

Company Name: Mak J

WELL DETAILS: McCoy 2-21-33

Ground Level:		5029.00		
+N/-S	+E/-W	Northing	Easting	Latitude
0.00	0.00	1889568.961	3134824.744	40.27467
		Longitude		Slot
		-105.01689		2-21-33

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00		
3	1566.67	23.00	84.33	1546.24	15.00	151.08	3.00	84.33	151.82		
4	5280.35	23.00	84.33	4964.71	158.33	1595.04	0.00	0.00	1602.88		
5	6047.02	0.00	0.00	5710.95	173.32	1746.12	3.00	180.00	1754.70		
6	8117.07	0.00	0.00	7781.00	173.32	1746.12	0.00	0.00	1754.70	McCoy 2-21-33	

DESIGN TARGET DETAILS

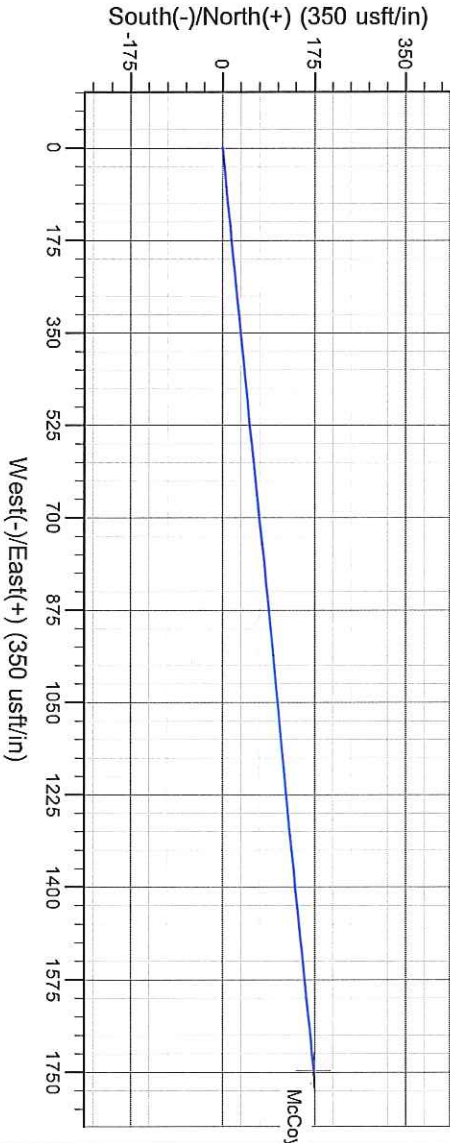
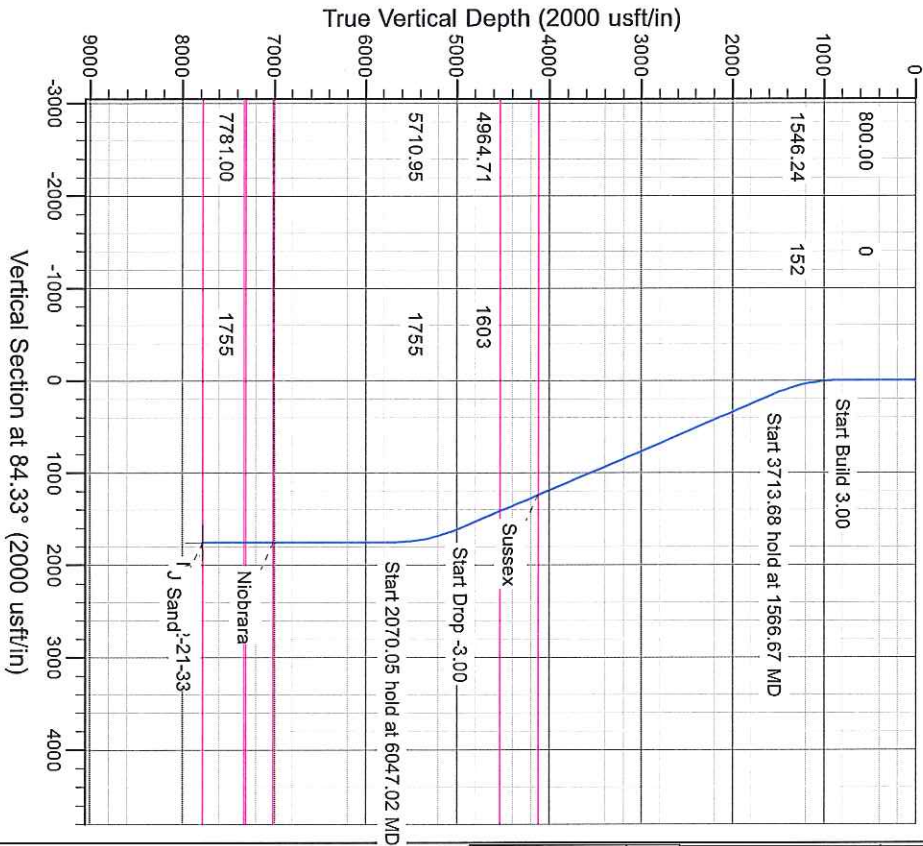
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
McCoy 2-21-33	7781.00	173.32	1746.12	1889742.286	3136570.864	40.27512	-105.01063	Point
- plan hits target center								

