



PHOENIX
TECHNOLOGY SERVICES

Legend Natural Gas iV, LP

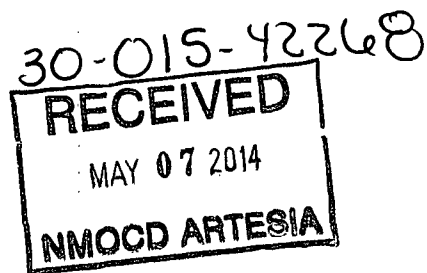
Eddy County, NM (Nad27)

Sec 31 T24S R 28E

Buckshot State Com 5H

Wellbore #1

Plan: Plan#1 041614

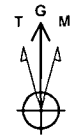


Standard Planning Report

16 April, 2014



PHOENIX
TECHNOLOGY SERVICES



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	-N-S	+E-W	Dleg	IFace	VSec	Target	Annotation
1	0.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.00		Begin 1°/100' Build
2	4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.00		Hold 6.48° Inc
3	4648.05	6.48	249.81	4648.67	-12.63	-34.36	1.00	249.81	-10.67		Begin 1°/100' Drop
4	6566.97	6.48	249.81	6563.33	-87.37	-237.64	0.00	0.00	73.79		Begin Vertical Hold
5	7215.02	0.00	0.00	7200.00	-100.00	-272.00	1.00	180.00	-84.46		KOP, 12°/100' Build
6	7412.56	0.00	0.00	7397.54	-100.00	-272.00	0.00	0.00	-84.46		BHL Buckshot State Com 5H Hold 89.73° Inc
7	8160.31	89.73	360.00	7875.00	375.21	-272.04	12.00	360.00	390.00		Begin 2°/100' Build
8	9973.23	89.73	360.00	7883.54	2188.11	-272.19	0.00	0.00	2200.00		Hold 90.14° Inc
9	9993.95	90.14	360.00	7883.56	2208.84	-272.19	2.00	0.00	2220.69		BHL Buckshot State Com 5H TD at 12595.12
10	12395.12	90.14	360.00	7877.00	2210.00	-272.40	0.00	0.00	4817.71		

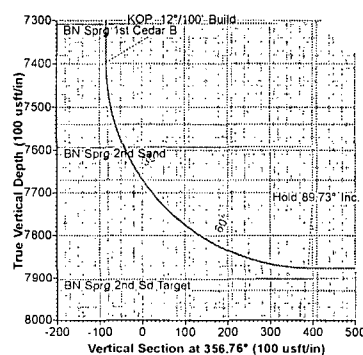
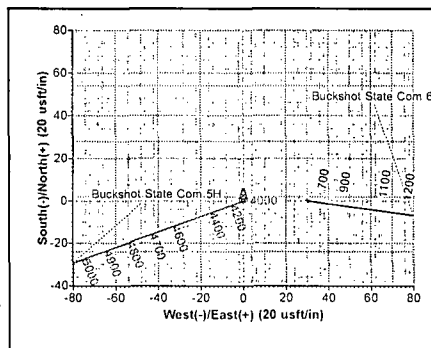
DESIGN TARGET DETAILS

Name	TVD	-N-S	+E-W	North	East	Latitude	Longitude	Shape
BHL Buckshot State Com 5H	7877.00	4810.00	-272.40	429318.20	562796.60	32° 10' 48.53961 N	104° 7' 49.30509 W	Point
T1 Buckshot State Com 5H	7883.54	2188.11	-272.19	426894.31	562796.81	32° 10' 22.57255 N	104° 7' 49.36023 W	Point

- plan hits target center
- plan misses target center by 0.01 ft at 9971.23 usft MD (7883.53 TVD, 2188.11 N, -272.19 E)

