

HOEES OCD
NOV 14 2018
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WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 28-T21S-R34E

Chiles 28-21 State Com 1H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

07 November, 2018

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Chiles 28-21 State Com 1H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3737.00ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3737.00ft
Site:	Sec 28-T21S-R34E	North Reference:	Grid
Well:	Chiles 28-21 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

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 28-T21S-R34E			
Site Position:		Northing:	530,722.90 usft	Latitude: 32.456145
From:	Map	Easting:	803,837.30 usft	Longitude: -103.482301
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.46 °

Well	Chiles 28-21 State Com 1H			
Well Position	+N/-S	0.00 ft	Northing:	526,108.45 usft
	+E/-W	0.00 ft	Easting:	806,497.84 usft
Position Uncertainty		0.50 ft	Wellhead Elevation:	Ground Level: 3,712.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/1/2018	6.77	60.26	47,934.57194499

Design	Permit Plan 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	10.16

Plan Survey Tool Program	Date 11/7/2018			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,208.69 Permit Plan 1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,229.98	12.30	100.35	3,220.55	-23.63	129.37	1.00	1.00	0.00	100.35	
11,250.81	12.30	100.35	11,057.28	-330.57	1,810.22	0.00	0.00	0.00	0.00	
12,173.79	90.00	359.50	11,640.00	243.00	1,930.00	10.00	8.42	-10.93	-100.61	
22,208.69	90.00	359.50	11,640.00	10,277.52	1,842.37	0.00	0.00	0.00	0.00	PBHL - Chiles 28-21

Planning Report - Geographic

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Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3737.00ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3737.00ft
Site:	Sec 28-T21S-R34E	North Reference:	Grid
Well:	Chiles 28-21 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

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	526,108.45	806,497.84	32.443404	-103.473796
100.00	0.00	0.00	100.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
200.00	0.00	0.00	200.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
300.00	0.00	0.00	300.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
400.00	0.00	0.00	400.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
500.00	0.00	0.00	500.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
600.00	0.00	0.00	600.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
700.00	0.00	0.00	700.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
800.00	0.00	0.00	800.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
900.00	0.00	0.00	900.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,000.00	0.00	0.00	1,000.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,100.00	0.00	0.00	1,100.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,200.00	0.00	0.00	1,200.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,300.00	0.00	0.00	1,300.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,400.00	0.00	0.00	1,400.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,500.00	0.00	0.00	1,500.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,600.00	0.00	0.00	1,600.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,700.00	0.00	0.00	1,700.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,800.00	0.00	0.00	1,800.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
1,900.00	0.00	0.00	1,900.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
2,000.00	0.00	0.00	2,000.00	0.00	0.00	526,108.45	806,497.84	32.443404	-103.473796
2,100.00	1.00	100.35	2,099.99	-0.16	0.86	526,108.30	806,498.69	32.443404	-103.473793
2,200.00	2.00	100.35	2,199.96	-0.63	3.43	526,107.83	806,501.27	32.443402	-103.473785
2,300.00	3.00	100.35	2,299.86	-1.41	7.72	526,107.04	806,505.56	32.443400	-103.473771
2,400.00	4.00	100.35	2,399.68	-2.51	13.73	526,105.95	806,511.57	32.443397	-103.473752
2,500.00	5.00	100.35	2,499.37	-3.92	21.45	526,104.54	806,519.28	32.443393	-103.473727
2,600.00	6.00	100.35	2,598.90	-5.64	30.88	526,102.81	806,528.71	32.443388	-103.473696
2,700.00	7.00	100.35	2,698.26	-7.67	42.01	526,100.78	806,539.85	32.443382	-103.473660
2,800.00	8.00	100.35	2,797.40	-10.02	54.85	526,098.44	806,552.69	32.443375	-103.473619
2,900.00	9.00	100.35	2,896.30	-12.67	69.39	526,095.78	806,567.23	32.443368	-103.473572
3,000.00	10.00	100.35	2,994.93	-15.64	85.63	526,092.82	806,583.47	32.443359	-103.473519
3,100.00	11.00	100.35	3,093.26	-18.91	103.56	526,089.54	806,601.39	32.443350	-103.473461
3,200.00	12.00	100.35	3,191.25	-22.49	123.17	526,085.96	806,621.00	32.443340	-103.473398
3,229.98	12.30	100.35	3,220.55	-23.63	129.37	526,084.83	806,627.21	32.443336	-103.473378
3,300.00	12.30	100.35	3,288.97	-26.30	144.05	526,082.15	806,641.88	32.443329	-103.473330
3,400.00	12.30	100.35	3,386.67	-30.13	165.00	526,078.32	806,662.84	32.443318	-103.473262
3,500.00	12.30	100.35	3,484.38	-33.96	185.96	526,074.49	806,683.80	32.443307	-103.473194
3,600.00	12.30	100.35	3,582.08	-37.79	206.92	526,070.67	806,704.75	32.443296	-103.473127
3,700.00	12.30	100.35	3,679.79	-41.61	227.87	526,066.84	806,725.71	32.443285	-103.473059
3,800.00	12.30	100.35	3,777.49	-45.44	248.83	526,063.01	806,746.66	32.443274	-103.472991
3,900.00	12.30	100.35	3,875.20	-49.27	269.78	526,059.19	806,767.62	32.443263	-103.472923
4,000.00	12.30	100.35	3,972.90	-53.09	290.74	526,055.36	806,788.58	32.443252	-103.472855
4,100.00	12.30	100.35	4,070.60	-56.92	311.70	526,051.53	806,809.53	32.443241	-103.472787
4,200.00	12.30	100.35	4,168.31	-60.75	332.65	526,047.71	806,830.49	32.443230	-103.472720
4,300.00	12.30	100.35	4,266.01	-64.57	353.61	526,043.88	806,851.44	32.443219	-103.472652
4,400.00	12.30	100.35	4,363.72	-68.40	374.57	526,040.05	806,872.40	32.443208	-103.472584
4,500.00	12.30	100.35	4,461.42	-72.23	395.52	526,036.23	806,893.36	32.443197	-103.472516
4,600.00	12.30	100.35	4,559.13	-76.05	416.48	526,032.40	806,914.31	32.443186	-103.472448
4,700.00	12.30	100.35	4,656.83	-79.88	437.43	526,028.57	806,935.27	32.443175	-103.472381
4,800.00	12.30	100.35	4,754.54	-83.71	458.39	526,024.75	806,956.22	32.443164	-103.472313
4,900.00	12.30	100.35	4,852.24	-87.53	479.35	526,020.92	806,977.18	32.443153	-103.472245
5,000.00	12.30	100.35	4,949.95	-91.36	500.30	526,017.09	806,998.14	32.443142	-103.472177
5,100.00	12.30	100.35	5,047.65	-95.19	521.26	526,013.27	807,019.09	32.443131	-103.472109
5,200.00	12.30	100.35	5,145.36	-99.01	542.21	526,009.44	807,040.05	32.443120	-103.472041
5,300.00	12.30	100.35	5,243.06	-102.84	563.17	526,005.61	807,061.00	32.443109	-103.471974

