

WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 03-T23-R33E

North Thistle 3-34 State 3H

Wellbore #1

Plan: Permit Plan 4

Standard Planning Report - Geographic

02 August, 2018

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well North Thistle 3-34 State 3H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3620.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3620.20ft
Site:	Sec 03-T23-R33E	North Reference:	Grid
Well:	North Thistle 3-34 State 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 4		

Project	Lea County (NAD83 New Mexico East)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 03-T23-R33E				
Site Position:		Northing:	488,963.77 usft	Latitude:	32.341907
From:	Map	Easting:	777,934.07 usft	Longitude:	-103.567243
Position Uncertainty:	5.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well:	North Thistle 3-34 State 3H					
Well Position	+N/-S	0.00 ft	Northing:	483,599.20 usft	Latitude:	32.327140
	+E/-W	0.00 ft	Easting:	779,011.00 usft	Longitude:	-103.563881
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,595.20 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2015	5/2/2018	(°)	(°)	(nT)
			6.86	60.15	47,908.95902639

Design	Permit Plan 4				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	3.27	

Plan Survey Tool Program	Date	8/2/2018			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks	
(ft)	(ft)				
1	0.00	19,808.04 Permit Plan 4 (Wellbore #1)	MWD+HDGM		
			OWSG MWD + HDGM		

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,209.63	7.10	104.90	3,207.82	-11.29	42.41	1.00	1.00	0.00	104.90	
8,221.32	7.10	104.90	8,181.12	-170.49	640.72	0.00	0.00	0.00	0.00	
8,694.41	0.00	0.00	8,653.00	-178.02	669.00	1.50	-1.50	0.00	180.00	VP - Thistle 3-34 Stat
9,000.45	0.00	0.00	8,959.04	-178.02	669.00	0.00	0.00	0.00	0.00	
9,900.45	90.00	359.56	9,532.00	394.93	664.63	10.00	10.00	0.00	359.56	PBHL - Thistle 3-34 S
19,808.04	90.00	359.56	9,532.00	10,302.22	589.10	0.00	0.00	0.00	0.00	PBHL - Thistle 3-34 S