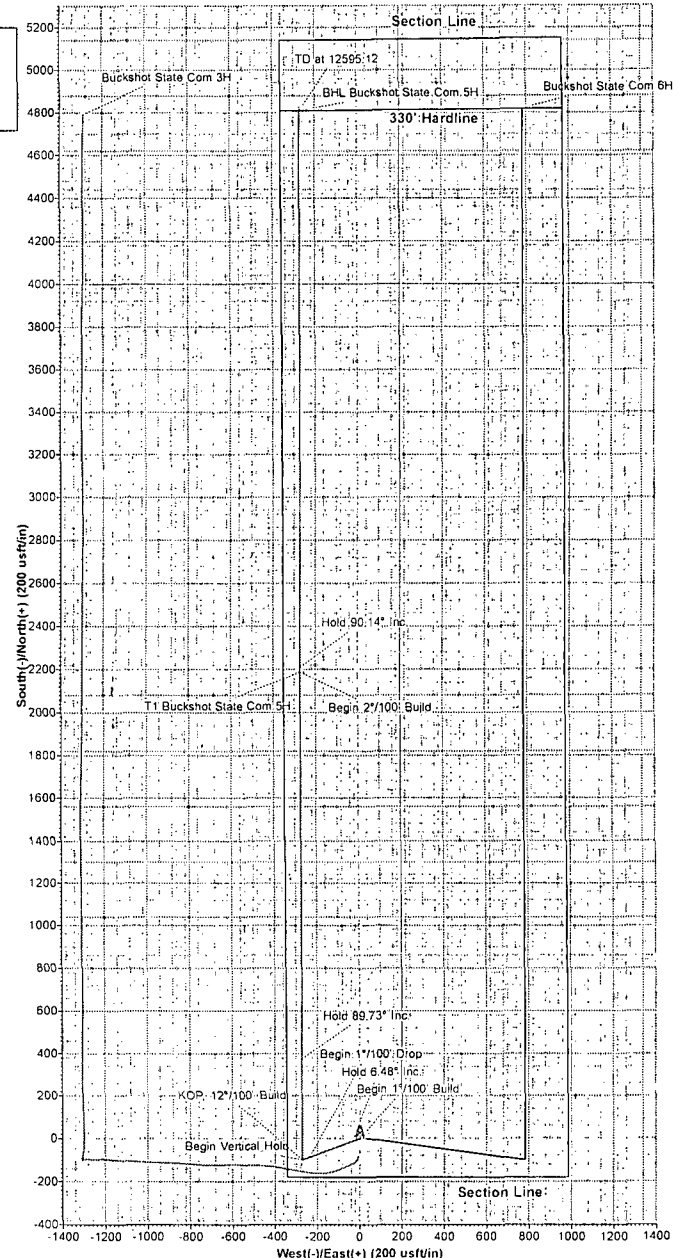
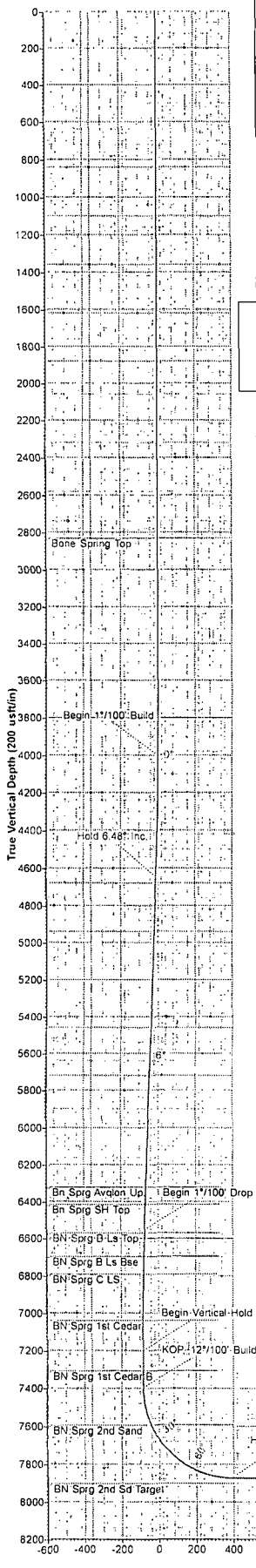
WELL DETAILS