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5,400.00	12.30	100.35	5,340.77	-106.67	584.13	526,001.79	807,081.96	32.443098	-103.471906
5,500.00	12.30	100.35	5,438.47	-110.49	605.08	525,997.96	807,102.92	32.443087	-103.471838
5,600.00	12.30	100.35	5,536.17	-114.32	626.04	525,994.13	807,123.87	32.443076	-103.471770
5,700.00	12.30	100.35	5,633.88	-118.15	646.99	525,990.31	807,144.83	32.443065	-103.471702
5,800.00	12.30	100.35	5,731.58	-121.97	667.95	525,986.48	807,165.78	32.443054	-103.471634
5,900.00	12.30	100.35	5,829.29	-125.80	688.91	525,982.65	807,186.74	32.443043	-103.471567
6,000.00	12.30	100.35	5,926.99	-129.63	709.86	525,978.83	807,207.70	32.443032	-103.471499
6,100.00	12.30	100.35	6,024.70	-133.46	730.82	525,975.00	807,228.65	32.443021	-103.471431
6,200.00	12.30	100.35	6,122.40	-137.28	751.77	525,971.17	807,249.61	32.443010	-103.471363
6,300.00	12.30	100.35	6,220.11	-141.11	772.73	525,967.34	807,270.56	32.442999	-103.471295
6,400.00	12.30	100.35	6,317.81	-144.94	793.69	525,963.52	807,291.52	32.442988	-103.471228
6,500.00	12.30	100.35	6,415.52	-148.76	814.64	525,959.69	807,312.48	32.442977	-103.471160
6,600.00	12.30	100.35	6,513.22	-152.59	835.60	525,955.86	807,333.43	32.442966	-103.471092
6,700.00	12.30	100.35	6,610.93	-156.42	856.55	525,952.04	807,354.39	32.442955	-103.471024
6,800.00	12.30	100.35	6,708.63	-160.24	877.51	525,948.21	807,375.34	32.442944	-103.470956
6,900.00	12.30	100.35	6,806.34	-164.07	898.47	525,944.38	807,396.30	32.442933	-103.470888
7,000.00	12.30	100.35	6,904.04	-167.90	919.42	525,940.56	807,417.26	32.442922	-103.470821
7,100.00	12.30	100.35	7,001.74	-171.72	940.38	525,936.73	807,438.21	32.442911	-103.470753
7,200.00	12.30	100.35	7,099.45	-175.55	961.33	525,932.90	807,459.17	32.442900	-103.470685
7,300.00	12.30	100.35	7,197.15	-179.38	982.29	525,929.08	807,480.12	32.442889	-103.470617
7,400.00	12.30	100.35	7,294.86	-183.20	1,003.25	525,925.25	807,501.08	32.442878	-103.470549
7,500.00	12.30	100.35	7,392.56	-187.03	1,024.20	525,921.42	807,522.04	32.442867	-103.470481
7,600.00	12.30	100.35	7,490.27	-190.86	1,045.16	525,917.60	807,542.99	32.442856	-103.470414
7,700.00	12.30	100.35	7,587.97	-194.68	1,066.11	525,913.77	807,563.95	32.442845	-103.470346
7,800.00	12.30	100.35	7,685.68	-198.51	1,087.07	525,909.94	807,584.90	32.442834	-103.470278
7,900.00	12.30	100.35	7,783.38	-202.34	1,108.03	525,906.12	807,605.86	32.442823	-103.470210
8,000.00	12.30	100.35	7,881.09	-206.16	1,128.98	525,902.29	807,626.82	32.442812	-103.470142
8,100.00	12.30	100.35	7,978.79	-209.99	1,149.94	525,898.46	807,647.77	32.442801	-103.470075
8,200.00	12.30	100.35	8,076.50	-213.82	1,170.90	525,894.64	807,668.73	32.442790	-103.470007
8,300.00	12.30	100.35	8,174.20	-217.64	1,191.85	525,890.81	807,689.68	32.442779	-103.469939
8,400.00	12.30	100.35	8,271.91	-221.47	1,212.81	525,886.98	807,710.64	32.442768	-103.469871
8,500.00	12.30	100.35	8,369.61	-225.30	1,233.76	525,883.16	807,731.60	32.442757	-103.469803
8,600.00	12.30	100.35	8,467.31	-229.12	1,254.72	525,879.33	807,752.55	32.442747	-103.469735
8,700.00	12.30	100.35	8,565.02	-232.95	1,275.68	525,875.50	807,773.51	32.442736	-103.469668
8,800.00	12.30	100.35	8,662.72	-236.78	1,296.63	525,871.67	807,794.46	32.442725	-103.469600
8,900.00	12.30	100.35	8,760.43	-240.61	1,317.59	525,867.85	807,815.42	32.442714	-103.469532
9,000.00	12.30	100.35	8,858.13	-244.43	1,338.54	525,864.02	807,836.38	32.442703	-103.469464
9,100.00	12.30	100.35	8,955.84	-248.26	1,359.50	525,860.19	807,857.33	32.442692	-103.469396
9,200.00	12.30	100.35	9,053.54	-252.09	1,380.46	525,856.37	807,878.29	32.442681	-103.469328
9,300.00	12.30	100.35	9,151.25	-255.91	1,401.41	525,852.54	807,899.24	32.442670	-103.469261
9,400.00	12.30	100.35	9,248.95	-259.74	1,422.37	525,848.71	807,920.20	32.442659	-103.469193
9,500.00	12.30	100.35	9,346.66	-263.57	1,443.32	525,844.89	807,941.16	32.442648	-103.469125
9,600.00	12.30	100.35	9,444.36	-267.39	1,464.28	525,841.06	807,962.11	32.442637	-103.469057
9,700.00	12.30	100.35	9,542.07	-271.22	1,485.24	525,837.23	807,983.07	32.442626	-103.468989
9,800.00	12.30	100.35	9,639.77	-275.05	1,506.19	525,833.41	808,004.02	32.442615	-103.468922
9,900.00	12.30	100.35	9,737.47	-278.87	1,527.15	525,829.58	808,024.98	32.442604	-103.468854
10,000.00	12.30	100.35	9,835.18	-282.70	1,548.10	525,825.75	808,045.94	32.442593	-103.468786
10,100.00	12.30	100.35	9,932.88	-286.53	1,569.06	525,821.93	808,066.89	32.442582	-103.468718
10,200.00	12.30	100.35	10,030.59	-290.35	1,590.02	525,818.10	808,087.85	32.442571	-103.468650
10,300.00	12.30	100.35	10,128.29	-294.18	1,610.97	525,814.27	808,108.81	32.442560	-103.468582
10,400.00	12.30	100.35	10,226.00	-298.01	1,631.93	525,810.45	808,129.76	32.442549	-103.468515
10,500.00	12.30	100.35	10,323.70	-301.83	1,652.88	525,806.62	808,150.72	32.442538	-103.468447
10,600.00	12.30	100.35	10,421.41	-305.66	1,673.84	525,802.79	808,171.67	32.442527	-103.468379
10,700.00	12.30	100.35	10,519.11	-309.49	1,694.80	525,798.97	808,192.63	32.442516	-103.468311
10,800.00	12.30	100.35	10,616.82	-313.31	1,715.75	525,795.14	808,213.59	32.442505	-103.468243