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Local Co-ordinate Reference: Well North Thistle 3-34 State 3H
 TVD Reference: RKB @ 3620.20ft
 MD Reference: RKB @ 3620.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
100.00	0.00	0.00	100.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
200.00	0.00	0.00	200.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
300.00	0.00	0.00	300.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
400.00	0.00	0.00	400.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
500.00	0.00	0.00	500.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
600.00	0.00	0.00	600.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
700.00	0.00	0.00	700.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
800.00	0.00	0.00	800.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
900.00	0.00	0.00	900.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,000.00	0.00	0.00	1,000.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,100.00	0.00	0.00	1,100.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,200.00	0.00	0.00	1,200.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,300.00	0.00	0.00	1,300.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,400.00	0.00	0.00	1,400.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,500.00	0.00	0.00	1,500.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,600.00	0.00	0.00	1,600.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,700.00	0.00	0.00	1,700.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,800.00	0.00	0.00	1,800.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
1,900.00	0.00	0.00	1,900.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,000.00	0.00	0.00	2,000.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,100.00	0.00	0.00	2,100.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,200.00	0.00	0.00	2,200.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,300.00	0.00	0.00	2,300.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,400.00	0.00	0.00	2,400.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,500.00	0.00	0.00	2,500.00	0.00	0.00	483,599.20	779,011.00	32.327140	-103.563881
2,600.00	1.00	104.90	2,599.99	-0.22	0.84	483,598.98	779,011.84	32.327140	-103.563878
2,700.00	2.00	104.90	2,699.96	-0.90	3.37	483,598.30	779,014.37	32.327138	-103.563870
2,800.00	3.00	104.90	2,799.86	-2.02	7.59	483,597.18	779,018.59	32.327135	-103.563856
2,900.00	4.00	104.90	2,899.68	-3.59	13.49	483,595.61	779,024.48	32.327130	-103.563837
3,000.00	5.00	104.90	2,999.37	-5.61	21.07	483,593.59	779,032.07	32.327124	-103.563813
3,100.00	6.00	104.90	3,098.90	-8.07	30.33	483,591.13	779,041.33	32.327117	-103.563783
3,200.00	7.00	104.90	3,198.26	-10.98	41.27	483,588.22	779,052.27	32.327109	-103.563747
3,209.63	7.10	104.90	3,207.82	-11.29	42.41	483,587.92	779,053.41	32.327108	-103.563744
3,300.00	7.10	104.90	3,297.49	-14.16	53.20	483,585.04	779,064.20	32.327100	-103.563709
3,400.00	7.10	104.90	3,396.73	-17.33	65.14	483,581.87	779,076.14	32.327091	-103.563670
3,500.00	7.10	104.90	3,495.96	-20.51	77.08	483,578.69	779,088.08	32.327082	-103.563632
3,600.00	7.10	104.90	3,595.20	-23.69	89.02	483,575.51	779,100.01	32.327073	-103.563593
3,700.00	7.10	104.90	3,694.43	-26.86	100.95	483,572.34	779,111.95	32.327064	-103.563555
3,800.00	7.10	104.90	3,793.66	-30.04	112.89	483,569.16	779,123.89	32.327055	-103.563516
3,900.00	7.10	104.90	3,892.90	-33.22	124.83	483,565.98	779,135.83	32.327046	-103.563477
4,000.00	7.10	104.90	3,992.13	-36.39	136.77	483,562.81	779,147.77	32.327037	-103.563439
4,100.00	7.10	104.90	4,091.37	-39.57	148.71	483,559.63	779,159.71	32.327029	-103.563400
4,200.00	7.10	104.90	4,190.60	-42.75	160.65	483,556.45	779,171.64	32.327020	-103.563362
4,300.00	7.10	104.90	4,289.83	-45.92	172.58	483,553.28	779,183.58	32.327011	-103.563323
4,400.00	7.10	104.90	4,389.07	-49.10	184.52	483,550.10	779,195.52	32.327002	-103.563285
4,500.00	7.10	104.90	4,488.30	-52.28	196.46	483,546.92	779,207.46	32.326993	-103.563246
4,600.00	7.10	104.90	4,587.54	-55.45	208.40	483,543.75	779,219.40	32.326984	-103.563207
4,700.00	7.10	104.90	4,686.77	-58.63	220.34	483,540.57	779,231.34	32.326975	-103.563169
4,800.00	7.10	104.90	4,786.00	-61.81	232.28	483,537.39	779,243.27	32.326966	-103.563130
4,900.00	7.10	104.90	4,885.24	-64.98	244.21	483,534.22	779,255.21	32.326957	-103.563092
5,000.00	7.10	104.90	4,984.47	-68.16	256.15	483,531.04	779,267.15	32.326948	-103.563053
5,100.00	7.10	104.90	5,083.71	-71.34	268.09	483,527.86	779,279.09	32.326939	-103.563015
5,200.00	7.10	104.90	5,182.94	-74.51	280.03	483,524.69	779,291.03	32.326930	-103.562976
5,300.00	7.10	104.90	5,282.17	-77.69	291.97	483,521.51	779,302.96	32.326921	-103.562937