-N-S	+E-W	North	Ground Level	3053.00	Latitude	Longitude
-0.00	0.00	424508.20	563069.00	32° 10' 0.93283 N	104° 7' 46.24150 W	



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DpAngle	DpDw
2832.00	2832.00	Bone Spring Top	-0.20	356.76
6321.23	6333.38	BN Sprg Avignon Up.	-0.20	356.76
6415.24	6428.00	BN Sprg SH Top	-0.20	356.76
6571.26	6585.01	BN Sprg B Ls Top	-0.20	356.76
6697.27	6711.65	BN Sprg B Ls Base	-0.20	356.76
6751.28	6805.98	BN Sprg C Ls	-0.20	356.76
7039.29	7054.29	BN Sprg 1st Cedar	-0.20	356.76
7308.29	7323.32	BN Sprg 1st Cedar B	-0.20	356.76
7593.15	7614.10	BN Sprg 2nd Sand	-0.20	356.76





Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Buckshot State Com 5H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL @ 3078.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3078.00usft (TBD)
Site:	Sec 31 T24S R 28E	North Reference:	Grid
Well:	Buckshot State Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 041614		

Project:	Eddy County, NM (Nad27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Sec 31 T24S R 28E		
Site Position:		Northing:	424,518.20 usft
From:	Map	Easting:	565,572.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 0.98395 N
		Longitude:	104° 7' 17.11867 W
		Grid Convergence:	0.11 °

Well:	Buckshot State Com 5H		
Well Position	+N/-S: -10.00 usft	Northing:	424,508.20 usft
	+E/-W: -2,503.20 usft	Easting:	563,069.00 usft
Position Uncertainty	0.00 usft	Latitude:	32° 10' 0.93283 N
		Longitude:	104° 7' 46.24150 W
		Wellhead Elevation:	Ground Level: 3,053.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	4/16/2014	7.49	59.97	48,240

Design:	Plan#1 041614				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/ S	+E/ W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	356.76	

Plan Sections										
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	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,648.05	6.48	249.81	4,646.67	-12.63	-34.36	1.00	1.00	0.00	249.81	
6,566.97	6.48	249.81	6,553.33	-87.37	-237.64	0.00	0.00	0.00	0.00	
7,215.02	0.00	0.00	7,200.00	-100.00	-272.00	1.00	-1.00	0.00	180.00	
7,412.56	0.00	0.00	7,397.54	-100.00	-272.00	0.00	0.00	0.00	0.00	
8,160.31	89.73	360.00	7,875.00	375.21	-272.04	12.00	12.00	0.00	360.00	BHL Buckshot State C
9,973.23	89.73	360.00	7,883.54	2,188.11	-272.19	0.00	0.00	0.00	0.00	
9,993.95	90.14	360.00	7,883.56	2,208.84	-272.19	2.00	2.00	0.00	0.00	
12,595.12	90.14	360.00	7,877.00	4,810.00	-272.40	0.00	0.00	0.00	0.00	BHL Buckshot State C



Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Buckshot State Com 5H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL @ 3078.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3078.00usft (TBD)
Site:	Sec 31 T24S R 28E	North Reference:	Grid
Well:	Buckshot State Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 041614		