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
4122.00	4364.87	Sussex	0.00	
4533.00	4811.36	Shannon	0.00	
7016.00	7352.07	Niobrara	0.00	
7310.00	7646.07	Ft Hays	0.00	
7328.00	7664.07	Codell	0.00	
7781.00	8117.07	J Sand	0.00	

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well McCoy 2-21-33 - Slot 2-21-33, Grid North  
Vertical (TVD) Reference: WELL @ 5029.00usft (Original Well Elev)  
Section (VS) Reference: Slot - 2-21-33(0.00N, 0.00E)  
Measured Depth Reference: WELL @ 5029.00usft (Original Well Elev)  
Calculation Method: Minimum Curvature





## **Mak J**

**McCoy 11-33 Pad**

**11-33**

**McCoy 2-21-33 - Slot 2-21-33**

**McCoy 2-21-33**

**Plan: Design #1**

## **Standard Planning Report**

**21 December, 2012**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well McCoy 2-21-33 - Slot 2-21-33
<b>Company:</b>	Mak J	<b>TVD Reference:</b>	WELL @ 5029.00usft (Original Well Elev)
<b>Project:</b>	McCoy 11-33 Pad	<b>MD Reference:</b>	WELL @ 5029.00usft (Original Well Elev)
<b>Site:</b>	11-33	<b>North Reference:</b>	Grid
<b>Well:</b>	McCoy 2-21-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McCoy 2-21-33		
<b>Design:</b>	Design #1		

<b>Project</b>	McCoy 11-33 Pad		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

Site	11-33				
Site Position:		Northing:	1,889,583.551 usft	Latitude:	40.27471
From:	Lat/Long	Easting:	3,134,824.666 usft	Longitude:	-105.01689
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	McCoy 2-21-33 - Slot 2-21-33					
Well Position	+N/-S	-14.59 usft	Northing:	1,889,568.961 usft	Latitude:	40.27467
	+E/-W	0.08 usft	Easting:	3,134,824.744 usft	Longitude:	-105.01689
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,029.00 usft

<b>Wellbore</b>	McCoy 2-21-33				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/19/2012	8.78	66.86	52,878

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	84.33

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,566.67	23.00	84.33	1,546.24	15.00	151.08	3.00	3.00	0.00	84.33	
5,280.35	23.00	84.33	4,964.71	158.33	1,595.04	0.00	0.00	0.00	0.00	
6,047.02	0.00	0.00	5,710.95	173.32	1,746.12	3.00	-3.00	0.00	180.00	
8,117.07	0.00	0.00	7,781.00	173.32	1,746.12	0.00	0.00	0.00	0.00	McCoy 2-21-33

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well McCoy 2-21-33 - Slot 2-21-33
Company:	Mak J	TVD Reference:	WELL @ 5029.00usft (Original Well Elev)
Project:	McCoy 11-33 Pad	MD Reference:	WELL @ 5029.00usft (Original Well Elev)
Site:	11-33	North Reference:	Grid
Well:	McCoy 2-21-33	Survey Calculation Method:	Minimum Curvature
Wellbore:	McCoy 2-21-33		
Design:	Design #1		