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5,400.00	7.10	104.90	5,381.41	-80.87	303.91	483,518.33	779,314.90	32.326912	-103.562899
5,500.00	7.10	104.90	5,480.64	-84.04	315.84	483,515.16	779,326.84	32.326903	-103.562860
5,600.00	7.10	104.90	5,579.88	-87.22	327.78	483,511.98	779,338.78	32.326894	-103.562822
5,700.00	7.10	104.90	5,679.11	-90.40	339.72	483,508.80	779,350.72	32.326885	-103.562783
5,800.00	7.10	104.90	5,778.34	-93.57	351.66	483,505.63	779,362.66	32.326876	-103.562745
5,900.00	7.10	104.90	5,877.58	-96.75	363.60	483,502.45	779,374.59	32.326867	-103.562706
6,000.00	7.10	104.90	5,976.81	-99.93	375.54	483,499.27	779,386.53	32.326858	-103.562667
6,100.00	7.10	104.90	6,076.05	-103.10	387.47	483,496.10	779,398.47	32.326849	-103.562629
6,200.00	7.10	104.90	6,175.28	-106.28	399.41	483,492.92	779,410.41	32.326840	-103.562590
6,300.00	7.10	104.90	6,274.51	-109.46	411.35	483,489.74	779,422.35	32.326831	-103.562552
6,400.00	7.10	104.90	6,373.75	-112.63	423.29	483,486.57	779,434.29	32.326822	-103.562513
6,500.00	7.10	104.90	6,472.98	-115.81	435.23	483,483.39	779,446.22	32.326813	-103.562475
6,600.00	7.10	104.90	6,572.22	-118.99	447.17	483,480.21	779,458.16	32.326804	-103.562436
6,700.00	7.10	104.90	6,671.45	-122.16	459.10	483,477.04	779,470.10	32.326795	-103.562397
6,800.00	7.10	104.90	6,770.68	-125.34	471.04	483,473.86	779,482.04	32.326786	-103.562359
6,900.00	7.10	104.90	6,869.92	-128.52	482.98	483,470.68	779,493.98	32.326777	-103.562320
7,000.00	7.10	104.90	6,969.15	-131.69	494.92	483,467.51	779,505.92	32.326768	-103.562282
7,100.00	7.10	104.90	7,068.39	-134.87	506.86	483,464.33	779,517.85	32.326760	-103.562243
7,200.00	7.10	104.90	7,167.62	-138.05	518.80	483,461.15	779,529.79	32.326751	-103.562205
7,300.00	7.10	104.90	7,266.85	-141.22	530.73	483,457.98	779,541.73	32.326742	-103.562167
7,400.00	7.10	104.90	7,366.09	-144.40	542.67	483,454.80	779,553.67	32.326733	-103.562127
7,500.00	7.10	104.90	7,465.32	-147.58	554.61	483,451.62	779,565.61	32.326724	-103.562089
7,600.00	7.10	104.90	7,564.56	-150.75	566.55	483,448.45	779,577.55	32.326715	-103.562050
7,700.00	7.10	104.90	7,663.79	-153.93	578.49	483,445.27	779,589.48	32.326706	-103.562012
7,800.00	7.10	104.90	7,763.02	-157.11	590.43	483,442.09	779,601.42	32.326697	-103.561973
7,900.00	7.10	104.90	7,862.26	-160.28	602.36	483,438.92	779,613.36	32.326688	-103.561935
8,000.00	7.10	104.90	7,961.49	-163.46	614.30	483,435.74	779,625.30	32.326679	-103.561896
8,100.00	7.10	104.90	8,060.73	-166.64	626.24	483,432.56	779,637.24	32.326670	-103.561857
8,200.00	7.10	104.90	8,159.96	-169.81	638.18	483,429.39	779,649.17	32.326661	-103.561819
8,221.32	7.10	104.90	8,181.12	-170.49	640.72	483,428.71	779,651.72	32.326659	-103.561811
8,300.00	5.92	104.90	8,259.29	-172.78	649.34	483,426.42	779,660.34	32.326652	-103.561783
8,400.00	4.42	104.90	8,358.88	-175.10	658.04	483,424.10	779,669.04	32.326646	-103.561755
8,500.00	2.92	104.90	8,458.67	-176.74	664.22	483,422.46	779,675.22	32.326641	-103.561735
8,600.00	1.42	104.90	8,558.00	-177.72	667.87	483,421.49	779,678.87	32.326639	-103.561723
8,694.41	0.00	0.00	8,653.00	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
8,700.00	0.00	0.00	8,658.59	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
8,800.00	0.00	0.00	8,758.59	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
8,900.00	0.00	0.00	8,858.59	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
9,000.00	0.00	0.00	8,958.59	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
9,000.45	0.00	0.00	8,959.04	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
KOP @ 9000' MD, 50' FSL, 2188' FWL									
9,100.00	9.95	359.56	9,058.09	-169.39	668.93	483,429.81	779,679.93	32.326661	-103.561719
9,200.00	19.95	359.56	9,154.58	-143.62	668.74	483,455.58	779,679.73	32.326732	-103.561719
9,234.18	23.37	359.56	9,186.34	-131.00	668.64	483,468.20	779,679.64	32.326767	-103.561719
First Take Point @ 9234' MD, 100' FSL, 2188' FWL									
9,300.00	29.95	359.56	9,245.13	-101.48	668.42	483,497.72	779,679.41	32.326848	-103.561719
9,400.00	39.95	359.56	9,326.98	-44.26	667.98	483,554.94	779,678.98	32.327005	-103.561719
9,500.00	49.95	359.56	9,397.66	26.30	667.44	483,625.50	779,678.44	32.327199	-103.561720
9,600.00	59.95	359.56	9,455.01	108.06	666.82	483,707.26	779,677.82	32.327424	-103.561720
9,700.00	69.95	359.56	9,497.29	198.54	666.13	483,797.74	779,677.13	32.327673	-103.561720
9,800.00	79.95	359.56	9,523.22	294.99	665.39	483,894.19	779,676.39	32.327938	-103.561720
9,900.00	89.95	359.56	9,532.00	394.47	664.64	483,993.67	779,675.63	32.328211	-103.561720
9,900.45	90.00	359.56	9,532.00	394.93	664.63	483,994.13	779,675.63	32.328213	-103.561720
10,000.00	90.00	359.56	9,532.00	494.47	663.87	484,093.67	779,674.87	32.328486	-103.561720

