



**Tug Hill Operating LLC**  
 Project: Hodgeman County, Kansas (NAD 83)  
 Site: Sec 20, T23S, R22W  
 Well: Gleason # 1-20H  
 Wellbore: Original Wellbore  
 Design: Plan #6  
 Lat: 38° 1' 47.468 N  
 Long: 99° 45' 18.188 W  
 Pad GL: 2332.0  
 KB: WELL @ 2355.0usft (Original Well Elev)



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
7210.0	88.40	359.20	4655.0	2816.2	-5.3	0.00	0.00	2816.2	
7357.2	91.00	0.58	4655.7	2963.3	-5.6	2.00	27.96	2963.3	
7886.2	91.00	0.58	4646.5	3492.2	-0.2	0.00	0.00	3492.2	
7944.1	90.00	360.00	4646.0	3550.1	0.0	2.00	-149.71	3550.1	Gleason # 1-20H PBHL
9144.0	90.00	360.00	4646.0	4750.0	0.0	0.00	0.00	4750.0	Gleason # 1-20H PBHL

WELL DETAILS: Gleason # 1-20H						
+N/-S	+E/-W	Northing	Ground Level: Easting	2332.0	Latitude	Longitude
0.0	0.0	1811134.42	950852.94		38° 1' 47.468 N	99° 45' 18.188 W

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Gleason # 1-20H PBHL	4646.0	0.0	0.0	38° 2' 34.428 N	99° 45' 18.188 W

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
3922.0	3922.2	Heebner	0.00	0.00	
3994.0	3994.2	Lansing	0.00	0.00	
4464.0	4509.3	Pawnee	0.00	0.00	
4520.0	4595.7	Fort Scott	0.00	0.00	
4533.0	4618.5	Cherokee	0.00	0.00	
4615.0	4780.2	Mississippian	0.00	0.00	
4646.0	4861.3	Target Line 4646' @ 0 VS W/0° Up Dip	0.00	0.00	

CASING DETAILS				
TVD	MD	Name	Size	
4673.7	5150.0	7"	7	
4646.0	9143.2	4 1/2"	4-1/2	