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Chiles 28-21 State Com 1H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3737.00ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3737.00ft
Site:	Sec 28-T21S-R34E	North Reference:	Grid
Well:	Chiles 28-21 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,900.00	12.30	100.35	10,714.52	-317.14	1,736.71	525,791.31	808,234.54	32.442494	-103.468175
11,000.00	12.30	100.35	10,812.23	-320.97	1,757.66	525,787.49	808,255.50	32.442483	-103.468108
11,100.00	12.30	100.35	10,909.93	-324.79	1,778.62	525,783.66	808,276.45	32.442472	-103.468040
11,200.00	12.30	100.35	11,007.64	-328.62	1,799.58	525,779.83	808,297.41	32.442461	-103.467972
11,236.02	12.30	100.35	11,042.83	-330.00	1,807.12	525,778.45	808,304.96	32.442457	-103.467948
KOP @ 11236' MD, 50' FSL, 503' FEL									
11,250.81	12.30	100.35	11,057.28	-330.57	1,810.22	525,777.89	808,308.06	32.442455	-103.467938
11,300.00	12.36	77.17	11,105.36	-330.34	1,820.52	525,778.12	808,318.35	32.442456	-103.467904
11,400.00	17.41	42.58	11,202.16	-316.91	1,841.13	525,791.54	808,338.96	32.442492	-103.467837
11,500.00	25.50	26.18	11,295.24	-286.50	1,860.80	525,821.95	808,358.63	32.442575	-103.467772
11,516.29	26.93	24.43	11,309.85	-280.00	1,863.87	525,828.45	808,361.70	32.442593	-103.467762
FTP @ 11516' MD, 100' FSL, 446' FEL									
11,600.00	34.55	17.61	11,381.77	-240.04	1,878.92	525,868.41	808,376.75	32.442703	-103.467713
11,700.00	43.98	12.32	11,459.12	-178.93	1,894.95	525,929.52	808,392.78	32.442870	-103.467659
11,800.00	53.59	8.59	11,524.94	-105.04	1,908.40	526,003.42	808,406.23	32.443073	-103.467613
11,900.00	63.28	5.69	11,577.24	-20.60	1,918.86	526,087.86	808,416.70	32.443305	-103.467577
12,000.00	73.02	3.25	11,614.42	71.82	1,926.02	526,180.27	808,423.85	32.443559	-103.467552
12,100.00	82.79	1.05	11,635.36	169.41	1,929.65	526,277.86	808,427.48	32.443827	-103.467537
12,173.79	90.00	359.50	11,640.00	243.00	1,930.00	526,351.45	808,427.83	32.444029	-103.467534
12,200.00	90.00	359.50	11,640.00	269.21	1,929.77	526,377.66	808,427.60	32.444101	-103.467534
12,300.00	90.00	359.50	11,640.00	369.21	1,928.90	526,477.66	808,426.73	32.444376	-103.467535
12,400.00	90.00	359.50	11,640.00	469.20	1,928.02	526,577.65	808,425.86	32.444651	-103.467535
12,500.00	90.00	359.50	11,640.00	569.20	1,927.15	526,677.65	808,424.98	32.444926	-103.467535
12,600.00	90.00	359.50	11,640.00	669.19	1,926.28	526,777.65	808,424.11	32.445201	-103.467535
12,700.00	90.00	359.50	11,640.00	769.19	1,925.40	526,877.64	808,423.24	32.445475	-103.467535
12,800.00	90.00	359.50	11,640.00	869.19	1,924.53	526,977.64	808,422.36	32.445750	-103.467536
12,900.00	90.00	359.50	11,640.00	969.18	1,923.66	527,077.63	808,421.49	32.446025	-103.467536
13,000.00	90.00	359.50	11,640.00	1,069.18	1,922.79	527,177.63	808,420.62	32.446300	-103.467536
13,100.00	90.00	359.50	11,640.00	1,169.17	1,921.91	527,277.63	808,419.74	32.446575	-103.467536
13,200.00	90.00	359.50	11,640.00	1,269.17	1,921.04	527,377.62	808,418.87	32.446850	-103.467536
13,300.00	90.00	359.50	11,640.00	1,369.17	1,920.17	527,477.62	808,418.00	32.447125	-103.467537
13,400.00	90.00	359.50	11,640.00	1,469.16	1,919.29	527,577.61	808,417.12	32.447399	-103.467537
13,500.00	90.00	359.50	11,640.00	1,569.16	1,918.42	527,677.61	808,416.25	32.447674	-103.467537
13,600.00	90.00	359.50	11,640.00	1,669.16	1,917.55	527,777.61	808,415.38	32.447949	-103.467537
13,700.00	90.00	359.50	11,640.00	1,769.15	1,916.67	527,877.60	808,414.50	32.448224	-103.467537
13,800.00	90.00	359.50	11,640.00	1,869.15	1,915.80	527,977.60	808,413.63	32.448499	-103.467538
13,900.00	90.00	359.50	11,640.00	1,969.14	1,914.93	528,077.59	808,412.76	32.448774	-103.467538
14,000.00	90.00	359.50	11,640.00	2,069.14	1,914.05	528,177.59	808,411.88	32.449049	-103.467538
14,100.00	90.00	359.50	11,640.00	2,169.14	1,913.18	528,277.59	808,411.01	32.449323	-103.467538
14,200.00	90.00	359.50	11,640.00	2,269.13	1,912.31	528,377.58	808,410.14	32.449598	-103.467538
14,300.00	90.00	359.50	11,640.00	2,369.13	1,911.43	528,477.58	808,409.26	32.449873	-103.467539
14,400.00	90.00	359.50	11,640.00	2,469.13	1,910.56	528,577.57	808,408.39	32.450148	-103.467539
14,500.00	90.00	359.50	11,640.00	2,569.12	1,909.69	528,677.57	808,407.52	32.450423	-103.467539
14,600.00	90.00	359.50	11,640.00	2,669.12	1,908.81	528,777.57	808,406.65	32.450698	-103.467539
14,700.00	90.00	359.50	11,640.00	2,769.11	1,907.94	528,877.56	808,405.77	32.450973	-103.467539
14,800.00	90.00	359.50	11,640.00	2,869.11	1,907.07	528,977.56	808,404.90	32.451247	-103.467540
14,900.00	90.00	359.50	11,640.00	2,969.11	1,906.19	529,077.55	808,404.03	32.451522	-103.467540
15,000.00	90.00	359.50	11,640.00	3,069.10	1,905.32	529,177.55	808,403.15	32.451797	-103.467540
15,100.00	90.00	359.50	11,640.00	3,169.10	1,904.45	529,277.55	808,402.28	32.452072	-103.467540
15,200.00	90.00	359.50	11,640.00	3,269.09	1,903.57	529,377.54	808,401.41	32.452347	-103.467540
15,300.00	90.00	359.50	11,640.00	3,369.09	1,902.70	529,477.54	808,400.53	32.452622	-103.467541
15,400.00	90.00	359.50	11,640.00	3,469.09	1,901.83	529,577.53	808,399.66	32.452897	-103.467541
15,500.00	90.00	359.50	11,640.00	3,569.08	1,900.95	529,677.53	808,398.79	32.453171	-103.467541
15,600.00	90.00	359.50	11,640.00	3,669.08	1,900.08	529,777.53	808,397.91	32.453446	-103.467541