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	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	
2,400.00	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	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,832.00	0.00	0.00	2,832.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bone Spring Top										
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
Begin 1°/100' Build										
4,100.00	1.00	249.81	4,100.00	-0.30	-0.82	-0.25	1.00	1.00	0.00	
4,200.00	2.00	249.81	4,199.96	-1.20	-3.28	-1.02	1.00	1.00	0.00	
4,300.00	3.00	249.81	4,299.86	-2.71	-7.37	-2.29	1.00	1.00	0.00	
4,400.00	4.00	249.81	4,399.68	-4.82	-13.10	-4.07	1.00	1.00	0.00	
4,500.00	5.00	249.81	4,499.37	-7.52	-20.46	-6.35	1.00	1.00	0.00	
4,600.00	6.00	249.81	4,598.90	-10.83	-29.46	-9.15	1.00	1.00	0.00	
4,648.05	6.48	249.81	4,646.67	-12.63	-34.36	-10.67	1.00	1.00	0.00	
Hold 6.48° Inc..										
4,700.00	6.48	249.81	4,698.29	-14.66	-39.86	-12.38	0.00	0.00	0.00	



Database: Compass 5000 GCR DB
Company: Legend Natural Gas iv, LP
Project: Eddy County, NM (Nad27)
Site: Sec 31 T24S R 28E
Well: Buckshot State Com 5H
Wellbore: Wellbore #1
Design: Plan#1 041614

Local Co-ordinate Reference:
TVD Reference: Well Buckshot State Com 5H
MD Reference: WELL @ 3078.00usft (TBD)
North Reference: WELL @ 3078.00usft (TBD)
Survey Calculation Method: Grid
Minimum Curvature

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)
4,800.00	6.48	249.81	4,797.65	-18.55	-50.46	-15.67	0.00	0.00	0.00
4,900.00	6.48	249.81	4,897.01	-22.45	-61.05	-18.96	0.00	0.00	0.00
5,000.00	6.48	249.81	4,996.37	-26.34	-71.64	-22.25	0.00	0.00	0.00
5,100.00	6.48	249.81	5,095.73	-30.23	-82.24	-25.54	0.00	0.00	0.00
5,200.00	6.48	249.81	5,195.09	-34.13	-92.83	-28.83	0.00	0.00	0.00
5,300.00	6.48	249.81	5,294.45	-38.02	-103.42	-32.12	0.00	0.00	0.00
5,400.00	6.48	249.81	5,393.81	-41.92	-114.02	-35.40	0.00	0.00	0.00
5,500.00	6.48	249.81	5,493.18	-45.81	-124.61	-38.69	0.00	0.00	0.00
5,600.00	6.48	249.81	5,592.54	-49.71	-135.20	-41.98	0.00	0.00	0.00
5,700.00	6.48	249.81	5,691.90	-53.60	-145.80	-45.27	0.00	0.00	0.00
5,800.00	6.48	249.81	5,791.26	-57.50	-156.39	-48.56	0.00	0.00	0.00
5,900.00	6.48	249.81	5,890.62	-61.39	-166.98	-51.85	0.00	0.00	0.00
6,000.00	6.48	249.81	5,989.98	-65.29	-177.58	-55.14	0.00	0.00	0.00
