

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 04 2019

RECEIVED

WPX Energy

Eddy County, New Mexico (NAD 83)

Collie 35-34-22-27 Fee Pad

Collie 35-34-22-27 Fee 401H

API: ???

Wellbore #1

30-015-45643

Plan: Plan #1 PH

Standard Planning Report

28 January, 2019



www.scientificdrilling.com

Scientific Drilling, Intl

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Collie 35-34-22-27 Fee 401H
Company:	WPX Energy	TVD Reference:	GL 3079 + KB 26 = @ 3105.00usft (HP 265)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	GL 3079 + KB 26 = @ 3105.00usft (HP 265)
Site:	Collie 35-34-22-27 Fee Pad	North Reference:	Grid
Well:	Collie 35-34-22-27 Fee 401H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 PH		

Project	Eddy County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Collie 35-34-22-27 Fee Pad			
Site Position:		Northing:	490,402.10 usft	Latitude: 32.348054
From:	Map	Easting:	597,781.90 usft	Longitude: -104.150554
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.10 °

Well	Collie 35-34-22-27 Fee 401H			
Well Position	+N/-S	0.00 usft	Northing:	490,402.10 usft
	+E/-W	0.00 usft	Easting:	597,781.90 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 3,079.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/11/2019	7.23	60.08	47,942

Design	Plan #1 PH			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	269.78

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,692.53	19.85	340.18	3,672.79	160.14	-57.72	2.00	2.00	0.00	340.18	
6,620.95	19.85	340.18	6,427.21	1,095.61	-394.93	0.00	0.00	0.00	0.00	
7,613.48	0.00	0.00	7,400.00	1,255.75	-452.65	2.00	-2.00	0.00	180.00	
10,313.48	0.00	0.00	10,100.00	1,255.75	-452.65	0.00	0.00	0.00	0.00	

Scientific Drilling, Intl

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Site:	Collie 35-34-22-27 Fee Pad	North Reference:	Grid
Well:	Collie 35-34-22-27 Fee 401H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 PH		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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
383.00	0.00	0.00	383.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
835.00	0.00	0.00	835.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,340.00	0.00	0.00	2,340.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon (Base of Salt)									
2,400.00	0.00	0.00	2,400.00	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
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	2.00	340.18	2,799.98	1.64	-0.59	0.59	2.00	2.00	0.00
2,900.00	4.00	340.18	2,899.84	6.56	-2.37	2.34	2.00	2.00	0.00
3,000.00	6.00	340.18	2,999.45	14.76	-5.32	5.27	2.00	2.00	0.00
3,100.00	8.00	340.18	3,098.70	26.23	-9.45	9.35	2.00	2.00	0.00
3,200.00	10.00	340.18	3,197.47	40.94	-14.76	14.60	2.00	2.00	0.00
3,249.36	10.99	340.18	3,246.00	49.40	-17.81	17.62	2.00	2.00	0.00
Cherry Canyon									
3,300.00	12.00	340.18	3,295.62	58.89	-21.23	21.00	2.00	2.00	0.00
3,400.00	14.00	340.18	3,393.06	80.05	-28.86	28.55	2.00	2.00	0.00
3,500.00	16.00	340.18	3,489.64	104.40	-37.63	37.23	2.00	2.00	0.00
3,600.00	18.00	340.18	3,585.27	131.90	-47.55	47.04	2.00	2.00	0.00
3,692.53	19.85	340.18	3,672.79	160.14	-57.72	57.11	2.00	2.00	0.00
3,700.00	19.85	340.18	3,679.82	162.52	-58.58	57.96	0.00	0.00	0.00
3,800.00	19.85	340.18	3,773.88	194.47	-70.10	69.35	0.00	0.00	0.00
3,900.00	19.85	340.18	3,867.94	226.41	-81.61	80.74	0.00	0.00	0.00
4,000.00	19.85	340.18	3,961.99	258.36	-93.13	92.14	0.00	0.00	0.00
4,100.00	19.85	340.18	4,056.05	290.30	-104.64	103.53	0.00	0.00	0.00
4,200.00	19.85	340.18	4,150.11	322.25	-116.16	114.92	0.00	0.00	0.00
4,283.87	19.85	340.18	4,229.00	349.04	-125.82	124.47	0.00	0.00	0.00
Brushy Canyon									

