Geological Report

GEOLOGICAL REPORT

Ritchie Exploration, Inc.
Operator

Ritchie Exploration, Inc.
Well Name

Sec. 15 - T16S - R18W
Location

Ellis County, Kansas
Field

Wildcat
Pool

Drilling Contractor

Geological Supervision

Elevation

Formation Tops

Name	Log	Sample
Anhydrite	1,842	+1,842
Base Anhydrite	1,878	+1,806
Topeka	3,412	-1,728
Heebner	3,648	-1,964
Toronto	3,668	-1,984
Lansing	3,688	-2,004
Base Kansas City	3,942	-2,258
Marmaton	3,962	-2,278
Pawnee	4,048	-2,364
Fort Scott	4,102	-2,418
Cherokee Shale	4,128	-2,444
Cherokee Sand	4,188	-2,504
Mississippian	4,232	-2,548
Kinderhook Shale	4,298	-2,614
Viola	4,352	-2,668
Simpson Shale	4,418	-2,734
Simpson Sand	4,462	-2,778
Arbuckle	4,520	-2,836
RTD	4,550	-2,866
LTD	4,548	-2,864

Comments

Drilling Time and Sample Descriptions

Well drilled to 4,550' RTD in Arbuckle. Logged from 3,600' to RTD by mud-logging unit. Samples collected every 10' from 3,600' to RTD. Two drill stem tests conducted. Mud system: chemical gel/lignosulfonate. Surface casing: 8-5/8" @ 1,842'. Production casing: 5-1/2" @ 4,548'. Cement: 150 sks 60/40 pozmix, 2% gel, 3% CC. Bottom hole temperature: 118°F. Electric logs run: dual induction, compensated density/neutron, microlog. Completed as dry hole.

Sample Descriptions

Depth	Description
3,600	Limestone, white, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,610	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
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4,140	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,150	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,160	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,170	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,180	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,190	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,200	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,210	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,220	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,230	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,240	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,250	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,260	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,270	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,280	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,290	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,300	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,310	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,320	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,330	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,340	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,350	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,360	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,370	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,380	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,390	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,400	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,410	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,420	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,430	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,440	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,450	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,460	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,470	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,480	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,490	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,500	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,510	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,520	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,530	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
4,540	Limestone, white, fine crystalline, chalky, fossiliferous, no show
4,550	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show

Sincerely,

Geological Supervision

Ritchie Exploration, Inc.
Operator

Sec. 15 - T16S - R18W
Location

Ellis County, Kansas
Field

Wildcat
Pool

Drilling Contractor

Geological Supervision

Elevation

Formation Tops

Name	Log	Sample
Anhydrite	1,842	+1,842
Base Anhydrite	1,878	+1,806
Topeka	3,412	-1,728
Heebner	3,648	-1,964
Toronto	3,668	-1,984
Lansing	3,688	-2,004
Base Kansas City	3,942	-2,258
Marmaton	3,962	-2,278
Pawnee	4,048	-2,364
Fort Scott	4,102	-2,418
Cherokee Shale	4,128	-2,444
Cherokee Sand	4,188	-2,504
Mississippian	4,232	-2,548
Kinderhook Shale	4,298	-2,614
Viola	4,352	-2,668
Simpson Shale	4,418	-2,734
Simpson Sand	4,462	-2,778
Arbuckle	4,520	-2,836
RTD	4,550	-2,866
LTD	4,548	-2,864

Comments

Drilling Time and Sample Descriptions

Well drilled to 4,550' RTD in Arbuckle. Logged from 3,600' to RTD by mud-logging unit. Samples collected every 10' from 3,600' to RTD. Two drill stem tests conducted. Mud system: chemical gel/lignosulfonate. Surface casing: 8-5/8" @ 1,842'. Production casing: 5-1/2" @ 4,548'. Cement: 150 sks 60/40 pozmix, 2% gel, 3% CC. Bottom hole temperature: 118°F. Electric logs run: dual induction, compensated density/neutron, microlog. Completed as dry hole.

Sample Descriptions

Depth	Description
3,600	Limestone, white, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,610	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,620	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,630	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,640	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,650	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,660	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,670	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,680	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,690	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,700	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,710	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,720	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,730	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,740	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,750	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,760	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,770	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,780	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,790	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,800	Limestone, white, fine crystalline, chalky, fossiliferous, no show
3,810	Limestone, white to cream, fine crystalline, chalky, fossiliferous, trace oolitic, no show
3,820	Limestone, white, fine crystal