6,100.00	6.48	249.81	6,089.34	-69.18	-188.17	-58.43	0.00	0.00	0.00
6,200.00	6.48	249.81	6,188.70	-73.08	-198.76	-61.72	0.00	0.00	0.00
6,300.00	6.48	249.81	6,288.06	-76.97	-209.36	-65.01	0.00	0.00	0.00
6,333.38	6.48	249.81	6,321.23	-78.27	-212.89	-66.11	0.00	0.00	0.00
Bn Sprg Avqilon Up									
6,400.00	6.48	249.81	6,387.42	-80.86	-219.95	-68.30	0.00	0.00	0.00
6,428.00	6.48	249.81	6,415.24	-81.95	-222.92	-69.22	0.00	0.00	0.00
Bn Sprg SH Top									
6,500.00	6.48	249.81	6,486.79	-84.76	-230.54	-71.59	0.00	0.00	0.00
6,566.97	6.48	249.81	6,553.33	-87.37	-237.64	-73.79	0.00	0.00	0.00
Begin 1°/100' Drop									
6,585.01	6.30	249.81	6,571.26	-88.06	-239.52	-74.38	1.00	-1.00	0.00
BN Sprg B Ls Top									
6,600.00	6.15	249.81	6,586.16	-88.62	-241.05	-74.85	1.00	-1.00	0.00
6,700.00	5.15	249.81	6,685.67	-92.02	-250.29	-77.72	1.00	-1.00	0.00
6,711.65	5.03	249.81	6,697.27	-92.37	-251.26	-78.02	1.00	-1.00	0.00
BN Sprg B Ls Bse									
6,800.00	4.15	249.81	6,785.34	-94.82	-257.90	-80.08	1.00	-1.00	0.00
6,805.96	4.09	249.81	6,791.28	-94.96	-258.30	-80.21	1.00	-1.00	0.00
BN Sprg C LS									
6,900.00	3.15	249.81	6,885.14	-97.01	-263.87	-81.94	1.00	-1.00	0.00
7,000.00	2.15	249.81	6,985.03	-98.61	-268.21	-83.28	1.00	-1.00	0.00
7,054.29	1.61	249.81	7,039.29	-99.22	-269.88	-83.80	1.00	-1.00	0.00
BN Sprg 1st Cedar									
7,100.00	1.15	249.81	7,084.98	-99.60	-270.92	-84.12	1.00	-1.00	0.00
7,200.00	0.15	249.81	7,184.98	-99.99	-271.98	-84.46	1.00	-1.00	0.00
7,215.02	0.00	0.00	7,200.00	-100.00	-272.00	-84.46	1.00	-1.00	0.00
Begin Vertical Hold									
7,300.00	0.00	0.00	7,284.98	-100.00	-272.00	-84.46	0.00	0.00	0.00
7,323.32	0.00	0.00	7,308.30	-100.00	-272.00	-84.46	0.00	0.00	0.00
BN Sprg 1st Cedar B									
7,400.00	0.00	0.00	7,384.98	-100.00	-272.00	-84.46	0.00	0.00	0.00
7,412.56	0.00	0.00	7,397.54	-100.00	-272.00	-84.46	0.00	0.00	0.00
KOP, 12°/100' Build									
7,500.00	10.49	360.00	7,484.49	-92.02	-272.00	-76.49	12.00	12.00	0.00
7,600.00	22.49	360.00	7,580.20	-63.68	-272.00	-48.20	12.00	12.00	0.00
7,614.10	24.19	360.00	7,593.15	-58.09	-272.00	-42.62	12.00	12.00	0.00
BN Sprg 2nd Sand									
7,700.00	34.49	360.00	7,667.93	-16.06	-272.01	-0.66	12.00	12.00	0.00
7,800.00	46.49	360.00	7,743.84	48.76	-272.01	64.06	12.00	12.00	0.00