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Chiles 28-21 State Com 1H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3737.00ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3737.00ft
Site:	Sec 28-T21S-R34E	North Reference:	Grid
Well:	Chiles 28-21 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,700.00	90.00	359.50	11,640.00	3,769.08	1,899.21	529,877.52	808,397.04	32.453721	-103.467541
15,800.00	90.00	359.50	11,640.00	3,869.07	1,898.33	529,977.52	808,396.17	32.453996	-103.467542
15,900.00	90.00	359.50	11,640.00	3,969.07	1,897.46	530,077.51	808,395.29	32.454271	-103.467542
16,000.00	90.00	359.50	11,640.00	4,069.06	1,896.59	530,177.51	808,394.42	32.454546	-103.467542
16,100.00	90.00	359.50	11,640.00	4,169.06	1,895.71	530,277.51	808,393.55	32.454821	-103.467542
16,200.00	90.00	359.50	11,640.00	4,269.06	1,894.84	530,377.50	808,392.67	32.455095	-103.467542
16,300.00	90.00	359.50	11,640.00	4,369.05	1,893.97	530,477.50	808,391.80	32.455370	-103.467543
16,400.00	90.00	359.50	11,640.00	4,469.05	1,893.09	530,577.49	808,390.93	32.455645	-103.467543
16,500.00	90.00	359.50	11,640.00	4,569.05	1,892.22	530,677.49	808,390.05	32.455920	-103.467543
16,600.00	90.00	359.50	11,640.00	4,669.04	1,891.35	530,777.48	808,389.18	32.456195	-103.467543
16,700.00	90.00	359.50	11,640.00	4,769.04	1,890.47	530,877.48	808,388.31	32.456470	-103.467543
16,800.00	90.00	359.50	11,640.00	4,869.03	1,889.60	530,977.48	808,387.43	32.456745	-103.467544
16,830.97	90.00	359.50	11,640.00	4,900.00	1,889.33	531,008.45	808,387.16	32.456830	-103.467544
Cross Section @ 16831' MD, 0' FSL, 380' FEL									
16,900.00	90.00	359.50	11,640.00	4,969.03	1,888.73	531,077.47	808,386.56	32.457019	-103.467544
17,000.00	90.00	359.50	11,640.00	5,069.03	1,887.85	531,177.47	808,385.69	32.457294	-103.467544
17,100.00	90.00	359.50	11,640.00	5,169.02	1,886.98	531,277.46	808,384.81	32.457569	-103.467544
17,200.00	90.00	359.50	11,640.00	5,269.02	1,886.11	531,377.46	808,383.94	32.457844	-103.467544
17,300.00	90.00	359.50	11,640.00	5,369.01	1,885.23	531,477.46	808,383.07	32.458119	-103.467545
17,400.00	90.00	359.50	11,640.00	5,469.01	1,884.36	531,577.45	808,382.19	32.458394	-103.467545
17,500.00	90.00	359.50	11,640.00	5,569.01	1,883.49	531,677.45	808,381.32	32.458669	-103.467545
17,600.00	90.00	359.50	11,640.00	5,669.00	1,882.61	531,777.44	808,380.45	32.458943	-103.467545
17,700.00	90.00	359.50	11,640.00	5,769.00	1,881.74	531,877.44	808,379.57	32.459218	-103.467545
17,800.00	90.00	359.50	11,640.00	5,869.00	1,880.87	531,977.44	808,378.70	32.459493	-103.467546
17,900.00	90.00	359.50	11,640.00	5,968.99	1,879.99	532,077.43	808,377.83	32.459768	-103.467546
18,000.00	90.00	359.50	11,640.00	6,068.99	1,879.12	532,177.43	808,376.95	32.460043	-103.467546
