API # 15-193-21002-00-00

OPERATOR Cabot Oil & Gas Corporation

LEASE Hoffman

WELL # 1-24

COMPANY Cabot Exploration LLC

FIELD Aetna

LOCATION 330' FNL & 1650' FEL

SEC 24 TWP 9S RGE 32W

COUNTY Thomas STATE Kansas

SPUD 8-22-17 COMP 8-31-17 TOTAL DEPTH 4750'

CONTRACTOR Abercrombie Rig 1

Type Tools Rotary

SAMPLES SAVED FROM 3700' TO RTD

ELECTRIC LOGS Dual Induction, Compensated Density Neutron, Microlog

DRILLING TIME KEPT FROM 3700' TO RTD

GEOLOGICAL REPORT

ELEVATION KB 3029' GL 3021' DF

FORMATION TOPS AND STRUCTURAL POSITION

	Sample	Log	Ref.	Ref.
Anhydrite	2422	2424	+597	
Base Anhydrite	2460	2462	+559	
Topeka	3552	3554	-533	-1
Heebner	3766	3768	-747	-1
Toronto	3788	3790	-769	-1
Lansing	3804	3806	-785	-1
Muncie Creek	3951	3953	-932	-1
Stark Shale	4045	4047	-1026	-1
Hushpuckney Shale	4080	4082	-1061	-1
Base Kansas City	4126	4128	-1107	-1
Marmaton	4150	4152	-1131	-1
Pawnee	4255	4257	-1236	-1
Myrick Station	4292	4294	-1273	-1
Fort Scott	4305	4307	-1286	-1
Cherokee Shale	4329	4331	-1310	-1
Johnson Zone	4378	4380	-1359	-1
Mississippian	4488	4490	-1469	-1
RTD	4750	4750	-1731	-1
LTD		4748	-1729	-1

REFERENCE WELLS

1. Murphy Hydrology, Lambertson #1, SW/4 Sec 24-9S-32W, Thomas Co., KS
2. Cabot Exploration, Hoffman #1-24, 330' FNL & 1650' FEL, Sec 24-9S-32W, Thomas Co., KS

REMARKS

This well ran flat lower on the leasing map than the nearby reference producer. Due to this low structural position, possible Ark Cassville and upper Viola tops, if encountered, were elected to be omitted. Based on poor shows and log analysis, it was decided to run pipe and plug and abandon.

Richard E. Krell
8-30-17

LEGEND

Antydrite | Salt | Sandstone | Shale | Carb ish | Limestone | Oolitic Lime | Chert | Dolomite

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Increases
0" 10" 15" 20" 30"