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Wellbore:	Wellbore #1		
Design:	Plan #1 PH		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.00	19.85	340.18	4,244.17	354.19	-127.67	126.31	0.00	0.00	0.00
4,400.00	19.85	340.18	4,338.23	386.14	-139.19	137.70	0.00	0.00	0.00
4,500.00	19.85	340.18	4,432.28	418.08	-150.70	149.10	0.00	0.00	0.00
4,600.00	19.85	340.18	4,526.34	450.03	-162.22	160.49	0.00	0.00	0.00
4,700.00	19.85	340.18	4,620.40	481.97	-173.73	171.88	0.00	0.00	0.00
4,800.00	19.85	340.18	4,714.46	513.92	-185.25	183.27	0.00	0.00	0.00
4,900.00	19.85	340.18	4,808.52	545.86	-196.76	194.66	0.00	0.00	0.00
5,000.00	19.85	340.18	4,902.57	577.81	-208.28	206.06	0.00	0.00	0.00
5,100.00	19.85	340.18	4,996.63	609.75	-219.79	217.45	0.00	0.00	0.00
5,200.00	19.85	340.18	5,090.69	641.69	-231.31	228.84	0.00	0.00	0.00
5,300.00	19.85	340.18	5,184.75	673.64	-242.82	240.23	0.00	0.00	0.00
5,400.00	19.85	340.18	5,278.81	705.58	-254.34	251.63	0.00	0.00	0.00
5,500.00	19.85	340.18	5,372.87	737.53	-265.85	263.02	0.00	0.00	0.00
5,600.00	19.85	340.18	5,466.92	769.47	-277.37	274.41	0.00	0.00	0.00
5,700.00	19.85	340.18	5,560.98	801.42	-288.88	285.80	0.00	0.00	0.00
5,800.00	19.85	340.18	5,655.04	833.36	-300.40	297.19	0.00	0.00	0.00
5,891.39	19.85	340.18	5,741.00	862.56	-310.92	307.61	0.00	0.00	0.00
Bone Spring									
5,900.00	19.85	340.18	5,749.10	865.31	-311.91	308.59	0.00	0.00	0.00
6,000.00	19.85	340.18	5,843.16	897.25	-323.43	319.98	0.00	0.00	0.00
6,100.00	19.85	340.18	5,937.21	929.20	-334.94	331.37	0.00	0.00	0.00
6,200.00	19.85	340.18	6,031.27	961.14	-346.46	342.76	0.00	0.00	0.00
6,300.00	19.85	340.18	6,125.33	993.09	-357.97	354.15	0.00	0.00	0.00
6,306.03	19.85	340.18	6,131.00	995.01	-358.66	354.84	0.00	0.00	0.00
Avalon									
6,400.00	19.85	340.18	6,219.39	1,025.03	-369.49	365.55	0.00	0.00	0.00
6,500.00	19.85	340.18	6,313.45	1,056.98	-381.00	376.94	0.00	0.00	0.00
6,600.00	19.85	340.18	6,407.51	1,088.92	-392.51	388.33	0.00	0.00	0.00
6,620.95	19.85	340.18	6,427.21	1,095.61	-394.93	390.72	0.00	0.00	0.00
6,700.00	18.27	340.18	6,501.92	1,119.90	-403.68	399.38	2.00	-2.00	0.00
6,800.00	16.27	340.18	6,597.41	1,147.83	-413.75	409.34	2.00	-2.00	0.00
6,900.00	14.27	340.18	6,693.88	1,172.60	-422.68	418.17	2.00	-2.00	0.00
6,974.18	12.79	340.18	6,766.00	1,188.92	-428.56	423.99	2.00	-2.00	0.00
1st Bone Spring Sand									
7,000.00	12.27	340.18	6,791.20	1,194.19	-430.46	425.87	2.00	-2.00	0.00
7,100.00	10.27	340.18	6,889.27	1,212.58	-437.09	432.43	2.00	-2.00	0.00
7,200.00	8.27	340.18	6,987.96	1,227.73	-442.55	437.83	2.00	-2.00	0.00
7,218.22	7.91	340.18	7,006.00	1,230.14	-443.42	438.69	2.00	-2.00	0.00
2nd Bone Spring Lime									
7,300.00	6.27	340.18	7,087.15	1,239.63	-446.84	442.08	2.00	-2.00	0.00
7,400.00	4.27	340.18	7,186.72	1,248.27	-449.95	445.16	2.00	-2.00	0.00
7,500.00	2.27	340.18	7,286.55	1,253.64	-451.89	447.07	2.00	-2.00	0.00
7,600.00	0.27	340.18	7,386.52	1,255.72	-452.64	447.81	2.00	-2.00	0.00
7,613.48	0.00	0.00	7,400.00	1,255.75	-452.65	447.82	2.00	-2.00	0.00
7,686.48	0.00	0.00	7,473.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
2nd Bone Spring Sand									
7,700.00	0.00	0.00	7,486.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
7,800.00	0.00	0.00	7,586.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
7,848.48	0.00	0.00	7,635.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
3rd Bone Spring Lime									
7,900.00	0.00	0.00	7,686.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,000.00	0.00	0.00	7,786.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,100.00	0.00	0.00	7,886.52	1,255.75	-452.65	447.82	0.00	0.00	0.00

