

HUGHES DRILLING REPORT

3050 FSL
1900 FSL

Hughes Drilling Co.

SET IN PIPE

PERMANENT CSG.

TUBING

Well No. **#4** Size **7"** (55x) Cement Circ. TO Surface
 Form **South Hughes** Feet **20-6** Feet
 Water Streak @ Cond. **good** Cond.
 Water Level @ Top Sand T. D. at Completion **606**
 approved Contractor **HUGHES DRILLING CO.**

FORMATION DRILLED
APR 15-059-24922

STRATA THICKNESS	FORMATION DRILLED	T.O
2	soil	2
24	clay	26
50	shale	76
22	lime	98
3	shale	101
11	Gr. Sand	112
16	shale	128
3	lime	131
30	shale	161
14	lime	175
14	shale	189
30'	lime	216
8	shale	224
20'	lime	246
5	shale	251
5	lime	256
2	shale	258
Hertha	lime	262
154	shale	416
9	lime	425
13	shale	438
5	Gr. Sand	443
30	shale	473
6	lime	479
12	shale	492
3	lime	495
13	shale	508
2	lime	515
5	shale	520
3	lime	522
1	shale	523
5	lime	528
6	shale	534
Eq. 14	oil sand	548
27	shale	575
1	lime	576
7	shale	583
1	lime	584
1	shale	585
1	sand	586
20	shale	606

DATE	HOURS OF TOUR	DRILLED		REMARKS - TYPE WORK - BILLING REF.	PIPE TALLY
		FROM	TO		
9/16/02		0	2	soil	① 21.0 - 21.0
20'		2	26	clay	② 22.5 - 43.5
1/17		26	76	shale	③ 22.5 - 66.0
5 1/2 mill run		76	98	lime	④ 22.5 - 88.5
		98	101	shale	⑤ 22.5 - 111.0
		101	112	Gray Sand	⑥ 22.5 - 133.5
		112	128	shale	⑦ 22.5 - 156.0
		128	131	lime	⑧ 22.5 - 178.5
		131	161	shale	⑨ 22.5 - 201.0
		161	175	lime	⑩ 22.5 - 223.5
		175	189	shale	⑪ 22.5 - 246.0
30'		189	216	lime	⑫ 22.5 - 269.5
		216	224	shale (slate 217-218)	(Put on Drag)
20'		224	246	lime	(B.T + Sub)
		246	251	shale (slate 249-250)	⑬ 22.5 - 269.5
		251	256	lime	⑭ 22.5 - 292.0
		256	258	shale	⑮ 22.5 - 314.5
Hertha		258	262	lime	⑯ 22.5 - 337.0
3:15 run		262	416	shale (B.K 268-272)	⑰ 22.5 - 359.5
67' - Drag Bit		416	425	lime	⑱ 22.5 - 382.0
		425	438	shale	⑲ 22.5 - 404.5
		438	443	Gray Sand	⑳ 22.5 - 427.0
		443	473	shale (slate 464-465)	㉑ 22.5 - 449.5
		473	479	lime	㉒ 22.5 - 472.0
		479	492	shale	㉓ 22.5 - 494.5
		492	495	lime (Brown)	㉔ 22.5 - 517.0
		495	508	shale (slate 495-496)	㉕ 22.5 - 539.5

Surface Pipe 9/16/0.
7" - 20.6'
Circulated 5 sacks
of cement to surface

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 S Hughes #4
FORMATION Squirrel
DATE: 9-7-02

(RPM Shave Bit)

FROM	FEET TO	TIME	MINUTES	REMARKS
532	533	Chip sample	—	} Sdy shale (Thin strip of oil sand)
① 533	534	3:40:00 - 3:41:30	1:30	
② 534	535	3:41:30 - 3:42:15	:45	} Sand vary lamin. w/shale (Bleeding oil) 534-537
③ 535	536	3:42:15 - 3:43:00	:45	
④ 536	537	3:43:00 - 3:43:45	:45	
⑤ 537	538	3:43:45 - 3:45:00	1:15	
⑥ 538	539	3:45:00 - 3:46:00	1:00	stop and join
⑦ 539	540	3:52:00 - 3:52:30	:30	} Sand slightly lamin. w/shale (Bleeding oil) 538.5-541
⑧ 540	541	3:52:30 - 3:53:15	:45	
⑨ 541	542	3:53:15 - 3:54:05	1:00	- Sdy Lime
⑩ 542	543	3:54:15 - 3:55:00	:45	- Sand lamin. w/shale (Bleed oil)
⑪ 543	544	3:55:00 - 3:55:30	:30	} 543-544.5 - Sand slightly lamin. w/shale (Bleeding oil)
⑫ 544	545	3:55:30 - 3:56:15	:45	
⑬ 545	546	3:56:15 - 3:57:00	:45	
⑭ 546	547	3:57:00 - 3:58:00	1:00	- Sand very lamin. w/shale (B.O)
⑮ 547	548	3:58:00 - 3:58:30	:30	} 547-548.5 Solid sand (B.O)
⑯ 548	549	3:58:30 - 4:00:00	1:30	
⑰ 549	550	4:00:00 - 4:01:45	1:45	} SHg 10
⑱ 550	551	4:01:45 - 4:03:30	1:45	
⑲ 551	552	4: — 4: —	STOP	
⑳ 552	553	4: — 4: —		

Midwest Survey - perfed 4/22/03
538-548 Gun (31 shots)

(Best Perf Zone
538.5-541
543-548.5
C.C.H.)

3 shots per ft, APPROX 27 gravity