet lower on structure in No. 5 Pete than in wells on the McLeod lease, 4 miles to the south.

DUAL POROSITY/DUAL INDUCTION LOG

Formation and depth		$\emptyset$	R_t	S_w	$R_w=0.2$
McLouth sand	1336-1338	20	25		37
	1338-1340	20	40		29
	1340-1342	19	40		32
	1342-1344	17	25		44
	1344-1346	16	20		50
	1346-1348	18	30		37
	1348-1350	18	30		37
	1350-1352	17	25		44
	1352-1354	17	20		48
	1354-1356	15	20		55
	1356-1358	15	20		55

SAMPLE DESCRIPTION
Depths corrected to electric log

DEPTH

- 1210-1252 Shale, gray, dark gray, w/ streaks sandstone, light gray, very fine-grained, shaly
- 1252-1274 Shale, gray, black
- 1274-1328 Shale, dark gray, soft, and shale, black, brown, green, w/ coal streaks and streak limestone, buff, finely crystalline, soft

1328 McLOUTH SAND ZONE

- 1328-1336 Sandstone, clear, medium-grained, clean, very slight porosity, trace heavy oil

1336 McLOUTH SAND

- 1336-1344 Sandstone, tan, medium-grained, subrounded, clean, good porosity, trace good oil show
- 1344-1358 Same, w/ interbedded gray and black shale, slight to fair show free oil
- 1358-1372 Shale, black, green, tan, w/ streaks sandstone, as above

1372 MISSISSIPPIAN

- 1372-1382 Limestone, buff, tan, finely crystalline, dense to coarsely crystalline, granular
- 1382-1394 Limestone, gray, dense, finely crystalline, and shale, gray
- 1394-1412 Limestone, buff, dense, fine to medium crystalline, granular, fossiliferous
- 1412-1419 Limestone, buff, tan, medium crystalline, granular, fossiliferous, w/ buff and yellow subvitreous to vitreous chert
- 1419-1432 Limestone, buff, medium to coarsely crystalline w/ white subvitreous chert
- 1432-1452 Limestone, buff, fine to coarsely crystalline, partly granular, glauconitic, w/ white subvitreous chert

1452 40-FOOT ZONE

- 1452-1464 Limestone, gray, fine to medium crystalline, partly granular w/ white subvitreous chert

SAMPLE DESCRIPTION, CONTINUED

DEPTH

1464-1492 Limestone, tan, medium to coarsely crystalline w/ abundant
light gray subvitreous chert

1492-1504 Limestone, cream, finely crystalline

1504-1523 Limestone, cream, medium crystalline, granular

1523-1536 Limestone, cream, buff, medium crystalline, glauconitic

1536-1551 Limestone, tan, medium to coarsely crystalline w/ abundant
white subvitreous chert

1551

BURLINGTON-KEOKUK

1551-1566 Dolomite and dolomitic limestone, buff, medium to coarsely
crystalline, granular, w/ white subvitreous chert

1566-1579 Limestone and dolomite, tan, medium crystalline, w/
profuse white subvitreous chert

1579-1606 Limestone and dolomite, buff, tan, finely crystalline,
granular, w/ abundant white subvitreous chert

1606

ELECTRIC LOG TOTAL DEPTH