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 Company: WCDSC Permian NM
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10,100.00	90.00	359.56	9,532.00	594.47	663.11	484,193.67	779,674.11	32.328761	-103.561720
10,200.00	90.00	359.56	9,532.00	694.46	662.35	484,293.66	779,673.34	32.329036	-103.561720
10,300.00	90.00	359.56	9,532.00	794.46	661.59	484,393.66	779,672.58	32.329311	-103.561721
10,400.00	90.00	359.56	9,532.00	894.46	660.82	484,493.66	779,671.82	32.329586	-103.561721
10,500.00	90.00	359.56	9,532.00	994.46	660.06	484,593.65	779,671.06	32.329861	-103.561721
10,600.00	90.00	359.56	9,532.00	1,094.45	659.30	484,693.65	779,670.30	32.330135	-103.561721
10,700.00	90.00	359.56	9,532.00	1,194.45	658.54	484,793.65	779,669.53	32.330410	-103.561721
10,800.00	90.00	359.56	9,532.00	1,294.45	657.77	484,893.65	779,668.77	32.330685	-103.561721
10,900.00	90.00	359.56	9,532.00	1,394.44	657.01	484,993.64	779,668.01	32.330960	-103.561721
11,000.00	90.00	359.56	9,532.00	1,494.44	656.25	485,093.64	779,667.25	32.331235	-103.561722
11,100.00	90.00	359.56	9,532.00	1,594.44	655.49	485,193.64	779,666.48	32.331510	-103.561722
11,200.00	90.00	359.56	9,532.00	1,694.44	654.72	485,293.63	779,665.72	32.331785	-103.561722
11,300.00	90.00	359.56	9,532.00	1,794.43	653.96	485,393.63	779,664.96	32.332059	-103.561722
11,400.00	90.00	359.56	9,532.00	1,894.43	653.20	485,493.63	779,664.20	32.332334	-103.561722
11,500.00	90.00	359.56	9,532.00	1,994.43	652.44	485,593.62	779,663.43	32.332609	-103.561722
11,600.00	90.00	359.56	9,532.00	2,094.42	651.68	485,693.62	779,662.67	32.332884	-103.561722
11,700.00	90.00	359.56	9,532.00	2,194.42	650.91	485,793.62	779,661.91	32.333159	-103.561722
11,800.00	90.00	359.56	9,532.00	2,294.42	650.15	485,893.61	779,661.15	32.333434	-103.561723
11,900.00	90.00	359.56	9,532.00	2,394.42	649.39	485,993.61	779,660.38	32.333709	-103.561723
12,000.00	90.00	359.56	9,532.00	2,494.41	648.63	486,093.61	779,659.62	32.333984	-103.561723
12,100.00	90.00	359.56	9,532.00	2,594.41	647.86	486,193.61	779,658.86	32.334258	-103.561723
12,200.00	90.00	359.56	9,532.00	2,694.41	647.10	486,293.60	779,658.10	32.334533	-103.561723
12,300.00	90.00	359.56	9,532.00	2,794.40	646.34	486,393.60	779,657.34	32.334808	-103.561723
12,400.00	90.00	359.56	9,532.00	2,894.40	645.58	486,493.60	779,656.57	32.335083	-103.561723
12,500.00	90.00	359.56	9,532.00	2,994.40	644.81	486,593.59	779,655.81	32.335358	-103.561724
12,600.00	90.00	359.56	9,532.00	3,094.39	644.05	486,693.59	779,655.05	32.335633	-103.561724
12,700.00	90.00	359.56	9,532.00	3,194.39	643.29	486,793.59	779,654.29	32.335908	-103.561724