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	3.00	84.33	899.95	0.26	2.60	2.62	3.00	3.00	0.00
1,000.00	6.00	84.33	999.63	1.03	10.41	10.46	3.00	3.00	0.00
1,100.00	9.00	84.33	1,098.77	2.32	23.40	23.51	3.00	3.00	0.00
1,200.00	12.00	84.33	1,197.08	4.12	41.53	41.74	3.00	3.00	0.00
1,300.00	15.00	84.33	1,294.31	6.43	64.76	65.08	3.00	3.00	0.00
1,400.00	18.00	84.33	1,390.18	9.23	93.02	93.48	3.00	3.00	0.00
1,500.00	21.00	84.33	1,484.43	12.53	126.23	126.85	3.00	3.00	0.00
1,566.67	23.00	84.33	1,546.24	15.00	151.08	151.82	3.00	3.00	0.00
1,600.00	23.00	84.33	1,576.93	16.28	164.04	164.85	0.00	0.00	0.00
1,700.00	23.00	84.33	1,668.98	20.14	202.92	203.92	0.00	0.00	0.00
1,800.00	23.00	84.33	1,761.03	24.00	241.81	243.00	0.00	0.00	0.00
1,900.00	23.00	84.33	1,853.08	27.86	280.69	282.07	0.00	0.00	0.00
2,000.00	23.00	84.33	1,945.13	31.72	319.57	321.14	0.00	0.00	0.00
2,100.00	23.00	84.33	2,037.18	35.58	358.45	360.21	0.00	0.00	0.00
2,200.00	23.00	84.33	2,129.23	39.44	397.33	399.29	0.00	0.00	0.00
2,300.00	23.00	84.33	2,221.28	43.30	436.22	438.36	0.00	0.00	0.00
2,400.00	23.00	84.33	2,313.33	47.16	475.10	477.43	0.00	0.00	0.00
2,500.00	23.00	84.33	2,405.38	51.02	513.98	516.51	0.00	0.00	0.00
2,600.00	23.00	84.33	2,497.43	54.88	552.86	555.58	0.00	0.00	0.00
2,700.00	23.00	84.33	2,589.48	58.74	591.75	594.65	0.00	0.00	0.00
2,800.00	23.00	84.33	2,681.53	62.60	630.63	633.73	0.00	0.00	0.00
2,900.00	23.00	84.33	2,773.58	66.46	669.51	672.80	0.00	0.00	0.00
3,000.00	23.00	84.33	2,865.63	70.32	708.39	711.87	0.00	0.00	0.00
3,100.00	23.00	84.33	2,957.68	74.18	747.27	750.95	0.00	0.00	0.00
3,200.00	23.00	84.33	3,049.73	78.04	786.16	790.02	0.00	0.00	0.00
3,300.00	23.00	84.33	3,141.78	81.90	825.04	829.09	0.00	0.00	0.00
3,400.00	23.00	84.33	3,233.83	85.76	863.92	868.16	0.00	0.00	0.00
3,500.00	23.00	84.33	3,325.88	89.61	902.80	907.24	0.00	0.00	0.00
3,600.00	23.00	84.33	3,417.93	93.47	941.68	946.31	0.00	0.00	0.00
3,700.00	23.00	84.33	3,509.99	97.33	980.57	985.38	0.00	0.00	0.00
3,800.00	23.00	84.33	3,602.04	101.19	1,019.45	1,024.46	0.00	0.00	0.00
3,900.00	23.00	84.33	3,694.09	105.05	1,058.33	1,063.53	0.00	0.00	0.00
4,000.00	23.00	84.33	3,786.14	108.91	1,097.21	1,102.60	0.00	0.00	0.00
4,100.00	23.00	84.33	3,878.19	112.77	1,136.09	1,141.68	0.00	0.00	0.00
4,200.00	23.00	84.33	3,970.24	116.63	1,174.98	1,180.75	0.00	0.00	0.00
4,300.00	23.00	84.33	4,062.29	120.49	1,213.86	1,219.82	0.00	0.00	0.00
4,364.87	23.00	84.33	4,122.00	122.99	1,239.08	1,245.17	0.00	0.00	0.00
<b>Sussex</b>									
4,400.00	23.00	84.33	4,154.34	124.35	1,252.74	1,258.90	0.00	0.00	0.00
4,500.00	23.00	84.33	4,246.39	128.21	1,291.62	1,297.97	0.00	0.00	0.00
4,600.00	23.00	84.33	4,338.44	132.07	1,330.50	1,337.04	0.00	0.00	0.00
4,700.00	23.00	84.33	4,430.49	135.93	1,369.39	1,376.12	0.00	0.00	0.00
4,800.00	23.00	84.33	4,522.54	139.79	1,408.27	1,415.19	0.00	0.00	0.00
4,811.36	23.00	84.33	4,533.00	140.23	1,412.69	1,419.63	0.00	0.00	0.00
<b>Shannon</b>									



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well McCoy 2-21-33 - Slot 2-21-33
Company:	Mak J	TVD Reference:	WELL @ 5029.00usft (Original Well Elev)
Project:	McCoy 11-33 Pad	MD Reference:	WELL @ 5029.00usft (Original Well Elev)
Site:	11-33	North Reference:	Grid
Well:	McCoy 2-21-33	Survey Calculation Method:	Minimum Curvature
Wellbore:	McCoy 2-21-33		
Design:	Design #1		