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8,200.00	0.00	0.00	7,986.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,300.00	0.00	0.00	8,086.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,400.00	0.00	0.00	8,186.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,500.00	0.00	0.00	8,286.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,600.00	0.00	0.00	8,386.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,700.00	0.00	0.00	8,486.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,800.00	0.00	0.00	8,586.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
8,877.52	0.00	0.00	8,664.04	1,255.75	-452.65	447.82	0.00	0.00	0.00
Collie 32-401H FTP									
8,900.00	0.00	0.00	8,686.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,000.00	0.00	0.00	8,786.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,029.48	0.00	0.00	8,816.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
3rd Bone Spring Sand									
9,100.00	0.00	0.00	8,886.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,200.00	0.00	0.00	8,986.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,300.00	0.00	0.00	9,086.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,328.48	0.00	0.00	9,115.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
Wolfcamp Top									
9,355.48	0.00	0.00	9,142.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
WC_X									
9,400.00	0.00	0.00	9,186.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,431.48	0.00	0.00	9,218.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
WC_Y									
9,441.48	0.00	0.00	9,228.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
Top Target									
9,450.48	0.00	0.00	9,237.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
Landing Point - Collie 32-401H BHL - Collie 32-401H LTP									
9,456.48	0.00	0.00	9,243.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
Base Target									
9,467.48	0.00	0.00	9,254.00	1,255.75	-452.65	447.82	0.00	0.00	0.00
Wolfcamp A									
9,500.00	0.00	0.00	9,286.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,600.00	0.00	0.00	9,386.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,700.00	0.00	0.00	9,486.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,800.00	0.00	0.00	9,586.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
9,900.00	0.00	0.00	9,686.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
10,000.00	0.00	0.00	9,786.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
10,100.00	0.00	0.00	9,886.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
10,200.00	0.00	0.00	9,986.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
10,300.00	0.00	0.00	10,086.52	1,255.75	-452.65	447.82	0.00	0.00	0.00
10,313.48	0.00	0.00	10,100.00	1,255.75	-452.65	447.82	0.00	0.00	0.00

Scientific Drilling, Intl

Planning Report

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Company: WPX Energy
Project: Eddy County, New Mexico (NAD 83)
Site: Collie 35-34-22-27 Fee Pad
Well: Collie 35-34-22-27 Fee 401H
Wellbore: Wellbore #1
Design: Plan #1 PH

Local Co-ordinate Reference: Well Collie 35-34-22-27 Fee 401H
TVD Reference: GL 3079 + KB 26 = @ 3105.00usft (HP 265)
MD Reference: GL 3079 + KB 26 = @ 3105.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

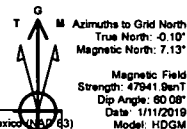
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Collie 32-401H FTP - plan misses target center by 279.86usft at 8877.52usft MD (8664.04 TVD, 1255.75 N, -452.65 E) - Point	0.00	0.00	8,664.04	1,258.60	-732.50	491,660.70	597,049.40	32.351517	-104.152919
Collie 32-401H BHL - plan misses target center by 10267.61usft at 9450.48usft MD (9237.00 TVD, 1255.75 N, -452.65 E) - Point	0.00	0.00	9,237.00	1,220.80	-10,720.20	491,622.90	587,061.70	32.351455	-104.185263
Collie 32-401H LTP - plan misses target center by 10167.51usft at 9450.48usft MD (9237.00 TVD, 1255.75 N, -452.65 E) - Point	0.00	0.00	9,237.00	1,221.20	-10,620.10	491,623.30	587,161.80	32.351456	-104.184939

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)
383.00	383.00	Salado			
835.00	835.00	Castile			
2,340.00	2,340.00	Bell Canyon (Base of Salt)			
3,249.36	3,246.00	Cherry Canyon			
4,283.87	4,229.00	Brushy Canyon			
5,891.39	5,741.00	Bone Spring			
6,306.03	6,131.00	Avalon			
6,974.18	6,766.00	1st Bone Spring Sand			
7,218.22	7,006.00	2nd Bone Spring Lime			
7,686.48	7,473.00	2nd Bone Spring Sand			
7,848.48	7,635.00	3rd Bone Spring Lime			
9,029.48	8,816.00	3rd Bone Spring Sand			
9,328.48	9,115.00	Wolfcamp Top			
9,355.48	9,142.00	WC_X			
9,431.48	9,218.00	WC_Y			
9,441.48	9,228.00	Top Target			
9,450.48	9,237.00	Landing Point			
9,456.48	9,243.00	Base Target			
9,467.48	9,254.00	Wolfcamp A			

Collie 35-34-22-27 Fee 401H
Eddy County, New Mexico (NAD 83)
Northing: 490402.10
Easting: 597781.90
Plan #1 PH

GL 3079 + KB 26 = @ 3105.00usft (HP 265)



