

**Richie Exploration, Inc.
Huseman 20C No. 1
2275' FSL and 563' FWL
35'S and 97'W of N21W
Sec 20 T16S R31W
Scott County, Kansas**

**Geological Report
by**

**Macklin M. Armstrong, P.G.
License Number 743**

Scale 1:240 Imperial		
Well Name:	Huseman 20C No. 1	
Surface Location:	Sec 20 T16S R31W	
Bottom Location:	2275' FSL and 563' FWL	
APL:	15-171-20949	
License Number:	4767	
Spud Date:	5/13/2013	Time: 2:45 PM
Region:	Scott County, Kansas	
Drilling Completed:	5/21/2013	Time: 6:30 PM
Surface Coordinates:		
Bottom Hole Coordinates:	2947.00ft	
K.B. Elevation:	2952.00ft	
Logged Interval:	3450.00ft	To: 4750.00ft
Total Depth:	4750.00ft	
Formation:	Mississippian	
Drilling Fluid Type:	Chemical/Fresh Water Gel	

OPERATOR	
Company:	Richie Exploration, Inc.
Address:	8100 East 22nd Street North, No. 700 Wichita, Kansas 67278
Contact Geologist:	Mike Engelbrecht
Contact Phone Nbr:	316-691-9500
Well Name:	Huseman 20C No. 1
Location:	Sec 20 T16S R31W
Pool:	Oil
State:	Kansas
API:	15-171-20949
Field:	Wildcat
Country:	USA

SURFACE CO-ORDINATES	
Well Type:	Vertical
Longitude:	100° 46' 40.012"
Latitude:	38° 38' 56.279"
N/S Co-ord:	
E/W Co-ord:	

CONTRACTOR		
Contractor:	WW Drilling	
Rig #:	10	
Rig Type:	mud rotary	
Spud Date:	5/13/2013	Time: 2:45 PM
TD Date:	5/21/2013	Time: 6:30 PM
Rig Release:	5/22/2013	Time: 4:00 PM

ELEVATIONS	
K.B. Elevation:	2952.00ft
K.B. to Ground:	5.00ft
Ground Elevation:	2947.00ft

NOTES						
Date	Depth at 7 am	Activity				
5-13-13	MIRU	Spud at 2:45 pm				
5-14-13	710	Drilling				
5-15-13	2734	Drilling				
5-16-13	3410	Drilling				
5-17-13	4000	CFS				
5-18-13	4072	TIH for DST No. 2				
5-19-13	4312	CFS				
5-20-13	4488	TIH after DST No. 3				
5-21-13	4605	TIH after DST No. 4				
5-22-13	4750	Set 4 1/2"				

Surface Casing: 8 5/8" 20# at 244'
Production Casing: 4 1/2" 10.5# at 4747'

Deviation: 244' - 3/4", 4024' - 1", 4488' - 1 3/4", 4750' - 1 3/4"

Bit Record:	Make	Size	Type	Depth In	Depth Out	Hours
	SM	12 1/4"	F27	Surface	244	2 3/4
	SM	7 7/8"	F27	244	4750	107 1/4

Drill Stem Tests:

DST No. 1 3996 to 4024 Formation: Lansing C Zone
Recovery: 1116' GIP
268' O (40 degree gravity)
42' OCMW (10%O, 40%W, 50%M)
62' OCMW (5%O, 30%M, 85%W)
62' OCMW (5%O, 10%M, 85%W)
62' MCW (5%M, 95%W - Chi 39,000 ppm)

IHP 1954 FHP 1857
IHP 2245 FHP 2120
IHP 52-164 FHP 172-261
ISIP 996 FSP 983
Temp 116°

DST No. 2 4052 to 4072 Formation: Lansing E Zone
30-45-45-60
Recovery: 120' MW with trace of oil (30%M, 70%W)
248' MCW with trace of oil (5%M, 95%W)
1554' W (Chi 30,000 ppm)

IHP 1992 FHP 1918
IHP 113-598 FHP 622-945
ISIP 1067 FSP 1064
Temp 123°

DST No. 3 4452 to 4488 Formation: Pawnee
30-45-45-60
Recovery: 5' Mud
IHP 2194 FHP 2149
IHP 45-45 FHP 45-49
ISIP 120 FSP 260
Temp 122°

DST No. 4 4527 to 4605 Formation: Cherokee Lime and Johnson Zone
30-45-45-60
Recovery: 60' OCM (5%O, 95%M)
IHP 2245 FHP 2120
IHP 71-81 FHP 86-101
ISIP 1139 FSP 1098
Temp 126°