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	23.00	84.33	4,614.59	143.65	1,447.15	1,454.26	0.00	0.00	0.00
5,000.00	23.00	84.33	4,706.64	147.51	1,486.03	1,493.33	0.00	0.00	0.00
5,100.00	23.00	84.33	4,798.69	151.37	1,524.91	1,532.41	0.00	0.00	0.00
5,200.00	23.00	84.33	4,890.74	155.23	1,563.80	1,571.48	0.00	0.00	0.00
5,280.35	23.00	84.33	4,964.71	158.33	1,595.04	1,602.88	0.00	0.00	0.00
5,300.00	22.41	84.33	4,982.83	159.08	1,602.59	1,610.46	3.00	-3.00	0.00
5,400.00	19.41	84.33	5,076.24	162.60	1,638.10	1,646.15	3.00	-3.00	0.00
5,500.00	16.41	84.33	5,171.38	165.64	1,668.70	1,676.90	3.00	-3.00	0.00
5,600.00	13.41	84.33	5,268.00	168.18	1,694.30	1,702.63	3.00	-3.00	0.00
5,700.00	10.41	84.33	5,365.84	170.22	1,714.83	1,723.26	3.00	-3.00	0.00
5,800.00	7.41	84.33	5,464.62	171.75	1,730.25	1,738.75	3.00	-3.00	0.00
5,900.00	4.41	84.33	5,564.08	172.77	1,740.49	1,749.05	3.00	-3.00	0.00
6,000.00	1.41	84.33	5,663.93	173.27	1,745.54	1,754.12	3.00	-3.00	0.00
6,047.02	0.00	0.00	5,710.95	173.32	1,746.12	1,754.70	3.00	-3.00	0.00
6,100.00	0.00	0.00	5,763.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,200.00	0.00	0.00	5,863.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,300.00	0.00	0.00	5,963.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,400.00	0.00	0.00	6,063.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,500.00	0.00	0.00	6,163.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,600.00	0.00	0.00	6,263.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,700.00	0.00	0.00	6,363.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,800.00	0.00	0.00	6,463.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
6,900.00	0.00	0.00	6,563.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,000.00	0.00	0.00	6,663.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,100.00	0.00	0.00	6,763.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,200.00	0.00	0.00	6,863.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,300.00	0.00	0.00	6,963.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,352.07	0.00	0.00	7,016.00	173.32	1,746.12	1,754.70	0.00	0.00	0.00
<b>Niobrara</b>									
7,400.00	0.00	0.00	7,063.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,500.00	0.00	0.00	7,163.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,600.00	0.00	0.00	7,263.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,646.07	0.00	0.00	7,310.00	173.32	1,746.12	1,754.70	0.00	0.00	0.00
<b>Ft Hays</b>									
7,664.07	0.00	0.00	7,328.00	173.32	1,746.12	1,754.70	0.00	0.00	0.00
<b>Codell</b>									
7,700.00	0.00	0.00	7,363.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,800.00	0.00	0.00	7,463.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
7,900.00	0.00	0.00	7,563.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
8,000.00	0.00	0.00	7,663.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
8,100.00	0.00	0.00	7,763.93	173.32	1,746.12	1,754.70	0.00	0.00	0.00
8,117.07	0.00	0.00	7,781.00	173.32	1,746.12	1,754.70	0.00	0.00	0.00
<b>J Sand</b>									

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well McCoy 2-21-33 - Slot 2-21-33
<b>Company:</b>	Mak J	<b>TVD Reference:</b>	WELL @ 5029.00usft (Original Well Elev)
<b>Project:</b>	McCoy 11-33 Pad	<b>MD Reference:</b>	WELL @ 5029.00usft (Original Well Elev)
<b>Site:</b>	11-33	<b>North Reference:</b>	Grid
<b>Well:</b>	McCoy 2-21-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McCoy 2-21-33		
<b>Design:</b>	Design #1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
McCoy 2-21-33	0.00	0.00	7,781.00	173.32	1,746.12	1,889,742.286	3,136,570.864	40.27512	-105.01063
- plan hits target center									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,364.87	4,122.00	Sussex		0.00		
4,811.36	4,533.00	Shannon		0.00		
7,352.07	7,016.00	Niobrara		0.00		
7,646.07	7,310.00	Ft Hays		0.00		
7,664.07	7,328.00	Codell		0.00		
8,117.07	7,781.00	J Sand		0.00		