WELL DETAILS					
Collie 35-34-22-27 Fee 401H					
Ground Level: 3079.00					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	490402.10	597781.90	32.348054	-104.150554

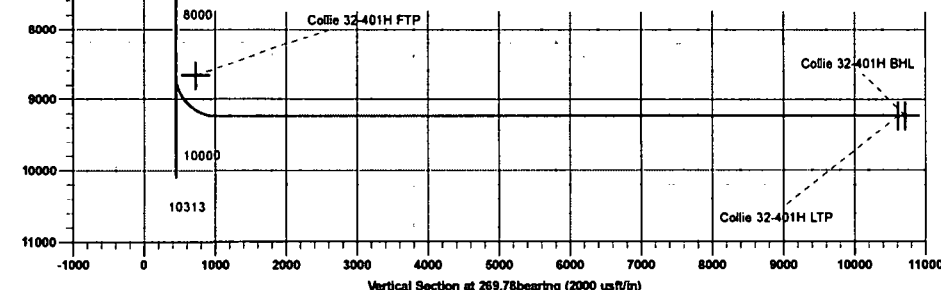
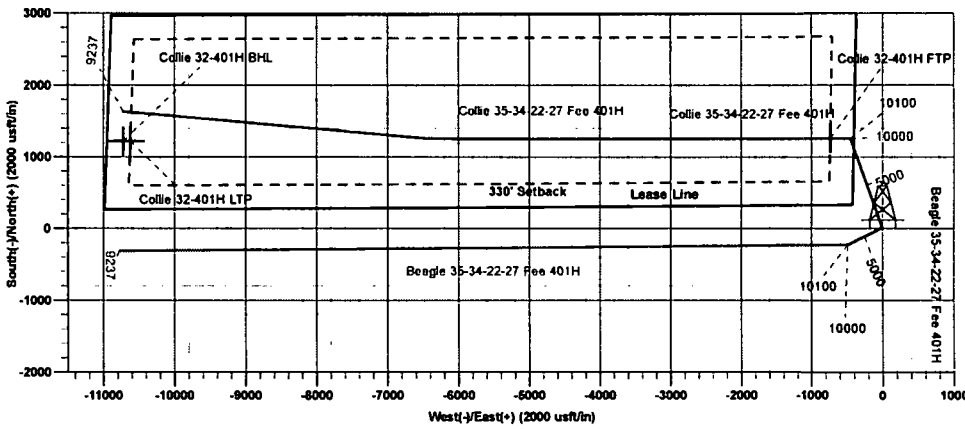
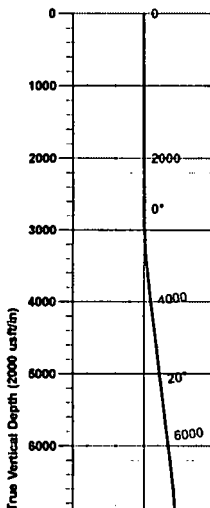
SITE DETAILS:	
Site Centre Northing:	490402.10
Site Centre Easting:	597781.90
Positional Uncertainty:	0.00
Convergence:	0.10
Local North:	Grid

PROJECT DETAILS:	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

SECTION DETAILS								
MD	Inc	API	TVD	+N-S	+E-W	Diag	TFace	VFace
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00
3692.53	19.85	340.18	3672.79	180.14	-57.72	2.00	340.18	57.11
6620.95	19.85	340.18	6427.21	1095.81	-394.93	0.00	0.00	390.72
7613.48	0.00	0.00	7400.00	1255.75	-452.85	2.00	180.00	447.82
10313.48	0.00	0.00	10100.00	1255.75	-452.85	0.00	0.00	447.82

DESIGN TARGET DETAILS			
Name	TVD	+N-S	+E-W
Collie 32-401H FTP	8664.04	1258.60	-732.50
Collie 32-401H BHL	9237.00	1220.80	-10720.20
Collie 32-401H LTP	9237.00	1221.20	-10620.10

CASING DETAILS		
TVD	MD	Size



FORMATION TOP DETAILS	
TVDPath	Formation
383.00	Salado
635.00	Castile
2340.00	Osage Canyon (Base of Salt)
3249.00	Cherry Canyon
4229.00	Brushy Canyon
5741.00	Bone Spring
6131.00	Avellan
6766.00	1st Bone Spring Sand
7008.00	2nd Bone Spring Lime
7473.00	2nd Bone Spring Sand
7635.00	3rd Bone Spring Lime
8818.00	3rd Bone Spring Sand
9115.00	Wolfcamp Top
9142.00	WC_X
9218.00	WC_Y
9228.00	Top Target
9237.00	Landing Point
9243.00	Base Target
9254.00	Wolfcamp A

13:35 PM 1/28/2019
 Scientific Drilling
 325 S. Pecos Rd.
 Odessa, TX 79765