DEPTH	FORMATION	SAMPLE DESCRIPTIONS	SHOWS	REMARKS
2410				Board 2301.70
20	Anhydrite	55 ish tn fgln, sli chlky ip no vis p&a.		Strap 2301.46 Drill 2301 Ireline W/D 2301'
30		55 ish sli mdld frit dns no vis.		
40				
50	Base Anhydrite	sh rd brn, sft		
2460		ss wh-cln sl sticky fri-dns no vis.		
		ss wh-cln sl sticky-fri-dns no vis.		
		sh brn-gry-grn. ss wh-cln gry sticky, fri-dns fair ip p&a no vis.		
3700		55 wh-cln frit ip no vis.		Mud Check 3801' 9.0 wt. 44 vis.
20	Topeka	sh rd brn, gry		
		ss wh-cln sl sticky-fri-dns no vis.		
40		sh dk gry, rd brn		
60	Lime Creek	55 wh-cln, chy-frit-dns no vis ip.		Mud Check 3895' 9.0 wt. 46 vis 18 LCM
80		ss wh-cln, chy-frit-dns no vis ip.		
3900	Shale	ss wh-cln, chy-frit-dns no vis ip.		
20		ss blk carb sh dk gry-blk earthy mdld frit dns		
40		ss gry-tn gn cmtd, fri-dns no vis p&a.		
60		sh gry-gry grn sft.		
80	Kansas City	ss wh-cln fglv-fri-frit dns no vis.		Samples shift poor
		sh brn.		Strong Heavy Mdlle Kansas
4000		ss wh-cln fglv-sub rnd fri-frit dns no vis.		Mud Check 3980' 9.0 wt. 46 vis 20 LCM
20		ss blk carb sh, mostly sh brn-gry.		
		ss gry-tn gy sli sticky, fglv-sub rnd, fri-mdly frit, occ chrdstc, p&a, mostly no		
40		ss as above.		
4100	Hertzner	ss wh mdld frit dns p&a.		
	Argentine Lime	ss blk carb. sh dk gry-blk frit.		
20	Toronto	sh brn, gry		
		ss wh-cln fglv-sbrd frit dns no vis ip.		Mud Check 4060' 9.0wt 46 VIS 20LCM
40	Lansing	ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
60		sh brn-gry		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
80		sh brn-gry		
4200		ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss as above.		
20		sh dk gry-brn		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
40		ss as above.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
60		ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
80		ss wh-cln fglv-sbrd frit dns no vis ip.		
4300	Muncie Creek Shale	ss blk carb sh brn		
		ss wh-cln frit dns no vis.		
20		sh gry-brn		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
40		ss wh-cln fglv-sbrd frit dns no vis ip.		
	Stark Shale	ss wh-cln fglv-sbrd frit dns no vis ip.		
60		ss wh-cln fglv-sbrd frit dns no vis ip.		
		sh brn-gry		
80		ss wh-cln fglv-sbrd frit dns no vis ip.		
4400	Hushpuckney Shale	sh brn-gry-fos blk carb		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
20	Base Kansas City	ss wh-cln fglv-sbrd frit dns no vis ip.		
		sh gry-gry-fos blk carb		
40		mostly fines, rest poor samples		
		sh gry-brn		
4500	Marmaton	ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
60		sh gry-brn		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
80		sh brn-gry, sft		
4600		ss wh-cln gry fglv-sbrd frit dns no vis ip.		
		sh rd brn, gry		
20		ss wh-cln fglv-sbrd frit dns no vis ip.		
		sh rd brn, gry		
40		ss wh-cln fglv-sbrd frit dns no vis ip.		
	Pawnee	mostly fines, rest poor samples		
60		sh gry-brn		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
80		ss wh-cln fglv-sbrd frit dns no vis ip.		
4700	Myrick Station	ss wh-cln fglv-sbrd frit dns no vis ip.		Mud Check 4800' 9.0 wt. 45 VIS
		ss wh-cln fglv-sbrd frit dns no vis ip.		
20	Fort Scott	ss blk carb sh.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
40		ss wh-cln fglv-sbrd frit dns no vis ip.		
	Cherokee Shale	ss wh-cln fglv-sbrd frit dns no vis ip.		
60		ss wh-cln fglv-sbrd frit dns no vis ip.		
		sh gry-brn		
80	Johnson Zone	ss wh-cln fglv-sbrd frit dns no vis ip.		DST #3 4378'-4414' 30-30-30-30 1st Blow 1/2" in bucket, 2nd Blow 1/2" in bucket, Flushed tool in 1st, Flushed tool in 2nd, Recovery: 10' Mud NONE 2978' Sand 1' GIP, 1st 15 min 2nd 15 min 3rd 15 min 4th 15 min BHT 122°F.
4500		ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
20		sh gry-brn		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
40	Mississippian	ss wh-cln fglv-sbrd frit dns no vis ip.		
		ss wh-cln fglv-sbrd frit dns no vis ip.		
60		ss wh-cln fglv-sbrd frit dns no vis ip.		Mud Check 9.3 wt. 50 VIS
80	RTD 4750' LTD 4748'	ss wh-cln fglv-sbrd frit dns no vis ip.		
4700				

Tribobbet Testing

DST #1 4185'-4242' 30-30-30-30 1st Blow 1/2" in bucket, no bb in 2nd Recovery: 40' mud NONE 2334' GIP, 1st 15 min 2nd 15 min 3rd 15 min 4th 15 min BHT 122°F.

Mud Check 4284' 9.2 wt. 55 VIS 18 LCM

Strap 4299.52 Board 4297.14 Drill. 1.38

Ireline 4268'-1'

DST #2 4266'-4297' 30-30-30-30 1st Blow 1/2" in bucket, 2nd Blow 1/2" in bucket, Flushed tool in 1st, Flushed tool in 2nd, Recovery: 10' mud NONE 2325' GIP, 1st 15 min 2nd 15 min 3rd 15 min 4th 15 min BHT 122°F.

Mud Check 4350' 9.2 wt. 57 VIS 18 LCM

Mud Check 4620' 9.2 wt. 57 VIS

DST #3 4378'-4414' 30-30-30-30 1st Blow 1/2" in bucket, 2nd Blow 1/2" in bucket, Flushed tool in 1st, Flushed tool in 2nd, Recovery: 10' Mud NONE 2978' Sand 1' GIP, 1st 15 min 2nd 15 min 3rd 15 min 4th 15 min BHT 122°F.