Formation	Sample	E-Log	Datum	Well 1	Well 2	Well 3
Anhydrite	2350	2348	+604	-8	-10	+14
B/Anhydrite	2373	2368	+584	-7	-8	+13
Stotler	3557	3555	-603	-5	+3	+20
Heebner	3936	3934	-982	+4	+10	+23
Toronto	3954	3952	-1000	+5	+5	+24
Lansing	3974	3972	-1020	+4	+14	+26
Muncie Creek	4155	4152	-1202	0	+4	+14
Stark	4251	4252	-1300	-4	+1	+12
Hushpuckney	4293	4293	-1341	-12	+1	+17
B/Kansas City	4339	4339	-1387	-1	-2	+20
Marmaton	4368	4367	-1415	+2	+1	+18
Altamont	4383	4383	-1430	+10	+5	+30
Pawnee	4464	4464	-1512	+3	+10	+22
Myrick Station	4495	4495	-1543	+3	+8	+21
Fort Scott	4509	4509	-1557	+6	+10	+23
Cherokee Shale	4534	4534	-1582	+2	+6	+24
Johnson Zone	4575	4575	-1623	+6	+7	+23
Morrow	4602	4603	-1650	+16	+16	+27
Mississippian	4626	4626	-1674	+19	+22	+31
Total Depth	4750	4750	-1798			

Well 1: Chief Drilling Company Grothusen No. 1 NE NW NE Sec 30 T16S R31W
Well 2: White and Ellis Drilling Grothusen No. 1 NW SE NW Sec 29 T16S R31W
Well 3: Chief Drilling Company Socolofsky No. 1 NW SE NW Sec 28 T16S R31W

Pipe was set to further test the Lansing zone.

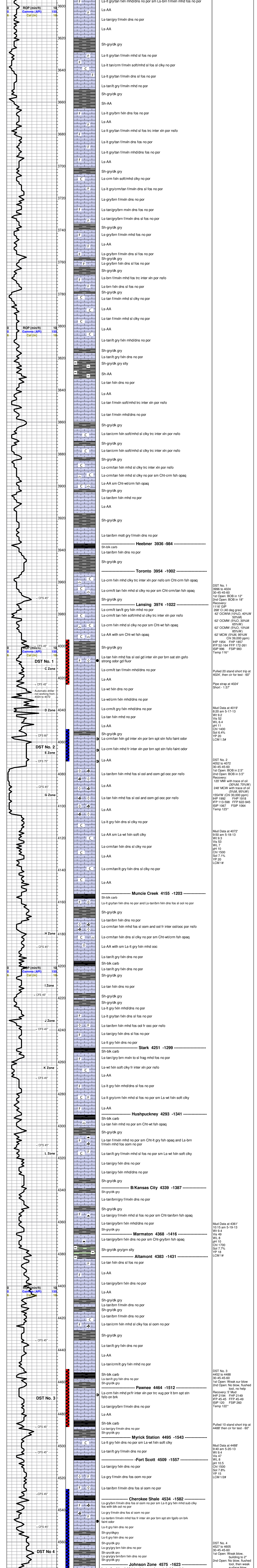
Respectfully submitted,
Macklin M. Armstrong

ROCK TYPES	
Lmsl fw7s	shale, gry
shale, grn	Carbon Sh
	Stool
	Ss

ACCESSORIES	
MINERAL	FOSSIL
Chert, dark	Fossiliferous
Glauconite	20% Colite
Silty	Oolitic
Chert White	Oolitic

OTHER SYMBOLS	
DST	DST Int
DST Int	DST Int
Core	Core

Printed by GEOstrie VC Striplog version 4.0.7.0 (www.grsi.ca)





Ls-lt gry/w/crm fhn to fgran mhd sl ciky no por
Ls-AA
Ls-crm/lt gry fhn to fgran dns sl ciky no por
Ls-AA
Ls-crm/tan fhn to fgran dns sl ciky no por
Ls-AA
Ls-tan/lt gry fgran to gran dns no por
Ls-AA
Ls-tan/lt gry fhn dns no por
Ls-AA
Ls-tan/gry/brn f/min dns no por
Ls-AA
----- RTD 4750 -1798 -----
Finished Drilling at 6:30 pm on 5-21-13. Pulled 10 stand short
trip, then Cir for Log - 90°
Finished Logging at 1:40 am on 5-22-13