

HUGHES DRILLING REPORT

Well No. #14
 Farm W. Brooks
 SURFACE CASING
 Size 7"
 Feet 23.75
 Circulated 10 sx cement

PERMANENT CSG.
 Size 2 7/8 8rd EUE (New)
 Feet 784.05 of pipe
 Baffle at 753.70
 Flood shoe on bottom
 T. D. at Completion 800'

OPERATOR Hughes Drilling

Contractor HUGHES DRILLING CO.

STRATA THICKNESS	FORMATION DRILLED	T.D.
3	soil	3
19	clay	22
8	shale	30
38	Lime	58
10	shale	68
10	lime	78
5	shale	83
34	Lime	117
5	shale	122
46	Lime	168
66	shale	229
25	Lime	254
13	shale	267
10	lime	277
26	shale	303
10	lime	313
4	shale	317
1	lime	318
17	shale	335
30'	23 Lime	358
11	shale	369
20'	22 Lime	391
4	shale	395
3	lime	398
3	shale	401
6	lime	407
113	shale	520
4	Gr. sand	524
3	shale	555
4	lime	559
15	shale	574
10	lime	584
10	shale	594
3	lime	597
11	shale	608
7	lime	615
12	shale	627
3	lime	630
4	shale	637
11	lime	645
20	shale	665

DATE	DRILLED		REMARKS - TYPE WORK - BILLING REF.	PIPE TALLY
	FROM	TO		
8-15-11	0	3	soil	① 21.5-21.5
23'	3	22	clay	② 22.5-44.0
8/18/14	22	30	shale	③ 22.5-62.5
	30	58	lime	④ 22.5-89.0
5 7/8 PDC	58	68	shale (BRK) (slate 67-68)	⑤ 22.5-111.5
	68	78	lime	⑥ 22.5-134.0
	78	83	shale	⑦ 22.5-156.5
	83	117	lime	⑧ 22.5-179.0
	117	122	shale (slate 117-118)	⑨ 22.5-201.5
	122	168	lime (soly 130-144)	⑩ 22.5-224.0
	168	229	shale	⑪ 22.5-246.5
	229	254	lime	⑫ 22.5-269.0
	254	267	shale (BRK 263-267)	⑬ 22.5-291.5
	267	277	lime	⑭ 22.5-314.0
	277	303	shale	⑮ 22.5-336.5
	303	313	lime	⑯ 22.5-359.0
	313	317	shale	⑰ 22.5-381.5
	317	318	lime	⑱ 22.5-404.0
	318	335	shale	⑲ 22.5-426.5
30'	335	358	lime	⑳ 22.5-449.0
	358	369	shale (slate 358-359)	㉑ 22.5-471.5
20'	369	391	lime	㉒ 22.5-494.0
	391	395	shale (slate 391-392)	㉓ 22.5-516.5
	395	398	lime	㉔ 22.5-539.0
	398	401	shale	㉕ 22.5-561.5
"Hertman"	401	407	lime	㉖ 22.5-584.0
	407	520	shale (BRK 411-414)	㉗ 22.5-606.5

HUGHES DRILLING REPORT

1485 FSL 3720 FEL

API # 15-299-26802

Well No. #14
 Farm W. Braers
 SURFACE CASING
 Size.....
 Feet.....
 Circulated _____ sx cement

PERMANENT CSG.
 Size 2 7/8" Øal EUE (New)
 Feet 784.05 of pipe
 Baffle at 753.70
 Float shoe on bottom
 T. D. at Completion 800'

OPERATOR Hughes Drilling

Contractor HUGHES DRILLING CO.

STRATA THICKNESS	FORMATION DRILLED	T.D.
2	Shale	665
1	Sdy Shale	676
4	BRK Sand	680
27	Shale	707
1	Lime	708
6	Shale	714
1	Lime	715
1	Shale	716
7	sand	723
77	Shale	800
		T.D.