18,100.00	90.00	359.50	11,640.00	6,168.98	1,878.25	532,277.42	808,376.08	32.460318	-103.467546
18,200.00	90.00	359.50	11,640.00	6,268.98	1,877.38	532,377.42	808,375.21	32.460593	-103.467546
18,300.00	90.00	359.50	11,640.00	6,368.98	1,876.50	532,477.42	808,374.33	32.460867	-103.467547
18,400.00	90.00	359.50	11,640.00	6,468.97	1,875.63	532,577.41	808,373.46	32.461142	-103.467547
18,500.00	90.00	359.50	11,640.00	6,568.97	1,874.76	532,677.41	808,372.59	32.461417	-103.467547
18,600.00	90.00	359.50	11,640.00	6,668.97	1,873.88	532,777.40	808,371.71	32.461692	-103.467547
18,700.00	90.00	359.50	11,640.00	6,768.96	1,873.01	532,877.40	808,370.84	32.461967	-103.467547
18,800.00	90.00	359.50	11,640.00	6,868.96	1,872.14	532,977.40	808,369.97	32.462242	-103.467548
18,900.00	90.00	359.50	11,640.00	6,968.95	1,871.26	533,077.39	808,369.09	32.462517	-103.467548
19,000.00	90.00	359.50	11,640.00	7,068.95	1,870.39	533,177.39	808,368.22	32.462791	-103.467548
19,100.00	90.00	359.50	11,640.00	7,168.95	1,869.52	533,277.38	808,367.35	32.463066	-103.467548
19,200.00	90.00	359.50	11,640.00	7,268.94	1,868.64	533,377.38	808,366.47	32.463341	-103.467548
19,300.00	90.00	359.50	11,640.00	7,368.94	1,867.77	533,477.38	808,365.60	32.463616	-103.467549
19,400.00	90.00	359.50	11,640.00	7,468.93	1,866.90	533,577.37	808,364.73	32.463891	-103.467549
19,500.00	90.00	359.50	11,640.00	7,568.93	1,866.02	533,677.37	808,363.86	32.464166	-103.467549
19,600.00	90.00	359.50	11,640.00	7,668.93	1,865.15	533,777.36	808,362.98	32.464441	-103.467549
19,700.00	90.00	359.50	11,640.00	7,768.92	1,864.28	533,877.36	808,362.11	32.464715	-103.467549
19,800.00	90.00	359.50	11,640.00	7,868.92	1,863.40	533,977.36	808,361.24	32.464990	-103.467550
19,900.00	90.00	359.50	11,640.00	7,968.92	1,862.53	534,077.35	808,360.36	32.465265	-103.467550
20,000.00	90.00	359.50	11,640.00	8,068.91	1,861.66	534,177.35	808,359.49	32.465540	-103.467550
20,100.00	90.00	359.50	11,640.00	8,168.91	1,860.78	534,277.34	808,358.62	32.465815	-103.467550
20,200.00	90.00	359.50	11,640.00	8,268.90	1,859.91	534,377.34	808,357.74	32.466090	-103.467550
20,300.00	90.00	359.50	11,640.00	8,368.90	1,859.04	534,477.34	808,356.87	32.466365	-103.467551
20,400.00	90.00	359.50	11,640.00	8,468.90	1,858.16	534,577.33	808,356.00	32.466639	-103.467551
20,500.00	90.00	359.50	11,640.00	8,568.89	1,857.29	534,677.33	808,355.12	32.466914	-103.467551
20,600.00	90.00	359.50	11,640.00	8,668.89	1,856.42	534,777.32	808,354.25	32.467189	-103.467551
20,700.00	90.00	359.50	11,640.00	8,768.89	1,855.54	534,877.32	808,353.38	32.467464	-103.467551
20,800.00	90.00	359.50	11,640.00	8,868.88	1,854.67	534,977.32	808,352.50	32.467739	-103.467552