12,800.00	90.00	359.56	9,532.00	3,294.39	642.53	486,893.58	779,653.52	32.336182	-103.561724
12,900.00	90.00	359.56	9,532.00	3,394.39	641.76	486,993.58	779,652.76	32.336457	-103.561724
13,000.00	90.00	359.56	9,532.00	3,494.38	641.00	487,093.58	779,652.00	32.336732	-103.561724
13,100.00	90.00	359.56	9,532.00	3,594.38	640.24	487,193.57	779,651.24	32.337007	-103.561724
13,200.00	90.00	359.56	9,532.00	3,694.38	639.48	487,293.57	779,650.47	32.337282	-103.561725
13,300.00	90.00	359.56	9,532.00	3,794.37	638.72	487,393.57	779,649.71	32.337557	-103.561725
13,400.00	90.00	359.56	9,532.00	3,894.37	637.95	487,493.56	779,648.95	32.337832	-103.561725
13,500.00	90.00	359.56	9,532.00	3,994.37	637.19	487,593.56	779,648.19	32.338107	-103.561725
13,600.00	90.00	359.56	9,532.00	4,094.37	636.43	487,693.56	779,647.42	32.338381	-103.561725
13,700.00	90.00	359.56	9,532.00	4,194.36	635.67	487,793.56	779,646.66	32.338656	-103.561725
13,800.00	90.00	359.56	9,532.00	4,294.36	634.90	487,893.55	779,645.90	32.338931	-103.561725
13,900.00	90.00	359.56	9,532.00	4,394.36	634.14	487,993.55	779,645.14	32.339206	-103.561725
14,000.00	90.00	359.56	9,532.00	4,494.35	633.38	488,093.55	779,644.38	32.339481	-103.561726
14,100.00	90.00	359.56	9,532.00	4,594.35	632.62	488,193.54	779,643.61	32.339756	-103.561726
14,200.00	90.00	359.56	9,532.00	4,694.35	631.85	488,293.54	779,642.85	32.340031	-103.561726
14,300.00	90.00	359.56	9,532.00	4,794.35	631.09	488,393.54	779,642.09	32.340306	-103.561726
14,400.00	90.00	359.56	9,532.00	4,894.34	630.33	488,493.53	779,641.33	32.340580	-103.561726
14,500.00	90.00	359.56	9,532.00	4,994.34	629.57	488,593.53	779,640.56	32.340855	-103.561726
14,600.00	90.00	359.56	9,532.00	5,094.34	628.80	488,693.53	779,639.80	32.341130	-103.561726
14,700.00	90.00	359.56	9,532.00	5,194.33	628.04	488,793.52	779,639.04	32.341405	-103.561727
14,800.00	90.00	359.56	9,532.00	5,294.33	627.28	488,893.52	779,638.28	32.341680	-103.561727
14,900.00	90.00	359.56	9,532.00	5,394.33	626.52	488,993.52	779,637.51	32.341955	-103.561727
15,000.00	90.00	359.56	9,532.00	5,494.33	625.76	489,093.52	779,636.75	32.342230	-103.561727
15,100.00	90.00	359.56	9,532.00	5,594.32	624.99	489,193.51	779,635.99	32.342504	-103.561727
15,200.00	90.00	359.56	9,532.00	5,694.32	624.23	489,293.51	779,635.23	32.342779	-103.561727
15,300.00	90.00	359.56	9,532.00	5,794.32	623.47	489,393.51	779,634.46	32.343054	-103.561727
15,400.00	90.00	359.56	9,532.00	5,894.31	622.71	489,493.50	779,633.70	32.343329	-103.561728
15,500.00	90.00	359.56	9,532.00	5,994.31	621.94	489,593.50	779,632.94	32.343604	-103.561728