DATE	DRILLED		REMARKS - TYPE WORK - MILLING REP.	PIPE TALLY	
	FROM	TO			
"perched"	520	524	gray sand (slight color)	(28) 22.5 - 629.0	
	524	555	Shale	(29) 22.5 - 651.5	
	555	559	Lime	(30) 22.5 - 674.0	
	559	574	Shale (BRK sand 563-566)	(31) 22.5 - 696.5	
	574	584	Lime	(32) 22.5 - 719.0	
	584	594	Shale	(33) 22.5 - 741.5	
	594	597	Lime	(34) 22.5 - 764.0	
	597	608	Shale (slate 597-598)	(35) 22.5 - 786.5	
	608	615	Lime		
	615	627	Shale		
	627	630	Lime (Brown)		
	630	634	Shale (slate 630-631)		
	634	645	Lime		
	645	665	Shale (Lime Break 657)		
	665	676	sandy shale (Hard 665-666)		
	"with squirrel"	676	680	Broken Sand (Remarks pg. 3)	
		680	707	Shale (Sdy 680-683)	
707		708	Lime		
708		714	Shale		
714		715	Lime		
"with squirrel"	715	716	Shale		
	716	723	sand (remarks pg 4)		
8-19-14	723	800	Shale (Lime Break 740)		
			T.D.		
8-20-14			Set 784.05 of pipe Baffle at 753.70 Float shoe on bottom Used 3 centralizers		

Start core 670'
 T.D. 670'
 R.D. 19'

Start core 717'
 T.D. 717'
 R.D. 20'

14 - 17 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 87 - 88 - 89 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 - 100 - pulled 2 27's.

HUGHES DRILLING CO.

Wellsville, Kansas 66092

Roger 913-883-2235
Darrel 913-883-4027

Ron 913-883-4655
Clay 913-883-4303

CORE TIME
LEASE W. Broers #14
FORMATION #1 squirrel
DATE: 8/18/14

(3" Shale Bit)

FROM	FEET TO	TIME	MINUTES	REMARKS
667	668	chip sample		}
668	669	" "		
669	670	" "		
①	670	2:28:00-2:28:30	:30	} sandy shale (scattered thin strips of sand with some Ble.)
②	671	2:29:15	:45	
③	672	2:30:00	:45	
④	673	2:34:00-2:34:30	:30	
⑤	674	2:35:30	1:00	
⑥	675	2:36:15	:45	
⑦	676	2:37:00	:45	
⑧	677	2:37:45	:45	
⑨	678	2:38:30	:45	
⑩	679	2:39:30	1:00	
⑪	680	2:40:15	:45	} sdy shale scattered very very thin strips of sand (some Ble)
⑫	681	2:41:15	1:00	
⑬	682	2:42:15	1:00	
⑭	683	2:43:30	1:15	} shale
⑮	684	2:44:30	1:00	
⑯	685	2:45:45	1:15	
⑰	686	2:46:45	1:00	
⑱	687	2:48:00	1:15 stop	
⑲	688	2:51:00-2:51:45	:45 stop	
⑳	689	690		(No Good cch)

HUGHES DRILLING CO.

Wellsville, Kansas 66092

Roger 913-883-2235
Darrel 913-883-4027

CORE TIME

Ron 913-883-4655
Clay 913-883-4383

LEASE W. Broers #14

FORMATION #2 Squirrel

DATE: 8-19-14

(~~3"~~ 3" Shave Bit)

PS-7

	FROM	FEET TO	TIME	MINUTES	REMARKS
	714	715	chip	-	Line
	715	716	chip	-	shale
	716	717	chip	-	Brown sand (solid) (so. Ble)
①	717	718	9:43:00-9:43:45	:45	} 717-721 Sand slightly lamin w/shale (good bleed)
②	718	719	9:48:00-9:48:30	:30	
③	719	720	9:49:15	:45	
④	720	721	9:50:00	:45	
⑤	721	722	9:50:30	:30	
⑥	722	723	9:51:15	:45	} sand lamin w/shale (bleeding) 721-723
⑦	723	724	9:52:00	:45	
⑧	724	725	9:52:45	:45	} shale
⑨	725	726	9:53:30	:45	
⑩	726	727	9:54:30	1:00	
⑪	727	728	9:55:15	:45	
⑫	728	729	9:56:00	:45	
⑬	729	730	9:56:45	:45	
⑭	730	731	9:57:45	1:00 stop	
⑮	731	732			(Best Reef Zone) 717-723
⑯	732	733			
⑰	733	734			ccH
⑱	734	735			
⑲	735	736			
20	736	737			