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Chiles 28-21 State Com 1H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3737.00ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3737.00ft
Site:	Sec 28-T21S-R34E	North Reference:	Grid
Well:	Chiles 28-21 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,900.00	90.00	359.50	11,640.00	8,968.88	1,853.80	535,077.31	808,351.63	32.468014	-103.467552
21,000.00	90.00	359.50	11,640.00	9,068.87	1,852.92	535,177.31	808,350.76	32.468289	-103.467552
21,100.00	90.00	359.50	11,640.00	9,168.87	1,852.05	535,277.30	808,349.88	32.468563	-103.467552
21,200.00	90.00	359.50	11,640.00	9,268.87	1,851.18	535,377.30	808,349.01	32.468838	-103.467552
21,300.00	90.00	359.50	11,640.00	9,368.86	1,850.30	535,477.30	808,348.14	32.469113	-103.467553
21,400.00	90.00	359.50	11,640.00	9,468.86	1,849.43	535,577.29	808,347.26	32.469388	-103.467553
21,500.00	90.00	359.50	11,640.00	9,568.85	1,848.56	535,677.29	808,346.39	32.469663	-103.467553
21,600.00	90.00	359.50	11,640.00	9,668.85	1,847.68	535,777.28	808,345.52	32.469938	-103.467553
21,700.00	90.00	359.50	11,640.00	9,768.85	1,846.81	535,877.28	808,344.64	32.470213	-103.467553
21,800.00	90.00	359.50	11,640.00	9,868.84	1,845.94	535,977.28	808,343.77	32.470487	-103.467554
21,900.00	90.00	359.50	11,640.00	9,968.84	1,845.06	536,077.27	808,342.90	32.470762	-103.467554
22,000.00	90.00	359.50	11,640.00	10,068.84	1,844.19	536,177.27	808,342.02	32.471037	-103.467554
22,100.00	90.00	359.50	11,640.00	10,168.83	1,843.32	536,277.26	808,341.15	32.471312	-103.467554
22,128.68	90.00	359.50	11,640.00	10,197.51	1,843.07	536,305.94	808,340.90	32.471391	-103.467554
LTP @ 22129' MD, 100' FNL, 380' FEL									
22,200.00	90.00	359.50	11,640.00	10,268.83	1,842.44	536,377.26	808,340.28	32.471587	-103.467554
22,208.68	90.00	359.50	11,640.00	10,277.51	1,842.37	536,385.94	808,340.20	32.471611	-103.467555
PBHL; 20' FNL, 380' FEL									
22,208.69	90.00	359.50	11,640.00	10,277.52	1,842.37	536,385.95	808,340.20	32.471611	-103.467555