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 03-T23-R33E
 Well: North Thistle 3-34 State 3H
 Wellbore: Wellbore #1
 Design: Permit Plan 4

Local Co-ordinate Reference: Well North Thistle 3-34 State 3H
 TVD Reference: RKB @ 3620.20ft
 MD Reference: RKB @ 3620.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	90.00	359.56	9,532.00	6,094.31	621.18	489,693.50	779,632.18	32.343879	-103.561728
15,700.00	90.00	359.56	9,532.00	6,194.30	620.42	489,793.49	779,631.42	32.344154	-103.561728
15,800.00	90.00	359.56	9,532.00	6,294.30	619.66	489,893.49	779,630.65	32.344429	-103.561728
15,900.00	90.00	359.56	9,532.00	6,394.30	618.89	489,993.49	779,629.89	32.344703	-103.561728
16,000.00	90.00	359.56	9,532.00	6,494.30	618.13	490,093.48	779,629.13	32.344978	-103.561728
16,100.00	90.00	359.56	9,532.00	6,594.29	617.37	490,193.48	779,628.37	32.345253	-103.561728
16,200.00	90.00	359.56	9,532.00	6,694.29	616.61	490,293.48	779,627.60	32.345528	-103.561729
16,300.00	90.00	359.56	9,532.00	6,794.29	615.84	490,393.47	779,626.84	32.345803	-103.561729
16,400.00	90.00	359.56	9,532.00	6,894.28	615.08	490,493.47	779,626.08	32.346078	-103.561729
16,500.00	90.00	359.56	9,532.00	6,994.28	614.32	490,593.47	779,625.32	32.346353	-103.561729
16,600.00	90.00	359.56	9,532.00	7,094.28	613.56	490,693.47	779,624.55	32.346627	-103.561729
16,700.00	90.00	359.56	9,532.00	7,194.28	612.80	490,793.46	779,623.79	32.346902	-103.561729
16,800.00	90.00	359.56	9,532.00	7,294.27	612.03	490,893.46	779,623.03	32.347177	-103.561729
16,900.00	90.00	359.56	9,532.00	7,394.27	611.27	490,993.46	779,622.27	32.347452	-103.561730
17,000.00	90.00	359.56	9,532.00	7,494.27	610.51	491,093.45	779,621.50	32.347727	-103.561730
17,100.00	90.00	359.56	9,532.00	7,594.26	609.75	491,193.45	779,620.74	32.348002	-103.561730
17,200.00	90.00	359.56	9,532.00	7,694.26	608.98	491,293.45	779,619.98	32.348277	-103.561730
17,300.00	90.00	359.56	9,532.00	7,794.26	608.22	491,393.44	779,619.22	32.348552	-103.561730
17,400.00	90.00	359.56	9,532.00	7,894.26	607.46	491,493.44	779,618.46	32.348826	-103.561730
17,500.00	90.00	359.56	9,532.00	7,994.25	606.70	491,593.44	779,617.69	32.349101	-103.561730
17,600.00	90.00	359.56	9,532.00	8,094.25	605.93	491,693.43	779,616.93	32.349376	-103.561730
17,700.00	90.00	359.56	9,532.00	8,194.25	605.17	491,793.43	779,616.17	32.349651	-103.561731
17,800.00	90.00	359.56	9,532.00	8,294.24	604.41	491,893.43	779,615.41	32.349926	-103.561731
17,900.00	90.00	359.56	9,532.00	8,394.24	603.65	491,993.43	779,614.64	32.350201	-103.561731
18,000.00	90.00	359.56	9,532.00	8,494.24	602.88	492,093.42	779,613.88	32.350476	-103.561731
18,100.00	90.00	359.56	9,532.00	8,594.24	602.12	492,193.42	779,613.12	32.350750	-103.561731
18,200.00	90.00	359.56	9,532.00	8,694.23	601.36	492,293.42	779,612.36	32.351025	-103.561731
18,300.00	90.00	359.56	9,532.00	8,794.23	600.60	492,393.41	779,611.59	32.351300	-103.561731