Database: Compass 5000 GCR DB
Company: Legend Natural Gas IV, LP
Project: Eddy County, NM (Nad27)
Site: Sec 31 T24S R 28E
Well: Buckshot State Com 5H
Wellbore #: Wellbore #1
Design: Plan#1 041614

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Buckshot State Com 5H
WELL @ 3078.00usft (TBD)
WELL @ 3078.00usft (TBD)
Grid
Minimum Curvature

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)
7,900.00	58.49	360.00	7,804.61	127.94	-272.02	143.11	12.00	12.00	0.00
8,000.00	70.49	360.00	7,847.60	218.03	-272.03	233.06	12.00	12.00	0.00
8,100.00	82.49	360.00	7,870.91	315.08	-272.03	329.96	12.00	12.00	0.00
8,160.31	89.73	360.00	7,875.00	375.21	-272.04	390.00	12.00	12.00	0.00
Hold 89.73° Inc.									
8,200.00	89.73	360.00	7,875.18	414.90	-272.04	429.62	0.00	0.00	0.00
8,300.00	89.73	360.00	7,875.65	514.90	-272.05	529.46	0.00	0.00	0.00
8,400.00	89.73	360.00	7,876.13	614.90	-272.06	629.30	0.00	0.00	0.00
8,500.00	89.73	360.00	7,876.60	714.90	-272.07	729.14	0.00	0.00	0.00
8,600.00	89.73	360.00	7,877.07	814.90	-272.07	828.98	0.00	0.00	0.00
8,700.00	89.73	360.00	7,877.54	914.90	-272.08	928.82	0.00	0.00	0.00
8,800.00	89.73	360.00	7,878.01	1,014.90	-272.09	1,028.66	0.00	0.00	0.00
8,900.00	89.73	360.00	7,878.48	1,114.90	-272.10	1,128.50	0.00	0.00	0.00
9,000.00	89.73	360.00	7,878.95	1,214.90	-272.11	1,228.34	0.00	0.00	0.00
9,100.00	89.73	360.00	7,879.42	1,314.89	-272.12	1,328.18	0.00	0.00	0.00
9,200.00	89.73	360.00	7,879.90	1,414.89	-272.12	1,428.02	0.00	0.00	0.00
9,300.00	89.73	360.00	7,880.37	1,514.89	-272.13	1,527.86	0.00	0.00	0.00
9,400.00	89.73	360.00	7,880.84	1,614.89	-272.14	1,627.69	0.00	0.00	0.00
9,500.00	89.73	360.00	7,881.31	1,714.89	-272.15	1,727.53	0.00	0.00	0.00
9,600.00	89.73	360.00	7,881.78	1,814.89	-272.16	1,827.37	0.00	0.00	0.00
9,700.00	89.73	360.00	7,882.25	1,914.89	-272.16	1,927.21	0.00	0.00	0.00
9,800.00	89.73	360.00	7,882.72	2,014.89	-272.17	2,027.05	0.00	0.00	0.00
9,900.00	89.73	360.00	7,883.19	2,114.89	-272.18	2,126.89	0.00	0.00	0.00
9,973.23	89.73	360.00	7,883.54	2,188.11	-272.19	2,200.00	0.00	0.00	0.00
Begin 2°/100' Build:									
9,993.95	90.14	360.00	7,883.56	2,208.84	-272.19	2,220.69	2.00	2.00	0.00
Hold 90.14° Inc.									
10,000.00	90.14	360.00	7,883.55	2,214.88	-272.19	2,226.73	0.00	0.00	0.00
10,100.00	90.14	360.00	7,883.29	2,314.88	-272.20	2,326.57	0.00	0.00	0.00
10,200.00	90.14	360.00	7,883.04	2,414.88	-272.20	2,426.41	0.00	0.00	0.00
10,300.00	90.14	360.00	7,882.79	2,514.88	-272.21	2,526.25	0.00	0.00	0.00
10,400.00	90.14	360.00	7,882.54	2,614.88	-272.22	2,626.09	0.00	0.00	0.00
10,500.00	90.14	360.00	7,882.29	2,714.88	-272.23	2,725.93	0.00	0.00	0.00
10,600.00	90.14	360.00	7,882.03	2,814.88	-272.24	2,825.77	0.00	0.00	0.00
10,700.00	90.14	360.00	7,881.78	2,914.88	-272.25	2,925.61	0.00	0.00	0.00
10,800.00	90.14	360.00	7,881.53	3,014.88	-272.25	3,025.45	0.00	0.00	0.00
10,900.00	90.14	360.00	7,881.28	3,114.88	-272.26	3,125.29	0.00	0.00	0.00
11,000.00	90.14	360.00	7,881.02	3,214.88	-272.27	3,225.13	0.00	0.00	0.00
11,100.00	90.14	360.00	7,880.77	3,314.88	-272.28	3,324.97	0.00	0.00	0.00
11,200.00	90.14	360.00	7,880.52	3,414.88	-272.29	3,424.81	0.00	0.00	0.00
11,300.00	90.14	360.00	7,880.27	3,514.88	-272.29	3,524.65	0.00	0.00	0.00
11,400.00	90.14	360.00	7,880.02	3,614.88	-272.30	3,624.49	0.00	0.00	0.00
11,500.00	90.14	360.00	7,879.76	3,714.88	-272.31	3,724.33	0.00	0.00	0.00
11,600.00	90.14	360.00	7,879.51	3,814.88	-272.32	3,824.17	0.00	0.00	0.00
11,700.00	90.14	360.00	7,879.26	3,914.88	-272.33	3,924.01	0.00	0.00	0.00
11,800.00	90.14	360.00	7,879.01	4,014.88	-272.34	4,023.85	0.00	0.00	0.00
11,900.00	90.14	360.00	7,878.75	4,114.88	-272.34	4,123.69	0.00	0.00	0.00
12,000.00	90.14	360.00	7,878.50	4,214.88	-272.35	4,223.53	0.00	0.00	0.00
12,100.00	90.14	360.00	7,878.25	4,314.88	-272.36	4,323.37	0.00	0.00	0.00
12,200.00	90.14	360.00	7,878.00	4,414.88	-272.37	4,423.22	0.00	0.00	0.00
12,300.00	90.14	360.00	7,877.74	4,514.88	-272.38	4,523.06	0.00	0.00	0.00
12,400.00	90.14	360.00	7,877.49	4,614.88	-272.38	4,622.90	0.00	0.00	0.00
12,500.00	90.14	360.00	7,877.24	4,714.88	-272.39	4,722.74	0.00	0.00	0.00

Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Buckshot State Com 5H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL @ 3078.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3078.00usft (TBD)
Site:	Sec 31 T24S R 28E	North Reference:	Grid
Well:	Buckshot State Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 041614		

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)
12,595.12	90.14	360.00	7,877.00	4,810.00	-272.40	4,817.71	0.00	0.00	0.00
TD at 12595.12									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
BHL Buckshot State Cor	- plan hits target center	0.00	0.00	7,877.00	4,810.00	-272.40	429,318.20	562,796.60	32° 10' 48.53961 N 104° 7' 49.30509 W
T1 Buckshot State Com	- plan misses target center by 0.01usft at 9971.23usft MD (7883.53 TVD, 2186.11 N, -272.19 E)	0.00	0.01	7,883.54	2,186.11	-272.19	426,694.31	562,796.81	32° 10' 22.57256 N 104° 7' 49.36024 W
	- Point								

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,832.00	2,832.00	Bone Spring Top		-0.20	356.76	
6,333.38	6,321.23	Bn Sprg Avqlon Up.		-0.20	356.76	
6,428.00	6,415.24	Bn Sprg SH Top		-0.20	356.76	
6,585.01	6,571.26	BN Sprg B Ls Top		-0.20	356.76	
6,711.65	6,697.27	BN Sprg B Ls Bse		-0.20	356.76	
6,805.96	6,791.28	BN Sprg C LS		-0.20	356.76	
7,054.29	7,039.29	BN Sprg 1st Cedar		-0.20	356.76	
7,323.32	7,308.30	BN Sprg 1st Cedar B		-0.20	356.76	
7,614.10	7,593.15	BN Sprg 2nd Sand		-0.20	356.76	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,000.00	4,000.00	0.00	0.00	Begin 1°/100' Build
4,648.05	4,646.67	-12.63	-34.36	Hold 6.48° Inc.
6,566.97	6,553.33	-87.37	-237.64	Begin 1°/100' Drop
7,215.02	7,200.00	-100.00	-272.00	Begin Vertical Hold
7,412.56	7,397.54	-100.00	-272.00	KOP, 12°/100' Build
8,160.31	7,875.00	375.21	-272.04	Hold 89.73° Inc.
9,973.23	7,883.54	2,188.11	-272.19	Begin 2°/100' Build
9,993.95	7,883.56	2,208.84	-272.19	Hold 90.14° Inc.
12,595.12	7,877.00	4,810.00	-272.40	TD at 12595.12