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
PBHL - Chiles 28-21 Sta	0.00	0.00	0.00	10,277.55	1,842.19	536,385.98	808,340.03	32.471611	-103.467555
- plan misses target center by 10441.35ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,236.02	11,042.83	-330.00	1,807.12	KOP @ 11236' MD, 50' FSL, 503' FEL
11,516.29	11,309.85	-280.00	1,863.87	FTP @ 11516' MD, 100' FSL, 446' FEL
16,830.97	11,640.00	4,900.00	1,889.33	Cross Section @ 16831' MD, 0' FSL, 380' FEL
22,128.68	11,640.00	10,197.51	1,843.07	LTP @ 22129' MD, 100' FNL, 380' FEL
22,208.68	11,640.00	10,277.51	1,842.37	PBHL; 20' FNL, 380' FEL

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WCDSC Permian NM

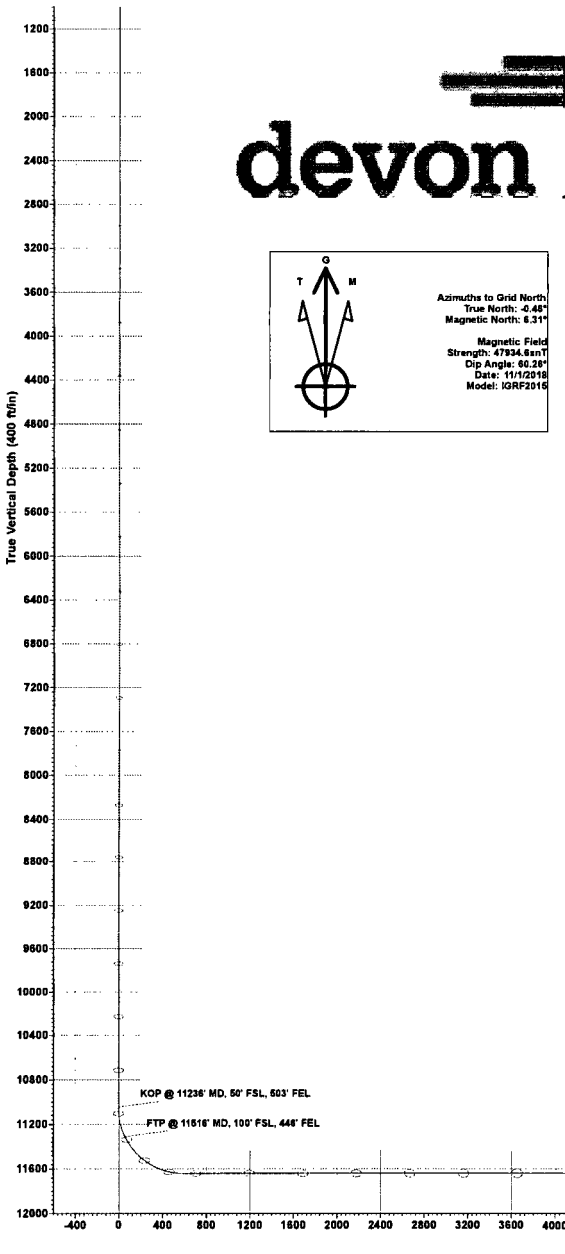
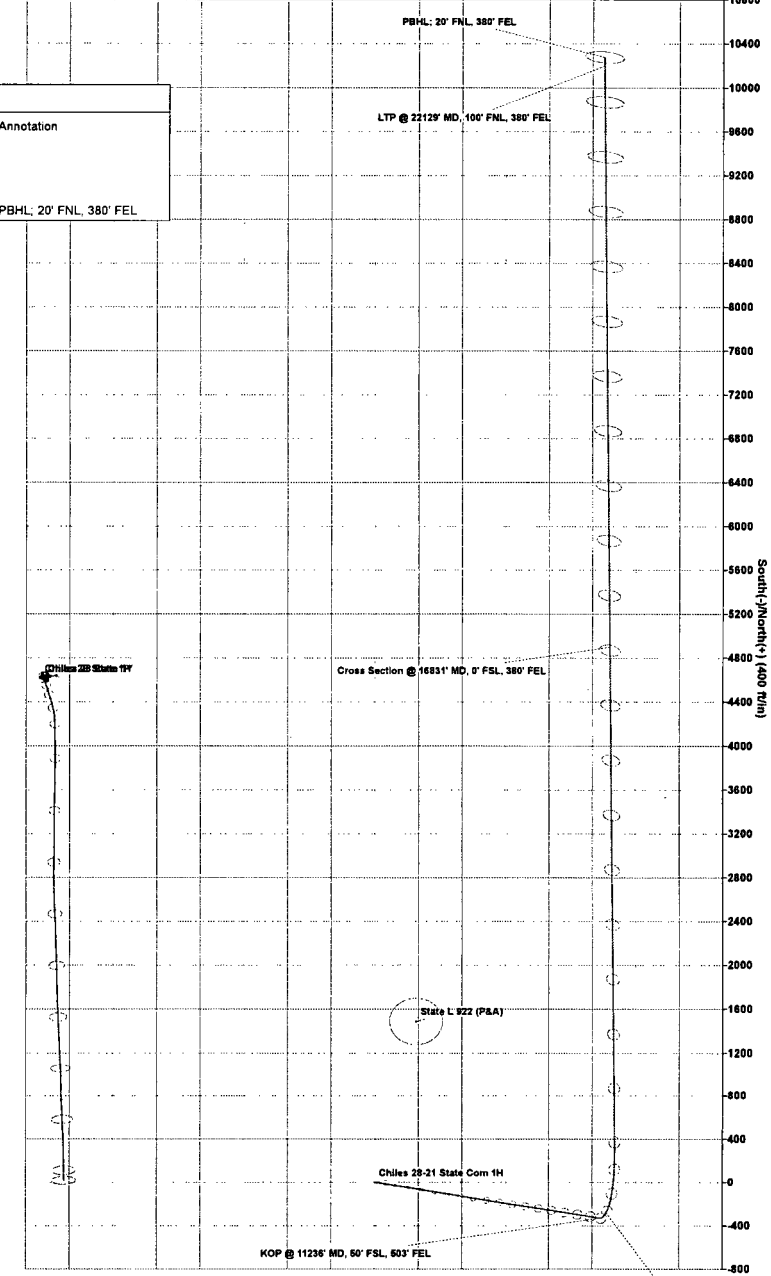
WELL DETAILS: Chiles 28-21 State Com 1H

RKB @ 3737.00ft
3712.00
Northing 526108.45 Easting 806497.84 Latitude 32.443404 Longitude -103.473796

SECTION DETAILS Permit Plan 1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	
3229.98	12.30	100.35	3220.55	-23.63	129.37	1.00	-0.43	
11250.81	12.30	100.35	11057.28	-330.57	1810.22	0.00	-5.97	
5 12173.79	90.00	359.50	11640.00	243.00	1930.00	10.00	579.73	
6 22208.69	90.00	359.50	11640.00	10277.52	1842.37	0.00	10441.35	PBHL: 20' FNL, 380' FEL

West(-)/East(+) (350 ft/in)



Vertical Section at 10.16° (400 ft/in)

KOP @ 11236' MD, 50' FSL, 503' FEL
FTP @ 11516' MD, 100' FSL, 448' FEL
Cross Section @ 16931' MD, 0' FSL, 380' FEL
LTP @ 22128' MD, 100' FNL, 380' FEL
PBHL: 20' FNL, 380' FEL