18,400.00	90.00	359.56	9,532.00	8,894.23	599.84	492,493.41	779,610.83	32.351575	-103.561732
18,500.00	90.00	359.56	9,532.00	8,994.22	599.07	492,593.41	779,610.07	32.351850	-103.561732
18,600.00	90.00	359.56	9,532.00	9,094.22	598.31	492,693.40	779,609.31	32.352125	-103.561732
18,700.00	90.00	359.56	9,532.00	9,194.22	597.55	492,793.40	779,608.54	32.352400	-103.561732
18,800.00	90.00	359.56	9,532.00	9,294.21	596.79	492,893.40	779,607.78	32.352675	-103.561732
18,900.00	90.00	359.56	9,532.00	9,394.21	596.02	492,993.39	779,607.02	32.352949	-103.561732
19,000.00	90.00	359.56	9,532.00	9,494.21	595.26	493,093.39	779,606.26	32.353224	-103.561732
19,100.00	90.00	359.56	9,532.00	9,594.21	594.50	493,193.39	779,605.50	32.353499	-103.561733
19,200.00	90.00	359.56	9,532.00	9,694.20	593.74	493,293.38	779,604.73	32.353774	-103.561733
19,300.00	90.00	359.56	9,532.00	9,794.20	592.97	493,393.38	779,603.97	32.354049	-103.561733
19,400.00	90.00	359.56	9,532.00	9,894.20	592.21	493,493.38	779,603.21	32.354324	-103.561733
19,500.00	90.00	359.56	9,532.00	9,994.19	591.45	493,593.38	779,602.45	32.354599	-103.561733
19,600.00	90.00	359.56	9,532.00	10,094.19	590.69	493,693.37	779,601.68	32.354873	-103.561733
19,700.00	90.00	359.56	9,532.00	10,194.19	589.92	493,793.37	779,600.92	32.355148	-103.561733
19,728.04	90.00	359.56	9,532.00	10,222.23	589.71	493,821.41	779,600.71	32.355225	-103.561733
Last Take Point @ 19728' MD, 100' FNL, 2188' FWL									
19,800.00	90.00	359.56	9,532.00	10,294.19	589.16	493,893.37	779,600.16	32.355423	-103.561733
19,808.04	90.00	359.56	9,532.00	10,302.22	589.10	493,901.40	779,600.10	32.355445	-103.561733
PBHL; 20' FNL, 2188' FWL									

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well North Thistle 3-34 State 3H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3620.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3620.20ft
Site:	Sec 03-T23-R33E	North Reference:	Grid
Well:	North Thistle 3-34 State 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 4		

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL - Thistle 3-34 Stat	0.00	0.00	0.00	10,302.22	589.10	493,901.40	779,600.10	32.355445	-103.561733
- plan misses target center by 9532.00ft at 19808.04ft MD (9532.00 TVD, 10302.22 N, 589.10 E)									
- Point									
VP - Thistle 3-34 State 3	0.00	0.00	8,653.00	-178.02	669.00	483,421.19	779,680.00	32.326638	-103.561719
- plan hits target center									
- Point									

Plan Annotations

Measured	Vertical	Local Coordinates		Comment
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
9,000.45	8,959.04	-178.02	669.00	KOP @ 9000' MD, 50' FSL, 2188' FWL
9,234.18	9,186.34	-131.00	668.64	First Take Point @ 9234' MD, 100' FSL, 2188' FWL
19,728.04	9,532.00	10,222.23	589.71	Last Take Point @ 19728' MD, 100' FNL, 2188' FWL
19,808.04	9,532.00	10,302.22	589.10	PBHL; 20' FNL, 2188' FWL