

# Ritchie Exploration, Inc.

## Barngrover No. 1 SE SE NE 2305' FNL & 335' FEL Sec 7 T28S R23W Ford County, Kansas

Geological Report  
by  
Macklin M. Armstrong  
Geologist

Kansas License Number 743316-209-5047

Scale 1:240 Imperial

Well Name: Barngrover No. 1  
Surface Location: Sec 7 T28S R23W  
Bottom Location: 2305' FNL and 335' FEL  
API: 15-057-20824  
License Number: 4767  
Spud Date: 7/13/2012 Time: 6:30 PM  
Region: Ford County, Kansas  
Drilling Completed: 7/23/2012 Time: 4:48 AM  
Surface Coordinates: 2527.00ft  
Ground Elevation: 2515.00ft  
K.B. Elevation: 2527.00ft  
Logged Interval: 3500.00ft To: 5298.00ft  
Total Depth: 2529.00ft  
Formation: Pawnee  
Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Ritchie Exploration, Inc.  
Address: P. O. Box 783188  
Wichita, Kansas 67278

Contact Geologist: Mike Engelbrecht  
Phone Nbr: 316-691-9500  
Well Name: Barngrover No. 1  
Location: Sec 7 T28S R23W API: 15-057-20824  
Pool: Oil Gas  
State: Kansas Country: Ford

**CONTRACTOR**

Contractor: Duke Drilling  
Rig #: 1  
Rig Type: mud rotary  
Spud Date: 7/13/2012 Time: 6:30 PM  
TD Date: 7/23/2012 Time: 4:48 AM  
Rig Release: 7/24/2012 Time: 1:30 AM

**ELEVATIONS**

K.B. Elevation: 2527.00ft Ground Elevation: 2515.00ft  
K.B. to Ground: 12.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
Well Longitude: 99° 52' 15.824" Latitude: 37° 37' 32.423"  
N/S Co-ord:  
E/W Co-ord:

**NOTES**

Date Depth Activity  
7-13-12 348 MIRU at 6:30 pm  
7-14-12 348 WOC Drilling  
7-15-12 1616 Drilling  
7-16-12 2686 Drilling  
7-17-12 3392 Drilling  
7-18-12 4080 Drilling  
7-19-12 4605 Drilling  
7-20-12 4950 TCH for Short Trip  
7-21-12 5070 Drilling  
7-22-12 5182 CFS for Log  
7-23-12 5299 CTS  
7-24-12 5299 P & A

Surface Casing: 8 5/8" 23W at 345'  
Production Casing: None set

Deviation: 348' 3.4"  
859' 1.1"  
1833' 1.1"  
2401' 1.1"  
2939' 1.1"  
4886' 1.1"  
5299' 1.1"

Bit Record: Make Type Depth In Depth Out Hours  
Varel HE-21 348 5210 125  
Varel HE-29 5210 5299 4 3/4

Drill Stem Tests:  
DST No. 1 4954 to 4986 Formation: Pawnee  
Recovery: 10' MCW (20% M, 80% W)  
180' W (Chl 75,000 ppm)  
IHP 2490 FHP 2422  
IFP 24-73 FFP 74-132  
ISIP 37 FSP 913  
Temp 116°

DST No. 2 5094 to 5162 Formation: Morrow Sand, Mississippi  
Recovery: 20' Mud  
IHP 2555 FHP 2506  
IFP 32-34 FFP 35-59  
ISIP 37 FSP 330  
Temp 116°

DST No. 3 5163 to 5210 Formation: Mississippi  
Recovery: 70' MCW (40% M, 60% W)  
120' W (Chl 80,000 ppm)  
IHP 2611 FHP 2599  
IFP 33-68 FFP 80-117  
ISIP 1435 FSP 1338  
Temp 115°

Formation	Sample	E-Log	Datum	Well 1	Well 2	Well 3
Anhydrite	1497	1509	+1018	-3	-6	+9
B/Anhydrite	1567	1568	+959	-1	-10	+1
Stotter	3613	3611	-1084	+6	+8	+5
Heebner	4282	4281	-1754	+5	-2	+2
Toronto	4297	4297	-1770	+3	-2	+6
Douglas	4344	4343	-1816	+3	0	+9
Brown Limestone	4410	4409	-1882	+5	0	+4
Lansing	4419	4418	-1891	+4	+1	+3
Muncie Creek	4603	4602	-2075	+8	-1	+2
Stark	4735	4736	-2209	+6	-5	-8
Huck	4779	4780	-2253	+6	-6	-4
B/Kansas City	4825	4826	-2299	+5	-8	-4
Pleasanton	4830	4830	-2303	+8	-9	-10
Marmaton	4884	4884	-2357	+2	-3	-23
Hucknuckey	4894	4894	-2367	+6	-6	-14
Pawnee	4960	4960	-2433	+10	-4	-6
Cherokee Shale	5008	5008	-2479	+11	-3	-7
Huck	5094	5094	-2567	+15	+1	-6
Atoka Sand	5109	5106	-2579	+18	+1	-5
Morrow Sand	5122	5119	-2592	+15	-2	ABS
Mississippi	5144	5142	-2615	+44	-14	-30
Total Depth	5299	5298	-2771			

Reference Well No. 1: Ritchie Exploration, Inc. Zimmerman 7CD No. 1 1605' FSL & 1100' FEL Sec 7 T28S R23W  
Reference Well No. 2: Ritchie Exploration, Inc. Barngrover No. 1 906' FNL & 753' FWL Sec 17 T28S R23W  
Reference Well No. 3: Ashland Oil & Refining Company Taylor No. 1 C NE SW Sec 6 T28S R23W

Due to the results of the Drill Stem Tests and the electric log calculations, it was decided to plug this test well.

Respectfully submitted,  
Macklin M. Armstrong

**ROCK TYPES**

Chert, dark  
Chert, light  
Sandy  
Silty  
Chert White

Ulmst hw-7 shale, grn  
shale, grn  
shale, red  
Carbon Sh  
shale

**ACCESSORIES**

MINERAL: Chert, dark; Chert, light; Sandy; Silty; Chert White

FOSSIL: Grinoids; Fossils < 20%; Colored

STRINGER: Sandstone

TEXTURE: Chalky

**OTHER SYMBOLS**

DST: DST Int; DST alt; Core





